



**DRAFT BASIC ASSESSMENT
FOR THE
PROPOSED CONSTRUCTION OF AN 18KM LONG, 2100MM
DIAMETER REMAINDER OF B16 PIPELINE FROM ZUIKERBOSCH
PUMPING STATION TO SLANGFONTEIN WITH ASSOCIATED
CROSS CONNECTIONS AND END CONNECTIONS**

DRAFT BASIC ASSESSMENT REPORT

AUGUST 2016

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Disclaimer

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BASIC ASSESSMENT REPORT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. 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.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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 rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

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SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

Project Background

On the 2nd December of 2009, the Capital Investment Committee considered the 2009 Annual Infrastructure Development Report (AIDR) and gave approval in principle to go ahead with the investigation of the B16 pipeline from Zuikerbosch to Slangfontein.

The B8 pipe is the main supply of water from Zuikerbosch to Mapleton Pumping station, installed in 1977, with a capacity of 740 Mℓ/d (rated at 2.0 m/s velocity). In 1999, augmentation was implemented using a mixed/phased infrastructure approach, maximizing use of existing infrastructure. The capital cost of laying the entire length of the B16 from Zuikerbosch to Mapleton would have been unnecessarily costly. Instead, a portion of the B16 was laid from Slangfontein to Mapleton. The 3km long B9 Slangfontein link (capacity 165 Mℓ/d) has been used to augment supply to Mapleton from the B6//B10 Palmiet system (which at that stage had sufficient capacity to augment Mapleton needs). Laying of the B18 in parallel with the B9 supposed to be completed in 2015. This will increase the total support that Palmiet system can supply Mapleton to a maximum of 400 Mℓ/d. By making use of the B9//B18, maximum use is made of the new B17 pipeline in its early years.

Using a mixed and staggered infrastructure approach with pipeline assets, allows maximum use to be made of new and existing assets on one system to assist another system (within reason, and where possible). The use of the B9//B18 to assist Mapleton is not intended to be permanently at maximum capacity. The Palmiet system eventually requires the use of dedicated infrastructure to meet growing Palmiet demand. Supplying water from the Palmiet system to the Mapleton system is also inefficient, as several bar head loss is experienced when making the transfer. Supplying water from one system to another in this manner has an associated cost, but this is outweighed by the financial benefit obtained by sweating new assets as early as possible. This PPIR details the completion of the B16 pipeline for the section Zuikerbosch to Slangfontein by 2022.

Currently Mapleton obtains water by pumping as much water as possible from Zuikerbosch Pumping Station through the 2100 mm diameter B8 pipeline, which has a theoretical capacity of 600 Mℓ/d (In reality, Zuikerbosch can probably pump 630 Mℓ/d). Two pipelines are connected to the Palmiet systems that augment Mapleton's needs: the 1100 mm diameter B9 and the 1300 mm diameter B18 that is soon to be commissioned (3rd quarter 2015). The incoming pressure from the Palmiet system is required to be throttled to control the flow (and velocity) in the B18 and B9 pipes. Between 2 and 3 bar pressure is lost. System 5 at Zuikerbosch will now only be online by late 2018. There may be problems meeting peak day Mapleton demand (and the simultaneous) Palmiet peak day demand in the period 2016 to 2018 using existing Zuikerbosch infrastructure. However the specifics of this problem and its solutions are not covered in this PPIR.



Figure 01 – proposed study site (courtesy of Vungandze Projects)

BASIC ASSESSMENT REPORT

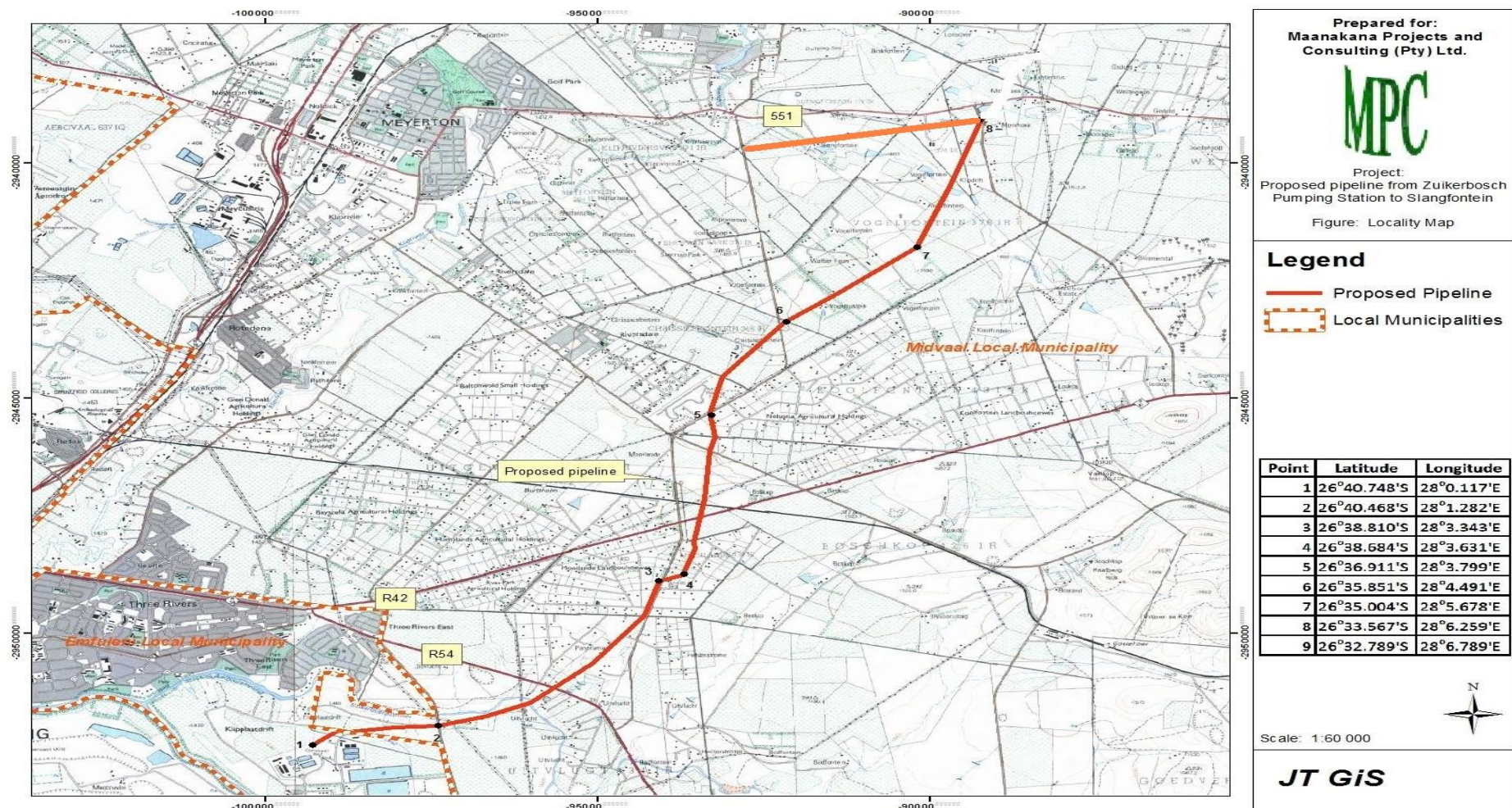


Figure 02- Locality Map

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The activities to be undertaken will trigger the need for an application to the Department of Environmental Affairs for environmental authorisation. Further, due to the activities impacting on watercourse, a Water Use License (WUL) application will also be submitted to the Department of Water and Sanitation (DWS). As a result, Rand Water appointed Maanakana Projects to undertake the application process.

In terms of the sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations 2014 of GN R982 a Basic Assessment process is required to be undertaken for the proposed project. The following listed activities are applicable:

Table 1: Listed activities triggered by the proposed development requiring Environmental Authorisation

Regulation	Activity	Description	Relevance
GNR 983 Listing Notice No 1	9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of 0.36 metres or more; or (ii) With a peak throughput of 120 litres per second or more.	The proposed construction of an 18km long, 2100 mm diameter remainder of B16 pipeline from Zuikerbosch pumping station to Slangfontein with associated cross connections and end connections, Gauteng Province.
GNR 983 Listing Notice No 1	19	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from – (i) Watercourse.	Proposed bulk water pipeline will traverse through two sensitive areas that is a wetland and a river.
GNR 985 Listing Notice No 3	12	The development of: (xii) infrastructure and structures with a physical footprint of 10 square metres or more (b) In Gauteng (xii) Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;	Proposed study site falls in an area classified as the Ecological Support Area in Gauteng and proposed bulk water which is 18km long has a physical footprint of more than 10 square metres in size.

The nature and extent of the proposed project are explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner.

BASIC ASSESSMENT REPORT

EAP Responsible for this project

Freddy Tshiala Milambo holds a PhD (Doctor of Philosophy) in Environmental Society with over 6 years' experience in the Environmental Field. His focus is on strategic environmental compliance which includes Environmental Impact Assessment, Water Use License Application, Environmental Monitoring, Environmental Screening and many other activities that triggers the National Environmental Management Act.

Appointed Company for this Project

CONTACT DETAILS:

Company Name	Maanakana Projects and Consulting
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BASIC ASSESSMENT REPORT

BASIC ASSESSMENT REPORT FOR REVIEW

This Basic Assessment Report has been prepared by Maanakana Projects and Consulting (Pty) Ltd in order to assess the potential environmental impacts associated with the proposed activities. This process is being undertaken in support of an application for Environmental Authorisation in terms of the National Environmental Management Act (NEMA, Act 107 of 1998).

Members of the public, local communities and stakeholders were invited to comment on the Draft Basic Assessment Report. The 30-day period for public review of the Draft Basic Assessment report was from the **02nd of August to 02nd of September 2016**.

Table 1: Legal requirements in terms of the EIA Regulations

EIA REGULATIONS 2014 GNR 982: Appendix 1, Item 2: CONTENT OF THE BASIC ASSESSMENT REPORT	Cross-reference in this BAR
a.) details of— (i) the EAP who prepared the report; and (ii) the expertise of the EAP to carry out scoping procedures; including a curriculum vitae	Appendix H
b.) the location of the activity, 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, the co-ordinates of the boundary of the property or properties;	Section B. Page 29
(c) a plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale; or if it is: (i) a linear activity, a description and co-ordinates 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 co-ordinates within which the proposed activity is to be undertaken;	Appendix A
(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 A. Page 13
(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, guidelines, tools, frameworks and instruments;	Section A, Point 11, page 23-25
(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;	Section A, Point 10, Page 20-21
(g) a motivation for the preferred site, activity and technology alternative	
(h) a full description of the process followed to reach the proposed preferred alternative within the site, including- (i) details of all the 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 these 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 determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Section C and D

BASIC ASSESSMENT REPORT

EIA REGULATIONS 2014 GNR 982: Appendix 1, Item 2: CONTENT OF THE BASIC ASSESSMENT REPORT	Cross-reference in this BAR
(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 geographical, 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 locations for the activity were investigated, the motivation for not considering such; and (xi) a concluding statement indicating the preferred alternatives	
(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) description of all environmental issues and risks that were identified during the environmental impact process; and (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;	Section D
(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 avoided, managed or mitigated;	Appendix F
(k) where applicable, a summary of findings and impact management measures identified in 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 report;	Appendix F
(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 positive and negative impacts and risks of the proposed activity and identified alternatives;	Section E
(m) based on the assessment, and where applicable, impact management measures from the specialist reports, the recording of the impact management objectives and the impact management outcomes for the development for inclusion in the EMPr;	Appendix G
(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 the authorisation;	Section E, Page 51-52
(o) a description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Appendix D
(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	Section E, Page 51-52
(q) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be conducted and the post construction monitoring requirements finalised;	Appendix F and G
(r) an undertaking under oath or affirmation by the EAP in relation to: (i) the correctness of the information provided in the reports; (ii) the inclusion of comments and inputs from the stakeholders and I&APs; (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 the comments or inputs made by interested and affected parties;	Appendix H
(s) where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts	N/A

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EIA REGULATIONS 2014 GNR 982: Appendix 1, Item 2: CONTENT OF THE BASIC ASSESSMENT REPORT	Cross-reference in this BAR
(t) any specific information that may be required by the competent authority; and	No comments received
(u) any other matters required in terms of section 24(4)(a) and (b) of the Act	N/A

Section A: Activity information

Has a specialist been consulted to assist with the completion of this section?

YES

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Proposed Construction of an 18km long bulk water pipeline with an internal diameter of 2100mm for the remainder of B16 pipeline from Zuikerbosch pumping station to Slangfontein with associated cross connection and end connection.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 734, 735 and 736	Description of project activity
Example: GN 734 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river
GN R983: Listing Notice No 1 (9) The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of 0.36 metres or more; or (ii) With a peak throughput of 120 litres per second or more.	The proposed construction of an 18km long, 2100 mm diameter remainder of B16 pipeline from Zuikerbosch pumping station to Slangfontein with associated cross connections and end connections, Gauteng Province.
GN R 983 Listing Notice No 1 (19) The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from – (i) Watercourse.	Proposed bulk water pipeline will traverse through two sensitive areas that are a wetland and a river.
GN R985 Listing Notice No 3 (14) The development of: (xii) infrastructure and structures with a physical footprint of 10 square metres or more (b) In Gauteng: (iv) Sites identified as Critical Biodiversity	Proposed study site falls in an area classified as the Ecological Support Area and pipeline is more than 10 square metres in size.

Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;	
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2. 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.

Describe alternatives that are considered in this application as required by Appendix 1 (3) (h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the 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 needs to be informed by the specific circumstances of the activity and its environment. 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

BASIC ASSESSMENT REPORT

a) Site alternatives

Alternative 1 (preferred alternative)		
There is no alternative route or location considered for the B16 pipeline because Rand Water plans to lay the pipeline on an existing servitude <small>Description</small>	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
<small>Description</small>	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
<small>Description</small>	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

S26° 40' 42.21"	E28° 00' 08.05"
S26° 37' 20.54"	E28° 03' 47.21"
S26° 32' 43.63"	E28° 06' 41.94"

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
<p>The proposed technology for the construction of the B16 pipeline will entail the use of steel material; however a portion may require the use of high density polyethylene (HDPE) material. The characteristics of steel pipe material include:</p> <ul style="list-style-type: none"> • High tensile strength; • High compressive strength; • Range of corrosion protection systems; • Wide range of diameters and wall thickness; and • Welded joints give continuity.
Alternative 2
<p>The alternative technology for the construction of the proposed B16 pipeline will entail the use of reinforced concrete material. The characteristics of steel pipe material include the following:</p> <ul style="list-style-type: none"> • Durable; • Capable to withstand the transverse stress arising out of internal pressure; • Resistant to corrosion and tuberculation; • Ease of installation and tapping.
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

<ul style="list-style-type: none"> - In terms of the "no-go" alternative, if the activity is refused an Approval there will be no impacts as a result of construction activities. - If the no go alternative is pursued, then the operational-related impacts will not be realised, no jobs will be created. This alternative will not be feasible as the Applicant is providing a crucial service to the local community. There is a motivation for the activity as the current capacity is insufficient to support the area. The negative impacts of this option are therefore expected to outweigh the benefits. This option is therefore not preferred.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) **Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):**

Alternative:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

	m ²
	m ²
	m ²

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

18000 m
m
m

b) **Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):**

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

m ²
m ²
m ²

4. SITE ACCESS

Does ready access to the site exist?

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

YES	
	m

Describe the type of access road planned:

Proposed pipeline falls within an established area i.e. Zuikerbosch pumping station and there are main roads along the route e.g. Maribou Main Route.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

¹ "Alternative A." refer to activity, process, technology or other alternatives.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (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 map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a **north arrow**.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre 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 Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C 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.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES		Please explain
Servitude belongs to Rand Water.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
The PSDF for Gauteng Province aims at 'building a prosperous, sustainable growing provincial economy to reduce poverty and improve social development'. The proposed project will address such aspects of the province since it will assist in providing water to the community and thus ensure that one of the key result areas has been achieved which will have a positive economic impact at a local and regional scale.			
(b) Urban edge / Edge of Built environment for the area	YES		Please explain
Proposed study area is outside the urban edge for the area.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES		Please explain
The proposed area will not compromise the integrity of the existing approved and credible municipal IDP and SDF. One of the key strategies for the Emfuleni and Midvaal Local Municipality is the provision of adequate potable water for the community.			
(d) Approved Structure Plan of the Municipality	YES		Please explain
The proposed project entails the provision of water which is in line with the municipality policies and goals.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES		Please explain
Proposed project will not compromise the EMF of the area; there is an existing line within this proposed servitude, further the disturbance of the environment will be of a temporary nature. Rehabilitation plan will be following after construction.			
(f) Any other Plans (e.g. Guide Plan)	YES		Please explain
There are no other guides referenced in this application.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES		Please explain
Rand Water has legal right to the proposed study site. The purpose of this land is to lay a pipeline.			

BASIC ASSESSMENT REPORT

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES		Please explain
The provision of water to the Midvaal and Emfuleni residents is one of the key responsibilities of the government.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES		Please explain
Confirmation by relevant municipality will be attached to the Final BAR.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES		Please explain
Confirmation will be attached to the Final Basic Assessment.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES		Please explain
The provision of water is one of national interest.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES		Please explain
This is Rand Water servitude, there is an existing pipeline within this servitude, and proposed bulk water pipeline will run parallel to the existing line.			
9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
Laying of a pipeline will have temporary disturbance of the environment. After the proposed pipeline has been laid, the ground will be rehabilitated.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
Provision of water is of national importance.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES		Please explain
Should there be an increase in water demand; Rand Water will apply for the upgrading of the pipeline.			

BASIC ASSESSMENT REPORT

12. Will any person's rights be negatively affected by the proposed activity/ies?	NO	Please explain
Not Applicable.		
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	NO	Please explain
The urban edge will not be compromised.		
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	Please explain
<p>SIP 6: Integrated municipal infrastructure project:</p> <p>Develop national capacity to assist the 23 districts with the fewest resources (19 million people) to address all the maintenance backlogs and upgrades required in water, electricity and sanitation bulk infrastructure.</p>		
15. What will the benefits be to society in general and to the local communities?	Please explain	
<ul style="list-style-type: none"> Job creation; Adequate supply of water. 		
16. Any other need and desirability considerations related to the proposed activity?	Please explain	
Not Applicable.		
17. How does the project fit into the National Development Plan for 2030?	Please explain	
<p>Some of the aspects covered in the National Development Plan of 2030</p> <p>Enabling milestones</p> <ul style="list-style-type: none"> Ensure that all South Africans have access to clean running water in their homes. <p>Critical actions</p> <p>Public infrastructure investment at 10 percent of gross domestic product (GDP) financed through tariffs, public-private partnerships, taxes and loans and focused on transport, energy and water.</p> <p>The above quotation supports the fact that, the proposed project is going to be in line with issues of National Concern.</p>		

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

- Consideration of the framework for the implementation procedures:
 - Considerations of the effects of activities on the environment before any actions
- The regulations for the Environmental Impact Assessment process were followed.
- The principles of environmental management were integrated into all decisions which may have a significant effect on the environment.
- The procedures for the investigation, assessment and communication of the potential impact of activities were taken into consideration.
- The possible impact of a proposed act or development and the alternatives to lessen the possible harm on the environment was investigated.
- Heritage Impact Assessment (HIA) was done.
- A public participation meeting was organised and the Affected and Interested Parties came-up with comments, questions and suggestions.
- The monitoring and management of impacts will be done by an appointed ECO.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

This report serves as a **Basic Assessment Report** that will investigate all potential impacts (social, economic and environmental) that may result from the development including alternatives, assess and evaluate and further provide a mitigation plan for all identified potential impacts.

Ecological, heritage, agricultural, floodline and wetland specialists were appointed to investigate potential environmental impacts. Identified environmental impacts were assessed and mitigation measures provided to control and manage these environmental impacts. Interested and Affected parties, land owners and relevant stakeholders were identified and involved throughout the Basic Assessment process and their comments will be addressed and recorded as part of this assessment.

BASIC ASSESSMENT REPORT

11. APPLICABLE LEGISLATION, POLICIES AND/ or GUIDELINES

List all legislation, policies and/or guidelines	Applicability to the project	Administering authority	Date
Constitution of the Republic of South Africa, Act 108 of 1996	<p>EIA Regulations have been promulgated in terms of Chapter 5. Activities which may not commence without an environmental authorisation are identified within these Regulations.</p> <p>In terms of Section 24(1) of NEMA, the potential impact on the environment associated with these listed activities must be considered, investigated, assessed and reported on to the competent authority (the decision-maker) charged by NEMA with granting of the relevant environmental authorisation.</p> <p>In terms of GNR 983 of December 2014, a Basic Assessment process is required to be undertaken for the proposed project</p>	Republic of South Africa	1996
National Environmental Management Act (NEMA), No. 107 of 1998	<p>In terms of the Duty of Care provision in S28(1) the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to ensure that any pollution or degradation of the environment associated with this project is avoided, stopped or minimised.</p> <p>In terms of NEMA, it has become the legal duty of a project proponent to consider a project holistically, and to consider the cumulative effect of a variety of impacts.</p> <p>In terms of GNR 983 of December 2014, a Basic Assessment process is required to be undertaken for the proposed project</p>	Department of Environmental Affairs	1998
Environmental Impact Assessment Regulations (Government Notice No R. 983, 984 and 985)	In terms of GNR 983 of December 2014, a Basic Assessment process is required to be undertaken for the proposed project.	Department of Environmental Affairs	2014
National Environmental Management Biodiversity Act, No. 10 of 2004	Some natural vegetation will need to be cleared for the construction phase of the project; therefore an ecological specialist was appointed for this project.	Department of Environmental Affairs	1999
National Water Act No 36 of 1998	There may have been water courses on the proposed project site therefore a wetland; floodline and ecological specialist were appointed to delineate any potential water courses.	Department of Water Affairs	1998
National Environmental Management: Air Quality Act No 39 of	While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction phase of the project. Dust control regulations promulgated in	Department of Environmental	2004

BASIC ASSESSMENT REPORT

2004	November 2013 may require the implementation of a dust management plan.	Affairs	
National Environmental Management Waste Act No 59 of 2008	<p>Makes provision for the sound management of general and hazardous waste in South Africa, through the integration of a sufficient range of complementary waste management options, in line with the waste management hierarchy and internationally accepted principles of best environmental practice; waste will be generated during the construction phase of the project.</p> <p>No waste license activities are applicable to this project. The developer will however be required to store and manage waste in accordance with the requirements of this Act and associated Standards.</p>	Department of Environmental Affairs	2008
National Heritage Resources Act No. 25 of 1999	<p>The Act aims to promote an integrated system for the identification, assessment and management of the heritage Resources in South Africa.</p> <p>Under section 38. (1) of the NHRA any person who intends to construct a powerline or other linear development exceeding 300m in length must notify the responsible heritage resources agency of its intention.</p> <p>As the pipeline proposed exceeds 300 m in length, a Heritage Assessment has been undertaken as part of this Basic Assessment (refer to Appendix G). An identified heritage site was reported on site. It was determined that the pipeline will not impact on any heritage buildings or graves found in close proximity. However, should any heritage site be unearthed during excavations, a permit would be required to be obtained from SAHRA.</p> <p>A heritage specialist was appointed for this project.</p>	SAHRA	1999
Northern Cape Nature Conservation Act, No. 9 of 2009	<p>This Act provides for the sustainable utilisation of wild animals, aquatic biota and plants; as well as the offences and penalties for contravention of the Act and the appointment of nature conservators to implement the provisions of the Act. The Act also provides lists of protected species for the Province.</p> <p>Permits are required for protected plant and animal species impacted by the project.</p>	NC DENC	2009
Occupational Health and Safety Act No. 85 of 1993	<p>The OHSA governs and ensures the protection of employees in the workplace. A number of permanent and contract skilled and semi-skilled workers will be involved in the construction of the different aspects of the project. Their appointment and work periods will be subject to the provisions of the OHSA.</p> <p>While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction phase of the project. Healthy and safety precautions measures must be put in place for the construction crew and the general public.</p>	Department of Labour	1963

BASIC ASSESSMENT REPORT

The Conservation of Agricultural Resources Act No 43 of 1983	<p>To provide for the conservation of the natural agricultural resources of the Republic of South Africa by the preservation of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants. This act will regulate construction activities to prevent the spreading of invasive species and to ensure successful rehabilitation of the receiving environment.</p> <p>Because of the agricultural activities around on the proposed project site therefore an agricultural specialist was appointed to assess the agricultural potential for that area.</p>	Department of Agriculture, Forestry and Fisheries	1983
Public Access to Information Act No 2 of 2000	<p>Provides the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith. Eskom needs to acquire servitude from existing land owners, any individual owner has the right to access to any information pertaining to the project</p> <p>No permitting is required the act finds applicability during the public participation process phase of the basic assessment process.</p>	Department of Justice	2000
National Forests Act No. 84 of 1998	DAFF, it is responsible for overseeing and supporting South Africa's agricultural sector, as well as ensuring access to sufficient, safe and nutritious food by the country's population.	Department of Agriculture, Forestry and Fisheries (DAFF)	1998

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES

If YES, what estimated quantity will be produced per month?

10 000m³

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

Construction rubble/ solid waste will be temporarily stored on site in designated waste skips and then removed by an appropriate waste contractor appointed by the main construction contractor to an approved landfill site. Trucks with nets will be used, silencers will be used where necessary - This will be managed through the EMPr.

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

At a registered landfill site, proof of such disposal should be kept at site during construction.

Will the activity produce solid waste during its operational phase?

NO

If YES, what estimated quantity will be produced per month?

m³

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

Not Applicable.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Not Applicable.

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

Not Applicable.

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, then 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 NEM: WA?

NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

NO

If YES, what estimated quantity will be produced per month?

m³

Will the activity produce any effluent that will be treated and/or disposed of on site?

NO

BASIC ASSESSMENT REPORT

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.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

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:

The contractor should ensure that the right amount of material is used during construction to ensure the optimal reuse and recycling of materials. The contractor should also provide recycle bins on site marked into the following categories:

- Plastic;
- Paper; and
- Glass; and
- General waste that cannot be recycled

The client through the construction crew should ensure that the right amount of material is used while construction takes place to ensure the optimal reuse and recycling of materials. Please refer to the EMP (Appendix G) for suggested recycling measures.

Please refer to the EMP (Appendix G) for suggested recycling measures.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

NO

If YES, is it controlled by any legislation of any sphere of government?

NO

If YES, the applicant must 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:

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d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

NO

If YES, is it controlled by any legislation of any sphere of government?

YES

NO

BASIC ASSESSMENT REPORT

Describe the noise in terms of type and level:

Not Applicable

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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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:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

	litres
YES	

14. ENERGY EFFICIENCY

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

Not Applicable.

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

Not Applicable.

Section B: Site/Area/Property Description

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

☐ YES ☒

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

BASIC ASSESSMENT REPORT

**Property
description/physical
address:**

Province	Gauteng
District Municipality	Sedibeng District Municipality
Local Municipality	Emfuleni and Midvaal Local Municipality
Ward Number(s)	1, 4 and 13
Farm name and number	RIETFontein 365-IR RIETFontein 365-IR RIETFontein 365-IR RIETFontein 365-IR RIETFontein 365-IR SLANGFontein 372-IR SLANGFontein 374-IR SLANGFontein 374-IR VOGELFontein 376-IR VOGELFontein 376-IR VOGELFontein 376-IR VOGELFontein 376-IR VOGELFontein 376-IR VOGELFontein 376-IR VOGELFontein 376-IR BOSCHKOP 426-IR BOSCHKOP 426-IR BOSCHKOP 426-IR UITVLUCHT 434-IR UITVLUCHT 434-IR UITVLUCHT 434-IR UITVLUCHT 434-IR HELDERSTROME AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH MOOILANDE AH NELSONIA AH NELSONIA AH NELSONIA AH NELSONIA AH NELSONIA AH NEW KENTUCKY AH NEW KENTUCKY AH RIVERSDALE VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH VAN DER WESTHUIZENHOOGTE AH

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	11 365-IR
	12 365-IR
	15 365-IR
	16 365-IR
	68 372-IR
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Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

BASIC ASSESSMENT REPORT

Current land-use zoning as per local municipality IDP/records:

Residential and Agricultural

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
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BASIC ASSESSMENT REPORT

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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
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Alternative S2 (if any):

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
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Alternative S3 (if any):

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
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2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

4. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES		UNSURE
Non-Perennial River		NO	UNSURE
Permanent Wetland	YES		UNSURE
Seasonal Wetland		NO	UNSURE
Artificial Wetland		NO	UNSURE
Estuarine / Lagoonal wetland		NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

Is a permanent wetland but described as a floodplain wetland and channelled valley bottom wetland.
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BASIC ASSESSMENT REPORT

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL / HISTORICAL FEATURES

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

YES

There is a grave yard, not too far from the area where the proposed B16 pipeline will be constructed. This grave yard has graves which are older than 60 years, and as such, can be seen to have historical significance as stated by the National Heritage Resource act (Act No.25 of 1999). These graves seem to be of domestic workers which were laid to rest; this is assumed by the placement of African graves in an area set aside for white people by the population's group act of the previous apartheid regime.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

Historically significant graves were found on the area proposed for the B16 pipeline. The buildings found next to the pipeline route within the residential areas between the Rand Water Zuikerbosch pumping station (Starting point) and Slangfontein (End point) are not older than 60 years old. A graveyard of more than 60 years old was found onsite which could be seen as historically significant. There are more than 10 graves secluded in one area which is thought to be a grave yard. Some of these graves had the traditional western grave format with a head stone and these could have been the graves of white individuals. There were graves which had African names which could be assumed to be the domestic workers. These graves were buried in a cultural manner. But Based on the site survey, the pipeline route is already severely disturbed by the residential developments and agricultural activities. Therefore based on the findings of the survey that the proposed B16 pipeline will not impact on any heritage buildings or graves found in close proximity; in conclusion the construction may proceed.

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)?

YES

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

✓ **Emfuleni Local Municipality**

Of the population, 202 543 people are economically active (employed or unemployed but looking for work) and, of these, 34, 7% are unemployed. Of the 85 594 economically active youth (15–35 years) in the area, 45% are unemployed.

✓ **Midvaal Local Municipality**

A total of 45 956 people are economically active (employed or unemployed but looking for work), and of these, 18, 8% are unemployed. Of the 21 439 economically active youth (15–34 years) in the area, 25,4% are unemployed

Economic profile of local municipality:

✓ **Emfuleni Local Municipality**

There are 220 135 households in the municipality, with an average household size of 3, 1 persons per household. Of these households, 69, 9% have access to piped water and 24, 3% have water in their yard. Only 0, 6% of households do not have access to piped water. Electricity for lighting is used by 92, 2% of households.

✓ **Midvaal Local Municipality**

There are 29 965 households in the municipality, with an average household size of 3, 05 of these households, 64,9% have access to piped water in their dwelling, 17,9% have water in their yard only and 4,2% of households do not have access to piped water

Level of education:

✓ **Emfuleni Local Municipality**

According to Census 2011, Emfuleni Local Municipality has a total population of 721 663, of which 85,4% are black African, 12% are white, 1,2% are coloured, and 1,0% are Indian/Asian. Of those 20 years and older, 3, 6 % completed primary school, 36, 7% have some secondary education, 32, 4% completed matric, and 12, 9% have some form of higher education. The percentage with no form of schooling is 4, 0%.

✓ **Midvaal Local Municipality**

According to Census 2011, Midvaal Local Municipality has a total population of 95 305, of which 58, 4% are black African, 38, 7% are white, 1, 6% are coloured, and 0, 6% are Indian/Asian. Of those aged 20 years and older, 3, 6% have completed primary schooling, 34, 4% have some secondary education, 32, 3% have completed matric, and 15,3% have some form of higher education.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R35 000 000.00
What is the expected yearly income that will be generated by or as a result of the activity?	R15 000 000.00
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	30
What is the expected value of the employment opportunities during the development and construction phase?	R5 000 000.00
What percentage of this will accrue to previously disadvantaged individuals?	30%
How many permanent new employment opportunities will be created during the operational phase of the activity?	5
What is the expected current value of the employment opportunities during the first 10 years?	R2 500 000.00
What percentage of this will accrue to previously disadvantaged individuals?	60%

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	There is an existing line within this servitude.

- b) **Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (Including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	20%	Presence of land in its natural state. Meaning a land which is not including buildings or equipment that does not occur naturally.
Near Natural (includes areas with low to moderate level of alien invasive plants)	5%	Presence of Invasive Alien Plant species, such as <i>Verbena bonariensis</i> , <i>Cirsium vulgare</i> .
Degraded (includes areas heavily invaded by alien plants)	40%	Mixed grazing by cattle and sheep.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	35%	Presence of build-up areas, some areas under summer maize cultivation and roads.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems							
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline		
	Endangered								
	Vulnerable								
	Least Threatened	YES	NO	UNSURE	YES	NO	YES	NO	

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The study site is located within the Soweto Highveld Grassland. The landscape features is gently to moderately undulating landscape on the Highveld plateau supporting short to medium-high, dense, tufted grassland dominated almost entirely by Themeda triandra and accompanied by a variety of other grasses. Although Gauteng is the smallest province in South Africa, it is characterised by high biodiversity. Gauteng falls within both the savannah and highly threatened grassland biomes that together constitute six vegetation types. Approximately 83% of the province falls within Highveld grassland, of which an estimated 0.8% is currently conserved in South Africa.

Section C: Public Participation

1. ADVERTISEMENT AND NOTICE

Publication name	Vereeniging Ster	
Date published	26 th of May 2016	
Site notice position	Latitude	Longitude
	S26.66838°	E28.03922°
Date placed	26 th of May 2016	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2) (b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Ms Joy van Wyk	Property owner	0726921383
Mr Antonino Venturi	Property owner	0827744285
Ms Beverly	Property owner	0844306072
Mr Dennis Buurman	Property owner	0825507782
Mr Johan von Stade	Property owner	0734035035
Mr Clive Devos	Property owner	0828545770
Mr Herman	Property owner	0832683780
Mr Tshepi Moiloe	Property owner	0732626794
Ms PM Bonnette	Property owner	0824470700
Mr Rudi Erasmus	Property owner	0825305137
Mr JM Swart	Property owner	0731512963
Mr Alan Fourie	Property owner	0833911812
Mr Dennis R Guthrie	Property owner	0825507782
Ms Maria J. Mitchell	Property owner	0824991068
Mr Mike R. Wathey	Property owner	0763323586
Ms NJ Erasmus	Property owner	0832718419
Ms Nicolaas Posthumus	Property owner	0839540117
Mr Lucien V. Denichaud	Property owner	0837946903
Mr CJ Annandale	Property owner	0825693284
Mr van Zyl	Property owner	0723591440
Mr FT Busch	Property owner	0826204539
Ms MJ Hattingh	Property owner	0824470700
Ms Sara Sussannaj Annandale	Property owner	0723477909
Mr Petrus Johannes van Zyl	Property owner	0723591440
Mr Mokheti Zacharia	Property owner	0732626794
Ms Sophia Hill	Property owner	0827870909
Mr J Harris	Property owner	0834599933
Ms Elize Brummer	Property owner	0844031078

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Mr Herman Steyn	Property owner	0832683780
Mr Deon van Wyl	Property owner	0824589676
Mr Christoffel	Property owner	0736732358
Mr Gaman Deodhnath	Property owner	0843573787
Mr Albert Munengwa	Property owner	0835225208
Mr Thande Tlebere	Property owner	0793733731
Ms Bonita Viljoen	Property owner	0760710357
Ms Adriaan J Laubschon	Property owner	0834948627
Mr Tladi Nkete	Property owner	0733016392
Mr Nick	Property owner	0825592413

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

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3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
Will the B16 pipeline connect with the existing pipeline?	The pipeline will be constructed next to the existing pipeline.
How long will the construction take place?	Not sure about the period till the contractor will be appointed but the construction may take 2-3 years, excluding the rehabilitation, the rehabilitation can take as long as three years as well to be fully ready to be handed back for use as before. eg. Grazing.
Will the pipeline affect the associated roads used by the race-car facility?	: If the pipeline passes through those respective areas, construction will occur and thus road will be affected minimally. Jacking under roads will be used to avoid interruptions to traffic.
Will we be compensated for the damaged area, or any obstruction of road access?	I cannot promise but it is in line with our business to be compensated for use of land that is not servitude. E.g. laydown areas or additional working area. The compensation is based on property and business value. It is not a uniform compensation. This is the reason we need you to write all your concerns so we can think about the alternative and the mitigation measures.
What will happen with our crops during the construction period? And Are we going to be compensated?	It will be important to have a good record of the business that will be affected to substantiate any claim. The servitude rights may affect the compensation agreement. The survey section of RW will do the land evaluations and agricultural potential evaluations. The process is still to follow. Please let RW through the EAP know about these concerns and the nature of them, so that a proactive approach and discussion can take place.
What kind information will be needed in order to receive compensation?	Need a spread sheet with all the details of the damage then Rand Water will need to get an estimate of how the construction will affect each individual. Documents will be needed discussing the impact of the construction on farming, and also consequently the livelihoods of people. People from Rand Water will be sent to assess the damage and to negotiate compensation considering the benefits of both parties concerned.
Are you going to open the trenches for you to cross the roads?	Will do pipe jacking (ie. Pipe will go underneath the road).
Do you think the work will start in 2 years' time?	Not sure, but 2 years is a reasonable estimation because of all the process still to be completed, that is the Environmental Authorisations, water use licence and the tendering process for the appointment of a contractor. The pipeline is

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	needed in 2020.
What happens when we don't have access to parts of our farms due to construction at our doorsteps?	The construction process will take into consideration the parts each farmer needs to access their farm and a plan will be in place around that issue. The contractor will finalise these agreements in writing two weeks prior to entering the property. All existing gates, fences and other important aspects that are required to be returned to original condition, e.g. a drive way pavement, will be documented and signed by the land owner. However, it is best to mention these particular requirements sooner than later as this will assist in project planning and execution all the way through.
Are you going to rehabilitate after working in this area?	The area will be rehabilitated to be fit for its original use.
We are suggesting that the work should be done by section and after working on the specific section, the area should be rehabilitating before carrying-on to the next section. This is because of the bad experience we had in the past, up to now our roads are damaged and the area is not rehabilitated.	Noted. The current projects have been plagued with problems with the contractors including a court interdict. The intended 18 month construction period of each section of the other pipeline in the neighbourhood, has thus been extended by a further five to six months. This also does not mean "finished construction and off site", as pressure testing and valve boxes still need to be installed. Only then can section by section begin to be rehabilitated in the next suitable growing season.
Is the B16 pipeline going to be on the left or right of the existing pipeline?	The proposed B16 pipeline will be installed on the left side of the existing pipeline. But not sure How wide is the Rand Water's servitude perhaps 40 m then RW will use only 20m during the construction phase.

4. COMMENTS AND RESPONSE

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

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5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Environmental Affairs	Ms Sindiswa Dlomo	012 399 9390	(+27) (0) 12 359 3625	sdlomo@environmental.gov.za	Private Bag X447 Pretoria 0001 South Africa
Department of Water and Sanitation	Mr Lesiba Mabona	0826538595	(+27) (0) 12 328 4254	mabonal@dwa.gov.za	Private Bag X313 Pretoria 0001 South Africa
Emfuleni Local Municipality	Ms Venter	0823358111	(+27) (0) 16 950 5050	d.venter@vodamail.co.za	Private Bag X3 Vanderbijlpark 1900 South Africa
Midvaal Local Municipality	Mr Wayne De Agnella	0824529548	(+27) (0) 16 360 7519	wayneDA@midvaal.gov.za	Private Bag X9 Meyerton 1960 South Africa
Midvaal Local Municipality	Mr Andre van Tonder	0832309925	(+27) (0) 16 360 7519	carlad@midvaal.gov.za	Private Bag X9 Meyerton 1960 South Africa
Sedibeng District Municipality	Mr Musa Mahlatji	016 450 3240	(+27) (0) 455 2573	musam@sedibeng.gov.za	Private Bag X471 Vereeniging 1930 South Africa
SANRAL	Mr Michael York-Hart	012 426 6227	(+27) (0) 12 844 8000	YorkeHM@nra.co.za	Private Bag X415 Pretoria 0001 South Africa
Gauteng Department of Roads and Transport	Mr Danie Luwes	012 310 2384	(+27) (0) 12 328 3194	Danie.luwes@gauteng.gov.za	Private Bag X193 Pretoria 0186 South Africa
Gauteng Department of Agriculture and Rural Development	Mr Bongani Shabangu	011 240 3051	(+27) (0) 11 240 2500	Bongani.shabangu@gauteng.gov.za	Private Bag 8769 Johannesburg 2000 South Africa

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.
In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

Section D: 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.

I. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A (2) of this report.

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CONSTRUCTION; OPERATIONAL + DECOMMISSIONING PHASE

Constructional Phase Preferred			
CONSTRUCTION PHASE			
Activity	Impact summary	Significance (after mitigation)	Proposed mitigation
Use of various materials, such as diesel, oils and cement during construction	Direct impacts: Mismanagement of waste and pollutants like hydrocarbons, construction waste and hazardous chemicals will result in these substances entering and polluting the soil. Due to the nature of the soil and quick infiltration rate, pollutants can quickly move through the environment during and after storm events and make their way to the wetland	Low	<p>All waste generated during construction is to be disposed of as per the Environmental Management Programme and no washing of paint brushes, containers, wheelbarrows, spades, picks or any other equipment adjacent to any drainage channel is permitted.</p> <p>Proper management and disposal of construction waste must occur during the lifespan of the project, including during maintenance of the proposed B16 pipeline.</p> <p>No release of any substance i.e. cement, oil, that could be toxic to fauna or faunal habitats within the development area.</p> <p>Do not locate the construction camp or any depot for any substance which causes or is likely to cause pollution within a distance of 100m of any watercourse.</p> <p>Spillages of fuels, oils and other potentially harmful chemicals must be cleaned up immediately and contaminants properly drained and disposed of using proper solid/hazardous waste facilities (not to be disposed of within the natural environment). Any contaminated soil must be removed and the affected area rehabilitated immediately.</p>
	Indirect impacts: Impacts on nearby wetlands	Low	
	Cumulative impacts: Nil	Low	
Clearing of vegetation for construction	<p><i>Proliferation of Alien invasive species</i></p> <p>Direct impacts: Alien invasive species dominate the site currently and these will quickly encroach into disturbed areas. Alien species generally out-compete indigenous species for water, light, space and nutrients as they are adaptable to</p>	Low	<p>An alien invasive management programme must be incorporated into the Environmental Management Programme;</p> <p>Ongoing alien plant control must be undertaken along the road route;</p> <p>Areas which have been disturbed will be quickly colonised by invasive alien species. An ongoing management plan must be implemented for the clearing/eradication of alien species. Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as</p>

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	changing conditions and are able to easily invade a wide range of ecological niches (Bromilow, 2010).		they emerge.
	Indirect impacts: Alien invader plant species pose an ecological threat as they alter habitat structure, lower biodiversity (both number and "quality" of species), change nutrient cycling and productivity, and modify food webs (Zedler, 2004).	Low	
	Cumulative impacts: Colonisation of disturbed areas by alien and invasive species.	Low	
Clearing of vegetation for construction	Direct impacts: During the construction phase the area for the proposed B16 pipeline will be cleared of vegetation. This will result in the loss of indigenous species, disturbance of species of conservation concern and the fragmentation of vegetation communities. The removal of vegetation will also expose soil increasing the risk of erosion.	Low-Moderate	Once the route is known, the site must be inspected by a botanist during the summer season to identify all protected tree species of conservation concern in order to record their existence for permitting purposes. Indigenous trees removed during construction must be replaced with the same species at a ratio of 1:2 (2 trees must be planted for every 1 tree removed); Protected trees removed during construction must be replaced with the same species at a ratio of 1:5 (5 trees must be planted for every 1 tree removed); Disturbed areas must be rehabilitated immediately after construction has been completed in that area by planting appropriate indigenous plant species; The clearing of vegetation must be kept to a minimum and within the B16 pipeline line servitude; During the construction phase workers must be limited to areas under construction and access to the undeveloped areas must be strictly controlled; Rehabilitated areas must be monitored to ensure the establishment of re-vegetated areas.
	Indirect impacts: Loss of indigenous vegetation.	Low-Moderate	
	Cumulative impacts: Loss of natural vegetation due to vegetation fragmentation and habitat disturbance in the landscape.	Low-Moderate	
Loss of faunal	Direct impacts:	Low-	All construction and maintenance activities must be carried

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habitat and ecological structure	<p>The construction phase of the proposed B16 pipeline development will result in the loss of faunal habitats within the area. This impact relates to the complete removal or partial destruction/disturbance of existing vegetation by machinery and workers, impacting directly on the ecological condition of natural vegetation and habitat availability. These activities will have an impact on foraging and breeding ecology of faunal species. Loss of vegetation generally affects nutrient cycles, removes the organic litter layer and results in habitat fragmentation and destruction of wildlife corridors.</p> <p>The habitat is however already largely transformed due to the adjacent mining activities and fragmented and the site is not a unique habitat within the landscape.</p>	Moderate	<p>out according to the generally accepted environmental best practice and the temporal and spatial footprint of the development must be kept to a minimum.</p> <p>The boundaries of the development footprint areas are to be clearly demarcated and it must be ensured that all activities remain within the demarcated footprint area.</p> <p>Edge effects of all construction and operational activities, such as erosion and alien plant species proliferation, which will affect faunal habitats adjacent to the development area, need to be strictly managed.</p> <p>Any natural areas beyond the development footprint, which have been affected by the construction activities, must be rehabilitated using indigenous plant species.</p> <p>Education and awareness campaigns on faunal species and their habitat are recommended to help increase awareness, respect and responsibility towards the environment for all staff and contractors.</p>
	Indirect impacts: Loss of indigenous vegetation.	Low-Moderate	
	Cumulative impacts: Habitat fragmentation	Low-Moderate	
Impacts on the faunal communities	Direct impacts: Activities involving the clearing/harvesting of natural vegetation will result in the loss of faunal species. Faunal diversity within the study area has been	Moderate-High	<p>It is recommended that a speed limit of 30km/h is implemented on all roads running through the study area during all phases in order to minimise risk to fauna from vehicles.</p> <p>No trapping or hunting of fauna is to take place. Access control must be implemented to ensure that no illegal</p>

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	negatively impacted as a result of historic and on-going disturbances associated with mining practices. It is not envisaged that any Red data species will be present on the site and thus directly impacted as a result of the development. During the operational phase, a further loss of faunal diversity and ecological integrity will occur due to the increase in human activity and potential poaching.		<p>trapping or poaching takes place.</p> <p>Should any Red Data faunal species be noted within the development footprint areas, these species must be relocated to similar habitat within the vacant land to the west of the development area with the assistance of a suitably qualified ecologist.</p> <p>Any fauna directly threatened by the construction activities must be removed to a safe location by the ECO or qualified Ecologist.</p> <p>All staff and contractors must undergo an environmental induction course held by the ECO as well as faunal education and awareness programmes.</p>
	Indirect impacts: Loss of species diversity.	Moderate-High	
	Cumulative impacts: Limited impact on ecological diversity in the vicinity.	Moderate-High	
Noise pollution and disturbance	Direct impacts: The proposed development area is located within close proximity to farm areas. As a result disturbance of fauna by the proposed development during the construction phase is anticipated to be of moderate significance. Species are particularly sensitive to disturbance during the breeding season and this must be borne in mind during both the construction and operational phases.	Moderate	<p>Strict control must be maintained over all activities during construction, in line with an approved Construction EMP.</p> <p>Any Red Data species identified in this report observed to be roosting and/or breeding in the vicinity, the ECO must be notified</p>
	Indirect impacts: Loss of species diversity.	Moderate	
	Cumulative impacts: Movement of species from one	Moderate	

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	area into another.		
Avifaunal impacts during the construction phase	Direct impacts: Disturbance particularly during the sensitive parts of the breeding cycle could result in breeding failure. Species residing within this landscape often experience varying degrees of disturbance. As a result, disturbance of birds by the proposed substation is anticipated to be of low significance as birds will move away from the area temporarily. Species sensitive to disturbance and ground-nesting species resident within the development footprint will be particularly susceptible. Disturbance can also influence the community structure of avifauna within close proximity to the development as certain species will be displaced and forced to find alternative territories. Avian species with small territories are particularly susceptible.	Low-Moderate	Strict control must be maintained over all activities during construction, in line with an approved Construction EMP. During Construction, if any of the Red Data species identified in this report are observed to be roosting and/or breeding in the vicinity, the ECO must be notified. The construction camps must be as close to the site as possible Contractors and working staff must stay within the development footprint and movement outside these areas including avian micro-habitats must be restricted. Driving must take place on existing roads and a speed limit of 30km/h must be implemented on all roads running through the study area during all phases.
	Indirect impacts: Effect on nesting birds outside the vicinity of the site.	Low-Moderate	
	Cumulative impacts: Moderate as there is a high level of existing disturbance in the vicinity.	Low-Moderate	
Heritage	Direct impacts: Based on available information and prior knowledge of the	Low	As per the study, Historically significant graves were found on the area of the proposed B16 pipeline. The proposed B16 pipeline will pass through the existing B8 pipeline which limits

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	region, it can provisionally be said that the possibility of the proposed development to impact on any sites, features or object of cultural significance is very low.		any chances to affect any burial grounds and graves, however should any archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.
	Indirect impacts: None		
	Cumulative impacts: Should significant archaeological deposits be located then cumulative impacts will be experienced		
OPERATIONAL PHASE			
Activity	Impact summary	Significance (after mitigation)	Proposed mitigation
Loss of faunal habitat and ecological structure	Direct impacts: The operational phase of the proposed B16 pipeline construction will result in the loss of faunal habitats within the area. This impact relates to the complete removal or partial destruction/disturbance of existing vegetation by machinery and workers, impacting directly on the ecological condition of natural vegetation and habitat availability. These activities will have an impact on foraging and breeding ecology of faunal species. Loss of vegetation generally affects nutrient cycles, removes the organic litter layer and results in habitat fragmentation and destruction of	Low-Moderate	All construction and maintenance activities must be carried out according to the generally accepted environmental best practice and the temporal and spatial footprint of the development must be kept to a minimum. The boundaries of the development footprint areas are to be clearly demarcated and it must be ensured that all activities remain within the demarcated footprint area. Edge effects of all construction and operational activities, such as erosion and alien plant species proliferation, which will affect faunal habitats adjacent to the development area, need to be strictly managed. Any natural areas beyond the development footprint, which have been affected by the construction activities, must be rehabilitated using indigenous plant species. Education and awareness campaigns on faunal species and their habitat are recommended to help increase awareness, respect and responsibility towards the environment for all staff and contractors.

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	wildlife corridors. The habitat is however already largely transformed due to the farming activities, fragmented and the site is not a unique habitat within the landscape.		
	Indirect impacts: Loss of indigenous vegetation.	Low-Moderate	
	Cumulative impacts: Habitat fragmentation	Low-Moderate	
DECOMMISSIONING PHASE			
Decommissioning and closure phase has not been considered as part of this application as the end use of the site and required decommissioning activities are not known at this time; it is therefore not possible to predict the potential environmental impacts. If decommissioning phase is considered in future, the developer will undertake the required actions as prescribed by the legislation at the time and comply with all relevant requirements administered by any relevant authority and competent authority at that time.			

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity 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.

Alternative A (preferred alternative)

In summary, the Basic Assessment has assessed potential impacts and identified appropriate management and mitigation measures. No environmental fatal flows and no significant negative impacts have been identified to be associated with the proposed project. The Impact Assessment section of this report indicates that the identified environmental impacts associated can be effectively mitigated to have a low significance impact rating provided the recommended mitigation and management measures are implemented.

Based on the preceding discussion, the specialists concluded their proposed routes and alternative assessment as follows:

Heritage Study

Historically significant graves were found on the area of the proposed B16 pipeline. The buildings found next to the pipeline route within the residential areas between the Rand Water Zuikerbosch pumping station (Starting point) and Slangfontein (End point) are not older than 60 years old. But Based on the site survey, the pipeline route is severely disturbed by the residential developments and agricultural activities. A graveyard of more than 60 years old was found onsite which could be seen as historically significant. There are more than 10 graves secluded in one area which is thought to be a grave yard. Some of these graves had the traditional western grave format with a head stone and these could have been the graves of white individuals. There were graves which had African names which could be assumed to be the domestic workers. These graves were buried in a cultural manner. The proposed B16 pipeline will pass through the existing B8 pipeline which limits any chances to affect any burial grounds and graves.

Flora and Fauna Assessment

Results of this study show that the anticipated effects of the proposed project of the B16 pipeline from Zuikerbosch and Slangfontein area will not be highly significant if the suggested mitigation measures assigned are to be implemented and environmental monitoring programmes are established in view to comply with the Conservation of Agricultural Resources Act, 43 of 1983.

In addition, the current investigation in the area showed that the surrounding area was already disturbed by different activities such as construction of houses, farming activities, which has resulted in emigration of many fauna species.

Wetland Assessment

Based on the assessment of impacts, the proposed pipeline is not envisaged to have major impacts on the wetlands during construction and operation. Both wetlands identified on site are not considered of ecological importance. However the floodplain wetland and

channelled valley bottom wetland are considered moderately and largely modified respectively, according to their current hydrological, geomorphological and vegetation state.

The current study approves the construction of the B16 pipeline from Zuikerborsch pumping station to Slangfontein, provided that all negative environmental impacts derived from the activities are mitigated appropriately.

Floodline Assessment

The velocities for the 1:100 year floodline are generally low, although in some places velocities of up to 2.5 m/s are observed. However, the flow regime still remains relatively subcritical in all the streams investigated. Within the zone of the proposed pipe/river crossing, velocity are all below 1m/s except for the Klip river tributary 1 at cross sections 4364, 2910 and 2.45 m/s respectively. These velocities are high and may pose a threat on likelihood of causing erosion in the river bed and its bank. As such erosion measures may need to be implemented to minimise erosion potential of the stream bed and banks as well as scouring of the pipe backfill material.

It must be noted that the termination point of the B8 cross C pipeline, which is a take-off from the B16 main pipeline, is planned within the imaginary 1:100 year floodline for the Klip river. The pipeline is planned within the 1:100 year floodline zone, as it runs parallel to Suikerbosrant river until it crosses it. Thus, from approximately chainage 1.4 km from the start point, the pipeline falls within the floodline zone up until chainage 3.9 km. elsewhere, the pipeline only crosses the floodline zone as required. Therefore, the current study approves the construction of the B16 pipeline from Zuikerbosch pumping station to Slangfontein, provided that all mitigation measures against the effects of the 1:100 year floodline are complied with appropriately.

Agricultural Assessment

Results of this study show that the proposed B16 Pipeline construction project from Zuikerbosch and Slangfontein will not have a negative impact on the land and they will be no need for environmental monitoring programmes to comply with the Conservation of Agricultural Resources Act, 43 of 1983.

The effects on agriculture are not likely to be severe because the excavation for the installation of B16 pipeline will not need big space or big excavation for the construction of the proposed B16 pipeline.

Alternative B

Alternative C

No-go alternative (compulsory)

This is the option of not undertaking the proposed activities. This option will result in limited or no impacts occurring on the biophysical environment (i.e. the avifaunal communities). However, not constructing the proposed pipeline and associated structures will make it impossible for Rand Water to achieve their key result areas. This could therefore have a significant impact on the economic profile of the region, thus placing additional pressure on existing resources and municipal capabilities due to the existing high level of unemployment in the region. The negative impacts of this option are therefore expected to outweigh the benefits. This option is therefore not preferred.

Section E. Recommendation of 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)?

YES

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

Not Applicable

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.

Maanakana makes the following recommendations

- EMPr for this application be made a binding document for the contractors and managers on
- ECO should be present during construction to monitor the implementation of site;
- An independent the EMPr and the environmental authorization once issued;
- Compliance with the mitigation measures outlined in this BA report and EMPr;
- Clearance of the area should be as minimal as possible and construction activities be confined to the development footprint to prevent negative impact of the surrounding environment;
- All waste generated during construction is to be disposed of as per the Environmental Management Programme and no washing of paint brushes, containers, wheelbarrows, spades, picks or any other equipment adjacent to any drainage channel is permitted.
- Ongoing alien plant control must be undertaken;
- Indigenous trees removed during construction must be replaced with the same species at a ratio of 1:2 (2 trees must be planted for every 1 tree removed);
- Protected trees removed during construction must be replaced with the same species at a ratio of 1:5 (5 trees must be planted for every 1 tree removed);
- Disturbed areas must be rehabilitated immediately after construction has been completed in that area by planting appropriate indigenous plant species;
- Any natural areas beyond the development footprint, which have been affected by the construction activities, must be rehabilitated using indigenous plant species.
- Education and awareness campaigns on faunal species and their habitat are recommended to help increase awareness, respect and responsibility towards the environment for all staff and contractors.
- Should any Red Data faunal species be noted within the development footprint areas, these species must be relocated to similar habitat within the vacant land to the west of the development area with the assistance of a suitably qualified ecologist;
- Any fauna directly threatened by the construction activities must be removed to a safe location by the ECO or qualified ecologist;
- Driving must take place on existing roads and a speed limit of 30km/h must be implemented;
- When designing the poles/tower, allow for future upgrading of the line to a greater capacity. This may prevent the installation of an additional Pipeline in future and thereby limit potential cumulative impacts, should the need arise to increase the capacity;
- A "Bird Friendly" monopole structure, with a bird perch (as per standard Eskom

BASIC ASSESSMENT REPORT

guidelines) should be used for the tower structures;

- Mark sections of line in high sensitivity areas with anti-collision marking devices (diurnal and nocturnal diverters) to increase the visibility of the pipeline and reduce likelihood of collisions. Marking devices should be spaced 10 m apart;
- Should anything of heritage value be discovered during construction and excavation phases, the activity should be stopped and a qualified archaeologist should visit the site to investigate the findings.

Is an EMPr attached?

YES

The EMPr must be attached as Appendix G.

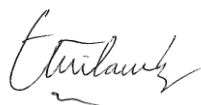
The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Freddy Tshiala Milambo

NAME OF EAP



SIGNATURE OF EAP

11/08/2016

DATE

Section F: Appendixes

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration (s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information