



read

Department:
**Rural, Environment and Agricultural
Development**
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

AgriCentre Building
Cnr. Dr. James Moroka and Stadium Rd
Private Bag X2039,
Mmabatho 2735
Republic of South Africa
Tel: +27 (18) 389 5156
Fax: +27(18) 384 0104
E-mail: oskosana@nwpq.gov.za

CHIEF DIRECTORATE: ENVIRONMENTAL SERVICES

DIRECTORATE: ENVIRONMENTAL QUALITY MANAGEMENT

(For official use only)

Provincial Reference Number:
NEAS Ref 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.
2. This report format is current as of **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. The use of "not applicable" in the report must be done with circumspection. An incomplete report or that does not meet the requirements in terms of Regulation 19 of the NEMA EIA Regulations, 2014, will be rejected to be revised and be resubmitted.
6. The report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The signature of the Environmental Assessment Practitioner (EAP) on the report must be an original.
9. The report must be compiled by an independent EAP.
10. 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.
11. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
12. 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.
13. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
14. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

WE BELONG

WE CARE

WE SERVE

SECTION A: ACTIVITY INFORMATION

1. PROJECT DESCRIPTION

a) Describe the project in association with the listed activities applied for

The proposed construction of a 500mm diameter rising- and an 800mm diameter gravity potable water pipeline from the Bospoort WTW to tie into the existing pipeline to Rustenburg town, one reservoir and associated access road currently under the jurisdiction of the Rustenburg Local Municipality, North West Province.

Following the upgrading of the 12Mℓ/d Bospoort Water Treatment Works to 24Mℓ/d, a new 500mm diameter rising main is required to convey potable water from the Treatment Works to the new reservoir. An 800mm diameter gravity pipe will supply the water from the reservoirs to Rustenburg town. Both these lines will be steel pipelines and will convey approximately 278ℓ per second between the Treatment Works and Rustenburg Municipality. The pipelines will augment the current Vaalkop supply system and provide much needed potable water to the communities in the area as well as Rustenburg Town.

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

Listed activity as described in GN R.983, 984 and 985	Description of project activity
<p>Example: GN R.983 Activity 12(iii): The development of a bridge exceeding 100 square metres where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such development will occur within existing roads or roads reserve.</p>	<p>A bridge measuring 10m in length, 12 metres wide will be built over the Crocodile river</p>
<p>GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017:</p> <p>Listed Activity 9 The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water-</p> <p>(i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres or more; excluding where –</p> <p>(a) such infrastructure is for the bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.</p>	<p>A new 500mm diameter rising main is required to convey potable water from the Treatment Works to the two new reservoirs (approx. 1262m in length). An 800mm diameter pipe will supply the water from the reservoirs to Rustenburg town (approx. 8490m in length). The pipe will be a steel pipe and it will convey 24Mℓ/d (approximately 278ℓ per second).</p> <p>The pipeline will trigger several water uses under the National Water Act (Act 36 of 1998) and will therefore also necessitate an application for a Water Use License.</p>
<p>GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017:</p>	<p>Infrastructure exceeding 100m² including where the pipeline crosses several watercourses. The scour valve chambers and sacrificial anode beds (and/or</p>



<p>Listed Activity 12 The development of-</p> <p>(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceed 100 square metres; or</p> <p>(ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs-</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measures from the edge of a watercourse; - excluding-</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area;</p> <p>(ee) where such development occurs within existing roads, road reserves or railway line reserves; or</p> <p>(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p>	<p>other forms of cathodic protection) installed within 32m of a watercourse.</p>
<p>GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017:</p> <p>Listed Activity 19 The infilling or depositing of any material or more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving-</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for the maintenance purposes undertaken in accordance with a maintenance management</p>	<p>More than a combined total of 10 cubic metres will be excavated from the watercourses, including but not limited to when trenching through the Paardekraalspruit & Hex River, and the pipeline will then be concrete encased to adequately protect it.</p>



<p>plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>	
<p>GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017</p> <p>Listed Activity 26. Residential, retail, recreational, tourism, commercial or institutional developments of 1 000 square metres or more, on land previously used for mining or heavy industrial purposes; — excluding — (i) where such land has been remediated in terms of part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or (ii) where an environmental authorisation has been obtained for the decommissioning of such a mine or industry in terms of this Notice or any previous NEMA notice; or (iii) where a closure certificate has been issued in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) for such land.</p>	<p>The preferred location of the proposed reservoir site and associated pipeline and access road, are within the footprint of a mining area.</p>
<p>GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017.</p> <p>Listed Activity 27. The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The clearance of vegetation for the pipeline outside the road reserve, reservoir site as well as the construction camps, will exceed 1 hectare of indigenous vegetation.</p>
<p>December 2014 (LN3), as amended in GN No. 324 of 7 April 2017.</p>	<p>Project notice boards collectively exceeding 18m² will be erected at the construction camps as well as strategic locations along the pipeline route, within</p>



<p>Listed Activity 1. The development of billboards exceeding 18 square metres in size outside urban areas, mining areas or industrial complexes.</p> <p>h. North West</p> <p>i. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>ii. World Heritage Sites; core of biosphere reserve; or sites or areas identified in terms of an international convention;</p> <p>iii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;</p> <p>iv. Areas within 5 kilometres from protected areas identified in terms of NEMPAA or a biosphere reserve;</p> <p>v. Any protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation; or</p> <p>vi. All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act No. 25 of 1999).</p>	<p>Sensitive Areas identified in the relevant EMF and Critical Biodiversity Areas (CBAs).</p>
<p>GN No. R.985 of 4 December 2014 (LN3), as amended in GN No. 324 of 7 April 2017:</p> <p>Listed Activity 4 The development of a road wider than 4 metres with a reserve less than 13.5 metres.</p> <p>h. North West</p> <p>i. A protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation;</p> <p>ii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>iii. Sites or areas identified in terms of an international convention;</p> <p>iv. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;</p> <p>v. Core areas in biosphere reserves;</p> <p>vi. Areas within 5 kilometres from protected areas identified in terms of NEMPAA or from a biosphere reserve;</p> <p>vii. Areas designated for conservation use in Spatial</p>	<p>The access roads to the reservoir site are going to be wider than 4m wide located within a Critical Biodiversity Area.</p>



<p>Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or viii. All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act No. 25 of 1999).</p>	
<p>GN No. R.985 of 4 December 2014 (LN3), as amended in GN No. 324 of 7 April 2017:</p> <p>Listed Activity 12 The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>h. North West</p> <p>i. World Heritage Sites; core of biosphere reserve; or sites or areas identified in terms of an international convention; ii. A protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation; iii. All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act No. 25 of 1999); iv. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; v. Sensitive area as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; or vi. Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.</p>	<p>More than 300m² of indigenous vegetation will be cleared for the installation of the pipeline within a Critical Biodiversity Area and within 100m from a watercourse.</p>
<p>GN No. R.985 of 4 December 2014 (LN3), as amended in GN No. 324 of 7 April 2017:</p> <p>Listed Activity 14 The development of-</p> <p>(i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs-</p> <p>(a) within a watercourse; (b) in front of a development setback; or</p>	<p>Infrastructure exceeding 10m², including scour valve chambers and sacrificial anode beds (and/or other forms of cathodic protection) will be installed within 32m of a watercourse within a CBA, as well as installation of the pipeline across these watercourses.</p>



(c) if no development setback has been adopted within 32 metres of a watercourse, measures from the edge of a watercourse; excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.	
GN No. R.985 of 4 December 2014 (LN3), as amended in GN No. 324 of 7 April 2017 Listed Activity 18 The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. h. North West iii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; or ix. Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.	There are several existing access roads leading to and from the project sites including the reservoir site, which will need to be made wider than 4m wide to accommodate large vehicles, especially those delivering pipe sections. Many of these existing roads are located within a Critical Biodiversity Area & EMF defined Sensitive Area.

c) **Property description/physical address**

Province	North West
District Municipality	Bojanala Platinum
Local Municipality	Rustenburg
Ward Number(s)	23, 37, 40, 41, 44
Farm name and number	Tweedpoort 283, Reinkoyalskaal 278 & Paardekraal 279 & Elandsheuvel 282.
Portion number	RE/71/279, RE/5/282 & RE/283, 4/278 & RE/3/278, RE/5/283.
21-digit Surveyor General Code	Please see table below.

Where many properties are involved (e.g. linear activities) please attach a full list to this application including the same information as indicated above

Surveyor-general 21-digit site (erf/farm/portion) reference numbers for all sites (including portions of sites) that are part of the application below;

T	0	J	Q	0	0	0	0	0	0	0	0	2	7	8	0	0	0	0	3
T	0	J	Q	0	0	0	0	0	0	0	0	2	7	8	0	0	0	0	4
T	0	J	Q	0	0	0	0	0	0	0	0	2	7	9	0	0	0	7	1
T	0	J	Q	0	0	0	0	0	0	0	0	2	8	2	0	0	0	0	5



T	0	J	Q	0	0	0	0	0	0	0	0	0	2	8	3	0	0	0	0	0
T	0	J	Q	0	0	0	0	0	0	0	0	0	2	8	3	0	0	0	0	5

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 EIA Regulation, 2014 Appendix 1(h). 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.

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 using the Hartebeeshoek94 WGS84 co-ordinate system.

Please see Appendix L: Annexure A

a) Site alternatives

List alternative sites, if applicable.

Site Alternatives	Description
Alternative Site 1 (preferred or only site alternative)	The proposed pipeline route is to run on the north western side of the R510 <u>outside</u> of the existing road reserve. Reservoir (preferred location) Tweedepoort 283 JQ Remainder portion 5
Alternative Site 2	The proposed pipeline route is to the run on the north western side of the R510 <u>inside</u> the existing road reserve.



	Reservoir (alternative location) Elandsheувel 282 JQ Remainder portion 5
Alternative Site 3	The proposed pipeline route is to the run on the south eastern side of the R510 within the existing pipeline servitude that will be decommissioned.

Site Co-ordinates

Latitude (S):

Longitude (E):

Alternative S1 (preferred or only site alternative)

25°	33'	15.88"	27°	19'	57.57"
-----	-----	--------	-----	-----	--------

Alternative S2 (if any)

25°	32'	49.46"	27°	18'	54.31"
-----	-----	--------	-----	-----	--------

Alternative S3 (if any)

°	'	"	°	'	"
---	---	---	---	---	---

In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred or only route alternative)

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

25°	35'	53.59"	27°	17'	09.43"
25°	33'	59.56"	27°	18'	28.86"
25°	33'	23.57"	27°	20'	19.30"

Alternative S2 (if any)

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

25°	35'	53.53"	27°	17'	09.96"
25°	33'	59.62"	27°	18'	28.97"
25°	33'	23.57"	27°	20'	19.30"

Alternative S3 (if any)

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

25°	35'	54.00"	27°	17'	10.89"
25°	34'	00.18"	27°	18'	30.21"
25°	33'	23.57"	27°	20'	19.30"

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 metres 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**.



b) Lay-out alternatives

Alternatives	Description
Alternative 1 (preferred or only alternative)	Please see Appendix L: Annexure L1
Alternative 2	Please see Appendix L: Annexure L1
Alternative 3	Please see Appendix L: Annexure L1

c) Technology alternatives

Alternatives	Description
Alternative 1 (preferred or only alternative)	Please see Appendix L: Annexure L1
Alternative 2	Please see Appendix L: Annexure L1
Alternative 3	Please see Appendix L: Annexure L1

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

Alternatives	Description
Alternative 1 (preferred or only alternative)	Please see Appendix L: Annexure L1
Alternative 2	Please see Appendix L: Annexure L1
Alternative 3	Please see Appendix L: Annexure L1

e) No-go alternative

Please see Appendix L: Annexure L1

f) Please motivate for preferred site, activity and technology alternative

Please see Appendix L: Annexure L1

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

Please see Appendix L: Annexure A

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)

Size of the activity:

Reservoir (approx. 75m x 75m platform = 5625m ²), Access Road (approx. 2180m long and 7m wide)



Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

= 15 260m ²)
Approx. 5625m ² excluding access road
m ²

Length of the activity:

9.75 km with a 14m wide temporary construction servitude and 10m wide permanent servitude
As above
As above

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:

234 000m ² excluding access roads
234 000m ²
234 000m ²

4. SITE ACCESS

Does ready access to the site exist?

YES	NO X
2180m (access road to reservoir site)	

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



Describe the type of access road planned:

The preferred pipeline alignment runs parallel to the provincial tar road R510 and existing intersecting access roads. The new 800mm diameter gravity line will be routed adjacent to the tarred provincial road for 8.5km. The new 500mm diameter pumping line will run for 1.26km from the existing 450mm pipeline to the new reservoir partially along existing access roads (that will need to be widened) and new sections will also be constructed. The pavement road will be 6m wide with a 1m gravel shoulder (0.5m either side).

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.

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);
- the accurate indication of the site in relation to closest protected environments or national parks (i.e. within 2.5 km)
- 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, minutes and seconds using the Hartebeeshoek94 WGS84 co-ordinate system)

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 B** 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 Department of Water and Sanitation);
- ridges;
- for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas and ecological support area.
- protected areas (e.g. Magaliesberg Protected Environment, Pilanesberg National Park etc.)

The sensitivity map must also cover areas within 100m of the site and must be part of **Appendix B**.

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 C** 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 D** 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 X	NO	Please explain
<p>The preferred pipeline alternative 1 will be installed to the north eastern side of the R510 and has been changed from the original alternative 3 route that was adjacent to the existing raw water pipeline within the existing servitude. There will now be potential changes in land use. The preferred alternative 1 is outside of the SANRAL road reserve and the servitude of 24 metres including 10 metre permanent servitude and a temporary servitude of 14 metres will require a process of land expropriation and servitude management protocols to be implemented with the planning and pre-construction phases of the proposed pipeline development.</p> <p>The following is extracted from the draft preliminary Rustenburg Local Municipality Water Project Bospoort Bulk Water Pipeline Design Report (April 2019); <i>The proposed pipeline routes cross Royal Bafokeng Administration (RBA) tribal land and engagements with RBA have taken place to obtain In-principle Agreement to the project. Although the Agreement has been signed, final approval from RBA is still required before the implementation of the project. An application was submitted to the Department of Mineral Resources (DMR) to obtain approval for the project on 13 December 2018. Although no formal approval has been received from the Department, engagements with existing mining right holders have taken place. A draft agreement with Red Graniti and Impala Platinum, existing mining licence holders, are currently being reviewed. Wayleave approvals of the relevant service providers have been obtained for the pipeline. Service providers include Eskom, Telkom, SANRAL, Neotel, Sasol, Vodacom, MTN, Rand Water and RLM.</i></p>			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES X	NO	Please explain
<p>The largest backlog when it comes to water services, including sanitation remains in the Rustenburg municipality (approximately 10 000 households), amongst other municipalities. (Bojanala Platinum District Municipality (IDP) - 2012-2017 Final Version). The construction of the pipeline between the Bospoort WTW and the Bospoort reservoirs (Phase 1) and then onto Rustenburg town (Phase 2) falls within the district's wide objectives relating to sustainable water services to provide basic water and sanitation infrastructure to all communities in order to eradicate the backlog.</p>			
(b) Urban edge / Edge of Built environment for the area	YES X	NO	Please explain
<p>The pipeline crosses in and out of the delineated Urban Edge but will not require any changes to this delineation.</p>			



(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 X	NO	Please explain
Rustenburg Local Municipality (RLM) is growing rapidly due to major mining operations in the area. The Rustenburg Water Services Trust (RWST) compiled a Master Plan for Rustenburg's water services. The document highlighted that the water consumption in Rustenburg was over-stated relative to its true theoretical requirements. Immediate actions which can be implemented to alleviate water shortages and the installation of a new pipeline to replace the existing dysfunctional pipeline between Bospoort Water Treatment Works (WTW) and Rustenburg is crucial to ensure uninterrupted and reliable supply of potable water to the town and its surrounds.			
(d) Approved Structure Plan of the Municipality	YES X	NO	Please explain
The Rustenburg Water Services Trust is a municipal entity that was established to assist with water services in the Rustenburg Local Municipality's area (RUSTENBURG LOCAL MUNICIPALITY City Development Strategy (July 2006)). The Rustenburg Water Services Trust is the main applicant for this project, so the development is within the approved structure plan of the municipality.			
(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 X	NO	Please explain
The Environmental Management Framework for Rustenburg Local Municipality (Summary of the Draft Environmental Management Framework Report 2010) was prepared by Chanzo Environmental Management. Chanzo subsequently compiled The Strategic Environmental Management Plan (SEMP) as an implementing tool to the EMF. Due to the linear nature of the pipeline it will intersect with several Environmental Management Zones including the Aquatic, Built up areas & Conservation management zones. Appendix B presents the project footprint over the affected EMF zones. A majority of the pipeline runs through the "Built-up Areas" EMF zone, making this activity a complementary land use practice. The pipeline also intersects several Aquatic zones (watercourse crossings) while the reservoir and sections of the pipeline closest to the Bospoort WTW, fall within the Conservation management zone. However, a large majority of the footprint within the conservation zone is within an existing mining area, which has already heavily impacted the natural environment, and the reservoir, pipeline and associated access road will not add significantly to the degradation of this management zone.			



(f) Any other Plans (e.g. Guide Plan)	YES X	NO	Please explain
<p>The Rustenburg area is generally recognized as one of the fastest growing cities in South Africa, both from a population and economic growth perspective. Economic and population growth rates of Rustenburg have been well in excess of the National and North West Provincial average rates over the last decade. In response to these development challenges, the Rustenburg Local Municipality has developed its Integrated Development Plan and several sector plans such as the Strategic Environmental Assessment, Spatial Development Framework, Housing Strategy, LED Plan and others. The preparation of these plans also took place over the same timeframe where initiatives such as the Bojanala District Growth and Development Strategy, the North West Provincial Growth and Development strategy and the Accelerated Shared Growth and Investment Initiative for South Africa (ASGISA) took place. The Rustenburg LM has thus identified the need to prepare a City Development Strategy (CDS) which aims to integrate and streamline these plans to complement each other towards a common long-term development vision. Review of the CDS confirms that the upgrade is in line with the strategy's goals as the central theme of the Sustainable City concept focuses on how a city affects the natural resources that sustain it and make it viable. The objective is to promote equity and efficiency, and to ensure that natural and other resources are dealt with appropriately during any social and economic development. Hence, the upgrade not only ensures equal access to services but ensures the sustained supply of potable water to communities in and around Rustenburg. The current pipeline has reached the end of its useful lifespan and is fraught with leak and other structural problems and needs to be decommissioned.</p>			
<p>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)?</p>	YES X	NO	Please explain
<p>It is highly unlikely that all areas earmarked for the respective land uses in the local Spatial Development Frameworks would be fully developed, it is necessary to quantify and contextualize the natural resource requirements in terms of water use and wastewater effluent. Hence, the functionality of the treated water pipeline is seen as a key component of achieving the development goals of the current SDF.</p>			
<p>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.)</p>	YES X	NO	Please explain
<p>The Bospoort treated water pipeline serves and forms part of the overall water supply to the RLM. It is thus not exclusively to the benefit of only certain areas, although the much more rapid development of low-cost housing is a prime driver for the increased water demands in the town.</p>			



<p>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 E.)</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>As an interim measure in order to augment the supply of water to Rustenburg, it was decided that a 500mm diameter pipe will be constructed between the Bospoort WTW and the proposed new Bospoort Reservoir. The reservoir is approximately 2 kilometres from the plant along the proposed pipe route, which follows existing access roads. This pipe will also be connected to the bulk water pipeline with the new 800mm pipe between Rustenburg and Bospoort Water Treatment Works. The pipe will be a steel pipe and it will convey 24Mℓ/d (approximately 280ℓ per second) from the plant to the reservoirs where it will be incorporated into the existing Vaalkop pipeline between the Bospoort Reservoirs and Rustenburg Municipality, thereby augmenting the availability of potable water to the town. Regarding this application, the purpose is to increase the capacity of treated water supply to the Rustenburg area and is addressing the need and demand of additional potable water supply. There will have to be considerations made regarding the potential increase in electricity demand for the pumping of raw water from the Bospoort WTW to the proposed new reservoir via the 500mm raising main pipeline. Confirmation by the Municipality will be attached within the Final Basic Assessment Report as Appendix E.</p>			
<p>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.)</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>The project is managed by the Rustenburg Water Services Trust, the appointed water & sanitation management agency for the Rustenburg Local Municipality. The tender documents (BID NO:2014/03 PROVISION OF PROFESSIONAL SERVICES RELATED TO THE ENVIRONMENTAL IMPACT ASSESSMENT FOR THE GROUPED WATER SANITATION INFRASTRUCTURE UPGRADE PROJECTS 2013-2015) proves that the project planning & initiation has followed a transparent and accountable process, for which the budget was dispensed accordingly; and meets the infrastructure development needs of the affected community/ies as per the IDP, SDF and other pertinent planning documents.</p>			



7. Is this project part of a national programme to address an issue of national concern or importance?	YES X	NO	Please explain
<p>The Rustenburg City Development Strategy (CDS) describes and meets the objectives of The South African Cities Network (SACN). The Rustenburg area is generally recognized as one of the fastest growing cities in South Africa, both from a population and economic growth perspective. Economic and population growth rates of Rustenburg have been well in excess of the National and North West Provincial average rates over the last decade. The envisioned Rustenburg City Development Strategy is thus seen by the Rustenburg LM as an instrument to present a platform of equal and competitive economic growth opportunities; address the spatial inefficiencies such as urban sprawl, low density and uneven distribution of infrastructure, and the development of roads, railways and other engineering infrastructure to create liveable residential and working environments. The CDS must thus instil confidence that RLM has a clear long-term road map for the development of the city and identify a collaborative development framework for this long-term development vision. The construction of the pipeline will be providing the municipality with additional potable water infrastructure capacity in line with the medium to long term growth projections of the area.</p>			
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 X	NO	Please explain
<p>This activity is a new pipeline to replace a dysfunctional one (i.e. replacing a 450mm diameter pipe with a 500mm diameter pipe and a new 800mm pipeline), the location of which has proved favourable to the purpose and there are existing servitudes already in place. The pipeline and reservoir acts to augment distribution capacity following the upgrade of the Bospoort WTW from 12 to 24Ml/day.</p>			
9. Is the development the best practicable environmental option for this land/site?	YES X	NO	Please explain
<p>Several other options have been considered for augmenting the bulk water distribution system from the Bospoort WTW plant, and the current option was deemed most suitable following a due diligence by the appointed consulting engineers. The details of the comparative options are included under the Alternatives Assessment in Appendix L: Annexure L1.</p>			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES X	NO	Please explain
<p>New housing developments and demand by the mining industry predominantly, place a heavy demand on potable water within the Rustenburg LM. The existing supply pipeline from Bospoort WTW is largely dysfunctional due to its age and lack of maintenance over the years. Installing a new pipeline directly adjacent to the R510 and existing access roads allows for limited impact to other areas and land uses. This allows supply to Rustenburg town in the existing line to continue without interruption until the new line is completed.</p>			



11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES X	NO	Please explain
The project is an example of forward planning of municipal infrastructure to ensure that they can effectively service growing communities. Water Treatment is an ongoing and essential aspect of municipal management and this activity aims to provide uninterrupted and improved supply to the town considering the numerous malfunctions and state of disrepair of the existing line.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES X	NO	Please explain
The preferred pipeline alternative 1 will be installed to the north eastern side of the R510 and has been realigned from the original alternative 3 route that was adjacent to the existing raw water pipeline within the existing servitude. However, the preferred alternative 1 is outside of the SANRAL road reserve and the servitude of 24 metres including 10 metre permanent servitude and a temporary servitude of 14 metres will require a process of land expropriation and servitude management protocols to be implemented with the planning and pre-construction phases of the proposed pipeline development. The following is extracted from the draft preliminary Rustenburg Local Municipality Water Project Bospoort Bulk Water Pipeline Design Report (April 2019); <i>The proposed pipeline routes cross Royal Bafokeng Administration (RBA) tribal land and engagements with RBA have taken place to obtain In-principle Agreement to the project. Although the Agreement has been signed, final approval from RBA is still required before the implementation of the project. An application was submitted to the Department of Mineral Resources (DMR) to obtain approval for the project on 13 December 2018. Although no formal approval has been received from the Department, engagements with existing mining right holders have taken place. A draft agreement with Red Granite and Impala Platinum, existing mining licence holders, are currently being reviewed. Wayleave approvals of the relevant service providers have been obtained for the pipeline. Service providers include Eskom, Telkom, SANRAL, Neotel, Sasol, Vodacom, MTN, Rand Water and RLM.</i>			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO X	Please explain
The purpose of defining an urban edge is to prevent uncontrolled urban development which may lead to urban sprawl and increases pressure on limited resources. As this activity is an augmentation to water services provision, the Urban edge will remain the same and will not be compromised. In fact, adequately providing services within the defined urban edge is likely to reduce urban sprawl which often develops as a consequence of inadequate space and poor service delivery.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES X	NO	Please explain
Specifically, SIP 6 (Integrated municipal infrastructure project), which aims to 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. (National Infrastructure Plan, 2012).			



15. What will the benefits be to society in general and to the local communities?	Please explain
The employment opportunities provided during the development and construction process have been estimated to be 100 people. The community will benefit from employment opportunities (especially during construction), safe and functional water resources supplied to the community, as the pipeline will be functioning optimally within design parameters.	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
The augmentation of the pipeline will ensure the distribution capacity of the water treatment works keeps track with population growth and development needs of the community into the near- & medium-term future through the adequate provision of treated water.	
17. How does the project fit into the National Development Plan for 2030?	Please explain
The largest backlog when it comes to water services, including sanitation remains in the Rustenburg municipality (approximately 10 000 households), amongst other municipalities. (Bojanala Platinum District Municipality (IDP) - 2012-2017 Final Version). The augmentation of the pipeline between Bospoort WTW and Bospoort reservoirs & into the Vaalkop pipeline falls within the district's wide objectives relating to sustainable water services to provide basic water and sanitation infrastructure to all communities in order to eradicate the backlog.	



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

- Objective (2)(a) promotes the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment. The principles outlined in section 2 of NEMA have remained the underpinning philosophy in compiling the Basic Assessment Report (BAR). In order to identify and mitigate any environmental impact from the project, an impact assessment was undertaken that supports the BAR and is attached in **Appendix H**. A site inspection was undertaken in order to assess the surroundings and environment of the site, in lieu of the proposed upgrade. An EAP with the necessary expertise was appointed to carry out the assessment including appointed registered specialists. Environmental Planning tools, i.e. IDP, SDF & EMF were consulted in order to help provide a more comprehensive report.
- Objective (2)(b) requires the EAP to identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts, maximizing benefits, and promoting compliance with the principles of environmental management set out in section 2. The BA process has completed an alternatives assessment included in **Appendix L: Annexure L1**, an impact assessment within **Appendix H** and the EMPr which presents the mitigations to those identified impacts within **Appendix J**, address the issues identified in this objective.
- Objective (2)(c) requires that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them. An application for Environmental Authorisation (EA) as well as an application for a Water Use License (WUL) in combination with the technical design all help to ensure that the effects on the environment receive the necessary attention and an integrated approach is adopted with regards to the pipeline & reservoir development.
- Objective (2)(d) requires that adequate and appropriate opportunity for public participation is provided in decisions that may affect the environment. All relevant Interested and Affected Parties (I&AP's) have been consulted with respect to the proposed upgrade, as per the requirements stipulated in NEMA and relevant best practice guidelines. All comments, responses and communication are recorded in a Comments & Response register which is included in **Appendix I**. All relevant stakeholders were given a Background Information Document (BID) providing a brief description and overview of the project. I&APs will also be provided copies of the BAR and associated appendices including the EMPr against which they can raise comments.
- Objective (2)(e) requires the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment. The BAR outlines all aspects of potential environmental impact that may occur as a result of the proposed upgrade in order to assist the relevant authority/s in making an informed decision on the application at hand.
- Objective (2)(f) requires the identification and employment of modes of environmental management best suited to ensuring that an activity is pursued in accordance with the principles of environmental management set out in section 2. The impacts and mitigations identified in the impact assessment and any comments or concerns raised by I&AP's and inputs from specialists are incorporated into the EMPr.



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



- Principle 2. (1)(a) states that the principles of NEMA shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and the basic needs of categories of persons disadvantaged by unfair discrimination. This project has been developed to ensure the socio-economic potential of the Rustenburg community is not hindered due to the lack of essential services including a safe water supply, that must support and track all development.
- Principle 2. (1)(b) requires that the NEMA principles must serve as the general framework within which environmental management and implementation plans must be formulated. The Basic Assessment process currently being undertaken including the specialists and IAP's input, specifically the alternative assessment and impact assessment ensure that any approvals issued for the augmentation of the pipeline align with an integrated environmental management approach and are incorporated into the project EMPr that will be implemented accordingly.
- Principle 2. (2) requires that environmental management must place people and their needs at the forefront of its concern and serve their physical, psychological, developmental, cultural and social interests equitably. This project aims to help meet the basic service provision need in the area of adequate potable water to the local community. The augmentation of the pipeline is the best practicable environmental option, as it reduces the impact on the receiving environment while increasing the supply of water to Rustenburg to meet current demand and make provision for future demand.
- Principle 2. (3) requires that development must be socially, environmentally and economically sustainable. The pipeline routing and materials adopted for the augmentation of the pipeline have been deemed the most feasible and practical for the application, while ensuring that the required new treated water infrastructure can meet the demand.
- Principle (4)(a) states that sustainable development requires the consideration of all relevant factors including the following:
 - (i) that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied. Installing the pipeline adjacent to the R510 provincial tar road and existing access roads ensures the lowest possible impact on biodiversity is achieved. The location of the reservoir and associated access road within an existing mining area further limits impact. The appointed specialists have assessed the potential impacts for the proposed pipeline route and reservoir. These findings have been incorporated into the impact assessment and developed the necessary mitigations within the project EMPr.
 - (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied. The repeated leakages from the existing pipeline of high volumes of treated water result in the surface run-off erosion of in situ soil and siltation of stormwater structures, including the undesirable loss of potable water.
 - (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied. The alignment of the pipeline originally was within the current footprint of the existing pipeline on previously disturbed areas and no cultural heritage resources were likely to be affected in the process. However, following the new proposed pipeline alignment alternative on the north western side of the R510, an archaeological and heritage resources study has been completed. The project has been registered on the SAHRA website (case nr. 6543) and the EMPr addresses the process to be followed should any artefacts be unearthed during construction.
 - (iv) that waste is avoided or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner. The predominant waste stream will be general construction waste including concrete, packaging and inert spoil from the excavations. These will be removed to the licensed Waterval Disposal Site, which makes provision for waste separation and recycling.



11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Bojanala Platinum District Municipality (IDP)	Ensure that the project aligns with the District Municipality's IDP.	Municipal Council	2012-2017 Final Version
Conservation of Agricultural Resources Act (Act 43 of 1983).	For reference, as the area surrounding is zoned as Agricultural.	Department of Agriculture	1983, as amended
Constitution of the Republic of South Africa, 1996.	Section 24 of the Bill of Rights provides an entitlement to all South Africans to inter alia an environment that is not harmful to their health and development that is ecologically sustainable.	National Assembly/Parliament	1996
DEA&DP Guideline on Alternatives, EIA Guideline and Information Document Series.	Provide guidance on assessing alternatives on the project.	Western Cape Department of Environmental Affairs & Development Planning (DEA&DP).	2010
Department of Environmental Affairs (2017), Public Participation guideline in terms of NEMA EIA Regulations, Department of Environmental Affairs, Pretoria, South Africa.	To ensure best practice is applied with regards to Public Participation on the project.	Department of Environmental Affairs, Pretoria, South Africa	2017
DEAT (2002) Specialist Studies, Information Series 4.	Review guideline to assess whether specialist studies are required.	Department of Environmental Affairs and Tourism (DEAT), Pretoria.	2002
DEAT (2004) Criteria for determining Alternatives in EIA, Integrated Environmental Management, Information Series 11.	Provide guidance on assessing alternatives on the project.	Department of Environmental Affairs and Tourism (DEAT), Pretoria.	2004



Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
DEAT (2006) Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series.	Provide guidance on assessing alternatives on the project.	Department of Environmental Affairs and Tourism (DEAT), Pretoria	2006
Department of Water Affairs, 2013. Revision of General Authorisations in terms of section 39 of the National Water Act, 1998 (Act no. 36 of 1998). GN No. 665, 6 September 2013.	Waste water discharge including irrigating with treated waste water must comply with the relevant discharge standards.	DWS	2013
DWA (2007), Guideline for Developments within a Flood line (Edition 1), Department of Water Affairs and Forestry, Pretoria, South Africa.	Flood lines should be determined for infrastructure installed within watercourses, in accordance with the relevant guideline.	DWS	2007
Environment Conservation Act, 1989 (Act 73 of 1989) in GN No. R 154 of Government Gazette No. 13717 dated 10 January 1992.	Noise generation on the project must comply with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of ECA. Section 25 of the Environment Conservation Act is not repealed by NEMA (107 of 1998).	DEA	1992
EIA Regulations: GN No. R.982 of 4 December 2014 (LN1), as amended in GN No. 326 of 7 April 2017:	The environmental authorisation process must be conducted in accordance with the prevailing environmental impacts assessments regulations.	DREAD	7 April 2017
EIA Regulations: GN No. R.983 of 4 December 2014 (LN1), as amended in GN No. 327 of 7 April 2017: GN No. R.985 of 4 December 2014 (LN3), as amended in GN No. 324 of 7 April 2017:	The upgrade constitutes: Activity 9, 12, 19, 26, & 27 of Government Notice No. R. 327(LN1). Activity 1, 4, 12, 14 & 18 of Government Notice No. R. 324 (LN3).	DREAD	7 April 2017
Fertilizers, farm feeds, agricultural remedies and stock remedies Act (Act 36 of 1947), as amended.	Management of pesticides must be in compliance with Act 36 of 1947.	DAFF	1947
Mineral and Petroleum	All selected backfill and imported	DMR	2002



Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Resources Development Act (Act 28 of 2002), as amended.	soil must be sourced from a licensed facility in accordance with the MPRDA.		
National Environmental Management Act (Act 107 of 1998).	The environmental authorisation process & implementation must be conducted in accordance with the provisions of NEMA.	DREAD	1998
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004).	Construction must comply with the National Dust Control Regulations (GN No. R. 827, 1 November 2013), as amended and the list of activities which result in atmospheric emissions. Government Notice No. 248 in Government Gazette No. 33064 of 31 March 2010, as amended.	DEA	2013
National Environmental Management: Biodiversity Act	The project will need to comply with the provisions of NEM:BA (Act 10 of 2004), Alien Invasive Regulations (GN No. R. 598 1 August 2014), associated Alien Invasive Species Lists (GN No. 864, 29 July 2016) and TOPS Regulations (GN No. 255 & 256, 31 March 2015).	DEA	2004, 2014 & 2015
National Environmental Management: Waste Act (Act 59 of 2008)	Waste will be generated during construction and management thereof must comply with the provisions of NEM:WA and associated regulations, listed waste management activities, norms & standards & guidelines.	DEA	2008
The National Forests Act (Act 84 of 1998), including Schedule in Government Notice No. 1042, dated 10 September 2004, as amended.	Any trees protected under NFA will require permits prior to being damaged in any way.	DAFF	1998
National Water Act	A water use licence is required & is in process.	DWS	1998
National Heritage Resources Act	To ensure correct procedures are followed to remain compliant with the Act.	SAHRA Council	1999
Rustenburg Local Municipality	Ensure the upgrade falls within	Municipal Council	2010



Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
SDF	the Municipality's strategic plans.		
Rustenburg Local Municipality EMF	Ensure the upgrade aligns with the Municipality's Environmental Management Framework and associated Strategic Environmental Management Plan (SEMP)	Municipal Council	2010
Rustenburg Local Municipality Integrated Development Plan (Review)	Ensure that the project aligns with the Local Municipality's IDP under review.	Municipal Council	2014-2015
Rustenburg Local Municipality Intergrated Development Plan	Ensure that the project aligns with the current Local Municipal IDP.	Municipal Council	2012-2017
Rustenburg Spatial Development Framework (Review)	Ensure that the project aligns with the Local Municipality's IDP under review.	K2M Technologies (Pty)Ltd	2010

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES	NO
X	
Unknown m ³	

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

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

The municipality is responsible for the collection of all domestic waste generated through door-to-door collection. However, in certain areas waste is collected by a private waste contractor (Millennium Waste, C&D Plastics), which was contracted by the municipality to help fulfil part of its service (Rustenburg IDP, 2012-17). Should none of these service providers operate at or along the pipeline route, the construction contractor will be mandated to remove all solid waste to the registered landfill. Most of the waste is likely to be inert spoil from the excavations. The estimated quantity of solid waste produced per month is unknow currently as the geotechnical investigations have not been completed which will determine the suitability of excavated material for use as backfill bedding material. The unsuitable excavated material generated will then have to be dealt with as solid inert waste.

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

A new licensed landfill Waterval Waste Disposal Site has recently been completed and will be ready to receive construction waste from the project (**See Appendix J2**). The only other licensed landfill - Townlands landfill site - is in the process of closure. The application for closure is already submitted to the NW Dept. of Environment and is awaiting response. Monnakato, Hartbeesfontein and Phatsima communal sites are also in the process of closure.

Will the activity produce solid waste during its operational phase?

YES	NO
	X
m ³	

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

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

N/A



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

N/A

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

N/A

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?

YES	NO
	X

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?

YES	NO
	X

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?

YES	NO
	X

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?

YES	NO
X	

If YES, describe the type of effluent and the disposal mechanism/method

The scouring of the pipeline will be required to empty the pipeline via scour chambers for maintenance works and desilting of sediment.

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

YES	NO
	X

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:

It is possible that treated waste water, that complies with the relevant waste water "irrigation" standard may be used for dust suppression.



c) Emissions into the atmosphere

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

YES	NO
	X

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

YES	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:

Dust fallout and entrainment from vehicles driving on the construction servitude.

d) Waste Licence/Registration

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

YES	NO
	X

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

e) Generation of noise

Will the activity generate noise?

YES	NO
X	

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

YES	NO
X	

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

If NO, describe the noise in terms of type and level:

Noise will be generated during construction by the contractors and their machines and equipment and will need to comply with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of ECA. Furthermore, blasting will be required for the construction of the reservoir to allow for levelling of the site.

Low-level noise, consistent with normal residential activities will be generated during operation and pump stations and cathodic protection nodes (if applicable) and will be managed according to the Occupational Health & Safety Act (Act 85 of 1993).

13. WATER USE

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

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

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

1 000,000 litres during construction

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

YES	NO
X	



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

Please see Appendix L: Annexure L3

14. ENERGY EFFICIENCY

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

Using a larger diameter pipe will reduce the flow velocities and associated frictional losses. With lower frictional losses, the required pump head will decrease which will reduce the power requirements for the motors at the pump station.

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

Generators are installed at the Bospoort WTW for electricity backup. The pumping system for the rising main pipeline feeding the reservoir is situated at the WTW. Security lighting and other energy requirements at the reservoir site can also be derived from solar PV, that can be installed on top of the reservoir.

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

YES	NO
X	

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

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, as it appears on the Site Plan.
2. Paragraphs 1 - 6 below must be completed for each alternative.

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

The linear nature of a pipeline necessitates that it transects various land uses on its route. The pipeline traverses through four (4) land use types namely; Vacant & Unspecified, Residential, Cultivated Land & Commercial & Industrial. Most of the length is through Vacant & Unspecified land.

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?

YES	NO
X	



1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Pipeline:

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
------	------------------	-------------	-------------	--------------	-------------	------------------

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
------	------------------	-------------	-------------	--------------	-------------	------------------

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
------	------------------	-------------	-------------	--------------	-------------	------------------

Reservoir:

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 ✓
------	-------------	-------------	-------------	--------------	-------------	-----------------------

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 ✓
------	-------------	-------------	-------------	--------------	-------------	-----------------------

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
------	-------------	-------------	-------------	--------------	-------------	------------------

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input checked="" type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" 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 checked="" type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>



3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Dolomite, sinkhole or doline areas	YES	NO ✓	YES	NO ✓	YES	NO ✓
Seasonally wet soils (often close to water bodies)	YES ✓	NO	YES ✓	NO	YES ✓	NO
Unstable rocky slopes or steep slopes with loose soil (Reservoir site)	YES ✓	NO	YES ✓	NO	YES ✓	NO
Dispersive soils (soils that dissolve in water)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Soils with high clay content (clay fraction more than 40%)	YES	NO ✓	YES	NO ✓	YES	NO ✓
Any other unstable soil or geological feature	YES	NO ✓	YES	NO ✓	YES	NO ✓
An area sensitive to erosion	YES	NO ✓	YES	NO ✓	YES	NO ✓

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

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 infestation with alien	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.



5. SURFACE WATER

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

Perennial River	YES	NO ✓	UNSURE
Non-Perennial River	YES ✓	NO	UNSURE
Permanent Wetland	YES	NO ✓	UNSURE
Seasonal Wetland	YES	NO ✓	UNSURE
Artificial Wetland	YES	NO ✓	UNSURE

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

Dorps River
Boschfontein Spruit
Tierkop Spruit
Kanana drainage line

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 ^N ✓
Light industrial ✓	Sewage treatment plant ^A	Nature conservation area ^N
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge ^N ✓



Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building ^N
Office/consulting room ✓	Airport ^N	Protected Area ^N
Military or police base/station/compound	Harbour	Graveyard ^N
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site ^N
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

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

The appointed aquatic and terrestrial ecology specialists completed assessments on the sections of the pipeline that would cross a water course or run close to any rocky koppies. These findings are attached in **Appendix G** and have been incorporated in the impact assessment that will form part of the mitigations within the project EMPr.

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 ✓	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in **Appendix B: Annexure B** (as part of sensitivity map).

7. 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 B** 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)	Due to large-scale land transformation around Rustenburg, all remaining land is considered
				critical to achieve provincial conservation targets.

- 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	5%	Intact natural area on top of ridgeline above stone quarry.
Near Natural (includes areas with low to moderate level of alien invasive plants)	15%	The gravity pipeline running from the reservoir adjacent to the Lethabong road is near natural with lower levels of impact experienced relative to the balance of the project footprint.
Degraded (includes areas heavily invaded by alien plants)	30%	Various impacts within the landscape result in degraded landscapes predisposed to alien invasive vegetation recruitment, especially along the road reserves. The pipelines and access road leading to the reservoir site are located within a stone quarry which has significantly impacted the natural state of the environment.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50%	Large tracts of land have been transformed into residential land including road crossings and associated infrastructure along the R510.



- 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	The pipeline crosses four tributaries to the Hex River. There are two tributaries with surface lows, the Dorps River and the Boschfontein Spruit and two tributaries that are drainage lines with ephemeral surface flows only during high rainfall events.		
	Endangered			
	Vulnerable ✓			
	Least Threatened ✓			
		YES ✓	NO	UNSURE

- 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)

Vegetation & landscape features

The footprint falls within the Savanna Biome and straddles three vegetation types namely the Marikana Thornveld, Norite Koppie Bushveld and a very small footprint within the Gold Reef Mountain Bushveld (near the Rustenburg reservoirs) according to Mucina & Rutherford (2006).

The Marikana Thornveld vegetation is characterised by Open Acacia karoo woodland on the valleys, undulating plains and hills. Shrubs dominate the drainage lines, termitaria and rocky outcrops.

The Norite Koppie Bushveld is a low, semi-open to closed woodland up to 5m tall, consisting of dense deciduous shrubs and trees with very sparse undergrowth on shallow soils, with large areas not covered by vegetation. Tree and shrub layers are continuous. The stands of this unit are found on noritic outcrops and koppies, many appearing as inselbergs above the surrounding plains.

The Gold Reef Mountain Bushveld is characterised by rocky hills and ridges often west-east trending with more dense woody vegetation often on the south-facing slopes associated with distinct floristic differences. Tree cover elsewhere is variable. Tree and shrub layers are continuous. Herbaceous layer is dominated by grasses.

Conservation

The Marikana veld type is classified as "Vulnerable" due to irreversible loss of natural habitat, with the remaining natural habitat amounting to only 60% of original area of the original ecosystem (Rutherford et al. 2006). Less than 1% of the vegetation type is under some form of formal protection.

The Norite veld type is classified as "Least Threatened" according to remote sensing data, but ground truthing suggests that it is rather susceptible. None of the veld type is conserved in any statutory reserves but 4% is conserved in De Onderstepoort Nature Reserve. Between 10 & 20% of the veld type has been transformed mainly by mining as well as urban and built-up environments and cultivated areas.

The Gold Reef Mountain Bushveld is classified as Least Threatened. The conservation target is 24% of which 22% is statutorily conserved mainly in the Magaliesberg Nature Area and much smaller proportions in the Rustenburg, Wonderboom and Suikerbosrand Nature Reserves.



Aquatic Ecosystem

The pipeline falls within the Crocodile (West) and Marico Water Management Area (WMA), within the Elands sub-water management area, and is not classified as a fresh water priority area within the quaternary sub-catchment. No listed National Freshwater Ecosystem Priority Area (NFEPA) wetlands are affected by the development.

The Hex River is situated near the town of Rustenburg North West Province and is the main regional arterial drainage for the area. It is a source of water supply for many in the region. It flows in a northerly direction and conveys water to the Bospoort Dam east of Rustenburg. The various tributaries that drain into the Hex River are the Dorp Spruit, Klipfontein Spruit, Klipgat Spruit, and Paardekraal Spruit. Tributaries that drain into Bospoort Dam are from the Boschfontein- and Tierkop Spruit catchments (Du Plessis, 2006).

In the Hex River, flows are largely managed on demand for anthropological purposes. This results in unseasonally high pulses of flow in the river and extended periods of low flow. The managed flow regime, when combined with the large numbers of dams and weirs, has resulted in river habitats becoming severely fragmented with what were largely perennial rivers now being distinctly seasonal in nature. For extended periods, weirs and deep pools are the only refuge for any aquatic life (Du Plessis, 2006).

The pipeline crossings which are relevant for the study are tributaries to the Hex River. There are two tributaries with surface lows, the Dorps River at Crossing 1, and the Boschfontein Spruit at Crossing 2, and two tributaries that are drainage lines with ephemeral surface flows only during high rainfall events, crossing 3, Kanana Drainage line and Crossing 4, Tierkop Spruit.

8. 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 X	NO
Uncertain	

Please see the Archaeological and Heritage Study Report in **Appendix G: Annexure G3**.

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:

An archaeological and heritage resources study has been completed for the BAR.

Will any building or structure older than 60 years be affected in any way?

YES	NO X
YES	NO X

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

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



9. 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:

There has been a steady increase in the labour force participation rate between 1996 and 2010. This has been in line with the national labour force participation rate which has also indicated a steady increase. It is positive to see that the RLM unemployment rate has steadily decreased over the period from 1996 to 2010. In comparison with the national unemployment rate the RLM has done very good. (IDP Review 2014/15). The dominance of the mining sector in the local economy of the Rustenburg LM indicates that more than 50% of the employed economically active population were involved in the mining sector by 2007. The total number of people employed in this sector have also increased from 57212 in 2001 to 64861 by 2007. The most notable other sectors is the wholesale and retail trade sector which by 2007 accounted for 10.8% of the employed population (13962 people) and the community, social and personal services sector representing 12% of the employed population (15490 people). This information also indicates that the proportional contribution of the various economic sectors to employment have not dramatically changed between 2001 and 2007. A further important aspect to note is that, despite the large rural areas in the Rustenburg LM, the agricultural sector only accounted for 3.4% of the employed population by 2007. It also slightly decreased from 4.1% in 2007.

The spatial concentration of economic activities is concentrated mainly along the mining belt stretching from Marikana in the east through Rustenburg up to the Boschoek area in the north western parts of the municipality. The levels of economic activity in the north eastern and southern parts of the municipality are very insignificant compared to the rest of the municipal area. This area also coincides with the highest levels of accessibility to employment (in excess of 25 000 employment opportunities within a 30-minute driving time) in the central parts of the municipality. In contrast, the estimated number of employment opportunities within 30 minutes driving time in the north eastern and southern parts of the municipality is generally below 1000. This information implies that the economic strength of the municipality is not equally spread across the municipal area and is largely associated with the location of the mining activities in the central and northern parts of the municipal area. This aspect is further illustrated by the total estimated mining Gross Value-Added distribution across the municipality. The spatial distribution of Gross Value-Added emanating from the manufacturing and the wholesale and retail trade sectors is largely concentrated in Rustenburg and its immediate surrounding areas, with limited contribution to production in other larger centers such as Phokeng and the Boitekong area. In most parts of the municipality the contribution of the agricultural sector to GVA is very limited. The largest contribution of the agricultural sector is in the extreme southern parts where the agricultural GVA exceeds R5 million per annum in certain locations.

The estimated unemployment rates in the Rustenburg LM have decreased from 31.8% in 2001 to 28.2% in 2007. These figures are substantially lower than the comparative district unemployment rate which decreased from 40.8% to 33.7% over the same period. A further notable feature is the significant differences between the levels of unemployment between the male and female population. The unemployment rate of the male population in 2007 was 18.1%, compared to the 46.3% of the female population (more than double the unemployment rate of the male population) (SDF, 2010).

Economic profile of local municipality:

The Gross Value Added of the Rustenburg Local Municipality as measured in constant prices indicates that the total value of all products and services produced within the boundaries of the Rustenburg Local Municipality



increased from approximately R6.3 billion in 1996 to nearly R12 billion in 2003. It is also clear from these figures is that the Rustenburg Local Municipality has been the strongest growing local economy within the Bojanala Platinum District Municipality. The Rustenburg local economy is one of the few local economies in the country which is able to achieve the overall national target of obtaining a 6% per annum growth rate (RUSTENBURG LOCAL MUNICIPALITY City Development Strategy (July 2006)).

The comparative role of the various economic sectors as source of employment at the Rustenburg LM level, compared with the overall Bojanala Platinum DM figures indicates that although the mining sector is also the dominant sector at district level (33.6% of employed population in 2007), its dominance is less pronounced than in the Rustenburg LM area. The contribution of the other economic sectors is roughly similar to that of the Rustenburg LM, albeit at somewhat higher proportional levels. The most notable difference in structure between the local and district profiles is the substantially higher proportion of the district population (13.9%) involved in the manufacturing sector, compared to only 6.5% in Rustenburg LM (SDF, 2010).

Level of education:

The level of education between the various racial groups for 2001 and 2010 has increased, with less individuals that have no schooling to Grade 6. (IDP Review 2014/15)

It is generally recognized that the skills profile of an area has a significant influence on the economic performance and growth of that region. The education profile of the Rustenburg population older than 20 years of age indicates that, although significant progress has been made with the eradication of adult illiteracy (decreasing from proximately 12% to 6.7%), most of the adult population have only completed some form of secondary education as highest qualification (representing just over 40% of the total adult population). Although some progress has been made with the percentage of adults who have completed a certificate or diploma (6% by 2007) and those with degrees (2.2% of the 2007 population) this still represents a very low proportion of the adult municipal population.

The gender breakdown of the education profile indicates that there are no significant differences between the education profiles, although a slightly higher proportion of the male population has only completed primary education compared to the female population. In both categories, the percentage of the adult population with some form of tertiary qualification remains very low.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

R 261 million (incl. VAT); or R 169 million (excl. VAT)

What is the expected yearly income that will be generated by or as a result of the activity?

R 540 000 p.a.

Will the activity contribute to service infrastructure?

YES ✓	NO
--------------	----

Is the activity a public amenity?

YES ✓	NO
--------------	----

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

75 Temporary unskilled labour Reservoir: ± 30 Pipeline: ± 30 Access road: ± 15	/
--	---



What is the expected value of the employment opportunities during the development and construction phase?

R 10.45 million
Reservoir: ± 60 x 18 months x 80% utilised (@R 300/day) = R 5.70 million
Pipeline: ± 60 x 12 months x 80% utilised (@ R 300/day) = R 3.8 million
Access road: ± 30 x 6 months x 80% utilised (@ R 300/day) = 0.95 million
45%
5
R 4.0 million
20%

What percentage of this will accrue to previously disadvantaged individuals?
 How many permanent new employment opportunities will be created during the operational phase of the activity?
 What is the expected current value of the employment opportunities during the first 10 years?
 What percentage of this will accrue to previously disadvantaged individuals?

10. SPECIALIST(S) CONSULTATION

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

YES	NO
✓	

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in **Appendix F**. All specialist reports must be contained in **Appendix G** and must meet the requirement in Appendix 6 of EIA Regulations, 2014.



SECTION C: 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.

Please refer to Appendix H for the Impact Assessment

1. 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.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Planning and Design Phase Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
Construction phase Pollution (air, soil & water) Loss of surface and ground water (quality & quantity) Loss of soil/rock (quantity & quality) Loss/gain of terrestrial animals & plants	Direct impacts:	Low	Noise levels should be in accordance with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of the Environment Conservation Act. Construction shall be limited to daylight hours to be determined by the Rustenburg Local Municipality. Trucks transporting material shall be covered. Water leaks shall be repaired immediately upon being found. Reuse and recycling of water could be considered for the operational aspects of the pipeline and reservoir e.g. use of treated effluent for dust suppression purposes
	Indirect impacts:	Low	
	Cumulative impacts:	Low	



Activity	Impact summary	Significance	Proposed mitigation
Replacement of terrestrial plants			<p>within acceptable "irrigation" standards as per GN 665, 6 September 2013.</p> <p>Use drip trays for refuelling, emergency repair/maintenance work and all moveable & stationary construction plant and equipment that can leak, such as TLB's, compressors and generators.</p> <p>Topsoil shall not be used for building or mixed with cement. It is to be used for rehabilitation only.</p> <p>Protect all areas susceptible to erosion by installing all the necessary, temporary and/or permanent mechanisms for controlling/diverting storm water run-off, dissipating water energy and encouraging infiltration as soon as possible.</p> <p>No maintenance workshop is permitted within 100m from the edge of a watercourse.</p> <p>All storm water control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into the streams is avoided.</p> <p>As far as possible, commence construction (clearing) at the onset of the dry season in order to prevent erosion, siltation and wash-away of topsoil and sedimentation into the watercourse.</p> <p>Separate general, recyclable, natural (vegetation and soil/rock) and hazardous waste and demarcate different containers for different waste types through colour coding and signage.</p> <p>With the exception of search and rescue operations authorised by the ECO, no mammal, bird, reptile, invertebrate or amphibian shall be intentionally caught and/or killed.</p> <p>Termitaria (Termite mounds) should not be disturbed.</p> <p>The end of installed pipes shall be covered at the end of each day to prevent the entry of small fauna.</p> <p>No vegetation is to be damaged outside of the demarcated area.</p> <p>All contractors and their labourers must be inducted before commencing work. The induction must include mitigations identified in this report (all aspects regarding their</p>



Activity	Impact summary	Significance	Proposed mitigation
			<p>actual and potential interaction with the environment).</p> <p>Alien invasive vegetation recruitment must be controlled within the project servitude area. Manual control measures are preferred, but where herbicides are used they must be those endorsed & selective for the target species with the lowest environmental toxicity.</p> <p>The applicant shall replace lost plants with like species within the riparian habitat and maintain those plants until they are self-sustaining.</p> <p>All residual construction materials must be removed from the works area.</p>
<u>Operational phase:</u> Degradation Maintenance	Direct impacts:	Low	<p>The rehabilitated pipeline and reservoir servitudes shall be monitored following the completion of the construction for the recruitment of weed, invader and alien plant species, including but not limited to erosion.</p> <p>Exercise measures to protect and conserve the water resources by removing existing alien plants and discourage recruitment and re-colonisation of the alien plants at and around the disturbed area(s).</p> <p>The Applicant shall immediately remove weed, invader and alien plant species upon being identified on all areas that are disturbed by construction activities including stockpiles.</p>
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
<u>Decommissioning phase:</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Medium	<p>Should the applicant decide to decommission the pipeline &/or reservoir for any reason, he/she must apply to DREAD for the necessary environmental authorisation prior to commencement.</p> <p>The applicant who intends on decommissioning the pipeline &/or reservoir must comply with the relevant conditions and requirements pertaining to EA.</p>
	Indirect impacts:	Medium	
	Cumulative impacts:	Medium	
Alternative 2			
<u>Planning and Design Phase</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Indirect impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.



Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
<u>Construction phase:</u> Air pollution Loss of surface and ground water (quality & quantity) Loss of soil/rock (quantity & quality) Loss/gain of terrestrial animals & plants Replacement of terrestrial plants	Direct impacts:	Very Low	Noise levels should be in accordance with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of the Environment Conservation Act. Construction shall be limited to daylight hours to be determined by the Rustenburg Local Municipality. Trucks transporting material shall be covered. Water leaks shall be repaired immediately upon being found. Reuse and recycling of water could be considered for the operational aspects of the pipeline and reservoir e.g. use of treated effluent for dust suppression purposes within acceptable "irrigation" standards as per GN 665, 6 September 2013. Use drip trays for refuelling, emergency repair/maintenance work and all moveable & stationary construction plant and equipment that can leak, such as TLB's, compressors and generators. Topsoil shall not be used for building or mixed with cement. It is to be used for rehabilitation only. Protect all areas susceptible to erosion by installing all the necessary, temporary and/or permanent mechanisms for controlling/diverting storm water run-off, dissipating water energy and encouraging infiltration as soon as possible. No maintenance workshop is permitted within 100m from the edge of a watercourse. All storm water control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into the streams is avoided. As far as possible, commence construction (clearing) at the onset of the dry season in order to prevent erosion, siltation and wash-away of topsoil and sedimentation into the watercourse. Separate general, recyclable, natural (vegetation and soil/rock) and hazardous
	Indirect impacts:		
	Cumulative impacts:		



Activity	Impact summary	Significance	Proposed mitigation
			<p>waste and demarcate different containers for different waste types through colour coding and signage.</p> <p>With the exception of search and rescue operations authorised by the ECO, no mammal, bird, reptile, invertebrate or amphibian shall be intentionally caught and/or killed.</p> <p>Termitaria (Termite mounds) should not be disturbed.</p> <p>The end of installed pipes shall be covered at the end of each day to prevent the entry of small fauna.</p> <p>No vegetation is to be damaged outside of the demarcated area.</p> <p>All contractors and their labourers must be inducted before commencing work. The induction must include mitigations identified in this report (all aspects regarding their actual and potential interaction with the environment).</p> <p>Alien invasive vegetation recruitment must be controlled within the project servitude area. Manual control measures are preferred, but where herbicides are used they must be those endorsed & selective for the target species with the lowest environmental toxicity.</p> <p>The applicant shall replace lost plants with like species within the riparian habitat and maintain those plants until they are self-sustaining.</p> <p>All residual construction materials must be removed from the works area.</p>
<u>Operational phase:</u> Degradation Maintenance	Direct impacts:	Low	<p>The rehabilitated pipeline and reservoir servitudes shall be monitored following the completion of the construction for the recruitment of weed, invader and alien plant species, including but not limited to erosion.</p> <p>Exercise measures to protect and conserve the water resources by removing existing alien plants and discourage recruitment and re-colonisation of the alien plants at and around the disturbed area(s).</p> <p>The Applicant shall immediately remove weed, invader and alien plant species upon being identified on all areas that are disturbed by construction activities including stockpiles.</p>
	Indirect impacts:	Low	
	Cumulative impacts:	Low	



Activity	Impact summary	Significance	Proposed mitigation
<u>Decommissioning phase:</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Should the applicant decide to decommission the pipeline &/or reservoir for any reason, he/she must apply to DREAD for the necessary environmental authorisation prior to commencement. The applicant who intends on decommissioning the pipeline &/or reservoir must comply with the relevant conditions and requirements pertaining to EA.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
Alternative 3			
<u>Planning and Design Phase</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Indirect impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Cumulative impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
<u>Construction phase:</u> Air pollution Loss of surface and ground water (quality & quantity) Loss of soil/rock (quantity & quality) Loss/gain of terrestrial animals & plants Replacement of terrestrial plants	Direct impacts:	Very Low	Noise levels should be in accordance with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of the Environment Conservation Act. Construction shall be limited to daylight hours to be determined by the Rustenburg Local Municipality. Trucks transporting material shall be covered. Water leaks shall be repaired immediately upon being found. Reuse and recycling of water could be considered for the operational aspects of the pipeline and reservoir e.g. use of treated effluent for dust suppression purposes within acceptable "irrigation" standards as per GN 665, 6 September 2013. Use drip trays for refuelling, emergency repair/maintenance work and all moveable & stationary construction plant and equipment that can leak, such as TLB's, compressors and generators. Topsoil shall not be used for building or mixed with cement. It is to be used for rehabilitation only.
	Indirect impacts:		
	Cumulative impacts:		



Activity	Impact summary	Significance	Proposed mitigation
			<p>Protect all areas susceptible to erosion by installing all the necessary, temporary and/or permanent mechanisms for controlling/diverting storm water run-off, dissipating water energy and encouraging infiltration as soon as possible.</p> <p>No maintenance workshop is permitted within 100m from the edge of a watercourse.</p> <p>All storm water control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into the streams is avoided.</p> <p>As far as possible, commence construction (clearing) at the onset of the dry season in order to prevent erosion, siltation and wash-away of topsoil and sedimentation into the watercourse.</p> <p>Separate general, recyclable, natural (vegetation and soil/rock) and hazardous waste and demarcate different containers for different waste types through colour coding and signage.</p> <p>Except for search and rescue operations authorised by the ECO, no mammal, bird, reptile, invertebrate or amphibian shall be intentionally caught and/or killed.</p> <p>Termitaria (Termite mounds) should not be disturbed.</p> <p>The end of installed pipes shall be covered at the end of each day to prevent the entry of small fauna.</p> <p>No vegetation is to be damaged outside of the demarcated area.</p> <p>All contractors and their labourers must be inducted before commencing work. The induction must include mitigations identified in this report (all aspects regarding their actual and potential interaction with the environment).</p> <p>Alien invasive vegetation recruitment must be controlled within the project servitude area. Manual control measures are preferred, but where herbicides are used they must be those endorsed & selective for the target species with the lowest environmental toxicity.</p> <p>The applicant shall replace lost plants with like species within the riparian habitat and maintain those plants until they are self-sustaining.</p>



Activity	Impact summary	Significance	Proposed mitigation
			All residual construction materials must be removed from the works area.
<u>Operational phase:</u> Degradation Maintenance	Direct impacts:	Low	The rehabilitated pipeline and reservoir servitudes shall be monitored following the completion of the construction for the recruitment of weed, invader and alien plant species, including but not limited to erosion. Exercise measures to protect and conserve the water resources by removing existing alien plants and discourage recruitment and re-colonisation of the alien plants at and around the disturbed area(s). The Applicant shall immediately remove weed, invader and alien plant species upon being identified on all areas that are disturbed by construction activities including stockpiles.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
<u>Decommissioning phase:</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Should the applicant decide to decommission the pipeline &/or reservoir for any reason, he/she must apply to DREAD for the necessary environmental authorisation prior to commencement. The applicant who intends on decommissioning the pipeline &/or reservoir must comply with the relevant conditions and requirements pertaining to EA.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
Reservoir 1			
<u>Planning and Design Phase</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
<u>Construction phase:</u> Air pollution Loss of surface and ground water (quality & quantity)	Direct impacts:	Very Low	Noise levels should be in accordance with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of the Environment Conservation Act. Construction shall be limited to daylight hours to be determined by the Rustenburg Local Municipality.
	Indirect impacts:		
	Cumulative impacts:		



Activity	Impact summary	Significance	Proposed mitigation
Loss of soil/rock (quantity & quality) Loss/gain of terrestrial animals & plants Replacement of terrestrial plants			<p>Trucks transporting material shall be covered.</p> <p>Water leaks shall be repaired immediately upon being found.</p> <p>Reuse and recycling of water could be considered for the operational aspects of the pipeline and reservoir e.g. use of treated effluent for dust suppression purposes within acceptable "irrigation" standards as per GN 665, 6 September 2013.</p> <p>Use drip trays for refuelling, emergency repair/maintenance work and all moveable & stationary construction plant and equipment that can leak, such as TLB's, compressors and generators.</p> <p>Topsoil shall not be used for building or mixed with cement. It is to be used for rehabilitation only.</p> <p>Protect all areas susceptible to erosion by installing all the necessary, temporary and/or permanent mechanisms for controlling/diverting storm water run-off, dissipating water energy and encouraging infiltration as soon as possible.</p> <p>No maintenance workshop is permitted within 100m from the edge of a watercourse.</p> <p>All storm water control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into the streams is avoided.</p> <p>As far as possible, commence construction (clearing) at the onset of the dry season in order to prevent erosion, siltation and wash-away of topsoil and sedimentation into the watercourse.</p> <p>Separate general, recyclable, natural (vegetation and soil/rock) and hazardous waste and demarcate different containers for different waste types through colour coding and signage.</p> <p>With the exception of search and rescue operations authorised by the ECO, no mammal, bird, reptile, invertebrate or amphibian shall be intentionally caught and/or killed.</p> <p>Termitaria (Termite mounds) should not be disturbed.</p> <p>The end of installed pipes shall be covered at the end of each day to prevent the</p>



Activity	Impact summary	Significance	Proposed mitigation
			<p>entry of small fauna.</p> <p>No vegetation is to be damaged outside of the demarcated area.</p> <p>All contractors and their labourers must be inducted before commencing work. The induction must include mitigations identified in this report (all aspects regarding their actual and potential interaction with the environment).</p> <p>Alien invasive vegetation recruitment must be controlled within the project servitude area. Manual control measures are preferred, but where herbicides are used they must be those endorsed & selective for the target species with the lowest environmental toxicity.</p> <p>The applicant shall replace lost plants with like species within the riparian habitat and maintain those plants until they are self-sustaining.</p> <p>All residual construction materials must be removed from the works area.</p>
<u>Operational phase:</u> Degradation Maintenance	Direct impacts:	Low	<p>The rehabilitated pipeline and reservoir servitudes shall be monitored following the completion of the construction for the recruitment of weed, invader and alien plant species, including but not limited to erosion.</p> <p>Exercise measures to protect and conserve the water resources by removing existing alien plants and discourage recruitment and re-colonisation of the alien plants at and around the disturbed area(s).</p> <p>The Applicant shall immediately remove weed, invader and alien plant species upon being identified on all areas that are disturbed by construction activities including stockpiles.</p>
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
<u>Decommissioning phase:</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	<p>Should the applicant decide to decommission the pipeline &/or reservoir for any reason, he/she must apply to DREAD for the necessary environmental authorisation prior to commencement.</p> <p>The applicant who intends on decommissioning the pipeline &/or reservoir must comply with the relevant conditions and requirements pertaining to EA.</p>
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
Reservoir 2			



Activity	Impact summary	Significance	Proposed mitigation
<u>Planning and Design Phase</u> Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Indirect impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
	Cumulative impacts:	Low	Ensure that all licences and/permits are in place before commencing with the activity.
Construction phase: Air pollution Loss of surface and ground water (quality & quantity) Loss of soil/rock (quantity & quality) Loss/gain of terrestrial animals & plants Replacement of terrestrial plants	Direct impacts:	High	Noise levels should be in accordance with Schedules 4 and 5 of the National Regulations regarding Noise Control made under section 25 of the Environment Conservation Act.
	Indirect impacts:	High	
	Cumulative impacts:	High	Construction shall be limited to daylight hours to be determined by the Rustenburg Local Municipality. Trucks transporting material shall be covered. Water leaks shall be repaired immediately upon being found. Use drip trays for refuelling, emergency repair/maintenance work and all moveable & stationary construction plant and equipment that can leak, such as TLB's, compressors and generators. Topsoil shall not be used for building or mixed with cement. It is to be used for rehabilitation only. Protect all areas susceptible to erosion by installing all the necessary, temporary and/or permanent mechanisms for controlling/diverting storm water run-off, dissipating water energy and encouraging infiltration as soon as possible. No maintenance workshop is permitted within 100m from the edge of a watercourse. All storm water control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into the streams is avoided. As far as possible, commence construction (clearing) at the onset of the dry season in order to prevent erosion, siltation and wash-away of topsoil and sedimentation into the watercourse.



Activity	Impact summary	Significance	Proposed mitigation
			<p>Separate general, recyclable, natural (vegetation and soil/rock) and hazardous waste and demarcate different containers for different waste types through colour coding and signage.</p> <p>With the exception of search and rescue operations authorised by the ECO, no mammal, bird, reptile, invertebrate or amphibian shall be intentionally caught and/or killed.</p> <p>Termitaria (Termite mounds) should not be disturbed.</p> <p>The end of installed pipes shall be covered at the end of each day to prevent the entry of small fauna.</p> <p>No vegetation is to be damaged outside of the demarcated area.</p> <p>All contractors and their labourers must be inducted before commencing work. The induction must include mitigations identified in this report (all aspects regarding their actual and potential interaction with the environment).</p> <p>Alien invasive vegetation recruitment must be controlled within the project servitude area. Manual control measures are preferred, but where herbicides are used they must be those endorsed & selective for the target species with the lowest environmental toxicity.</p> <p>The applicant shall replace lost plants with like species within the riparian habitat and maintain those plants until they are self-sustaining.</p> <p>All residual construction materials must be removed from the works area.</p>
Operational phase: Degradation Maintenance	Direct impacts:	Low	<p>The rehabilitated pipeline and reservoir servitudes shall be monitored following the completion of the construction for the recruitment of weed, invader and alien plant species, including but not limited to erosion.</p> <p>Exercise measures to protect and conserve the water resources by removing existing alien plants and discourage recruitment and re-colonisation of the alien plants at and around the disturbed area(s).</p> <p>The Applicant shall immediately remove weed, invader and alien plant species upon being identified on all areas that are disturbed by construction activities including</p>
	Indirect impacts:	Low	
	Cumulative impacts:	Low	



Activity	Impact summary	Significance	Proposed mitigation
			stockpiles.
Decommissioning phase: Commencing without the relevant permits and/or licences.	Direct impacts:	Low	Should the applicant decide to decommission the pipeline &/or reservoir for any reason, he/she must apply to DREAD for the necessary environmental authorisation prior to commencement. The applicant who intends on decommissioning the pipeline &/or reservoir must comply with the relevant conditions and requirements pertaining to EA.
	Indirect impacts:	Low	
	Cumulative impacts:	Low	
No-go option			
All phases and/or activities	Direct impacts:	Neutral	N/A The option of not implementing the activity.
	Indirect impacts:	Neutral	
	Cumulative impacts:	Neutral	

A complete impact assessment which include process undertaken to identify, assess and rank the impacts, the activity will impose on the site through the life of the activity in terms of EIA Regulation 2014, Appendix 1(i) and (j) of GN R.982 must be included as **Appendix H**.



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)

Pipeline Alternative 1

The aquatic and terrestrial specialist assessments of environmental impacts for the watercourse crossings and avoidance of sensitive areas (i.e. rocky kopjes) remained relatively unchanged if the pipeline alignment was on either the western or eastern servitude of the R510. The appointed engineers consider alternative 1 the preferred pipeline route outside of the road reserve, due to the potential complications of working within the SANRAL servitude and access constraints.

The socio-economic factors maybe key in determining the preferred alternative pipeline between alternative 1 and 2 on the north western side of the R510. These will have to be focused on limiting the disturbance to local community properties and other service providers within the preferred pipeline alternative servitude and including any SANRAL constraints. The land expropriation process and gaining access for temporary and permanent land use approvals and agreements will be key factors in the final pipeline alignment.

With the selection of Alternative 1, the adoption of the mitigation measures included in the BA assessment and the dedicated implementation of the EMPr, it is believed that the significant environmental aspects and higher impacts associated with this project construction phase can be suitably mitigated. With that in mind, it can be concluded that there are no fatal flaws associated with the project and that authorisation can be issued, based on the findings of the specialists and the impact assessment, through the compliance with the identified environmental management mitigations within the EMPr.

Reservoir Alternative 1

The significance of the impacts within the planning, operational and decommissioning phases were low for both reservoir alternatives. However, proposed alternative 1 that is located on an existing mining area and already heavily disturbed meant the significance of impacts were lower for loss of habitat and indigenous vegetation. This contrasts with reservoir alternative 2 that is in a CBA2 (NW BSP 2015: Terrestrial Assessment) and the access roads to this alternative would run through an area classified as vulnerable under the NBA 2011: Threatened Ecosystems. There are also existing access roads to this proposed reservoir development footprint.

Alternative B

Pipeline Alternative 2

If the preferred pipeline alternative 1 is outside of the road reserve then it risks generating more



potential impacts within neighbouring properties and areas of virgin ground that have not been already designated as a service servitude such as the SANRAL road reserve. The significance of risks could be higher within the planning phase in order to secure the required land use permissions from neighbouring communities and service servitudes. In the event there are impacts that cannot be mitigated then the pipeline route will have to be realigned to move out of socio-economic sensitive areas and into the SANRAL road reserve of Alternative 2, following the land consultation process.

Reservoir Alternative 2

The significance of potential higher impacts to habitat loss within the construction phase due to reservoir alternative 2 being in a CBA2 (NWBSA 2015: Terrestrial Assessment) and the associated access roads to this alternative would run through an area classified as vulnerable under the NBA 2011: Threatened Ecosystems. This means that alternative 1 is the preferred alternative due to the potential lower impacts within the construction phase and an overall reduction in the proposed pipeline impact on the local environment.

Alternative C

Pipeline Alternative 3:

The proposed pipeline route alternative will run on the south eastern side of the R510 within the existing historical/old pipeline servitude. Since the first planning phase of the pipeline project in 2014 there has been significant uncontrolled encroachment of informal settlements and several additional service servitudes within the route alternative servitude. The result of these changes in land use has made the potential impacts for socio-economic factors much higher during the planning phase and securing access to the route of alternative 3. The pipeline route alternatives 1 and 2 on the north western side of the R510 are preferred as the ground truthing of alternative 3 has shown the potential fatal flaws of gaining access to the servitude.

No-go alternative (compulsory)

The option of not implementing the activity (no-go option) was used as the benchmark against which all impacts associated with the proposed development were assessed.

The construction of the pipeline between the Bospoort WTW and the Bospoort reservoir (Phase 1) and the onto Rustenburg town (Phase 2) falls within the district's wide objectives relating to sustainable water services to provide basic water and sanitation infrastructure to all communities in order to eradicate the backlog. The Bospoort WTW has been granted an environmental authorisation to undergo an upgrade and the capacity is going to be doubled from 12MI/d to 24MI/d.

The 'no-go' alternative is not supported due to the need for increased water provision within the area and the need to reduce water losses which are currently occurring. The socio-economic benefits, including additional economic activity in the region, and employment opportunities which are associated with the proposed scheme, would not be realised. The ultimate economic benefits of the project are in favour of the project being implemented based on the prime objectives of socio-economic upliftment through the provision of water.



SECTION D: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Platinum Weekly	
Date published	01 February 2019	
Site notice position	Latitude	Longitude
	-25.5516337	27.3381351
	-25.5559253	27.3080089
	-25.6165128	27.2727103
	-25.6037602	27.2821544
Date placed	31 January 2019	

Include proof of the placement of the relevant advertisements and notices in Appendix I1.

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 R.982.

Key stakeholders (other than organs of state) identified in terms of Regulation 40(2)(d) of GN R.982:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Joseph Ngoato	Ward 12 Rustenburg Local Municipality Councilor	079 244 3551
Chris Miny	Ward 15 Rustenburg Local Municipality Councilor	082 878-5964 chrisminy1@gmail.com
Cisco Matlanaga	Ward 20 Rustenburg Local Municipality Councilor	074 632 0059/082 977 2831 cmatlanaga@rustenburg.gov.za
Victoria Makhawula	Ward 23 Rustenburg Local Municipality Councilor	079 876 9767 tmotshwane@rustenburg.gov.za
Isaac Nongqoqo	Ward 37 Rustenburg Local Municipality Councilor	083 475 4162 cmatlanaga@rustenburg.gov.za
Mcebisi Damoyi	Ward 40 Rustenburg Local Municipality Councilor	079 601 3332
Zenzele Xhanela	Ward 41 Rustenburg Local Municipality Councilor	073 410 0753 zenzelexhanela@gmail.com
Solly Mosweo	Ward 44 Rustenburg Local Municipality Councilor	0767076462 cllrmsoeu44@gmail.com
Bishop Dithlale	Evangelical Lutheran Church in Southern Africa	014 565-6556/7 elcsawd@telkomsa.net
Francis Rahlapane	Transnet	0116685009 francis.rahlapane@transnet.net
Stephen Hlongwane	Rustenburg Correctional Services	014 592 5180 stephen.hlongwane@dcs.gov.za



Simon Dladla	Anglo American	014 592 5060 simon.dladla@angloamerican.com
Mokgomotsi Padi	Rustenburg Airfield	014 552 1261 mpadi@nwpg.gov.za
Kate Nkoe & Calvin Mohloiwa	Rustenburg Tourism Information & Development Centre	014 590 3320 vicrust@tourismnorthwest.co.za
Hardus Van Der Linde	Telkom	(012 311 3636 vdlindh@telkom.co.za
David Tunnicliff	Eskom	tunnidA@eskom.co.za

Include proof that the key stakeholder received written notification of the proposed activities as **Appendix I2**. 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.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No issues raised.	

No issues have been raised by Interested and Affected Parties at this stage.

4. COMMENTS AND RESPONSE REPORT

The practitioner must make report (s) available to I&APs record all comments received from I&APs and respond to each comment before 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 I3**.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail
Rustenburg Local Municipality	Nqobile Sithole (MM)	014 590-3550	nsithole@rustenburg.gov.za
	Amanda Kema (Executive Secretary)	014 590-3551	munman@rustenburg.gov.za
	Bophelo Rankudu (Town Planner)	014 590 3071	brankudu@rustenburg.gov.za



	Kenneth Nkadimeng (Water & Sanitation)	(014) 590-3521	knkadimeng@rustenburg.gov.za
	Wonder Simelane (Water & Sanitation)	(014) 590-3521	wsimelane@rustenburg.gov.za
	Ziyanda Mokone (Infrastructure)	(014) 590 3530	zmokone@rustenburg.gov.za
	Lillian Sefike (Environmental Officer)	(014) 590-3075	lsefike@rustenburg.gov.za
	Kelebogile Mekgoe (IEM Section)		kmekgoe@rustenburg.gov.za
Bojanala District Municipality	Pogiso Shikhwane (MM)	(014) 590-4502	pogisos@bojanala.gov.za
	Tshepo Legojwe (Secretary to MM)	(014) 590-4502	tshepole@bojanala.gov.za
	Johanna Mosete (Community Deve't)	(014) 523-5000	johannam@bojanala.gov.za
	Amos Khumalo (Technical Services)	(014) 590 4600	amos@bojanala.gov.za
	Lerato Mongologe (Health inspector)	(014) 523-5068	leratom@bojanala.gov.za
	Nozi Masekwane (Environmental Health Manager)	(014) 523-5000	nozim@bojanala.gov.za
DREAD	Tshegofatso Lekgari (Case Officer)	(014) 597 3597/8 065 371 2203	tshegolekgari@nwpg.gov.za
	Robert Nemanashi	(018) 299-6583	rnemanashi@nwpg.gov.za
DWS	Mr S Matsheka (Strategic Support)	082 806-8856 (018) 387-9511	matshekas@dwa.gov.za
	Mr L Bogopa (Water Sector Support)	082 802-4759 (018) 387-9564	bogopal@dwa.gov.za
	Ms W Ralekoa (Institutional Establishment)	082 875-4158 (018) 387-9517	ralekoaw@dwa.gov.za
	Sebenzile Ntshangase	082 896-8228 072 769-4018	ntshangases@dwa.gov.za
DEPARTMENT OF ROADS & TRANSPORT	Mosimagape Maje	(018) 388-1428	kkmokoshane@nwpg.gov.za
	Jan Oliver	012 426 6242	oliverj@nwpg.gov.za
Rustenburg Local Municipality	Nqobile Sithole (MM)	014 590-3550	nsithole@rustenburg.gov.za
	Amanda Kema (Executive Secretary)	014 590-3551	munman@rustenburg.gov.za

Include proof that the Authorities and Organs of State received written notification and draft reports of the proposed activities as **Appendix I4**.



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 15**.

Copies of any correspondence and minutes of any meetings held must be included in **Appendix 16**.

- A public meeting was held in 2015 for all the grouped sanitation projects, was poorly attended. Consequently, with the re-submission of the pipeline application a public meeting was not deemed an effective consultation tool.



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 ✓	NO
-------	----

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).

--

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.

<ol style="list-style-type: none">1. The holder of the authorisation must appoint an experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.2. In accordance with Regulation 54A(3) of the 2014 EIA Regulations published in GNR 982, as amended the environmental authorisation and the EMPr associated with such environmental authorisation must undergo an environmental audit a minimum of every 5 years for the period during which such environmental authorisation is still in effect.3. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate. Any solid waste, which will not be recycled, must be disposed of at a landfill licensed in terms of section 20 (b) of the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008).4. A permit must be obtained from the relevant Department or authority for the removal or destruction of indigenous, protected or endangered plant or animal species and a copy of such permit/s must be retained for record keeping purposes. Please refer to Appendix J: Environmental Management Programme for all recommended mitigation and control measures.

The EMPr that meet the requirements of EIA Regulation, 2014, Appendix 4, must be attached as Appendix J.

Is an EMPr attached?

YES ✓	NO
-------	----

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 K

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

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

SECTION F: AFFIRMATION BY EAP



I, Justin A. Bowers (name of person representing EAP) of Ecoleges Environmental consultants cc (name of company) declare that the information provided is correct and relevant to the activity/ project and that, the information was made available to interested and affected parties for their comments. All specialist (s) reports are relevant for the competent authority to make informed decision.



SIGNATURE OF EAP

11 June 2019
DATE



SECTION F: APPENDICES

The following appendices must be attached:

Appendix A: Locality Map (A3)

Appendix B: Sensitivity Map (A3)

Appendix C: Photographs

Appendix D: Facility illustration(s)

Appendix E: Confirmation of services by Municipality (servitude and infrastructure planning)

Appendix F: Details and expertise of Specialist and Declaration of Interest

Appendix G: Specialist reports (including terms of reference)

- **Annexure G1:** Aquatic and Present Ecological State (PES) Assessment Report
- **Annexure G2:** Terrestrial Ecology Assessment Report
- **Annexure G3:** Archaeological and Heritage Desktop Study Report
- **Annexure G4:** Land Capability Assessment Report
- **Annexure G5:** Stormwater Management Plan

Appendix H: Impact Assessment

Appendix I: Public Participation

- **Annexure I1:** Advertisement and Notices
- **Annexure I2:** Basic Information Document (BID) distribution.
- **Annexure I3:** Comments and Response Sheet
- **Annexure I4:** Competent Authority Notification
- **Annexure I5:** List of IA&P's
- **Annexure I6:** Meeting Minutes

Appendix J: Environmental Management Programme (EMPr)

Appendix K: Details of EAP and expertise

Appendix L: Any other Information

- **Annexure L1:** Alternatives Description
- **Annexure L2:** Application Form
- **Annexure L3:** Water Use Licence Application

Appendix M: Financial Provision (if applicable)

Appendix N: Closure Plan (where applicable) as described in Appendix 5 of EIA Regulations, 2014



Appendix A:
Location Map

Appendix B:
Sensitivity Map

Appendix C:
Site Photographs

Appendix D:
Facility Illustrations

Appendix E:
Confirmation of services by Municipality
(TO BE INCLUDED IN THE FINAL BAR)

Appendix F:
Details and Expertise of Specialist & Declaration of Interest

Appendix G: Annexure G1:
Aquatic and Present Ecological State (PES) Assessment Report

Appendix G: Annexure G2:
Terrestrial Ecology Assessment Report

Appendix G: Annexure G3:
Archaeological and Heritage Desktop Study Report

Appendix G: Annexure G4:
Land Capability Assessment Report

Appendix G: Annexure G5:
Stormwater Management Plan

Appendix H:
Impact Assessment

Appendix I:
Public Participation

**Appendix I: Annexure I1:
Advertisement and Notices**

Appendix I: Annexure I1:
Basic Information Document (BID) distribution

Appendix I: Annexure I3:
Comments and Response Sheet

Appendix I: Annexure 14:
Competent Authority Notification

Appendix I: Annexure 15:
List of IA&P's

**Appendix I: Annexure 16:
Meeting Minutes**

Appendix J:
Environmental Management Programme (EMPr)

Appendix K:
Details of EAP and Expertise

Appendix L:
Any Other Information

Appendix L: Annexure L1:
Alternatives Description

Appendix L: Annexure L2:
Application Form

Appendix L: Annexure L3:
Water Use Licence Application

Appendix M:
Financial Provision

(Not Applicable)

Appendix N:
Closure Plan

(Not Applicable)