DRAFT REPORT

BASIC ASSESSMENT REPORT

In terms of ***Section 24 and 24(D) of NEMA (Act No. 107 of 1998)***

for:

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

GAUT 002/21-22/E2889

Report Date: May 2021

Compiled by:

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Compiled for:

NEP CONSTRUCTION PTY LTD

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GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.

2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

3. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.**

4. **A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.**

5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.

6. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.

7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.

8. An incomplete report may lead to an application for environmental authorisation being refused.

9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**

10. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.

11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.

12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.

13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the of the Environmental Affairs Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
Ground floor, Umnotho House, 56 Eloff Street, Johannesburg
Email Address: bongani.shabangu@gauteng.gov.za

Administrative Unit telephone number: (011) 240 3377/3051
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

Is a closure plan applicable for this application and has it been included in this report? No

if not, state reasons for not including the closure plan.

The application deals with the installation of infrastructure that will not be discontinued as it will provide permanent sewer reticulation for the area.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? YES

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?

YES

If no, state reasons for not attaching the list.

Have State Departments including the competent authority commented? NO

If no, why?

This is the DBAR and as soon as their comments have been received, it will be included in the Final BAR.

Project applicant Details

Project applicant:	NEP Construction PTY (LTD)		
Trading name (if any):			
Responsible position, e.g. Director, CEO, etc.:	Director		
Contact person:	Mr. Pieter Ernst / Danie Kasselman		
Postal address:	P.O. Box 804, Wolmaransstad		
Postal code:	2630	Cell:	082 773 0323
Telephone:	018 451 1005	Fax:	018 451 1012
E-mail:	Pfernst1@gmail.com		

Land Owner Details

Land owner	NEP Construction PTY (LTD)		
Contact person:	Mr. Pieter Ernst / Danie Kasselman		
Postal address:	P.O. Box 804, Wolmaransstad		
Postal code:	2630	Cell:	082 773 0323
Telephone:	018 451 1005	Fax:	018 451 1012
E-mail:	Pfernst1@gmail.com		

Environmental Assessment Practitioner (EAP):[1]	**AB Enviro Consult CC**		
Contact person:	Mr. JP de Villiers / Hannie du Plooy		
Postal address:	7 Louis Leipoldt Street		
Postal code:	2531	Cell:	083 548 8105 / 071 202 4027
Telephone:	018 294 5005	Fax:	018 293 0671
E-mail:	jp@abenviro.co.za / hannieduplooy@abenviro.co.za		

EXECUTIVE SUMMARY

The land owner**, NEP Construction PTY (LTD) in co-operation with the Department of Human Settlements** has appointed ***AB Enviro Consult CC***, an independent environmental consultancy, to undertake an Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

The Townships of Obed Mthombeni Nkosi Proper, Extension 1, Extension 2 and Extension 3 have all been approved and construction of Obed Mthombeni Nkosi Proper and Phase 1 of Extension 1 have already been completed. In order to provide these Townships with sufficient sewer reticulation, upgrades to the Bulk infrastructure will have to be done. The Developer, **NEP Construction PTY (LTD) in co-operation with the Department of Human Settlements** has identified the need for the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline in order to achieve this goal as the existing bulk outfall sewer pipeline does not have sufficient capacity to handle the expected sewage outflow that will be generated by the above mentioned development.

The proposed new infrastructure falls within the urban area of the Lesedi Local Municipality and as such does not trigger activity 10 of GN. R 327 0f 7 April 2017. The proposed pipelines will however cross five areas that can be defined as water courses. A Wetland Specialist has subsequently been appointed to delineate these water courses and to determine the impact of the proposed development on it. He has concluded that:

"The proposed pipeline development comprises a narrow open- and close exercise of the soil through highly disturbed watercourses of which most appear to have undergone extensive impacts, modifications or artificial increase in water flow. Water from the up-slope residential areas as well as sewage leaks appear to have considerably impacts on the watercourses at the site. The Present Ecological Status as well as Ecological Importance and Sensitivity of the wetland systems at the site is in general relatively poor and low.

Impacts on the artificial waterbody, wetland seep, and two conspicuously disturbed non-perennial tributaries are of a low\ moderate risk. If the development is approved the surface flow and erosion at the wetlands are likely to be limited. There is no distinct indication that interflow play of the wetlands would be impacted significantly by the proposed developments. The geomorphological setting and flow regime likely to be similar post development, if the development is approved according to the mitigation measures stated. Loss of any wetland animal or plant species of particular conservation importance are not expected."

The activity is listed in terms of the Regulations (in force since 4 December 2014) in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (NEMA) 1998 (Act 107 of 1998) as amended and published in Government Notice No. R 326 of 2017. The proposed development triggers the following regulations and listed activities:

Number and date of the relevant notice:	**Activity No and Activity Description (in**	**Describe each listed activity as per project description**	**Time for construction to be**

	terms of the relevant notice)		completed applied for
GN. R 327, 7 April 2017	19	The infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.	10 Years

The purpose of the study is therefore to determine the impacts that the environment may have on the proposed activity, as well as the possible impacts that the activity may have on the environment.

The study is being conducted according to normal scientific practices. A theoretical background review was compiled for the different variables by using available information from the literature. Field verification was undertaken and visits paid to the site to gather further information and/or to verify information. It also includes the identification of *key interest groups*, both governmental and non-governmental, and to establish good lines of communication. Specialist studies were undertaken to determine the impacts on sensitive areas and to determine whether the proposed project can be sustainably implemented. The specialists will also advise on mitigation measures where applicable.

INTRODUCTION

The land owner**, NEP Construction PTY (LTD)** in co-operation with the Department of Human Settlements has appointed ***AB Enviro Consult CC***, an independent environmental consultancy, to undertake an Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

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THE BASIC ASSESSMENT PROCESS

The purpose of this document is to adhere to the requirements for compilation of Basic Assessment Reports as amended and published in Government Notice R. 326 of 7 April 2017, Appendix 1, and the National Environmental Management Act (Act 107 of 1998) (NEMA).

DESCRIPTION OF THE PROCESS FOLLOWED

In order to assess a proposed development it is important to take into consideration the principles of NEMA. These principles are outlined in Chapter 1 and read as follows:

1) *"The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—*

   a. *shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;*

   b. *serve as the general framework within which environmental management and implementation plans must be formulated:*

   c. *serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;*

   d. *serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and*

   e. *guide the interpretation administration and implementation of this Act, and any other law concerned with the protection or management of the environment.*

2) *Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*

3) *Development must be socially, environmentally and economically sustainable.*

4) *(a) Sustainable development requires the consideration of all relevant factors including the following:*

   (i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied:

   (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

   (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;

   (iv) that waste is avoided. or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;

   (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

   (vi) that the development use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

(vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation and participation by vulnerable and disadvantaged persons must be ensured.

(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration and assessment.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

(l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.

(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

(p) The costs of remedying pollution, environmental degradation consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."

The above mentioned principals and the applicable legislation, Policies and Guidelines as described in Paragraph 5 of this Report were taken into account in the assessment of the Environmental Impacts for the proposed development. The process followed can be described as follows:

1) The EAP was contracted by **NEP Construction PTY (LTD)** in co-operation with the Department of Human Settlements as their Independent Environmental Assessment Practitioner.
2) The Civil Engineer was appointed to determine the capability of existing infrastructure to be linked to proposed development and available bulk services.
3) A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
4) A Botanical specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
5) A Wetland Specialist has been appointed to determine the impact of the proposed development on wetlands in the area
6) An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
7) Desk top studies were conducted and alternatives assessed.
8) Site inspections were carried out to verify the outcomes of the desktop studies, and the preferred alternative defined.
9) A full Public Participation Process is being followed to obtain inputs from interested and affected parties.

10) All the information obtained from the above mentioned processes is being used to assess the Environmental Impact that the proposed development may have on the Environment and vice versa.

11) The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP is being used to determine measures to avoid, mitigate and manage potential impacts. These measures are described in the Environmental Management Programme.

ASSESSMENT PHASE

The assessment phase included the necessary investigations to assess the suitability of the identified site and its surrounding environment, for the development proposal. The assessment phase described the "status quo" of the bio-physical, social, economic and cultural environment, and identifies the anticipated environmental aspects associated with the proposed development. The assessment phase included the identification of *key interest groups*, (both government and non-government), and strived to establish efficient and effective communication. Identifying and informing Interested and affected parties of the proposed development may have an impact on the focus of the EIA. (*S. Cliff, 2015*).

This phase also determines the *significance of the impact* of the proposed activity on the surrounding Environment. During this phase, a Basic assessment Report (BAR) is compiled, and, following public review, is submitted to the approving authority – the GDARD.

The purpose of the Basic Assessment Report is to document the outcome of the Assessment Phase of the project. The report fulfilled the requirements of the EIA Regulations (2014) for the documentation of the Basic Assessment Process. The Report was compiled in accordance with Section 21(3) of NEMA's 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017.

The Draft Basic Assessment Report will be submitted.

Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process-

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives;

(d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine−

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts−

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;

(cc) can be avoided, managed or mitigated; and

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to avoid, manage or mitigate identified impacts; and

(iii) identify residual risks that need to be managed and monitored.

Scope of assessment and content of basic assessment reports

The BAR assesses those identified potential environmental impacts and benefits (direct, indirect and cumulative impacts) associated with the project design, construction, and operation phases, and recommends appropriate mitigation measures for potentially significant environmental impacts. The Environmental impacts are assessed both before and after mitigation to determine:

- The significance of the impact despite mitigation; and
- The effectiveness of the proposed mitigation measures.

The BAR addresses potential environmental impacts and benefits associated with all phases of the project, including design, construction and operation, and aims to provide the environmental authorities with sufficient information to make an informed decision regarding the proposed project.

Table 1 below provides a summary of the legislative requirements in terms of a Basic Assessment Report as stipulated in Section 23 of the 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017. Cross-references are provided in terms of the relevant section within this BA Report where the NEMA and BA Report requirements have been addressed.

Table 1: Basic Assessment Report content as per Section 23 of NEMA's 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017 Appendix 1.

3. (1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include:

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports
Appendix 1, section 3 (a)	Details of the EAP who prepared the report; and the expertise of the EAP;
Appendix 1, section 3 (b)	The location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including – (i) The 21 digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; (iii) Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties
Appendix 1, section 3 (c)	A plan which locates the proposed activity or activities applied for, at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken;
Appendix 1, section 3 (d)	A description of the scope of the proposed activity, including – (i) all listed and specified activities triggered and being applied for; and (ii) a description of the activities to be undertaken including associated structures and infrastructure;

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports
Appendix 1, section 3 (e)	A description of the policy and legislative context within which the development is proposed including (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments explanation of how the proposed development complies with and responds to the legislation and policy context
Appendix 1, section 3 (f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.
Appendix 1, section 3 (g)	a motivation for the preferred site, activity and technology alternative
Appendix 1, section 3 (h)	A full description of the process followed to reach the proposed preferred alternative within the site, including- (i) Details of all alternatives considered; (ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed, or mitigated. (vi) The methodology used in deterring and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects; (viii) The possible mitigation measures that could be applied and level of residual risk; (ix) the outcome of the site selection matrix (x) If no alternatives, including alternative footprints for the activity were investigated, the motivation for not considering such and; (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity.
Appendix 1, section 3 (i)	A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports
	(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;
Appendix 1, section 3 (j)	An assessment of each identified potentially significant impact and risk, including- (i) cumulative impacts; (ii) the nature, significance and consequences of the impact and risk; (iii) the extent and duration of the impact and risk; (iv) the probability of the impact and risk occurring; (v) the degree to which the impact and risk can be reversed; (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) the degree to which the impact and risk can be mitigated;
Appendix 1, section 3 (k)	Where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;
Appendix 1, section 3 (l)	An environmental impact statement which contains- (i) a summary of the key findings of the environmental impact assessment: (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;
Appendix 1, section 3 (m)	Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr
Appendix 1, section 3 (n)	Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation
Appendix 1, section 3 (o)	A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed
Appendix 1, section 3 (p)	A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation
Appendix 1, section 3 (q)	Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised
Appendix 1, section 3 (r)	An undertaking under oath or affirmation by the EAP in relation to- (i) The correctness of the information provided in the report; (ii) The inclusion of the comments and inputs from stakeholders and interested and affected parties; and (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.
Appendix 1, section 3 (s)	Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.
Appendix 1, section 3 (t)	Any specific information that may be required by the competent authority.
Appendix 1, section 3	Any other matters required in terms of section 24(4)(a) and (b) of the Act

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports
(u)	

Assumptions, uncertainties, limitations and gaps in knowledge:
This report is based on current available information and, as a result, the following limitations and assumptions are implicit –

The report is based on the *project description* provided by the Applicant as a result of reports that was compiled by the following Specialists:

- A Civil engineer has been appointed to determine the availability of services and the layout of the development
- A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- An Ecologist specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- A Wetland specialist has been appointed to determine the impact of the proposed development on the non-perennial stream on site.
- An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- Desktop studies were conducted and alternatives assessed.

Descriptions of the biophysical and social environments are based on specialist fieldwork, investigations, and the Public Participation Process.

DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

AB Enviro Consult (CC) is a registered consultancy, owned and operated as an independent unit by the registered owner and consultant**: Prof. A.B. de Villiers**

- **Mr J.P. De Villiers** joined the consultancy during 2004
- **Mrs J.E. du Plooy** is a consultant since 2001

PERSONAL PARTICULARS AND CAREER HISTORY OF PROF DE VILLIERS

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2531

Lecturer & Professor – Potchefstroom University 1969- 2004

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

Post–Matric Qualifications

YEAR	Qualification	Institution	Field of Study
1968	B.Sc.	PU FOR CHE	Geography, Geology
1970	HONNS. B.Sc.	PU FOR CHE	Soil Science
1974	M.Sc.	PU FOR CHE	Geography
1981	Ph.D.	UOFS	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study
1986	Professional Natural Scientist	S.A. Council for Natural Scientists	Environmental Science
1994	Quality Auditor	ESKOM	Auditing
1998	Personnel & Verifying Auditor	SAATCA	Environmental Auditing
2006	Environmental Assessment Practitioner	Interim Certification Board EAPSA	Environmental Science

MEMBERSHIP AND PARTICIPATION IN SOCIETIES, COUNCILS, ETC.

Name of professional societies	**YEAR**	**Capacity**
S.A. Geographical Society.	1967-1996	Board Member
Society for Geography	1968-2004	Member
SAGS Western Transvaal	1985-1989 1987-1989 1996	Chairman
Africa Geographical Association	1993-1995	Vice-President.
Society for the Vaal River Catchment	1980-1999	Member
S.A. Society for Photogrammetry, Remote Sensing and Cartography	1984-1996	Member
Dendrological Society	1986-2005	Member
Birdlife South Africa	2003-present	Member
British Geomorphological Research Group	1985-1997	Member
Int Com on Water Resource Systems	1985-1997	Member
Int Com on Continental Erosion	1986-1990	Member

Int Com on Remote Sensing and Data Transmission	1986-1991	Member
Society for S.A. Geographers	1995-2005	Member
SA Photogrammetrical and Geo. Info.	1995-2003	Member
S.A. Association of Geomorphologists	1994-1999	Board Member and member
SADC Mine Dump Study Group	1996-2005	Member

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MR J.P. DE VILLIERS

YEAR	Qualification	Institution	Field of Study
1993	BA	PU FOR CHE	Geography, Economics
1994	HED	PU FOR CHE	Geography Economics
2006	B.Sc.(Honns) Cum Laude	North-West University	Environmental Management
2007	M.Sc.	North-West University	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study
2008	Basic Principles of Ecological Rehabilitation and Mine Closure	Centre for Environmental Management (North West University)	Ecological Rehabilitation
2019	Registered as Environmental assessment Practitioner	EAPASA Registration number: 2019/808	

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MRS J.E. DU PLOOY

YEAR	Qualification	Institution	Field of Study
1999	BA	PU FOR CHE	Geography, Tourism
2000	BA (Honns) Cum Laude	PU FOR CHE	Geography
2003	Master's degree in Environmental Management	PU FOR CHE	Environmental Management
2001	Aquabase Intro	AQUABASE	Hydrology
2001	Geomedia Professional	INTERTECH	GIS
2001	Map Info	SPATIAL TECHNOLOGY	GIS
2020	Registered as Environmental Assessment Practitioner	EAPASA - REGISTRATION NUMBER: 2019/1573	

EXPERIENCE OF THE CONSULTANCY

Over a period of 25 years (1996-2021) this consultancy has successfully applied for, and obtained positive ROD's and EA's for more than 380 projects. Environmental Control Officer's duties are also performed on various projects.

DESCRIPTION OF THE ACTIVITY

This proposed development entails the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province. See Figure 1 below.

The Townships of Obed Mthombeni Nkosi Proper, Extension 1, Extension 2 and Extension 3 have all been approved and construction of Obed Mthombeni Nkosi Proper and Phase 1 of Extension 1 have already been completed. In order to provide these Townships with sufficient sewer reticulation, upgrades to the Bulk infrastructure will have to be done. The Developer, **NEP Construction PTY (LTD) in co-operation with the Department of Human Settlements** has identified the need for the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline in order to achieve this goal as the existing bulk outfall sewer pipeline does not have sufficient capacity to handle the expected sewage outflow that will be generated by the above mentioned development.

The proposed new infrastructure falls within the urban area of the Lesedi Local Municipality and as such does not trigger activity 10 of GN. R 327 0f 7 April 2017. The proposed pipelines will however cross five areas that can be defined as water courses. A Wetland Specialist has subsequently been appointed to delineate these water courses and to determine the impact of the proposed development on it. He has concluded that:

"The proposed pipeline development comprises a narrow open- and close exercise of the soil through highly disturbed watercourses of which most appear to have undergone extensive impacts, modifications or artificial increase in water flow. Water from the up-slope residential areas as well as sewage leaks appear to have considerably impacts on the watercourses at the site. The Present Ecological Status as well as Ecological Importance and Sensitivity of the wetland systems at the site is in general relatively poor and low.

Impacts on the artificial waterbody, wetland seep, and two conspicuously disturbed non-perennial tributaries are of a low\ moderate risk. If the development is approved the surface flow and erosion at the wetlands are likely to be limited. There is no distinct indication that interflow play of the wetlands would be impacted significantly by the proposed developments. The geomorphological setting and flow regime likely to be similar post development, if the development is approved according to the mitigation measures stated. Loss of any wetland animal or plant species of particular conservation importance are not expected."

In order to construct the above mentioned sewer pipelines, five (5) areas that can be defined as water courses will have to be crossed. Crossing 1 will be for a section of 70 meters that crosses an artificial waterbody in order to construct the 1 900 meter (450 mm diameter) Bulk Outfall Sewer Pipeline. (See Figure 2 below). Crossing 2 is also on the 1 900 meter (450 mm diameter) Bulk Outfall Sewer Pipeline and will involve a section of 90 meters crossing a wetland seep. These two crossings are located on Portion 2 of the farm Boschfontein 385-IR See Figure 3 below.

Crossings 3, 4 and 5 are located on the 800 meter (300 mm diameter) Sewer Pump line and are 10 meters in length each and are located on Portion 28 of the farm Boschfontein 385-IR. See Figure 4 below.

The site is located within the Gauteng Provincial Environmental Management Framework (GPEMF) and is described as Zone 1: Urban development zone, however, this tool cannot be used for this application as:

"(d) Conditions for exclusion:

- *Ensure that there are **no wetlands and or rivers on the site** that will be affected;"*

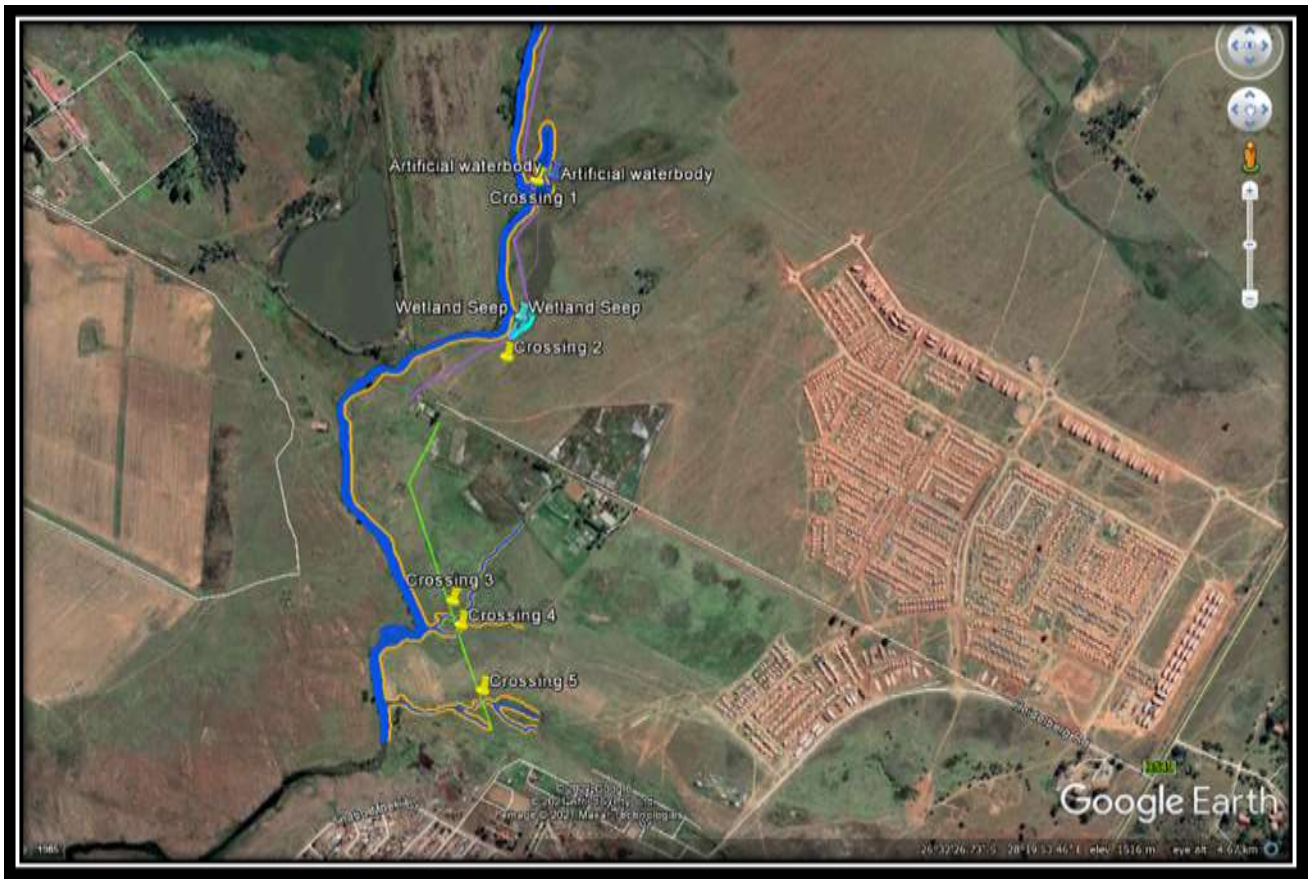


Figure 1: Proposed layout plan

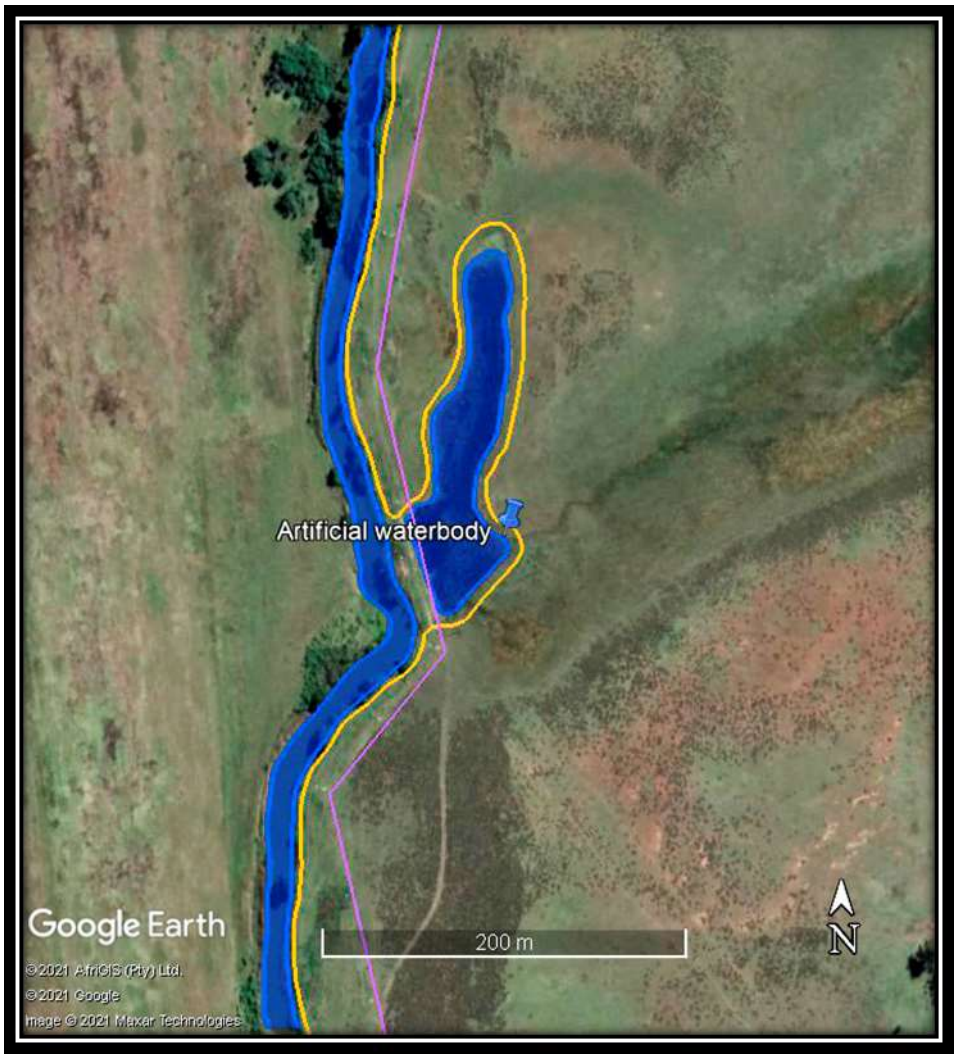


Figure 2: Indication of perennial river (Blesbokspruit outside the site) and an artificial waterbody at stream crossing 1.

Purple outline	Part of the site (proposed pipeline)
Orange outline	Outer edge of riparian zone
Darker blue outline and shading	Active channels and artificial waterbody

Figure 3 Indication of perennial river (Blesbokspruit outside the site) and a wetland seep at the study area.

Purple outline	Part of the site (proposed pipeline)
Orange outline	Outer edge of riparian zone
Darker blue outline and shading	Active channel
Light blue outline and shading	Wetland at the site

Figure 4 Indication of perennial river (Blesbokspruit outside the site) and two small non-perennial tributaries at the southern parts of the site. The small tributaries were fed by outflow from a water treatment plant or sewage leakages at the time of the site visits.

Green outline	Part of the site (proposed pipeline)
Orange outline	Outer edge of riparian zone
Darker blue outline and shading	Active channels

CONSTRUCTION OF NEW INTERNAL SEWAGE PIPELINES

The pipes will be encased in 200 mm mass concrete and the area on top of the concrete will be soilcrete that will be compacted in 150mm layers to natural ground level.

In the planning for the design phase of the pipelines, cognisance is taken of the following reference documents;

- Red Book – Guidelines for Human Settlement Planning and Design
- SABS 1200 – Standardized Specification for Civil Engineering Construction
- Local Municipal standards

When planning or designing the pipelines, a holistic approach that adheres to all the tenets of the reference or policy documents listed above will be adopted. The environmental sensitivity of wetland areas is acknowledged, and designs undertaken will take full cognisance of the proposed impact to these areas.

<u>The approach to design and construction will encompass the following;</u>

- Appropriate and adequate protection of the river/stream/wetland banks in the vicinity of the pipeline will be incorporated into the design.
- The existing river/stream bank structure will be maintained to reduce disturbance to the river/stream flow.
- Where crossing or running alongside river or stream courses, the existing river/stream bank structure will be maintained to reduce disturbance to the river flow.
- Where the pipeline crosses storm water channels these will be designed to have no impact on normal storm water flow in that all pipes and concrete casing will be buried at least 1.0m below natural channel level in the case of soft material, and level with the natural channel in the case of hard rock material.
- In the case of sewer pipelines, man holes will be provided at all changes in grade and direction and at intervals not exceeding 80m to facilitate maintenance during the lifetime of the pipelines.
- The pipe crossing has been designed to have no impact on normal river/stream flow
- Where pipes are laid through a flood plain (1:100-year flood line), a minimum cover level of 1.0m will be maintained.

<u>Construction Methodology</u>

- Conduct a competent site investigation to build up an informed picture of the task
- Conduct a topographical survey of the pipeline route
- Adequate design of all the stages of construction
- All environmental and Health and Safety requirements and good practice to be adhered to.
- Remove topsoil and stockpile for later use
- Excavate trench for pipeline to the design level
- If the material is firm, normal excavation techniques will apply. In soft material shoring of the trench sides may be required. In hard rock material trench excavation may require the use of pneumatic breakers or blasting
- Install temporary dewatering pumps to keep the excavation dry (if required due to ground water ingress)

- Construct storm water diversion berms where required
- Place concrete to encasement if required. The top level will be determined by the stormwater channel level
- Place bedding, lay pipe, place and compact selected fill over the pipeline
- Construct manholes where required. Manholes will be constructed along the pipeline route at changes in grade and direction
- Backfill to specification of drawings.
- Dress backfill, topsoil and revegetate all exposed areas.

. See Figure 5 below.

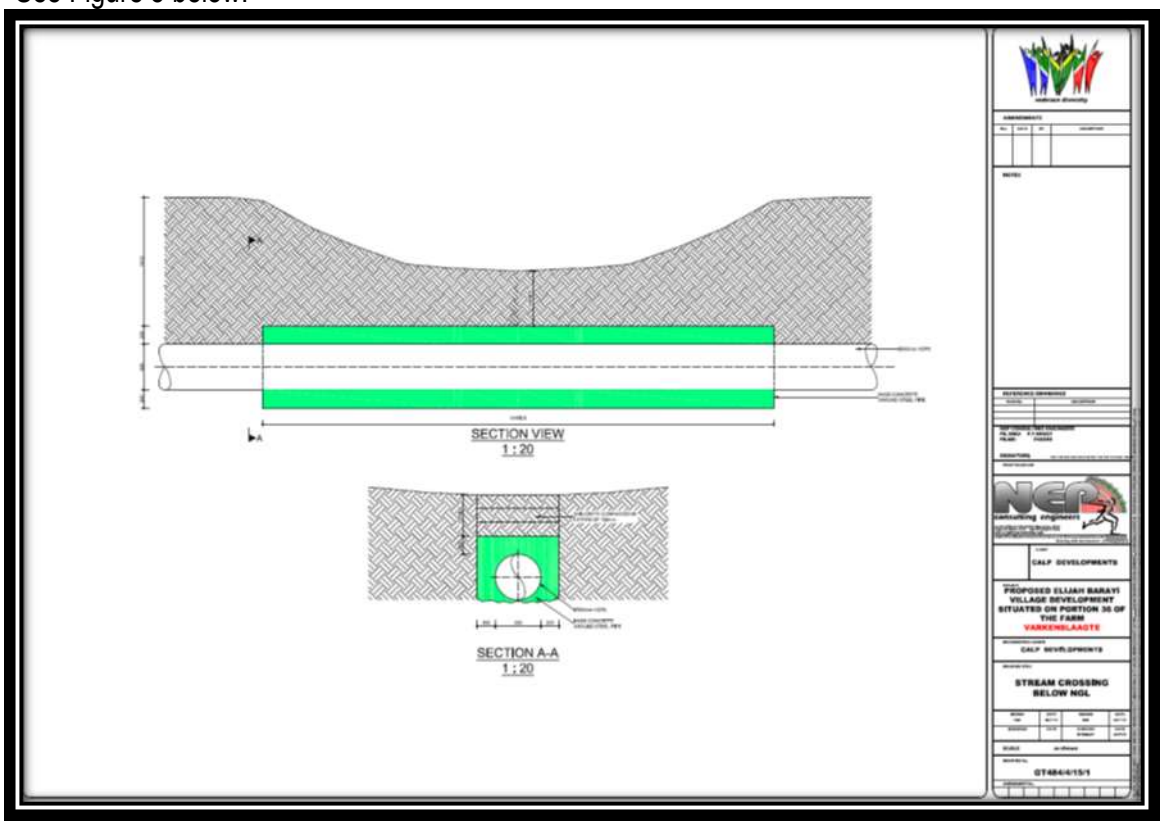


FIGURE 5: PIPELINE INSTALLATION DESIGN

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development	X	Other, specify	

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	NO

If yes, describe the legislation and the Competent Authority administering such legislation

Water Use License Application in terms of Section 21 (c and i). Department of Water and Sanitation.

If yes, have you applied for the authorisation(s)?	YES	NO
If yes, have you received approval(s)? (attach in appropriate appendix)	YES	NO

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act No. 107 of 1998 as amended.	NEMA is the guiding legislation that has been considered during the Environmental Impact Assessment process and the compilation of this Scoping Report.	National & Provincial (DEA And Gauteng GDARD)	27 November 1998
The Bill of Rights, Constitution of South Africa, Section 27 (1)(b)	The Constitution of the Republic of South Africa is the legal source of all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act, it is stated that: Everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	National Government	1994

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	Given that environmental management is founded partly on the principles of public participation, Section 195 of the Constitution is of primary relevance: (1) Public administration must be governed by the democratic values and principles enshrined in the constitution, including the following principles: (a) (b) (c) (d) (e) Peoples needs must be responded to, and the public must be encouraged to participate in policymaking. (f) Public administration must be accountable. (g) Transparency must be fostered by providing the public with timely, accessible and accurate information (Government Gazette, 1996).		
New Regulations 2014 in terms of NEMA	Legislation consulted during the environmental impact assessment process to determine whether any listed activities would be triggered. The Regulations were also consulted to determine inter alia the requirements regarding the contents of Scoping reports and the public participation process that should be followed.	National & Provincial (DEA And Gauteng GDARD)	7 April 2017
National Water Act (36 OF 1998)	National Water Act (NWA), 1998 (Act 36 of 1998) is the primary statute providing the legal basis for water management in South Africa and has to ensure ecological integrity, economic growth and social equity when managing and using water. The major objectives of the National Water Act are to: •Aid in providing basic human needs; •Meet the growing demand of water in a sustainable manner; •Ensure equal access to water and use of water resources; •Protect the quality of water of natural resources; •Ensure integrated management of water resources; •Foster social and economic development; and •Conserve aquatic and related ecosystems. Section 19 of the National Water Act states that the person responsible for land upon which any activity is or was performed which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.	Department of water and sanitation	1998
National Environmental Management: Biodiversity Act (NEMBA) (ACT NO. 10 OF 2004)	The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004), provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use	National & Provincial (DEA And Gauteng GDARD)	2004

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith. In terms of Chapter 4 of the Above Act: 52. (1) (a) The Minister may, by notice in the Gazette, publish a national list of ecosystems that are threatened and in need of protection. (b) An MEC for environmental affairs in a province may, by notice in the Gazette, publish a provincial list of ecosystems in the province that are threatened and in need of protection. (2) The following categories of ecosystems may be listed in terms of subsection: (a) critically endangered ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation; (b) endangered ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems; (c) vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and (d) protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed in terms of paragraphs (a), (b) or (c). (3) A list referred to in subsection (1) must describe in sufficient detail the location of each ecosystem on the list. 53 (1) The Minister may, by notice in the Gazette, identify any process or activity in a listed ecosystem as a threatening process. (2) A threatening process, identified in terms of subsection (1) must be regarded as a specified activity contemplated in section 24(2)(b) of the National Environmental Management Act		

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	(1998) and a listed ecosystem must be regarded as an area identified for the purpose of that section.		
National Environmental Management: Protected Areas Act (ACT NO. 57 OF 2003)	This Act aims to provide for a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity. The Protected Areas Act tries to ensure the protection of the entire range of biodiversity, referring to natural landscapes and seascapes. The Act makes express reference to the need to move towards Community Based natural Resource Management (CBNRM) as its objectives include promoting the participation of local communities in the management of protected areas. The purpose of the Act is: •To protect ecologically viable areas repres •To conserve biodiversity in those areas; •To protect South Africa's rare species; •To protect vulnerable or ecologically sensitive areas; •To assist in ensuring the sustained supply of environmental goods and services; •To provide for the sustainable use of natural and biological resources; •To create or augment destinations for nature-based tourism; • To manage the interrelationship between •To contribute to human, social, cultural, spiritual and economic development; •To rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species. This Act further stipulates various criteria which must be met before an area can be declared as a special nature reserve, national park, nature reserve and protected environment. It also prescribes a range of procedures, including consultation and public participation procedures which must be followed before any of the kinds of protected areas are declared.	National & Provincial	2003
National Heritage Resources Act, Act No. 25 of 1999	Legislation consulted during the impact assessment process, to determine the legal requirements relating to the management of heritage resources that are present in and around the site.	SAHRA	1999
National Environmental Management: Waste Act, Act No. 59 of 2008, read together with the List of Waste Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment, GN No. 921 of 29 November 2013	Legislation consulted to determine whether a waste licence will have to be obtained for the development.	National & Provincial (DEA And Gauteng GDARD)	2008
Mineral and Petroleum Resources Development Act (MPRDA), Act 28 of 2002	The Act distinguishes between mining permits and mining rights as follows: **Mining Permit**: Required where the activity will last less than two years and affects an area of less than 1.5ha in extent (valid for 3 years). In terms of the	Relevant Provincial Authorities.	2002

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	Act a mining permit requires a submission of an Environmental Management Plan (EMP to DME for approval prior to the onset of activities). **Mining Right**: Required for larger mining operations (renewable and valid for 30 years). In terms of the Act a mining right requires the submission of an Environmental Management Programme (EMProg) to DME for approval prior to the onset of activities. In light of their limited spatio-temporal extent, borrow pits (for the provision of construction material) and quarry operations would typically require a mining permit. The closure of borrow pits requires the submission of a closure application; this must be submitted within 180 days after ceasing operations. It is important to recognise that the mining right/permit holder's liability persists until such time as a Closure Certificate has been issued by DME.		
National Environmental Management: Air Quality Act (Act 39 of 2004)	To protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social Development. Construction activities may cause some air pollution.	Relevant Provincial Authorities.	2004
The Conservation of Agricultural Resources Act (Act 43 of 1983)	This Act regulates the flow pattern of runoff water, control of weeds and invader plants.	Relevant Provincial Authorities.	1983
National Veldt and Forest Fire Act (Act 101 of 1998)	Chapter 4 places a duty on owners to prepare and maintain firebreaks.	Relevant Provincial Authorities.	1998
National Forests Act, Act 84 of 1998 (NFA) read with GN1602 of December 2016.	During the construction phase of the development certain protected trees may be affected. Licences will have to be obtained from the Minister before the affected trees may be cut, disturbed, damaged or destroyed. GN1602 of December 2016 contains the list of protected trees.	National and Provincial authorities.	1998
Occupational Health and Safety Act (Act 85 of 1993)	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery and the protection of persons other than persons at work against hazards to health.	Relevant Provincial Authorities.	1993

Regional legislations, policies and guidelines

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy of guideline	Description of compliance
GDACE requirements for Biodiversity Assessments	Gauteng is South Africa's smallest and most densely populated and economically productive province. As such it has intense land-use pressure, from urban expansion and mining predominantly, and there are severe pressures on Gauteng's natural resources. To address this, as well as enhance livelihoods for the citizens of Gauteng, a range of tools have been developed to aid the wise use of natural resources and sustainable development. These tools help to mainstream biodiversity objectives into land-use planning and development decision-making.

	Biodiversity is in fact key to a green economy. It underpins the ecological infrastructure and natural capital from which flows a range of goods and services that benefit people. This provides a foundation for: • Economic growth and the creation of jobs in biodiversity management, restoration and maintenance of ecological infrastructure • Social development through the delivery of services that support the poorest members of society and aid in poverty alleviation • Human wellbeing including helping us cope with climate-related hazards and disaster risk reduction The Biodiversity Specialist were provided with copies of the requirements and he has incorporated them into his report.
Development guidelines for Ridges	The quartzite ridges of Gauteng are one of the most important natural assets in the northern provinces of South Africa. This is because these ridges, and the area immediately surrounding the ridges, provide habitat for a wide variety of fauna and flora, some of which are Red List, rare or endemic species or, in the case of certain of the plant species, are found nowhere else in South Africa or the world. The ridges also fulfill functions that are necessary for the sustainability of ecosystems such as the recharging of groundwater, wetlands and rivers, wildlife dispersal and providing essential habitat for pollinators. Ridges also have a socio-cultural role in that they provide aesthetically pleasing environments that are valued by residents, tourists and recreational users. Human activities such as urbanization, mining and the planting of alien vegetation may undermine the contribution that ridges make to the environment. These factors were all taken into account by the Botanical and Heritage Specialists in their assessment of the area.
Lesedi Local Integrated Development Plan, 2017/2018	The Lesedi Local Municipality is located on the eastern boundary of Gauteng province and consist of two urban areas namely Heidelberg / Ratanda and Devon/ Impumelelo. In terms of the Lesedi IDP 2017 / 2018, development in the municipality should be directed by the following guidelines: **Correction of historically distorted spatial patters** The main focus of this guideline is to integrate the townships with oneanother. Devon and Impumelelo is situated in close proximity to one another and development should be encouraged towards each other. An informal settlement has already formed on the farm portion and through this township establishment application, a formal township with access to proper housing and services can be supplied to the community. **Promotion of spatial integration** The spatial integration should promote urban infill development and establish mixed use areas. This application will encourage mixed land uses and the integration of work opportunities closer to living spaces. **Discouragement of urban sprawl and the promotion of more compact towns** The proposed densities for the township are in line with the existing densities in Impumelelo. Seeing as urban sprawl have already taken place over the farm portion through informal settlements, proper planning methods should be encourage to reduce further sprawl and ensure that viable housing be provided on site. Through this township establishment application, a formal process is followed to ensure that further sprawl to the west do not take place and provide adequate housing opportunities to the residents. **Promotion of a diverse combination of land use, also at a detailed level** This application is focussed on providing a sustainable neighbourhood to its residents by making use of mixed land uses. Nodal areas to provide job opportunities are created, community facilities such as a crèche, clinic and so forth can be provided. Ample open spaces are given for sports and recreational purposes, all in close proximity to residential areas. By combining a number of related land uses, this township strives to create a sustainable neighbourhood. **Optimization of the use of existing resources, including bulk infrastructure** The proposed Impumelelo Extension 4 is located adjacent to the existing Impumelelo Townships. According to the IDP, the area of Impumelelo / Devon has spare capacity for services and development should be concentrated in these areas. Accordingly the proposed development of Impumelelo Ext 4 will utilize the existing resources that are available for infrastructure.

	Sustainable land development patterns and practices The promotion of this guideline is twofold, first it focusses on the conservation of ecological sensitive areas and secondly the sustainability of the community. The proposed Impumelelo Ext 4 has areas within which is not suitable for development and was taken into consideration. An environmental scoping report and the authorisation thereof was completed on the farm portion and is attached as Annexure N and O. Therefore all environmental aspects have been considered before the layout plan was conceptualised. With the drafting of the layout plan, numerous land uses was included in the residential township in order to create a sustainable development that will bring work opportunities closer to home. Residential related uses, community facilities and so forth have also been introduced for sustainability. **Discouragement of land invasion and ensuring equitable access to land** The purpose of this application is to provide additional housing to Impumelelo. The proposed development is an initiative of the Gauteng Department of Housing to resolve housing backlogs by providing additional housing within Impumelelo.
Regional spatial development framework	In terms of the Spatial Development Framework for the Lesedi Local Municipality, the application site is earmarked for current and proposed residential projects). Some strategic land pockets have been identified for investment and critical planning and technical analysis has been completed. The investment areas are targeted for intensification and connectivity within the urban fabric with mix-use development scalable for the context of the area.
The National Development Plan 2030	The National Development Plan (NDP) 2030 offers a long-term perspective on South Africa's priorities, and aims to eliminate poverty and reduce inequality by 2030. It defines a desired destination and identifies the role different sectors of society need to play in reaching that goal. The NDP recognises the wealth of natural resources such as biodiversity and the need to protect the environment whilst benefiting from mineral resources. It proposes three measures to protect natural resources in South Africa: i) An Environmental Management Framework, including biodiversity offsets for developments with negative environmental or social impacts. ii) Targets for protected areas. iii) Annual reports of the health of natural resources in order to inform policy
Government priorities and biodiversity	The Medium Term Strategic Framework (MTSF) is a framework that guides government's programme of work in a particular electoral mandate period. It provides a prioritisation framework focusing government efforts on strategic priority areas. The phased development of new MTSFs every 5 years provides guidance for achieving the NDP priorities. The MTSF for the period of 2014-2019 provides a framework for implementing South Africa's transition to an environmentally sustainable, climate change resilient, low-carbon economy. The MTSF is a key input in determining national budget allocations, through the Medium Term Expenditure Framework. The MTSF strategic priorities are articulated in more detail in key Outcomes, with accompanying measurable outputs and key activities, and Outcome Delivery Agreements. The latter are performance agreements between the President and Ministers.
Outcome 10 Delivery Agreement	The Government's main priorities for the period reflected by the MTSF are reflected by 14 Outcomes, derived from the Strategic Plan of The Presidency's ten priorities. These outcomes form the government's delivery and implementation plans for the period. The plans are reviewed annually and reported on throughout the year, forming a key input in determining national budget allocations. Final budget allocations affect the order of priorities and phasing of the implementation of the delivery agreements. Outcome 10 in the MTSF 2014-2019 is 'protect and enhance our environmental assets and natural resources', and sets priorities for relevant government departments and conservation agencies.

The study is conducted in such a way as to comply with the instructions regarding such studies and reports (as contained within the above-mentioned documents).

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

One of the objectives of a BA is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. In order to ensure that the proposed development enables sustainable development, *feasible* alternatives must be explored (*S. Cliff, 2015*).

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process. Alternatives should be considered as a *norm* within the Environmental Process (*S. Cliff, 2015*).

Alternatives have been considered in terms of EIA Regulation, 2014 Appendix 1(h). Alternatives considered includes a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative have also been included to act as a baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate have been informed by the specific circumstances of the activity and its environment.

FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", **in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—**

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

Provide a description of the alternatives considered

No.	**Alternative type**, either alternative:	**Description: The "type of activity to be undertaken"**

	site on property, properties, activity, design, technology, energy, operational or other(provide details of "other")	**alternative was the only viable alternative.**
1	Proposal	This proposal entails the underground installation of the sewer pipeline. This will have the implication the watercourses will be crossed by means of the infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.
2	Alternative 1	Alternative 1 will also entail the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province. It is however proposed that the stream crossing be constructed over the streams by means of bridges.
3	Alternative 2 No-go alternative	The no-go alternative will entail that the status quo will remain. The implication of this will be that the people of the area will not have their basic needs for proper sanitation addressed and that the inadequate capacity of the existing sewer infrastructure in the area will cause pollution.

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity ***(Total environmental (landscaping, parking, etc.) and the building footprint)***	380 square meters
Alternatives:	
Alternative 1 (if any)	380 square meters
Alternative 2 (if any)	0 square meters
	Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity	190 meter
Alternatives:	
Alternative 1 (if any)	190 meter
Alternative 2 (if any)	0 meter
	m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

	Size of the site/servitude:
Proposed activity	190 meter
Alternatives:	
Alternative 1 (if any)	190 meter
Alternative 2 (if any)	0 meter
	Ha/m^2

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road? | YES | NO |

If NO, what is the distance over which a new access road will be built | | m |

Describe the type of access road planned:

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1

Does ready access to the site exist, or is access directly from an existing road? | YES | NO |

If NO, what is the distance over which a new access road will be built | | m |

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

Does ready access to the site exist, or is access directly from an existing road? | YES | NO |

If NO, what is the distance over which a new access road will be built | | m |

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated **N/A** Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);

- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;

- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

7. SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities

1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route | **"insert No. of duplicates"** | Times 2

Instructions for completion of Section B for location/route alternatives

1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alterative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives | **"insert No. of duplicates"** | times | (complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route | **1** | (complete only when appropriate for above)

Section B – Location/route Alternative No. | | (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	Portion 2 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
Coordinates of site (Stream crossing 1):	26º 31' 55,92''	28º 19' 42,45''
Coordinates of site (Stream crossing 2):	26º 32'06,62''	28º 19' 41,35''

The 21 digit Surveyor General code of each cadastral land parcel

PROPOSAL	**T**	**O**	**I**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**5**	**0**	**0**	**0**	**0**	**2**
ALT. 1	**T**	**O**	**I**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**5**	**0**	**0**	**0**	**0**	**2**

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hills	River front

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	YES	NO
Dolomite, sinkhole or doline areas	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO
Any other unstable soil or geological feature	YES	NO
An area sensitive to erosion	YES	NO

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s) YES NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

c) are any caves located within a 300m radius of the site(s) YES NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

d) are any sinkholes located within a 300m radius of the site(s) YES NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

If any of the answers to the above are “YES” or “unsure”, specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)? YES NO

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 0	Natural veld with scattered aliens % =30	Natural veld with heavy alien infestation % =70	Veld dominated by alien species % =	Landscaped (vegetation) % =

Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % =

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site	YES	NO

If YES, specify and explain:

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	YES	NO

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site?	YES	NO

If YES, specify and explain:

Was a specialist consulted to assist with completing this section	YES	NO

If yes complete specialist details

Name of the specialist:	Reinier F Terblanche		
Qualification(s) of the specialist:	M.Sc Ecology, *Cum Laude*		
Postal address:	Posbus 20488, Noordbrug,		
Postal code:	2522		
Telephone:	N/A	Cell:	082 614 6684
E-mail:	reinierf.terblanche@gmail.com	Fax:	N/A

Are any further specialist studies recommended by the specialist?	YES	NO

If YES, specify:	

If YES, is such a report(s) attached?	YES	NO

If YES list the specialist reports attached below

Signature of specialist: 

Date: 17/05/2021

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site

31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

1	**1;2**	**1**	**1**	**1**
1	**1;2**	**1**	**1**	**1**
1;6	**1;2**		**1**	**1**
1	**1;2**	**1**	**1**	**1**
1	**1;2**	**1**	**1**	**1**

WEST EAST

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "[A]" and with an "[N]" respectively.

Have specialist reports been attached	YES	NO

If yes indicate the type of reports below

- **A "PHASE 1 HIA REPORT FOR A PROPOSED RESIDENTIAL AND MIXED USE TOWNSHIP DEVELOPMENT AND RELATED INFRASTRUCTURE ON VARIOUS PORTIONS OF THE FARMS BOSCHOEK 385IR & BOSCHFONTEIN 386IR NEAR HEIDELBERG IN THE LESEDI LOCAL MUNICIPALITY OF GAUTENG" was compiled by A Pelser Archaeological Consulting (APAC).**
- **An "ECOLOGICAL FAUNA AND FLORA HABITAT SURVEY" was compiled by Anthene Ecological CC.**
- **A "WETLAND IMPACT ASSESSMENT" was compiled by Anthene Ecological CC.**

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site is located within the Lesedi Local Municipality and the Sedibeng District Municipality of Gauteng, South Africa. Heidelberg is the seat of the municipality and during the first war of independence, Heidelberg served as capital of the Zuid Afrikaansche Republiek, from 1880 to 1883. Lesedi Local Municipality can be described as a primarily rural area, the major urban concentration located in Heidelberg/Ratanda, which is situated along the N3 freeway at its intersection with Provincial Route R42, east of the Suikerbosrand Nature Reserve.

Lesedi spans an area of ±1430km², which is largely rural, with two towns situated with within it, namely Heidelberg/Ratanda in the western part, and Devon Impumelelo on its eastern edge. The area can be described as mostly agricultural, with Heidelberg and Devon being the primary service centers for the surrounding agricultural areas.

As far as its sub-regional context is concerned, Lesedi is situated approximately 56km southeast of Johannesburg and is traversed by two national roads, namely the N17 and the N3, which create future economic development potential.

According to Census (2011), the population of Lesedi was estimated at 99 520, which reflects a population increase of about 27 652 since 2001. According to the recent community survey the population of Lesedi Local Municipality is now sitting at 116 922.Therefore, the total population of Lesedi accounts for only 10.9% of the total population of the district. Approximately 74.9% of the total population of Lesedi resides in the urban areas of Heidelberg/ Ratanda and Devon/Impumelelo, while the rest 25.1% is categorized as rural.

The population of Lesedi LM shows larger numbers in the younger age groups, this indicates rapid growth. 34% of the population is below the age of 20. This youthful population will make different demands on the municipality than an older, mature population, for example on education, sport and recreation, libraries and other community facilities. It is therefore important that, whilst functions such as education are not the responsibilities of local government, LLM should interact more closely with provincial and national departments to ensure that the needs of this age cohort are catered for in planning.

There are also a large number of people in the economically active age group (15-54 years) and this is important to keep the dependency ratios as low as possible. There are also a significantly higher number of people in the 65 years plus age groups which might point to a significant number of retired people settling in the area.

Decades distorted development in the area has manifested in highly skewed distribution of income and wealth. The unemployment rate among the economically active sector of the community is approximately 25,9% and this is according to the Census 2011. However, the recent projections provided by Quantek, depicts a bleaker picture, thus projecting the unemployment rate to be at 43.6% in 2017. This challenge as bleak as it seems, it gives the municipality opportunity to radically implement the LED strategy in order to lure potential investments both locally and abroad, such as the VOPAK bulk terminal project and TECINO LETHU projects.

The LLM continues to provide relief to impoverished households through its assistance to the poor scheme and the indigent policy providing its monthly contribution of 6 kiloliters of water and 50 kilowatts of electricity respectively to all registered and approved indigent households. All approved indigent households are exempted from paying basic service charges, in addition their current debts are written off once.

The Gross Geographic Product (GGP) of Lesedi Local Municipality is largely dependent on manufacturing (38.8%), community services (29.4%) and financial services (18.6%), and collectively these three sectors constitute 86.8% of GGP of Lesedi Local Municipality.

Large amounts of infrastructure investment are required over the short term (5 to 10 years) to address the basic services backlog. Critical bulk water, sanitation and electricity infrastructure are needed for key economic developments (i.e. Logistic Hub).

It is evident that municipal needs are significant and current budgets cannot meet these needs. Water resource and bulk infrastructure is also becoming more critical as a number of economic developments are desperately in need of more bulk water, sewer and electricity.

In Lesedi the percentage of households with hygienic toilets was 89.1% in 2011. This is an

improvement from the proportion of 67.2% in 1996. The current sanitation backlog in absolute terms amounts to approximately 4 000 households or 12.8% of all households. In comparison to Gauteng Province and Sedibeng District, Lesedi remains high in the provisioning of proper sanitation. (Source: Lesedi Local Municipality 2019/2020 Final IDP.)

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site-

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

In conclusion it is possible to say that the Phase 1 HIA for the Proposed Establishment of a Residential and Mixed Use Township (including related Infrastructure) on Portions 2 & 28 of the farm Boschoek 385IR and the Remaining Extent of Portion 2 and Portion 4 of the farm Boschfontein 386IR was conducted successfully. The development site and study area is located near Heidelberg, in the Lesedi Local Municipality of Gauteng. Part of the assessment included the recording of a number of known graves and grave sites in the study area.

As indicated earlier no sites (other than the known graves), features or material of cultural heritage (archaeological and/or historical) origin or significance were identified in the study area during the physical assessment. If any sites did exist here in the past it would have been largely disturbed or destroyed by recent historical agricultural and urban development activities in the study and larger area around it.

Three locations with graves or possible graves were identified and recorded. The sites were shown to the Heritage Specialist by the Community Liaison Office for the Development, who indicated that these graves will not be directly impacted by the current development actions but that recommendations on their management/protection is required. He also indicated that there is another known site in the larger area close to the study area, but that it will not be affected.

Grave Site 1 is a single, stone-packed feature that might not be a grave at all (it is fairly large).

It had been fenced off in the past. Grave Site 2 is a similar feature, and has also been demarcated by a fence. The size of this stone-packed feature makes the possibility of this being a grave unlikely as well.

Grave Site 3 contains between 60 and 70 graves, and the site has not been fenced-in. Most of the graves here are stone-packed with no headstones, while there are 11 graves with headstones and that have cement/concrete borders. The legible inscriptions on some of these identify some of the deceased as belonging to the Sebeko/Sibeko; Rakosa; Dlamini; Moloi and Moage families. The identified dates of death range between 1938 and 1945.

Graves always carry a High Cultural Heritage Significance rating and should preferably be protected and not impacted by any development. The best practice would be to steer clear of the grave site and fence it in to ensure its protection. The site should then be managed through a Heritage Management Plan. Although the graves sites might not be directly impacted on by the proposed township development, there could be some indirect impacts on it as a result of it. It is therefore recommended that the sites be properly cleaned, the graves on them recorded in detail and a Graves Register be drafted and the sites fenced-in properly.

Finally, if the proposed township development cannot avoid these graves and grave sites then the option to exhume and relocate the graves does exist. This will entail detailed and extensive social consultation to try and locate any possible descendants of the deceased and to obtain consent for the exhumations and relocations. Once this has been done various permits will have to be obtained before the work is conducted.

It should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

Finally, from a Cultural Heritage point of view the Proposed Establishment of a Residential and Mixed Use Township (including related Infrastructure) on Portions 2 & 28 of the farm Boschoek 385IR and the Remaining Extent of Portion 2 and Portion 4 of the farm Boschfontein 386IR should be allowed to continue taking into consideration the recommended mitigation measures provided.

	YES	NO
Will any building or structure older than 60 years be affected in any way?		NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? If yes, please attached the comments from SAHRA in the appropriate Appendix	YES	

Section B - Section of Route | **2** | (complete only when appropriate for above)

Section B – Location/route Alternative No. | | (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
Coordinates of site (Stream crossing 3):	26º 32' 32,24''	28º 19' 34,82''
Coordinates of site (Stream crossing 4):	26º 32'33,38''	28º 19' 35,26''
Coordinates of site (Stream crossing 5):	26º 32'39,50''	28º 19' 37,61''

The 21 digit Surveyor General code of each cadastral land parcel

PROPOSAL	**T**	**O**	**I**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**5**	**0**	**0**	**0**	**2**	**8**
ALT. 1	**T**	**O**	**I**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**5**	**0**	**0**	**0**	**2**	**8**

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hills	River front

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	YES	NO
Dolomite, sinkhole or doline areas	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO
Any other unstable soil or geological feature	YES	NO
An area sensitive to erosion	YES	NO

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s) | YES | NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

c) are any caves located within a 300m radius of the site(s) | YES | NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

d) are any sinkholes located within a 300m radius of the site(s) | YES | NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)? | YES | NO

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 0	Natural veld with scattered aliens % =30	Natural veld with heavy alien infestation % =70	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % =

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site | YES | NO

If YES, specify and explain:

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site. | YES | NO

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site? | YES | NO

If YES, specify and explain:

Was a specialist consulted to assist with completing this section | YES | NO

If yes complete specialist details

Name of the specialist:	Reinier F Terblanche
Qualification(s) of the specialist:	M.Sc Ecology, *Cum Laude*
Postal address:	Posbus 20488, Noordbrug,

Postal code:	2522		
Telephone:	N/A	Cell:	082 614 6684
E-mail:	reinierf.terblanche@gmail.com	Fax:	N/A

Are any further specialist studies recommended by the specialist?	YES	NO
If YES, specify:		
If YES, is such a report(s) attached?	YES	NO
If YES list the specialist reports attached below		

Signature of specialist: 

Date: 17/05/2021

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

1	**1;2**	**1**	**26**	**1**
1	**1;2**	**1**	**1**	**1**
1	**1;2**		**1**	**1**
1	**1;2**	**9**	**9**	**1**
1	**1;2**	**9**	**9**	**1**

WEST EAST

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached	YES	NO

If yes indicate the type of reports below

- **A "PHASE 1 HIA REPORT FOR A PROPOSED RESIDENTIAL AND MIXED USE TOWNSHIP DEVELOPMENT AND RELATED INFRASTRUCTURE ON VARIOUS PORTIONS OF THE FARMS BOSCHOEK 385IR & BOSCHFONTEIN 386IR NEAR HEIDELBERG IN THE LESEDI LOCAL MUNICIPALITY OF GAUTENG" was compiled by A Pelser Archaeological Consulting (APAC).**
- **An "ECOLOGICAL FAUNA AND FLORA HABITAT SURVEY" was compiled by Anthene Ecological CC.**
- **A "WETLAND IMPACT ASSESSMENT" was compiled by Anthene Ecological CC.**

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site is located within the Lesedi Local Municipality and the Sedibeng District Municipality of Gauteng, South Africa. Heidelberg is the seat of the municipality and during the first war of independence, Heidelberg served as capital of the Zuid Afrikaansche Republiek, from 1880 to 1883. Lesedi Local Municipality can be described as a primarily rural area, the major urban concentration located in Heidelberg/Ratanda, which is situated along the N3 freeway at its intersection with Provincial Route R42, east of the Suikerbosrand Nature Reserve.

Lesedi spans an area of ±1430km², which is largely rural, with two towns situated with within it, namely Heidelberg/Ratanda in the western part, and Devon Impumelelo on its eastern edge. The area can be described as mostly agricultural, with Heidelberg and Devon being the primary service centers for the surrounding agricultural areas.
As far as its sub-regional context is concerned, Lesedi is situated approximately 56km southeast of Johannesburg and is traversed by two national roads, namely the N17 and the N3, which create future economic development potential.

According to Census (2011), the population of Lesedi was estimated at 99 520, which reflects a population increase of about 27 652 since 2001. According to the recent community survey the population of Lesedi Local Municipality is now sitting at 116 922.Therefore, the total population of Lesedi accounts for only 10.9% of the total population of the district. Approximately 74.9% of the total population of Lesedi resides in the urban areas of Heidelberg/ Ratanda and Devon/Impumelelo, while the rest 25.1% is categorized as rural.

The population of Lesedi LM shows larger numbers in the younger age groups, this indicates rapid growth. 34% of the population is below the age of 20. This youthful population will make different demands on the municipality than an older, mature population, for example on education, sport and recreation, libraries and other community facilities. It is therefore important that, whilst functions such as education are not the responsibilities of local government, LLM should interact more closely with provincial and national departments to ensure that the needs of this age cohort are catered for in planning.

There are also a large number of people in the economically active age group (15-54 years) and this is important to keep the dependency ratios as low as possible. There are also a significantly higher number of people in the 65 years plus age groups which might point to a significant number of retired people settling in the area.

Decades distorted development in the area has manifested in highly skewed distribution of

income and wealth. The unemployment rate among the economically active sector of the community is approximately 25,9% and this is according to the Census 2011. However, the recent projections provided by Quantek, depicts a bleaker picture, thus projecting the unemployment rate to be at 43.6% in 2017. This challenge as bleak as it seems, it gives the municipality opportunity to radically implement the LED strategy in order to lure potential investments both locally and abroad, such as the VOPAK bulk terminal project and TECINO LETHU projects.

The LLM continues to provide relief to impoverished households through its assistance to the poor scheme and the indigent policy providing its monthly contribution of 6 kiloliters of water and 50 kilowatts of electricity respectively to all registered and approved indigent households. All approved indigent households are exempted from paying basic service charges, in addition their current debts are written off once.

The Gross Geographic Product (GGP) of Lesedi Local Municipality is largely dependent on manufacturing (38.8%), community services (29.4%) and financial services (18.6%), and collectively these three sectors constitute 86.8% of GGP of Lesedi Local Municipality.

Large amounts of infrastructure investment are required over the short term (5 to 10 years) to address the basic services backlog. Critical bulk water, sanitation and electricity infrastructure are needed for key economic developments (i.e. Logistic Hub).

It is evident that municipal needs are significant and current budgets cannot meet these needs. Water resource and bulk infrastructure is also becoming more critical as a number of economic developments are desperately in need of more bulk water, sewer and electricity.

In Lesedi the percentage of households with hygienic toilets was 89.1% in 2011. This is an improvement from the proportion of 67.2% in 1996. The current sanitation backlog in absolute terms amounts to approximately 4 000 households or 12.8% of all households. In comparison to Gauteng Province and Sedibeng District, Lesedi remains high in the provisioning of proper sanitation. (Source: Lesedi Local Municipality 2019/2020 Final IDP.)

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site-

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

	YES	NO
Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site? If YES, explain:		

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

In conclusion it is possible to say that the Phase 1 HIA for the Proposed Establishment of a Residential and Mixed Use Township (including related Infrastructure) on Portions 2 & 28 of the farm Boschoek 385IR and the Remaining Extent of Portion 2 and Portion 4 of the farm Boschfontein 386IR was conducted successfully. The development site and study area is located near Heidelberg, in the Lesedi Local Municipality of Gauteng. Part of the assessment included the recording of a number of known graves and grave sites in the study area.

As indicated earlier no sites (other than the known graves), features or material of cultural heritage (archaeological and/or historical) origin or significance were identified in the study area during the physical assessment. If any sites did exist here in the past it would have been largely disturbed or destroyed by recent historical agricultural and urban development activities in the study and larger area around it.

Three locations with graves or possible graves were identified and recorded. The sites were shown to the Heritage Specialist by the Community Liaison Office for the Development, who indicated that these graves will not be directly impacted by the current development actions but that recommendations on their management/protection is required. He also indicated that there is another known site in the larger area close to the study area, but that it will not be affected.

Grave Site 1 is a single, stone-packed feature that might not be a grave at all (it is fairly large). It had been fenced off in the past. Grave Site 2 is a similar feature, and has also been demarcated by a fence. The size of this stone-packed feature makes the possibility of this being a grave unlikely as well.

Grave Site 3 contains between 60 and 70 graves, and the site has not been fenced-in. Most of the graves here are stone-packed with no headstones, while there are 11 graves with headstones and that have cement/concrete borders. The legible inscriptions on some of these identify some of the deceased as belonging to the Sebeko/Sibeko; Rakosa; Dlamini; Moloi and Moage families. The identified dates of death range between 1938 and 1945.

Graves always carry a High Cultural Heritage Significance rating and should preferably be protected and not impacted by any development. The best practice would be to steer clear of the grave site and fence it in to ensure its protection. The site should then be managed through a Heritage Management Plan. Although the graves sites might not be directly impacted on by the proposed township development, there could be some indirect impacts on it as a result of it. It is therefore recommended that the sites be properly cleaned, the graves on them recorded in detail and a Graves Register be drafted and the sites fenced-in properly.

Finally, if the proposed township development cannot avoid these graves and grave sites then the option to exhume and relocate the graves does exist. This will entail detailed and extensive social consultation to try and locate any possible descendants of the deceased and to obtain consent for the exhumations and relocations. Once this has been done various permits will have to be obtained before the work is conducted.

It should be noted that although all efforts are made to locate, identify and record all possible

cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

Finally, from a Cultural Heritage point of view the Proposed Establishment of a Residential and Mixed Use Township (including related Infrastructure) on Portions 2 & 28 of the farm Boschoek 385IR and the Remaining Extent of Portion 2 and Portion 4 of the farm Boschfontein 386IR should be allowed to continue taking into consideration the recommended mitigation measures provided.

Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? If yes, please attached the comments from SAHRA in the appropriate Appendix	YES	NO

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

1. The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?	YES	NO
If yes, has any comments been received from the local authority?	YES	NO

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

Comments will be included into the Final BAR (If received)

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?	YES	NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

If "NO" briefly explain why no comments have been received

Comments will be included into the Final BAR (If received)

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 –Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alterative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives **"insert No. of duplicates"** times (complete only when appropriate)

Section D Alternative No. "insert alternative number" (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase? YES / NO

If yes, what estimated quantity will be produced per month? m^3

How will the construction solid waste be disposed of (describe)?

Where will the construction solid waste be disposed of (describe)?

Will the activity produce solid waste during its operational phase? YES / NO

If yes, what estimated quantity will be produced per month? `m^3

How will the solid waste be disposed of (describe)?

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity? YES / NO

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? YES / NO

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility? YES / NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? YES / NO

If yes, what estimated quantity will be produced per month? m^3

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)? YES / NO

Will the activity produce any effluent that will be treated and/or disposed of on site? Yes / NO

If yes, what estimated quantity will be produced per month? m^3

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	YES	NO
If yes, what estimated quantity will be produced per month?		m^3
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO

If yes describe how it will be treated and disposed off.

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the emissions in terms of type and concentration:

2. WATER USE

Indicate the source(s) of water that will be used for the activity

municipal	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?	YES	NO

If yes, list the permits required

Water Use License Application in terms of Section 21 (c and i). Department of Water and Sanitation.

If yes, have you applied for the water use permit(s)?	YES	NO
If yes, have you received approval(s)? (attached in appropriate appendix)	YES	NO

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

N/A

If power supply is not available, where will power be sourced from?

N/A

4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

N/A

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

This is the Draft BAR and as such no comments have been received yet. Should any issues be raised during the PPP these issues will be incorporated into the Final BAR.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)
(A full response must be provided in the Comments and Response Report that must be attached to this report):

This is the Draft BAR and as such no comments have been received yet. Should any issues be raised during the PPP these issues will be incorporated into the Final BAR

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

Impacts were rated using the following methodology:

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
Duration (time scale)	Short term	Up to 5 years
	Medium term	6 – 15 years
	Long term	More than 15 years
Extent (area)	Local	Confined to study area and its immediate surroundings
	Regional	Region (cadastral, catchment, topographic)
	National	Nationally (The country)
	International	Neighboring countries and the rest of the world.
Magnitude (Intensity)	Low	Site-specific and wider natural and/or social functions and processes are negligibly altered. ((A low intensity impact will not affect the natural, cultural, or social functions of the environment).
	Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way. (Medium scale impact will alter the different functions slightly).
	High	Site-specific and wider natural and/or social functions and processes are severely altered. (A High intensity impact will influence these functions to such an extent that it will temporarily or permanently cease to exist).
Probability	Improbable	Possibility of occurrence is very low. (Such an impact will have a very slight possibility to materialise, because of design or experience).
	Possible	There is a possibility that the impact will occur
	Probable	It is most likely that the impact will occur
	Definite	The impact will definitely occur
Significance	Insignificant	Impact is negligible and will not have an influence on the decision regarding the proposed activity (No mitigation is necessary)
	Very Low	Impact is very small and should not have any meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
	Low	The impact may not have a meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Medium	The impact should influence the decision regarding the proposed activity (The project can only be carried through if certain mitigatory steps are taken)
	High	The impact will influence the decision regarding the proposed activity
	Very High	The proposed activity should only be approved under special circumstances
Reversibility	Low	There is little chance of correcting the adverse impact
	Medium	There is a moderate chance of correcting the adverse impact
	High	There is a high chance in correcting the adverse impact
Risk	Low	Assessing a risk involves an analysis of the consequences and likelihood of a hazard being realized. In decision-making, low-consequence / low-probability risks (green) are typically perceived as acceptable and therefore only require monitoring.
	Medium	Other risks (amber) may require structured risk assessment to better understand the features that contribute most to the risk. These features may be candidates for management
	High	High-consequence / high-probability risks (red) are perceived as unacceptable and a strategy is required to manage the risk.

Attributes associated with the alternatives were assessed and is outlined below:

Geographical attributes

The Geographical attributes of an area relates to the characteristics of a particular region, area or place. It influences the determination of site alternatives as it relates to the location of a site in relation to relevant features in the area.

Physical attributes

Physical attributes of an area relates to the processes and patterns in the natural environment. For the purpose of this assessment, the following processes and patterns have been investigated. Geology, soil, topography and landforms, climate and meteorology, surface water and ground water.

Biological attributes

Biological attributes for the purpose of this study includes the distribution of species and ecosystems in geographic space and through geological time. Organisms and biological communities often vary in a regular fashion along geographic gradients of latitude, elevation, isolation and habitat area. The two main branches assessed will be:

Phytogeography is the branch of biogeography that studies the distribution of plants.

Zoogeography is the branch that studies distribution of animals.

Social attributes

Social attributes is closely related to social theory in general and sociology in particular, dealing with the relation of social phenomena and its spatial components.

Economic attributes

Economic attributes includes the location, distribution and spatial organization of economic activities and also takes into account social, cultural, and institutional factors in the spatial economy of the development.

Heritage attributes

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural attributes

Cultural attributes relates to the specific characteristics such as language, religion, ethnic and racial identity, and cultural history & traditions of people. These attributes influences family life, education, economic and political structures, and, of course, business practices.

It should be noted that the above mentioned attributes do not occur in isolation and it is not uncommon for an identified impact to overlap with two or more of these attributes. Also note, not all risks require comprehensive and detailed assessment. Solid problem formulation should allow decision-makers to evaluate the extent of subsequent analysis required. The level of effort put into assessing each risk should be proportionate to its significance and priority in relation to other risks, as well as its complexity, by reference to the likely impacts. Consideration should be given to stakeholders' perceptions of the nature of the risk.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
PROPOSAL					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
DIRECT IMPACTS:					
Geographical Physical Social Economic	The new pipeline will be constructed within a non-perennial streambed.	Duration	Long term	Construct the stream crossings in accordance with the designs and ensure the natural flow of the river is not disturbed in the long term. Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management plan.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Plan to spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the provision and maintenance of ablution facilities	Duration	Short term	Provide portable ablution facilities that will not cause	Short term
		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
PROPOSAL					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
	for construction workers to prevent pollution of surface and underground water.	Magnitude (Intensity)	Medium	pollution during the construction phase.	Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to safeguard open trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Duration	Short term	Ensure that the trenches are dug according to specifications as prescribed by the Civil Engineer. Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
PROPOSAL					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
				site.	
	Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a result of non- compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Cumulative impacts:				
Geographical Physical Social Economic	Plan the development to ensure the social well-being of the community for which the development is intended	Extent	Local	Ensure that the development is constructed as planned. The demand for water will be partially addressed in the area.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Plan to ensure that the services are designed and constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development. Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium

	ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)
	ALTERNATIVE 1:

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	DIRECT IMPACTS:				
Geographical Physical Social Economic	Construct a bridge over the non perennial stream for the pipeline.	Duration	Long term	No environmental authorization will have to be obtained for the development, as no soil will have to be moved / excavated within the streambed. Although this is an advantage, the long term operational impacts must be considered.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the provision and maintenance of ablution facilities for construction workers to prevent pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. The findings of the Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to safeguard open	Duration	Short term	Ensure that the trenches are dug	Short term

	ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)				
	ALTERNATIVE 1:				
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
	trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Extent	Local	according to specifications as prescribed by the Civil Engineer. Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a result of non- compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					

	ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)				
	ALTERNATIVE 1:				
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
Geographical Physical Social Economic	Plan the development to ensure the social well-being of the community for which the development is intended	Extent	Local	Ensure that the development is constructed as planned. The demand for water will be partially addressed in the area.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Plan to ensure that the bulk services are designed and constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development. Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
NO-GO OPTION					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	If the no-go option is implemented, the proposed development will not be constructed and therefore no impacts on the environment are possible	Duration	Long term	No mitigation measures required.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
	No streams will be crossed.	Duration	Long term	No mitigation measures required.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
Indirect impacts:					
Geographical Physical Social Economic Cultural	No new employment opportunities will be created during the planning and design phase. No skills enhancement will take place If this option is implemented, the projected boost to the local and regional economy will not take place.	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	If this option is implemented, the projected boost to the local and regional economy will not take place. No new employment opportunities will be created. No improvement to local skills	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
NO-GO OPTION					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
	development will take place.				

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
PROPOSAL					
Environmental Attribute	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**
DIRECT IMPACTS:					
Geographical Physical Social Economic	The new pipelines will be constructed within non-perennial streambeds.	Duration	Long term	Construct the stream crossings in accordance with the designs and ensure the natural flow of the river is not disturbed in the long term. Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management plan.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Un-rehabilitated, disturbed surfaces can lead to erosion and dust pollution.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Foreign plant species are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Poorly planned ablution facilities for construction workers may cause pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	The proposed project can impact on the soil and geology.	Duration	Long term	The findings of the Geo-Technical Engineer must be incorporated into the design of the project. Prevent spills of lubricants/oils that can take place on bare soil.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
PROPOSAL					
Environmental Attribute	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**
				This will include the use of drip trays for vehicles that are standing for more than 24 hours.	
	The vegetation of the area will be removed during the construction phase, which will destroy floral and faunal habitats.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Open trenches can be dangerous as they can either collapse on people or on equipment and people- especially small children, can fall into them.	Duration	Short term	Ensure that the trenches are dug according to specifications as prescribed by the Civil Engineer. Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Dust generation from the proposed project could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Spills of lubricants / oils can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Waste materials such as glass, plastic, metal or paper present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
PROPOSAL					
Environmental Attribute	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**
		Significance	Medium	is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Medium
		Reversibility	High		High
		Risk	Low		Medium
	Non-compliance to the relevant legislation may cause social and environmental problems.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	New employment opportunities will be created. Local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					
Geographical Physical Social Economic	Construct the development to ensure the social well-being of the community for which the development is intended	Extent	Local	Ensure that the development is constructed as planned. The demand for housing will be partially addressed in the area.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Ensure that the services are constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
		Magnitude (Intensity)	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
PROPOSAL					
Environmental Attribute	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)					
ALTERNATIVE 1: (Preferred Alternative)					
Environmental Attribute	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**	**Environmental Attribute**
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	Poorly maintained and serviced infrastructure may cause environmental problems.	Extent	Local	It will be the responsibility of the Local Municipality to maintain the infrastructure.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Indirect impacts:					
Geographical Physical Social Economic Cultural	Lack of rehabilitation may cause problems	Extent	Local	It will be the responsibility of the Local Municipality to ensure that the rehabilitation plan is implemented	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	Enhancement of the social well-being of the local communities for which the development is intended	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- **A "PHASE 1 HIA REPORT FOR A PROPOSED RESIDENTIAL AND MIXED USE TOWNSHIP DEVELOPMENT AND RELATED INFRASTRUCTURE ON VARIOUS PORTIONS OF THE FARMS BOSCHOEK 385IR & BOSCHFONTEIN 386IR NEAR HEIDELBERG IN THE LESEDI LOCAL MUNICIPALITY OF GAUTENG" was compiled by A Pelser Archaeological Consulting (APAC).**
- **An "ECOLOGICAL FAUNA AND FLORA HABITAT SURVEY" was compiled by Anthene Ecological CC.**
- **A "WETLAND IMPACT ASSESSMENT" was compiled by Anthene Ecological CC.**

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

This report is based on current available information and, as a result, the following limitations and assumptions are implicit –

The report is based on the *project description* provided by the Applicant as a result of reports that was compiled by the following Specialists:

- A Civil engineer has been appointed to determine the availability of services and the layout of the development
- A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- An Ecologist specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- A Wetland specialist has been appointed to determine the impact of the proposed development on the non-perennial stream on site.
- An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- Desktop studies were conducted and alternatives assessed.

Descriptions of the biophysical and social environments are based on specialist fieldwork, investigations, and the Public Participation Process.

3. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

The application deals with the installation of infrastructure that will not be discontinued as it will provide permanent sewer reticulation for the area.

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

N/A

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

N/A

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

- The Proposal deals with the installation of bulk sewer infrastructure. The sewer that will flow towards the Existing Sewer Treatment Plant will have a cumulative impact on the capacity of the WWTP as the volume of sewage will increase.
- Lack of rehabilitation may cause problems.

- Poorly maintained and serviced infrastructure may cause environmental problems.
- The cumulative impact of people that will be provided with basic services (Sanitation via water borne toilets) will increase. Enhancement of the social well-being of the local communities for which the development is intended.

Please also see Paragraph 2 above for comprehensive assessment of all potential impacts

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Proposal

The detailed environmental assessment for the proposed development, has not found any environmental impacts that *cannot* be mitigated to acceptable and manageable levels.

This proposal entails the underground installation of the sewer pipeline. This will have the implication the watercourses will be crossed by means of the infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province

The streams that will be crossed are a non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged. The impacts are considered to be short term, definite with a low significance. Please also see Paragraph 2 above for comprehensive assessment of all potential impacts.

BIO-PHYSICAL ASPECTS

GEOLOGY

GEOLOGY - POSSIBLE IMPACTS (TYPE)

- Excavations will impact on the broad environment
- If produced by the activity excess rock spoils will impact on the environment

GEOLOGY - POSSIBLE DURATION OF IMPACTS

- As long as it is necessary to do the trenching and construction of the necessary infrastructure
- As soon as the excavations are filled again, - all excess rubble will be removed

GEOLOGY - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is high

GEOLOGY - POSSIBLE SIGNIFICANCE

- If properly managed the significance of the impacts occurring is low to medium

GEOLOGY – POSSIBLE MITIGATION STEPS

- The mitigation of the possible impacts deriving from the geology is fairly simple and entirely possible if the management steps described in the management plan are implemented

TOPOGRAPHY

TOPOGRAPHY - POSSIBLE IMPACTS (TYPE)

- The topography of the area will be altered during the construction phase.

TOPOGRAPHY - POSSIBLE DURATION OF IMPACTS

- The duration of the impacts will only be during the construction phase and therefore will only be applicable for the duration of the construction phase.

TOPOGRAPHY - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is high

TOPOGRAPHY - POSSIBLE SIGNIFICANCE

- If properly managed, the significance of the impacts occurring is low to medium

TOPOGRAPHY – POSSIBLE MITIGATION STEPS

- Ensure that the trenches are backfilled to as close as possible to its original shape.

CLIMATE

CLIMATE - POSSIBLE IMPACTS (TYPE)

- Floods due to intense rainfall events
- Dry spells due to droughts – with the resultant dust and the possibility of veldt fires

CLIMATE - POSSIBLE DURATION OF IMPACTS

- The duration of climatic impacts is difficult to determine as climatic fluctuations are impossible to predict. The impacts may be local and short term after an intense rainfall event, but may be long-term during droughts

CLIMATE - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is high

CLIMATE - POSSIBLE SIGNIFICANCE

- The significance of extreme climatic events can be high
- The significance of the impacts occurring is medium

CLIMATE – POSSIBLE MITIGATION STEPS

- Construct the necessary infrastructure to mitigate adverse impacts of possible

flood events

- In the event of extremely dry spells during the construction phase, plan to spray exposed surfaces with water to curb excessive dust generation and implement measures to prevent veldt fires

SOIL

SOIL - POSSIBLE IMPACTS (TYPE)

- Soil erosion due to floods
- Soil disturbance due to construction activities

SOIL - POSSIBLE DURATION OF IMPACTS

- The duration of erosion caused by floods are difficult to determine due to the uncertainty associated with weather cycles
- Soil problems associated with the construction activities are dependent on the time that will be spent on this activity. It is envisaged that it will take between six months and a year.

SOIL - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of both the impacts occurring is medium.

SOIL - POSSIBLE SIGNIFICANCE

- The significance of climatic events on the soil is medium depending on the implementation of mitigation measures. While the impact deriving from construction activities are normally (if sound management practices are implemented) regarded as low to medium.
- If properly managed, the significance of the impacts occurring is low to medium.

SOIL – POSSIBLE MITIGATION STEPS

- Ensure that the mitigation measures described for the protection of soils denuded of vegetation, as well as of soils disturbed during the construction phase are implemented

WATER

WATER - POSSIBLE IMPACTS (TYPE)

- Floods due to intense rainfall events

WATER - POSSIBLE DURATION OF IMPACTS

- The duration of floods are virtually impossible to determine as climatic fluctuations are extremely difficult to predict

WATER - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is low

WATER - POSSIBLE SIGNIFICANCE

- The significance of extreme climatic events can be high

WATER – POSSIBLE MITIGATION STEPS

- Implement the plans to deal with excessive rainfall events (build and maintain flood prevention measures)

FLORA

FLORA - POSSIBLE IMPACTS (TYPE):

- The denuding of surfaces due to construction activities and the resultant erosion (water and wind)
- Invasion by non-indigenous species

FLORA - POSSIBLE DURATION OF IMPACTS

- If the proposed mitigation measures are implemented, the duration of the impacts will be local and short term
- The duration of impacts from invasive species also depend entirely on the dedication and/or lack of dedication to the invasive prevention programs. If the proposed mitigation measures are implemented, the duration of the impacts will be local and short term

FLORA - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring during the construction phase is high.
- The positive impacts derived from the proposed mitigation measures will be local and long term and of high significance

FLORA - POSSIBLE SIGNIFICANCE

- The significance of both denuded surfaces and/or invasive intrusions are low if the proposed mitigation measures are implemented

FLORA – POSSIBLE MITIGATION STEPS

- Implement the rehabilitation plans for vegetation as well as the elimination of invader species at the earliest possible moment

FAUNA

FAUNA - POSSIBLE IMPACTS (TYPE)

- Disturbance of habitats

FAUNA - POSSIBLE DURATION OF IMPACTS

- The impact on burrowing mammals and reptiles of all kinds is likely to be local and short term during the construction phase

FAUNA - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the negative impacts occurring is medium, while sound environmental practices such as the prohibiting of interference with fauna may have positive impacts in the long term

FAUNA - POSSIBLE SIGNIFICANCE

- The significance of the expected faunal impacts are low – depending on the degree of success achieved through habitat restoration

FAUNA - MITIGATION STEPS

- Take the necessary steps to preserve the few remaining faunal species

AIR QUALITY

AIR QUALITY - POSSIBLE IMPACTS (TYPE):

- Dust – due to exposed soils

AIR QUALITY - POSSIBLE DURATION OF IMPACTS

- The duration of these impacts will be local and short term

AIR QUALITY - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the negative impacts occurring is medium

AIR QUALITY - POSSIBLE SIGNIFICANCE

- The significance of the expected air quality impacts are low

AIR QUALITY - MITIGATION STEPS

- Take the necessary steps to prevent dust generation by spraying water over exposed surfaces during dry spells

NOISE

NOISE - POSSIBLE IMPACTS (TYPE)

- Noise pollution due to construction activities

NOISE - POSSIBLE DURATION OF IMPACTS

- The duration of these impacts will be local and short term

NOISE - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the negative impacts occurring is low

NOISE - POSSIBLE SIGNIFICANCE

- The significance of this impact is judged to be low - if the restrictions of construction times are adhered to
- The significance of the expected noise impacts are low

NOISE - MITIGATION STEPS

- Take the necessary steps to restrict construction times to normal working hours

AESTHETICS

AESTHETICS - POSSIBLE IMPACTS (TYPE)

- The aesthetics of the area will mostly be affected during the construction phase. No further real negative impacts are likely to occur, as the pipeline will not be visible once covered. (As opposed to the design alternative – in which case the bridges and pipeline will change the aesthetics of the area)

AESTHETICS - POSSIBLE DURATION OF IMPACTS

- The duration of these negative impacts are likely to be short term

AESTHETICS QUALITY - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is low

AESTHETICS - POSSIBLE SIGNIFICANCE

- The significance of the negative impacts occurring is low

AESTHETICS - MITIGATION STEPS

- Implement the proper rehabilitation measures to enhance aesthetics of the area

SOCIO-ECONOMIC ASPECTS

SOCIO-ECONOMIC ASPECTS -POSSIBLE IMPACTS (TYPE)

- Employment opportunities will be created for some of the unemployed people in the area
- Skills improvement will be provided for presently unskilled (or semi-skilled workers) living in the area
- The quality of life of people living in the area can be enhanced if ALL the proper steps are followed when the new service is provided
- All possible negative impacts** that may be derived from poor environmental performances during all the project phases, must be identified, monitored, and mitigation steps implemented

** Negative impacts include all the aspects described under the bio-physical as well as the socio-economic characteristics of the area.

SOCIO-ECONOMIC ASPECTS - POSSIBLE DURATION OF IMPACTS

- The duration of these impacts will be entirely dependent on the duration of the construction phase, the implementation of possible mitigation measures and the dedication of the applicant and the contractor to sound environmental principals (including management plans/mitigation measures, etc). The overall duration of impacts can be considered to be long term

SOCIO-ECONOMIC ASPECTS - LIKELIHOOD OF IMPACTS OCCURRING

- The likelihood of the impacts occurring is high

SOCIO-ECONOMIC ASPECTS - POSSIBLE SIGNIFICANCE

- The significance of this impact is judged to be medium to high

SOCIO-ECONOMICS - MITIGATION STEPS

Implement all the management steps described in this document to enhance the socio-economic aspects of the area

Alternative 1

Alternative 1 will also entail the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province. It is however proposed that the stream crossing be constructed over the streams by means of bridges.

The construction of bridges across the streams in order to install the sewage pipelines will have a permanent visual impact. The chances of vandalism will also be permanent as it will be easy to access the pipelines. The impact of this variable is considered to be medium. Please also see Paragraph 2 above for comprehensive assessment of all potential impacts.

No-go (compulsory)

The no-go alternative will entail that the status quo will remain. The implication of this will be that the people of the area will not have their basic needs for proper sanitation addressed and

that the inadequate capacity of the existing sewer infrastructure in the area will cause pollution

The need for the provision of sanitation in the area will not be addressed. Please also see Paragraph 2 above for comprehensive assessment of all potential impacts.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The Townships of Obed Mthombeni Nkosi Proper, Extension 1, Extension 2 and Extension 3 have all been approved and construction of Obed Mthombeni Nkosi Proper and Phase 1 of Extension 1 have already been completed. In order to provide these Townships with sufficient sewer reticulation, upgrades to the Bulk infrastructure will have to be done. The Developer, **NEP Construction PTY (LTD) in co-operation with the Department of Human Settlements** has identified the need for the construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline in order to achieve this goal as the existing bulk outfall sewer pipeline does not have sufficient capacity to handle the expected sewage outflow that will be generated by the above mentioned development.

The proposed new infrastructure falls within the urban area of the Lesedi Local Municipality and as such does not trigger activity 10 of GN. R 327 0f 7 April 2017. The proposed pipelines will however cross five areas that can be defined as water courses. A Wetland Specialist has subsequently been appointed to delineate these water courses and to determine the impact of the proposed development on it. He has concluded that:

"The proposed pipeline development comprises a narrow open- and close exercise of the soil through highly disturbed watercourses of which most appear to have undergone extensive impacts, modifications or artificial increase in water flow. Water from the up-slope residential areas as well as sewage leaks appear to have considerably impacts on the watercourses at the site. The Present Ecological Status as well as Ecological Importance and Sensitivity of the wetland systems at the site is in general relatively poor and low.

Impacts on the artificial waterbody, wetland seep, and two conspicuously disturbed non-perennial tributaries are of a low\ moderate risk. If the development is approved the surface flow and erosion at the wetlands are likely to be limited. There is no distinct indication that interflow play of the wetlands would be impacted significantly by the proposed developments. The geomorphological setting and flow regime likely to be similar post development, if the development is approved according to the mitigation measures stated. Loss of any wetland animal or plant species of particular conservation importance are not expected."

The streams that will be crossed are a non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged. The impacts are considered to be short term, definite with a low significance. Please also see Paragraph 2 above for comprehensive assessment of all potential impacts.

For alternative:

The construction of bridges across the streams in order to install the sewage pipelines will have a permanent visual impact. The chances of vandalism will also be permanent as it will be easy to access the pipelines. The impact of this variable is considered to be medium. Please also

see Paragraph 2 above for comprehensive assessment of all potential impacts

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The streams that will be crossed are a non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged

7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

The site is located within the Gauteng Provincial Environmental Management Framework (GPEMF) and is described as Zone 1: Urban development zone, however, this tool cannot be used for this application as:

"(d) Conditions for exclusion:

- *Ensure that there are **no wetlands and or rivers on the site** that will be affected;"*

8. RECOMMENDATION OF THE PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).	YES	NO

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

1. A full copy of the signed EA from GDARD in terms of NEMA, granting approval for the development must be available on site
2. A copy of the EMPr as well as any amendments thereof must be available on site
3. A suitably qualified ECO must be appointed.
4. Impacts on the environment must be minimised during site establishment and the development footprint must be kept to the approved development area.
5. Vegetation clearing may not commence until such time as the development footprint has been clearly defined.
6. No clearance of vegetation outside of the development footprint may occur.
7. At the end of the construction phase the site and its surrounding area must be free from any pollution that originated as a result of the construction activities.
8. No disturbance of topsoil & subsoil may commence until such time as the development footprint has been clearly defined.
9. No disturbance of topsoil & subsoil outside of the development footprint may occur.
10. At the end of the construction phase the site and its surrounding area must be free from any chemical, fuel, oil and cement spills that originated as a result of the construction activities.
11. At the end of the construction phase the site and its surrounding area must be free

from any sewage that originated as a result of the construction activities.

12. At the end of the construction phase the site and its surrounding area must be free from any hazardous or general waste pollution that originated as a result of the construction activities.
13. Dust prevention measures must be applied to minimise the generation of dust.
14. Noise prevention measures must be applied to minimise the generation of unnecessary noise pollution as a result of construction activities on site.
15. Absolutely no burning of waste is permitted.
16. Fires will only be allowed in facilities especially constructed for this purpose.
17. No hunting of animals will be allowed.
18. No intentional destruction of any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance may occur.
19. All Contractors and sub-contractors must abide to the rules and regulations of the Occupational Health and Safety Act, 85 of 1993.

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT (as per notice 792 of 2012, or the updated version of this guideline)

Securing ecological sustainable development and use of natural resources	
How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?	• The site proposed for the development is on gentle to moderate slope in a slightly undulating area. Rocky outcrops at the site appear to be absent.
How were the following ecological integrity considerations taken into account?: • Threatened Ecosystems; • Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure; • CBAs and ESAs"; • Conservation targets; • Ecological drivers of the ecosystem; • Environmental attributes and management proposals contained in relevant Environmental Management Frameworks; • Environmental attributes and management proposals contained in relevant Spatial Development Framework; and • Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).	• Terrestrial vegetation: Conspicuously disturbed grassland with few trees characterizes the terrestrial vegetation at the site. Pioneer grass species as well as *Seriphium plumosum* (Bankrupt Bush) are noticeable. Indigenous grass species such as *Aristida canescens, Eragrostis curvula*, *Eragrostis chloromelas, Aristida congesta, Cynodon dactylon*, *Eragrostis curvula, Sporobolus africanus*, *Elionurus muticus* and *Sporobolus africanus* are found at the site. Examples of indigenous shrublets and forbs at the site are *Conyza podocephala, Hilliardiella oligocephala, Helichrysum nudifolium*, *Helichrysum rugulosum*, *Gazania krebsiana* and *Felicia muricata.* The herbaceous shrub *Gomphocarpus fruticosus* is present at many parts of the stie. Conspicuous exotic weeds at the site are *Flaveria bidentis*, *Gomphrena celosioides*, *Guilleminea densa*, *Galinsoga parviflora*, *Schkuhria pinnata*, *Sonchus oleraceus*, *Chenopodium album*, *Tagetes minuta*, *Conyza bonariensis*, *Datura ferox, Datura stramonium*, *Xanthium spinosum*, *Malva parviflora*, *Plantago lanceolata, Verbena aristigera*, *Verbena bonariensis* and *Argemone ochroleuca*.
How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological	• The narrow, proposed footprint crosses four watercourses: 1) an artificial waterbody, 2) a wetland (a seep) and 3,4) two small tributaries of the Blesbokspruit at the southern part of the site. These water courses appear to be modified by excavations, cultivated fields, planting of alien invasive *Eucalyptus* tree species, possible overgrazing by cattle as well as impacts from the residential areas upstream. A

diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	perennial river, the Blesbokspruit, is present west of the site and is excluded from the proposed footprint. • Vegetation at the artificial waterbody and its inlet contains wetland plant species such as the sedge *Cyperus fastigiatus*, herbacous *Persicaria* species and the grass species *Paspalum distichum*. • The wetland seep vegetation is visibly dominated by graminoids such as the sedges *Pycreus macranthus* and *Pycreus mundtii* and the grass species *Paspalum distichum*, whereas trees are absent. Some diversity of indigenous wetland graminoids is found at the wetland seep. • The two small tributaries at the southern parts of the site have narrow poorly defined riparian zones with a noticeable high cover of exotic weeds. Exotic plant species at the streambank include the herbs *Rumex crispus* and *Trifolium repens* as well as the grass *Pennisetum clandestinum*. The indigenous herb *Berkheya radula* as well as the alien invasive herb *Cirsium vulgare* are found at the riparian zone and adjacent terrestrial zone. • Vegetation at riparian zone of perennial river, Blesbokspruit (which is near the proposed footrpint but excluded from it): Exotic tree species are visible at the riparian zone of the Blesbokspruit and include *Eucalyptus camaldulensis*, Acacia *decurrens*, *Acacia mearnsii*, *Morus alba*, *Sesbania punicea* and *Salix babylonica*. Exotic forbs such as *Nasturtium officinale* and *Iris pseudacorus* occur at the riparian zone. Indigenous plant species at the riparian zone include *Cyperus sexangularis*, *Phragmites australis* and *Persicaria* species. The alien invasive climber *Ipomoea purpurea* is also visible at the riparian zone of the Blesbokspruit river. • Ecological disturbances include various excavations in the past, areas with conspicuous cover of alien invasive plant species, possible overgrazing by catlle, man-made ditches, impacts on the water regime from the residential areas upstream and sewage leaks. An old pipeline exists closer to the perennial stream west of the proposed footprint, the latter which is then further away from the perennial stream (Blesbokspruit). • Grassland at the site is represented by the Soweto Highveld Grassland (Gm 8) which is listed as a Threatened Ecosystem, Vulnerable, according to the National List of Threatened Ecosystems (2011). Terrestrial vegetation at the site has been modified in the past and is currently considerably degraded. The scope for the restoration and conservation of natural grassland at the site is small. • No Threatened or Near Threatened plant or animal

	species appear to be resident at the site. No other plant or animal species of particular conservation concern are likely to be found at the strip allocated for the development. • There is little scope for the terrestrial modified grassland at the site to be a conservation corridor of particular importance. The perennial river (Blesbokspruit; outside the site), the artificial waterbody, the Wetland Seep and the small non-perennial tributaries at the southern parts of the study area, are part of a corridor of particular conservation importance. The narrow strip proposed for the development does not cross the active channel and riparian zone of the Blesbokspruit. • Ecological sensitivity at most of the site is medium-low. Ecological sensitivity at the watercourses is medium-high owing to the importance of this watercourse as a conservation corridor in the larger area. • The watercourses at the site are excluded from the development as far as practical, with invasion limited to a largely existing footprint. Because the soil at the narrow strip allocated for the development will be closed again after inserting the pipeline, the risks for high impact is furthermore limited. Risks and possible impacts to the watercourses are not expected to be significant because excessive surface flow and erosion are not anticipated. There is no distinct indication that interflow plays an important role in the maintenance of the watercourses. The geomorphological setting and flow regime will not be impacted. Loss of any wetland animal or plant species are not expected. • Following the mitigations which will be upheld and planned footprint for development all the impact risks listed above are moderate or low. • "The proposed pipeline development comprises a narrow open- and close exercise of the soil through highly disturbed watercourses of which most appear to have undergone extensive impacts, modifications or artificial increase in water flow. Water from the up-slope residential areas as well as sewage leaks appear to have considerably impacts on the watercourses at the site. The Present Ecological Status as well as Ecological Importance and Sensitivity of the wetland systems at the site is in general relatively poor and low. • Impacts on the artificial waterbody, wetland seep, and two conspicuously disturbed non-perennial tributaries are of a low\ moderate risk. If the development is approved the surface flow and erosion at the wetlands are likely to be limited. There is no distinct indication

	that interflow play of the wetlands would be impacted significantly by the proposed developments. The geomorphological setting and flow regime likely to be similar post development, if the development is approved according to the mitigation measures stated. Loss of any wetland animal or plant species of particular conservation importance are not expected."
What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	During construction, a minimal volume of construction waste would be produced, such as solid waste, concrete and material. A very small portion of the construction waste would likely be hazardous in the form of fuel and / oil collection in drip trays and any contaminated soil resulting from accidental spill. During the operational phase no solid waste will be generated
How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	This proposal entails the underground installation of the sewer pipeline. This will have the implication the watercourses will be crossed by means of the infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province. Taking into consideration the 2 Alternatives discussed in the report, the streams that will be crossed are non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged. And lastly, considering the no-go alternative will entail that the status quo will remain and that the need for the provision of proper sanitation in the area will not be met this alternative is not desirable and will have a negative impact on the non-renewable environmental aspects of the area.
How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?	
Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it	

reduce resource dependency (i.e. de-materialised growth)?	
How will the ecological impacts resulting from this development impact on people's environmental right in terms following: • Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? • Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts? • Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)? • Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area? • Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations? • Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing	• The narrow, proposed footprint crosses four watercourses: 1) an artificial waterbody, 2) a wetland (a seep) and 3,4) two small tributaries of the Blesbokspruit at the southern part of the site. These water courses appear to be modified by excavations, cultivated fields, sewage leaks, possible overgrazing by cattle as well as impacts from the residential areas upstream. A perennial river, the Blesbokspruit, is present north of the site and is excluded from the proposed footprint. • Vegetation at the artificial waterbody contains wetland plant species such as the sedge *Cyperus fastigiatus*, herbacous *Persicaria* species and the grass species *Paspalum distichum*. This artificial waterbody is partly present owing to a dirt road elevation and could also have formed relatively recent owing to "extra" waterflow from residential areas up-slope. It it is difficult to trace the origins of the artificial waterbody. Soil at the artificial waterbody was foul-smelling and also had a greenish tinge at the time of the surveys (April 2021) and it appears that some unwanted pollutants could be present. • Present ecological status (PES) of the Artificial Waterbody at the site is CATEGORY E which means the watercourse is seriously modified. The losses of natural habitats and basic ecosystem functions are extensive (Table 4.2 and Table 4.3). Ecological Importance and Sensitivity (EIS) of the Artificial Waterbody at the site is CATEGORY C which is Moderate and refers to watercourses that are considered to be ecologically important and sensitive on a provincial or local scale. The biodiversity of these floodplains is not usually sensitive to flow and habitat modifications. They play a small role in moderating the quantity and quality of water of major rivers (Table 4.4 and Table 4.5). • A small Wetland Seep which could have formed recently owing to excess waterflow from residential areas up-slope is present at the site. Some diversity of indigenous wetland graminoids is found at the wetland seep. The wetland seep vegetation is visibly dominated by graminoids such as the sedges *Pycreus macranthus* and *Pycreus mundtii* and the grass species *Paspalum distichum*, whereas trees and megagraminoids are absent. • Present ecological status (PES) of the Wetland Seep at site is CATEGORY D which means the wetland is largely modified and a large loss of natural habitats and basic ecosystem functions has occurred (Table 4.6 and Table 4.7). Ecological importance and sensitivity (EIS)

and other planned developments in the area?	of the Wetland Seep at the site is CATEGORY C which is Moderate and refers to watercourses that are considered to be ecologically important and sensitive on a provincial or local scale. The biodiversity of these floodplains is not usually sensitive to flow and habitat modifications. They play a small role in moderating the quantity and quality of water of major rivers (Table 4.9 and Table 4.10). • The small tributary that runs from the waterworks at the western part of the site has a narrow active channel and narrow poorly defined riparian zone with a noticeable high cover of exotic weeds. The tributary could turn into a perennial stream if water feeds from the waterworks on a constant basis. • Present ecological status (PES) of the Non-perennial River that runs from the waterworks at the site is CATEGORY E which means the watercourse is seriously modified. The losses of natural habitats and basic ecosystem functions are extensive. The present ecological status is outside the general acceptable range (Table 4.12 and Table 4.13). Ecological Importance and Sensitivity (EIS) at the site is CATEGORY C which is Moderate and refers to ffloodplains that are considered to be ecologically important and sensitive on a provincial or local scale. The biodiversity of these floodplains is not usually sensitive to flow and habitat modifications. They play a small role in moderating the quantity and quality of water of major rivers (Table 4.14 and Table 4.15). • The small tributary that runs near and at the southern boundary the site has a narrow active channel and narrow poorly defined riparian zone with a noticeable high cover of exotic weeds. The tributary could turn into a perennial stream if water feeds from the sewage leak on a constant basis. • Present ecological status (PES) of the Non-perennial River at and near the southern boundary of the site is CATEGORY E which means the watercourse is seriously modified. The losses of natural habitats and basic ecosystem functions are extensive. The present ecological status is outside the general acceptable range (Table 4.17 and Table 4.18). Ecological Importance and Sensitivity (EIS) at non-perennial river that runs at and near the southern boundary of the site is CATEGORY C which is Moderate and refers to ffloodplains that are considered to be ecologically important and sensitive on a provincial or local scale. The biodiversity of these floodplains is not usually sensitive to flow and habitat modifications. They play a small role in moderating the quantity and quality of water of major rivers (Table 4.19 and Table 4.20). • Exotic plant species at both the conspicuously

	disturbed non-perennial rivers include the herbs *Rumex crispus* and *Trifolium repens* as well as the grass *Pennisetum clandestinum*. The indigenous herb *Berkheya radula* as well as the alien invasive herb *Cirsium vulgare* are found at the riparian zone and adjacent terrestrial zone. • Site is part of the Upper Vaal Water Management Area (WMA 8). The site is not part of a FEPA (Freshwater Ecosystem Priority Area) (Nel *et al.*, 2011a, 2011b). • The proposed pipeline development comprises a narrow open- and close exercise of the soil through highly disturbed watercourses of which most appear to have undergone extensive impacts, modifications or artificial increase in water flow. Water from the up-slope residential areas as well as sewage leaks appear to have considerably impacts on the watercourses at the site. The Present Ecological Status as well as Ecological Importance and Sensitivity of the wetland systems at the site is in general relatively poor and low. • There appears to be no threatened animal or plant species that use the site in particular as a habitat. • Impacts on the artificial waterbody, wetland seep, and two conspicuously disturbed non-perennial tributaries are of a low\ moderate risk. If the development is approved the surface flow and erosion at the wetlands are likely to be limited. There is no distinct indication that interflow play of the wetlands would be impacted significantly by the proposed developments. The geomorphological setting and flow regime likely to be similar post development, if the development is approved according to the mitigation measures stated. Loss of any wetland animal or plant species of particular conservation importance are not expected. • A key issue at the site that emerged from the risk and impact assessment is the implementation of efficient control of alien invasive plant species and rehabilitation. Following the mitigations which will be upheld and planned footprint for development all the impact risks listed above are moderate or low
Promoting justifiable economic and social development	
What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?: • The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area. • Spatial priorities and desired spatial patterns (e.g. need for integrated of	The Townships of Obed Mthombeni Nkosi Proper, Extension 1, Extension 2 and Extension 3 have all been approved and construction of Obed Mthombeni Nkosi Proper and Phase 1 of Extension 1 have already been completed. In order to provide these Townships with sufficient sewer reticulation, upgrades to the Bulk infrastructure will have to be done. The Developer, **NEP Construction PTY (LTD) in co-operation with the Department of Human Settlements** has identified the need for the construction of a 1 900 meter (450 mm

segregated communities, need to upgrade informal settlements, need for densification, etc.). • Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.). • Municipal Economic Development Strategy ("LED Strategy").	diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline in order to achieve this goal as the existing bulk outfall sewer pipeline does not have sufficient capacity to handle the expected sewage outflow that will be generated by the above mentioned development. As noted in the planning context provided in the sections above, the proposed development is considered to be aligned with the overall planning context for the area.
Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?	The proposed development will ensure that people living the area will have access to sustainable basic services.
Will the development: • Complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs? • Result in the creation of residential and employment opportunities in close proximity to or integrated with each other? • Reduce the need for transport of people and goods? • Result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport)? • Compliment other uses in the area? • Be in line with the planning for the area? • For urban related development, make use of underutilised land available within the urban edge? • Optimise the use of existing resources and infrastructure? • Consider opportunity costs in terms of bulk infrastructure expansions in nonpriority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement)? • Discourage "urban sprawl" and contribute to compaction/densification? • Contribute to the correction of the	Yes. These aspects are discussed in detail in the paragraphs above.

historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs? Encourage environmentally sustainable land development practices and processes? • Take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.)? • Result in investment in the settlement or area in question that will generate the highest socioeconomic returns (i.e. an area with high economic potential)? • Impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area? • In terms of the nature, scale and location of the development, promote or act as a catalyst to create a more integrated settlement?	
How were a risk-averse and cautious approach applied in terms of socioeconomic impacts?: • What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? • What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities? • Critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? • Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development (and its alternatives)?	Impacts on the physical Environment is discussed in the Paragraphs above. In addition to these, the socio-economic impacts of the proposed project are limited to nuisance impacts during the construction phase of the development. Insofar as possible, local communities would be offered employment opportunities.
How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: • Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is	Due to the nature and scale of the project, the socioeconomic impacts largely relate to nuisance impacts associated with construction activities. Socio-economic benefits relate to potential employment opportunities during the construction and operational phases.

not possible, to minimise, manage and remedy negative impacts? • Positive impacts. What measures were taken to enhance positive impacts?	
Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	Taking into consideration the 2 Alternatives discussed in the report, the streams that will be crossed are non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged. And lastly, considering the no-go alternative will entail that the status quo will remain and that the need for the provision of proper sanitation in the area will not be met this alternative is not desirable and will have a negative impact on the non-renewable environmental aspects of the area.
What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	
What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)?	The proposed project would not result in impacts that would unfairly discriminate against any person.
Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	The streams that will be crossed are non-perennial streams and whilst excavation will mean the removal of vegetation and disturbance of soil within the streambed, this will be a temporary measure and once covered and rehabilitated there will be no evidence of the pipeline visible. It should be noted, as this is a non-perennial streams, chances are that there will be no water to be diverted at the time of construction. Therefore, in the long term the pipelines will have less visual impact and is less likely to be damaged. As such, the proposed project is deemed to allow for the "best practicable environmental option" to be selected. During the construction and operational phases of the development, employment opportunities will be made available to local labours.
What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	
What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	Please see measures as described in the Environmental Management Programme.
What measures were taken to ensure	A full Public Participation Process was conducted to ensure

that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge?	that the interests, needs and values of all interested and affected parties were taken into account.
Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED
(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

5 Years

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) (must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers "Yes" to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached	YES

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

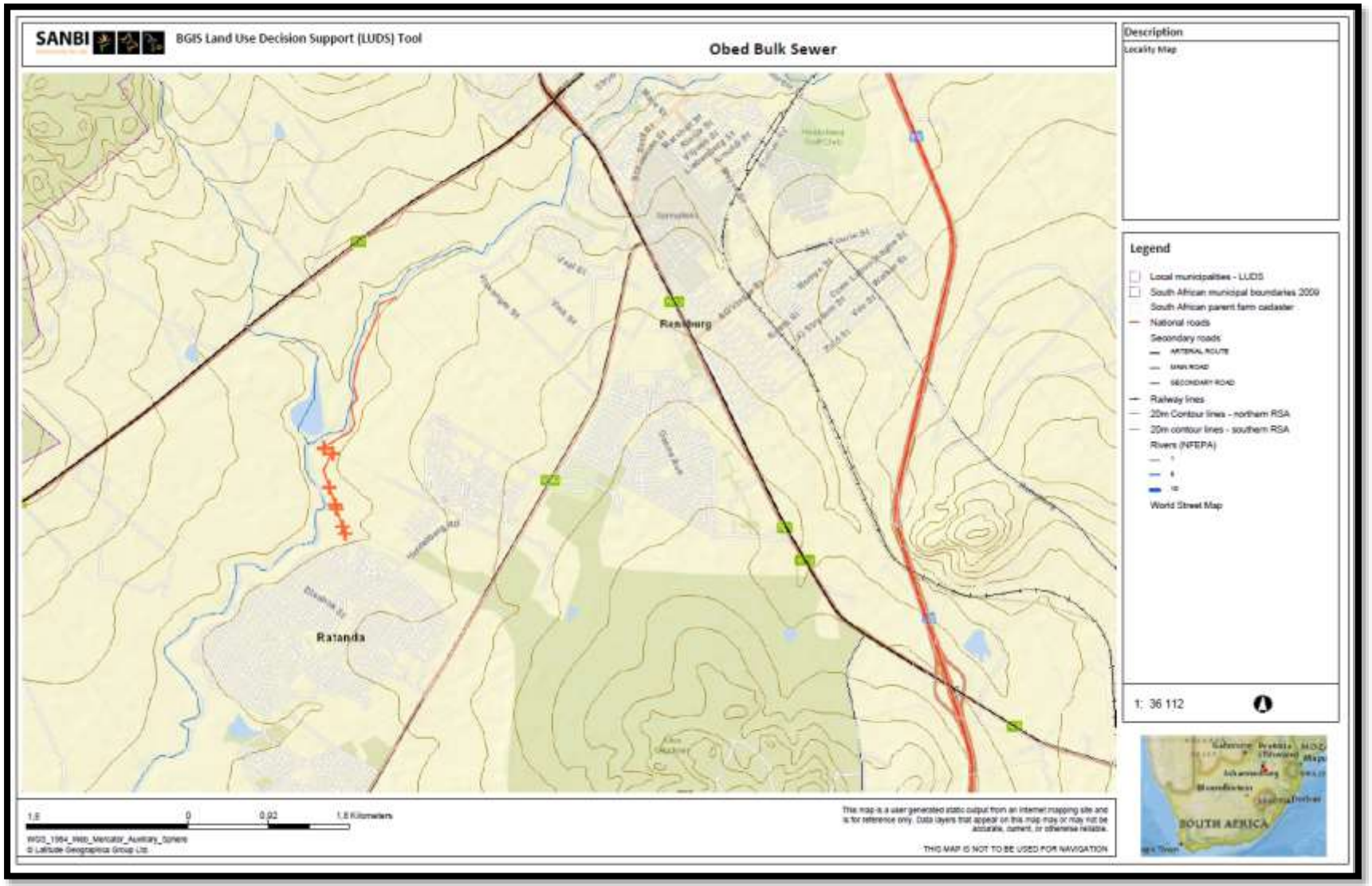
CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

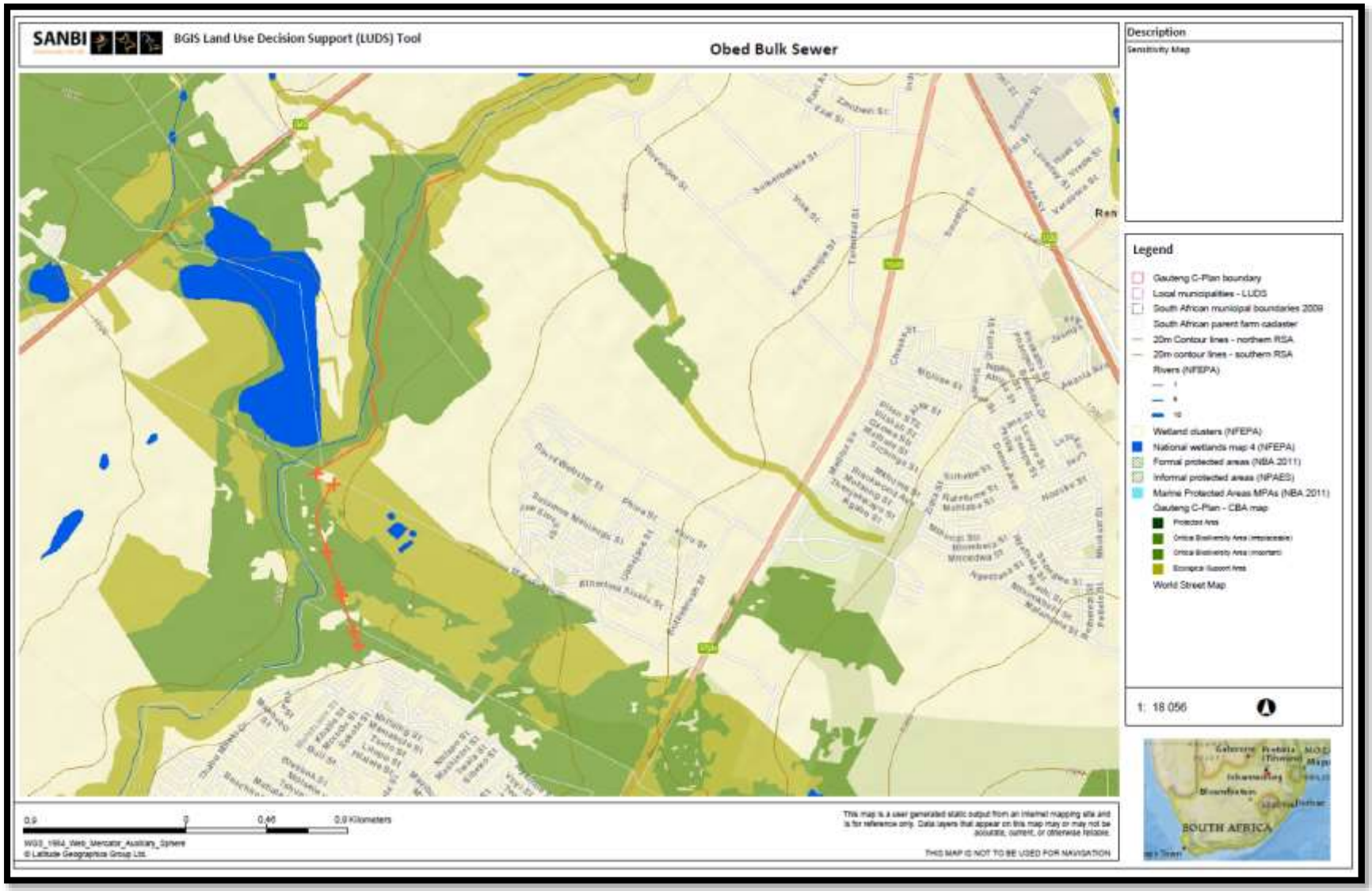
- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.

Appendix A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

LOCALITY MAP:



SENSITIVITY MAP:



Appendix B: Photographs



















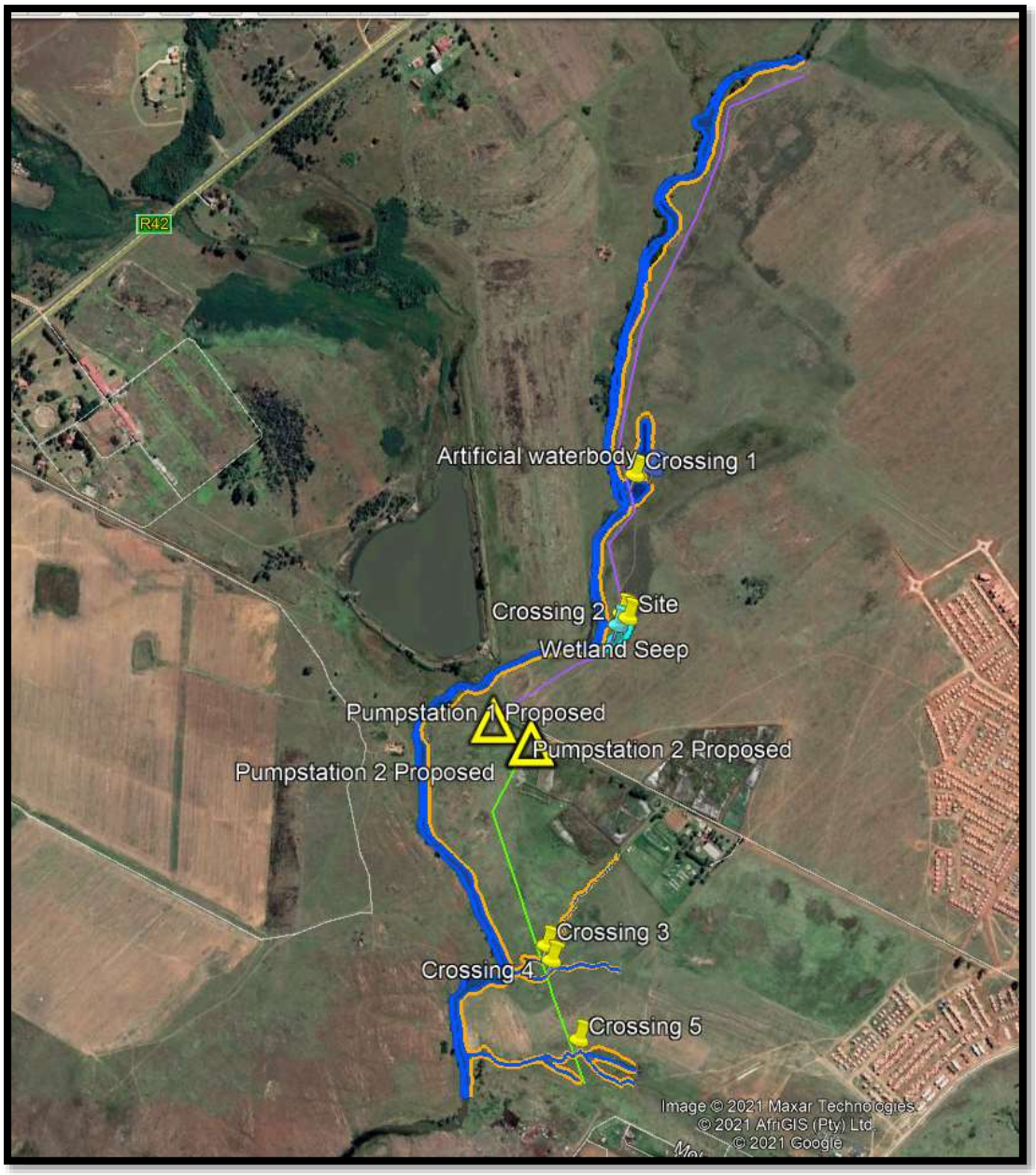


Appendix C: Facility illustration(s)

Proposal: Illustration of underground pipeline:

Alternative 1: Pipeline crossing via 'bridge design'

Appendix D: Route position information



Obed Proposed bulk service line and stream crossings

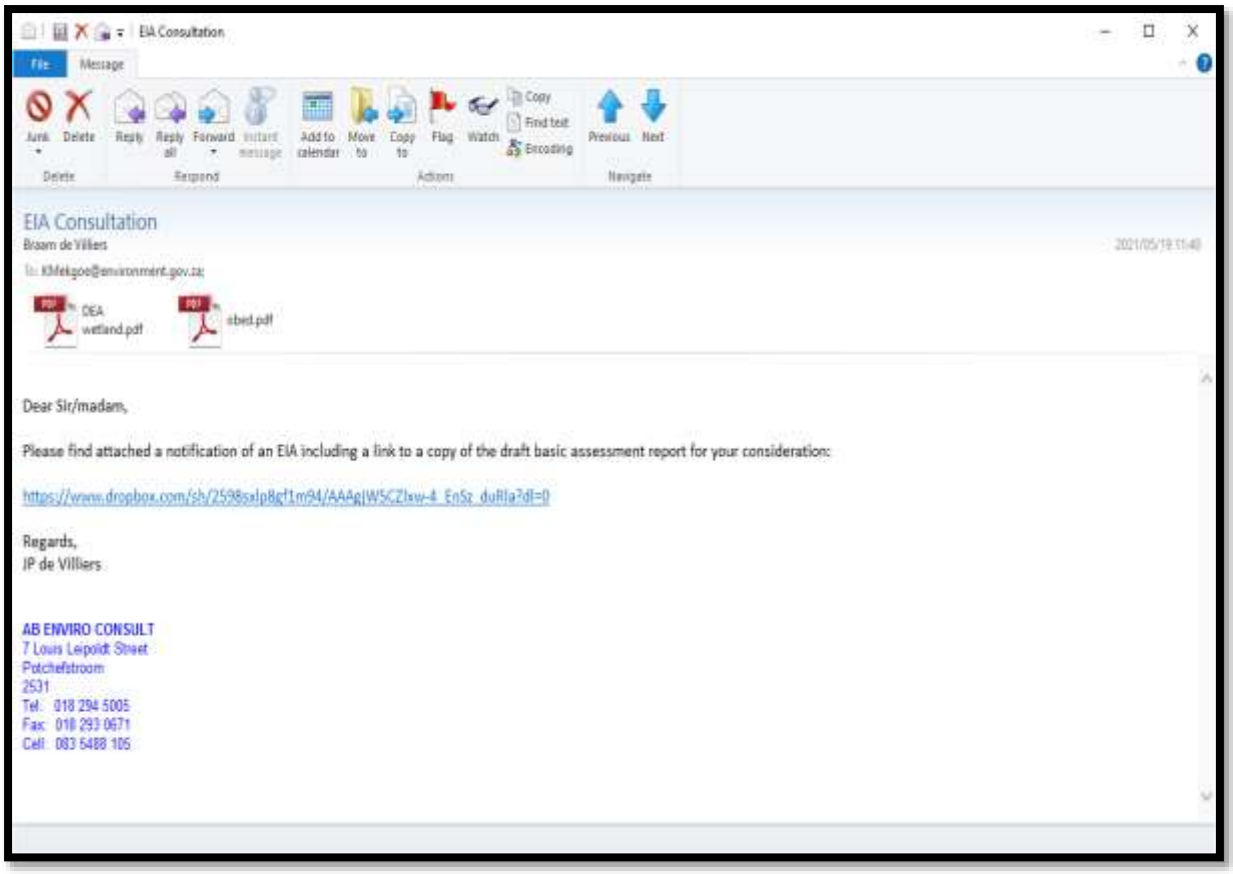
Appendix E: Public participation information

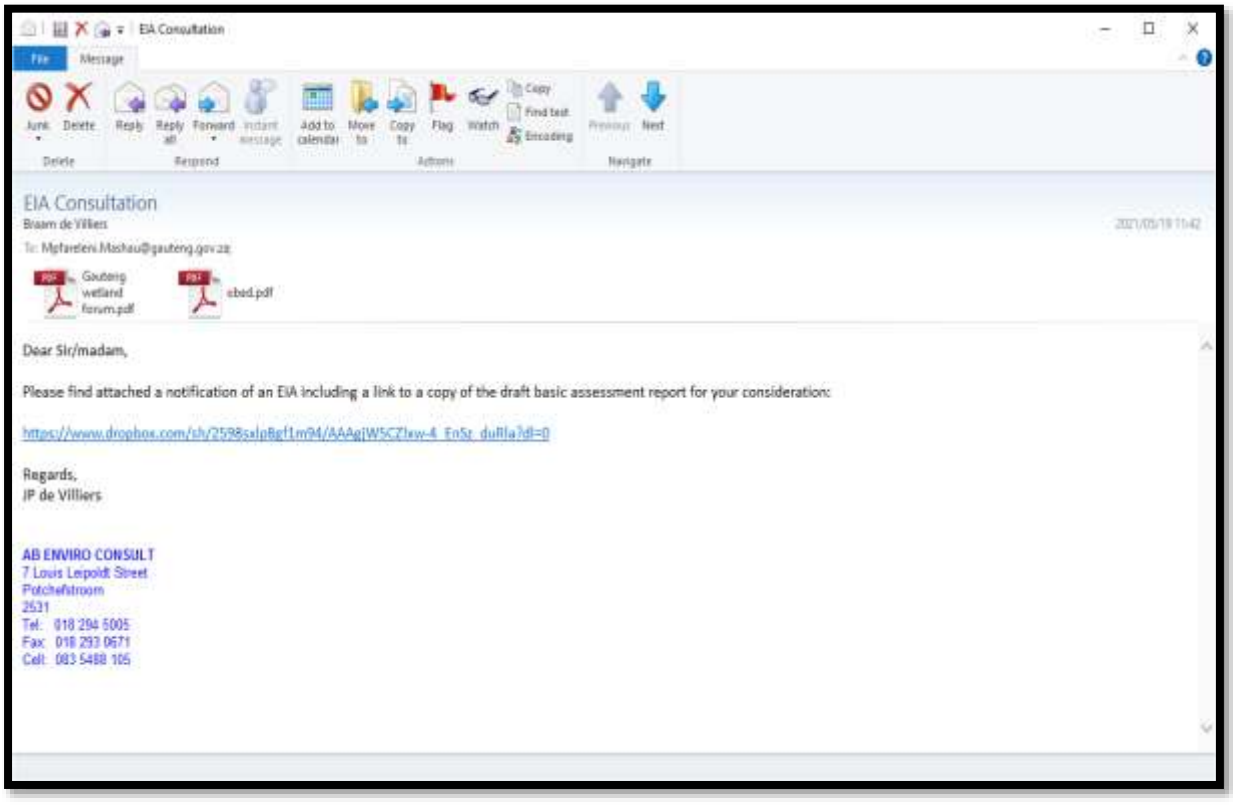
Appendix E1 – Proof of site notice

Location: 26°31'56.32"S; 28°19'42.51"E

Location 2: 26°32'38.86"S; 28°19'38.36"E

Appendix E2 – Written notices issued as required in terms of the regulations





List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE

(with an insurance option/met 'n versekeringsopsie)

Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender:
Naam en adres van afsender: AB ENVIRO CONSULT
7 LOUIS LEIPOLDT STREET
POTCHEFSTROOM
2531

Enquiries/Navrae Sharecall number/nommer
0860 111 502
www.postoffice.co.za

No	Name and address of addressee Naam en adres van geadreseerde	Insured amount Versekerde bedrag	Insurance fee Verseke-ringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-Kliëntafskrif
1	HOD Gauteng Agri + Rural dev. PO Box 8768 Johannesburg 2000					REGISTERED LETTER RC385048565ZA CUSTOMER COPY
2	DMM SEDIBENG DM PO BOX 471 VEREENIGING 1930					REGISTERED LETTER RC385048509ZA CUSTOMER COPY
3	HOD BIODIVERSITY, GAUTENG DEPT AGRI & RURAL DEV P.O.BOX 8768 JHB 2000					REGISTERED LETTER RC386488396ZA CUSTOMER COPY
4	CLLR WARD 1 LESEDI LM PO BOX 201 HEIDELBERG 1438					REGISTERED LETTER RC385052769ZA CUSTOMER COPY
5	MM LESEDI NM PO BOX 201 HEIDELBERG GAUTENG 1438					REGISTERED LETTER RC385048605ZA CUSTOMER COPY
6						
7						
8						
9						
10						
	Total Totaal	R	R	R	R	

Number of letters posted
Getal briewe gepos: Five

Signature of client
Handtekening van kliënt:

Signature of accepting officer
Handtekening van aanneembeampte:

Date stamp
POTCHEFSTROOM 7 2021-05-19

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof.
Optional insurance of up to R200.00 is available and applies to domestic registered letters only.

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Fax: + 27 (18) 293 0671
Cell: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

19/05/2021

Mr Nhlakanipho Nkontwana
Head of Department: Gauteng: Department of Agriculture and Rural Development
PO Box 8769
Johannesburg
2000

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

AB ENVIRO CONSULT was appointed by **NEP Construction PTY (LTD)** to submit an application to the Gauteng Province: Department of Agriculture and Rural Development for the above mentioned proposed development.

Attached please find a notification of the proposed development as well as a copy of the draft Scoping report for your comments. We must receive your comments no later than 30 days from the date of this letter. In the event of your organisation/department not wishing to comment on this matter, it would be appreciated if we could receive written confirmation thereof to enable us to continue with the finalisation of the application.

If no response is however received from your Department/organisation within the said time, it will be assumed that your department/organisation does not wish to comment on this matter and the application will be processed further.

Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

PROF. A.B. DE VILLIERS

AB ENVIRO-CONSULT CC

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Potchefstroom, 2531
Fax: + 27 (18) 293 0671
Cell: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

19/05/2021

Gauteng Province: Department of Agriculture and Rural Development
Head of department: Biodiversity
PO Box 8769
Johannesburg
2000

Dear Sir/Madam

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E-mail: jp@abenviro.co.za

19/05/2021

Directorate: Department of Water and Sanitation
The Registry
Provincial Office: Gauteng/ Vaal River Catchment Management Agency
Bothongo Plaza East, Level 15
285 Francis Baard Street
PRETORIA, 0001
Tel. 012 392 1300

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

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19/05/2021

Bismark Mashua
Gauteng Wetland Forum
Chairperson and Secretary
Mpfareleni.Mashau@gauteng.gov.za

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

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PROF. A.B. DE VILLIERS

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E-mail: jp@abenviro.co.za

19/05/2021

Keitumetse Mekgoe
DEA Provincial Coordinator
Gauteng Wetland Forum
KMekgoe@environment.gov.za

Dear Sir/Madam

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19/05/2021

District Municipal Manager
Sedibeng District Municipality
PO Box 471
Vereeniging
1930

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

AB ENVIRO CONSULT was appointed by **NEP Construction PTY (LTD)** to submit an application to the Gauteng Province: Department of Agriculture and Rural Development for the above mentioned proposed development.

Attached please find a notification of the proposed development as well as a copy of the draft Scoping report for your comments. We must receive your comments no later than 30 days from the date of this letter. In the event of your organisation/department not wishing to comment on this matter, it would be appreciated if we could receive written confirmation thereof to enable us to continue with the finalisation of the application.

If no response is however received from your Department/organisation within the said time, it will be assumed that your department/organisation does not wish to comment on this matter and the application will be processed further.

Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

PROF. A.B. DE VILLIERS

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Fax: + 27 (18) 293 0671
Cell: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

19/05/2021

The Municipal Manager
Lesedi Local Municipality
P O Box 201
Heidelberg
Gauteng
1438

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

AB ENVIRO CONSULT was appointed by **NEP Construction PTY (LTD)** to submit an application to the Gauteng Province: Department of Agriculture and Rural Development for the above mentioned proposed development.

Attached please find a notification of the proposed development as well as a copy of the draft Scoping report for your comments. We must receive your comments no later than 30 days from the date of this letter. In the event of your organisation/department not wishing to comment on this matter, it would be appreciated if we could receive written confirmation thereof to enable us to continue with the finalisation of the application.

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Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

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Potchefstroom, 2531
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Cell: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

19/05/2021

The Councillor Ward 1
Lesedi Local Municipality
P O Box 201
Heidelberg
Gauteng
1438

Dear Sir/Madam

Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province.

AB ENVIRO CONSULT was appointed by **NEP Construction PTY (LTD)** to submit an application to the Gauteng Province: Department of Agriculture and Rural Development for the above mentioned proposed development.

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If no response is however received from your Department/organisation within the said time, it will be assumed that your department/organisation does not wish to comment on this matter and the application will be processed further.

Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

PROF. A.B. DE VILLIERS

Appendix E3 – Proof of newspaper advertisements: Heidelberg / Nigel Heraut 19/05/2021

Legals

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS (EIR AND SCOPING) GAUT 003/21-22/E2898

Notice is hereby given of an Environmental Impact Assessment Process to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Amended Regulations promulgated on 07 April 2017). The proposed project is classified as, and will be conducted - in terms of Government Notice No. R.326 of 2017 (Government Notice No. R.327 Listing Notice 1: Activity no 28 (ii)); (Government Notice No. R.325 Listing Notice 2: Activity no 15) and (Government Notice No. R.324 Listing Notice 3: Activity no's 12(i)(ii)).

This advertisement complies with the instructions regarding such notices, National Environmental Management Act (Act No. 107 of 1998, as amended) (Amended Regulations promulgated on 17 April 2017) (Government Notice No. R.326 of 2017) (Regulation 41(2)(c)(dd)). The competent authority is the Gauteng Province: Department of Agriculture and Rural Development. PROJECT NAME: Environmental Impact Assessment for the proposed clearance of 132.8881 ha of indigenous vegetation, some within an Ecological Support Area, for the proposed mixed use township establishment (To be known as Impumelelo Extension 5) located on Portion 38 of the farm Nooitgedacht 294-IR, Lesedi Local Municipality, Gauteng Province. PROJECT DESCRIPTION: Proposed clearance of 132.8881 ha of indigenous vegetation (of which 498 576 square meters (49,8576 ha) is located within an Ecological Support Area), for the proposed township establishment (business, residential, institutional and community facilities - to be known as Impumelelo Extension 5) located on Portion 38 of the farm Nooitgedacht 294-IR, Lesedi Local Municipality, Gauteng Province.

CLIENT: NEP Construction PTY (LTD) CONSULTANT AND CONTACT PERSON: Mr. J.P. De Villiers of AB Enviro Consult cc. 7 Louis Leipoldt Street, Potchefstroom, 2531 Tel: 083 5488 105 Fax: 018 293 0671 E-mail: jp@abenviro.co.za Parties wishing to formally object to and / or comment on the proposed development are requested to forward their objections and comments (with reasons) to AB Enviro Consult, no later than 30 days after the date of this advertisement. An electronic copy of the draft Scoping Report is also available from AB Enviro Consult on request.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS (BASIC ASSESSMENT) GAUT 002/21-22/E2889

Notice is hereby given of an Environmental Impact Assessment Process to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Amended Regulations promulgated on 07 April 2017). The proposed project is classified as, and will be conducted - in terms of Government Notice No. R.326 of 2017 (Government Notice No. R.327 Listing Notice 1; Activity no 19). This advertisement complies with the instructions regarding such notices, National Environmental Management Act (Act No. 107 of 1998, as amended) (Amended Regulations promulgated on 17 April 2017) (Government Notice No. R.326 of 2017) (Regulation 41(2)(c)(dd)). The competent authority is the Gauteng Province: Department of Agriculture and Rural Development. PROJECT NAME: Environmental Impact Assessment for the proposed infilling of 200 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 200 cubic metres from a watercourse in order to construct a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline located on Portion 2 and Portion 28 of the farm Boschfontein 385-IR, Lesedi Local Municipality, Gauteng Province. PROJECT DESCRIPTION: Proposed construction of a 1 900 meter (450 mm diameter) and a 800 meter (300 mm diameter) Bulk Outfall Sewer Pipeline, which entails 5 crossings of a watercourse.

CLIENT: NEP Construction PTY (LTD) CONSULTANT AND CONTACT PERSON: Mr. J.P. De Villiers of AB Enviro Consult cc. 7 Louis Leipoldt Street, Potchefstroom, 2531 Tel: 083 5488 105 Fax: 018 293 0671 E-mail: jp@abenviro.co.za Parties wishing to formally object to and / or comment on the proposed development are requested to forward their objections and comments (with reasons) to AB Enviro Consult, no later than 30 days of the date of this notice. An electronic copy of the draft Basic Assessment Report is available from AB Enviro Consult on request.

Wynand van Vollenstee vertolk die rol van die grotman in *Groet die Grotman 2* wat op 22 Mei in Heidelberg kom draai

Groet die Grotman 2 binnekort te sien

HEIDELBERG - *Groet die Grotman 2* kom maak 'n draai in Heidelberg en beloof om mans se vroue weer heerlik te laat lag en sommer gratis terapie vir die huwelik te besorg.

Wynand van Vollenstee (*Koruw Kallie*) is te sien in die rol van Grotman. Frans Swart het die teks geskryf en hanteer ook die regie.

In *Groet die Grotman 2* word die verskille tussen mans en vroue op komiese wyse uitgebeeld.

Vroue is steeds die gaarders (veral van nuttelose inligting) en mans steeds die jagters (van 'n bok tot 'n televisieprogram).

"Mans en vroue lag vir mekaar in *Groet die Grotman 2* en dis juis wat hierdie produksie so gewild en sterk maak," het Swart gesê.

"Mens kan amper sê ons doen huweliksberading op 'n komiese wyse.

"Die feit dat Grotman sy wêreld moet groter maak om by Elize se wêreld aan te pas en die feit dat Elize haar oop wêreld so bietjie nouer moet maak om by Grotman se wêreld uit te kom sorg vir komiese situasies."

Die oorspronklike *Groet die Grotman* hou steeds die rekord vir die Afrikaanse teaterproduksie wat die meeste vertonings oor die langste tydperk gehad het, met meer as 1 000 vertonings oor 10 jaar.

Groet die Grotman 2 besoek Adler's@Heidelberg Tap & Grill by die Heidelberg Heritage Museum op 22 Mei om 7nm.

Besprekings kan gedoen word by www.computicket.com

Vir groepbesprekings, skakel Lefra Produksies by 011 815 3000 of stuur 'n e-pos na admin@lefra.com

Die skreeuerige Wynand van Vollenstee kom kuier in Heidelberg met Groet die Grotman 2.

Calendar / Dagboek

HEIDELBERG:

19 Mei -
Die algemene vergadering vir die Heidelberg Heritage Association vind by die Old Gaol om 7nm plaas. Vir meer inligting kontak vir Tony Burisch by 072 460 9663.

22 Mei
Lede van die Suikerbos Bonsai Kai se volgende byeenkoms sal vanaf 12nm tot 3nm op die plaas Eendracht plaasvind. Die plaas is geleë op die R103, Heidelberg. Enige belangstellendes of voornemende lede is welkom. Byeenkomste van die aard vind elke vierde Saterdag van die maand plaas. Vir navrae kontak vir Stefann by 064 924 3820 of Hannes Fritz by 079 502 2972.

22 Mei
Groet die Grotman 2 kan by Adler's@Heidelberg Tap & Grill by die Heidelberg Heritage Museum gesien word om 7nm. Besprekings kan by www.computicket.com gemaak word. Vir groepbesprekings skakel Lefra Produksies by 011 815 3000 of stuur 'n e-pos na admin@lefra.com

27 Mei
Hoër Volkskool hou manne-aand saam met Fanie de Villiers. Vir verdere inligting kontak vir Riana Cloete by 016 341 3185 tydens skool-ure.

29 Junie
Helene Bester sing om 7nm by Adler's @ Heidelberg Tap & Grill by die Heidelberg Heritage Museum. Besprekings kan by www.computicket.com gemaak word. Vir groep besprekings skakel Lefra Produksies by 011 815 3000 of stuur 'n e-pos na admin@lefra.com

NIGEL:
Die Nigel Fotoklub vergader elke tweede Woensdag van die maand om 6.30nm by die Nigel Tenniskub. Vir meer inligting, kontak Francios van Jaarsveld by 083 659 9657.

29 Mei
Nigel DBV hou hul jaarlikse algemene vergadering om 2nm op die perseel. Die publiek is welkom om die vergadering by te woon. Vir inligting, stuur 'n e-pos aan chair@nigelspca.co.za

5 Junie
Die jaarlikse Ride4Life berg-fiets-ry geloentheid word deur Earth Owl by die John Vorster Stadion aangebied. Registrasie om deel te neem sal vanaf 6.30vm plaasvind. Die eerste resies (40km) sal om 9vm afskop gevolg deur die 25km. Die dag sal afsluit met 'n 10km groep-nagrit wat tussen 6nm en 7nm sal plaasvind. Medaljes en pryse kan op die dag gewen word. Vir meer inligting kontak Roché Pepler by 060 482 1280 of Santana Pestana by 083 062 2091.

10 Junie
Lede van die Nigel VLU-tak hou hul maandelikse vergadering om 10vm by die NG Kerk-Oos in Nigel. Vir meer inligting, kontak vir Anna-Marie Axer by 082 866 2002.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS (BASIC ASSESSMENT) GAUT 002/21-22/E2889

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CLIENT: NEP Construction PTY (LTD) CONSULTANT AND CONTACT PERSON: Mr. J.P. De Villiers of AB Enviro Consult cc. 7 Louis Leipoldt Street, Potchefstroom, 2531 Tel: 083 5488 105 Fax: 018 293 0671 E-mail: jp@abenviro.co.za Parties wishing to formally object to and / or comment on the proposed development are requested to forward their objections and comments (with reasons) to AB Enviro Consult, no later than 30 days of the date of this notice. An electronic copy of the draft Basic Assessment Report is available from AB Enviro Consult on request.

Appendix E4 –Communications to and from interested and affected parties

To follow

Appendix E5 – Minutes of any public and/or stakeholder meetings

To follow

Appendix E6 - Comments and Responses Report

To follow

Appendix E7 –Comments from I&APs on Basic Assessment (BA) Report

To follow

Appendix E8 –Comments from I&APs on amendments to the BA Report

To follow

Appendix E9 – Copy of the register of I&Aps

To follow

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

To follow

Appendix G: Specialist reports
Appendix G1: Ecological Specialist Report

Appendix G2: Wetland Specialist report

Appendix G3: SAHRA Specialist Report

Appendix H: EMPr

Appendix I: Other information