



Draft Basic Assessment Report for the proposed construction of a Water Treatment Plant in Hoedspruit within Maruleng Local Municipality , Mopani District, Limpopo Province.

Draft Report

October 2013

Reveal. Sustain



NZUMBULULO

Draft Basic Assessment Report for the proposed construction of a Water Treatment Plant in Hoedspruit within Maruleng Local Municipality, Mopani District, Limpopo Province.

October 2013

Prepared by:

External Review:

*For and on behalf of
Nzumbululo Sustainability, Energy and
Environment (SEE)*

Approved by:

Signed:

Position:

Date: October 2013

This report has been prepared by Nzumbululo Environmental Health and Safety solutions the trading name of Nzumbululo (Pty) Limited, one of the few consultancies able to combine natural, cultural and social environmental expertise under a one-stop consultancy supported by local expertise and knowledge with sub-Saharan regional reach and experience.

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LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2010

Basic Assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

File Reference Number:

0015

NEAS Reference Number:

Date Received:

Due date for acknowledgement:

Due date for acceptance:

Due date for decision

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.
2. 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.
3. Where applicable **tick** the boxes that are applicable in the report.
4. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.

Cnr Suid & Dorp Streets, POLOKWANE, 0700, P O Box 55464, POLOKWANE, 0700
Tel: 015 290 7138/ 7167, Fax: 015 295 5015, website: <http://www.ledet.gov.za>

5. An incomplete report may be returned to the applicant for revision.
6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.
8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2010.
9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.
10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

<p><u>Postal Address:</u> Central Administration Office Environmental Impact Management P. O. Box 55464 POLOKWANE 0700</p>	<p><u>Physical Address:</u> Central Administration Office Environmental Affairs Building Cnr Suid and Dorp Streets POLOKWANE 0699</p>
<p>Queries should be directed to the Central Administration Office: Environmental Impact Management:-</p> <p>For attention: Mr E. V. Maluleke</p> <p>Tel: (015) 290 7138/ (015) 290 7167</p> <p>Fax: (015) 295 5015</p> <p>Email: malulekeev@ledet.gov.za</p>	

View the Department's website at <http://www.ledet.gov.za/> for the latest version of the documents.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES	NO ¹
--	-----	-----------------

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail¹:

Proposed Hoedspruit bulk water supply project at Hoedspruit within Maruleng Local Municipality of Mopani District Municipality, Limpopo Province.

The proposed development will involve the following activity:

- The construction of a new 5.94km long 400mm steel pipeline from the supplied metered connection point at parma to the new raw water storage facility as the water treatment work site in Hoedspruit.
- The construction of the water treatment plant on an area covering approximately 3 hectares.
- New 3.61km long 90 to 450mm gravity bulk supply lines to various connection points in Hoedspruit.
- New 4.46km long 400mm steel rising main to 3ml.
- Secondary storage facility.

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;

¹ Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished 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 Department 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.

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

3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Mopani District Municipality proposes to establish a WTP on the farm Welverdiend 243KT. The farm is situated south of Hoedspruit. Access to the property is obtained from the Hoedspruit- klaserie road (R40), approximately 2km south of the T-junction of roads R527 and R40. The sign Khaya Ndlovu Manor marks the existing entrance to the site. The size of the property is approximately 3hectares. The site is located within the Kruger to Canyon Biosphere Reserve.

List alternative sites, if applicable. Alternative:	Latitude (S):			Longitude (E):		
	°	'	"	°	'	"
Alternative S1 ² (preferred or only site alternative)	24°	21'	30.84"	30°	57'	31.21"
Alternative S2 (if any)	°	'	"	°	'	"
Alternative S3 (if any)	°	'	"	°	'	"

In the case of linear activities:

² "Alternative S.." refer to site alternatives.

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only route alternative)						
• Starting point of the activity	24°	22'	12.2"	30°	54'	15.4"
• Middle/Additional point of the activity	24°	21'	45.78"	30°	55'	59.23"
• End point of the activity	24°	21'	30.84"	30°	57'	31.21"
Alternative S2 (if any)						
• Starting point of the activity	°	'	"	°	'	"
• Middle/Additional point of the activity	°	'	"	°	'	"
• End point of the activity	°	'	"	°	'	"
Alternative S3 (if any)						
• Starting point of the activity	°	'	"	°	'	"
• Middle/Additional point of the activity	°	'	"	°	'	"
• End point of the activity	°	'	"	°	'	"

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

4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	Size of the activity:
Alternative A1 ³ (preferred activity alternative)	3 Hectares
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²

or,

for linear activities:

Length of the

³ "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative:	activity:
Alternative A1 (preferred activity alternative)	6000 m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

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

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative)	m ²
Alternative A2 (if any)	m ²
Alternative A3 (if any)	N/A m ²

5. SITE ACCESS

Does ready access to the site exist?	YES/	NO
If NO, what is the distance over which a new access road will be built		m
Describe the type of access road planned:		
There is an existing road that will be used during the construction phase and operational phase.		

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.

6. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;

- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 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
- 6.11 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

8. FACILITY ILLUSTRATION

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

ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	Approximately ±R65,014,979	
What is the expected yearly income that will be generated by or as a result of the activity?	±R90million to 100 million	
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 phase of the activity?	17-20	
What is the expected value of the employment opportunities during the development phase?	±25 employees	
What percentage of this will accrue to previously disadvantaged individuals?	30%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	±10	new employment opportunities
What is the expected current value of the employment opportunities during the first 10 years?	±R1 million	
What percentage of this will accrue to previously disadvantaged individuals?	60%	

9(b) Need and desirability of the activity

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

NEED: Currently Hoedspruit Town is battling to meet the ever-growing demand for potable water for domestic and light commercial purposes, to such an extent that numerous proposed new developments have been placed on hold or postponed until time that more water is available. This project will further enhance the assets of the Municipality and will improve the general quality of life. The project will

contribute to water conservation measures. This project will not only generate income for services rendered, but will also contribute to the installation of new infrastructure, rehabilitation and upgrading of existing infrastructure, as well as to the operation and maintenance. Economic spin-offs and job creation will also be enhanced. A more stable and healthy community will therefore be established.

i.	Was the relevant municipality involved in the application?	YES √	NO
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	YES √	NO
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:

i.	Does the proposed land use / development fit the surrounding area?	YES√	NO
ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES√	NO
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES√	NO
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
v.	Will the proposed land use / development impact on the sense of place?	YES	NO √
vi.	Will the proposed land use / development set a precedent?	YES	NO √

vii.	Will any person's rights be affected by the proposed land use / development?	YES	NO √
viii.	Will the proposed land use / development compromise the "urban edge"?	YES	NO √
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
i.	Will the land use / development have any benefits for society in general?	YES√	NO
ii.	Explain: Employment creation will occur in Hoedspruit and the surroundings during construction and operational phase.		
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES√	NO
iv.	Explain: The proposed Hoedspruit bulk water supply project will benefit the community; jobs created at the site should be assigned to the local community, which comprises of previously disadvantaged individuals in Hoedspruit and the surrounding areas.		

10. 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:	Administering authority:	Date:
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NATIONAL ENVIRONMENTAL MANAGEMENT ACT EIA	NATIONAL PROVINCIAL	AND	NATIONAL AND PROVINCIAL 18 JUNE 2010
NATIONAL VELD AND FOREST FIRE ACT	NATIONAL PROVINCIAL	AND	27 NOVEMBER 1998
NATIONAL FOREST ACT	NATIONAL PROVINCIAL	AND	30 OCTOBER 1998
ADVERTISING ON ROADS AND RIBBON DEVELOPMENT ACT	NATIONAL PROVINCIAL	AND	43 OF 1983
CONSERVATION OF AGRICULTURAL RESOURCES ACT	NATIONAL PROVINCIAL	AND	21 APRIL 1983
AGRICULTURAL PESTS ACT	NATIONAL PROVINCIAL	AND	13 APRIL 1983
NATIONAL ENVIRONMENTAL MANAGEMENT ACT	NATIONAL PROVINCIAL	AND	18 JUNE 2010
ENVIRONMENT CONSERVATION ACT	NATIONAL PROVINCIAL	AND	9 JUNE 1989
FENCING ACT	NATIONAL PROVINCIAL	AND	27 APRIL 1963
HAZARDOUS SUBSTANCES ACT	NATIONAL PROVINCIAL	AND	26 MARCH 1973
HEALTH ACT	NATIONAL PROVINCIAL	AND	18 JULY 2004
NATIONAL ROADS ACT	NATIONAL PROVINCIAL	AND	1 OCTOBER 1971
OCCUPATIONAL HEALTH AND SAFETY ACT	NATIONAL PROVINCIAL	AND	23 JUNE 1993
NATIONAL HERITAGE RESOURCES ACT	NATIONAL PROVINCIAL	AND	28 APRIL 1999
NATIONAL WATER ACT	NATIONAL PROVINCIAL	AND	20 AUGUST 1998
NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO.59 OF 2008)	DEA		2008
HAZARDOUS SUBSTANCES ACT (ACT NO.15 OF 1973)	NATIONAL		1973
LIMPOPO ENVIRONMENTAL MANAGEMENT ACT (ACT NO.7 OF 2003)	PROVINCIAL		2003

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES√	NO
If yes, what estimated quantity will be produced per month?	Not yet determined at this stage. m ³	
How will the construction solid waste be disposed of (describe)?		
The construction waste will be transported and disposed off at a registered landfill site. The exact quantity of waste produced is not known at this stage.		
Where will the construction solid waste be disposed of (describe)?		
Waste will be disposed of at a registered landfill site allocated to the contractor by the Municipality. In order to comply with legal requirements, all waste materials from the proposed construction must be disposed of at an appropriately licensed waste disposal site in Maruleng Local Municipality. Spoil material excavated during the proposed Hoedspruit bulk water supply project will be used as fill material where required or taken up and disposed of according to the accepted procedures. Where a topsoil material is collected, such spoil may be used to rehabilitate section of the site when Hoedspruit bulk water supply project is complete.		
Will the activity produce solid waste during its operational phase?	YES√	NO
If yes, what estimated quantity will be produced per month?	Unknown m ³	
How will the solid waste be disposed of (describe)?		
Sludge will be produced as a result of the waste water treatment process. The sludge will be stored on site in sludge drying beds or taken to the nearest landfill site.		

Where will the solid waste be disposed 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 department to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	NO✓
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If yes, inform the department and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO✓
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If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO✓
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If yes, what estimated quantity will be produced per month?	m ³
---	----------------

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

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

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

If yes, provide the particulars of the facility:

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

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

- Separation of dirty and clean water at source
- Recycling of clean water for re - use
- Provision of recommendations regarding water use minimization on

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES	NO✓
If yes, is it controlled by any legislation of any sphere of government?	YES	NO✓
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If no, describe the emissions in terms of type and concentration:		
During the proposed Hoedspruit bulk water supply project phase; dust and vehicular emissions will be released as a result of earthmoving machinery. However these emissions will have a short-term impact on the immediate surrounding area and thus no authorisation will be required for such emissions. Appropriate dust suppression measures shall be implemented (e.g. removal of vegetation in a phased manner and using recycled water for spraying dust to reduce the impacts.		

11(d) Generation of noise

Will the activity generate noise?	YES✓	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO✓
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If no, describe the noise in terms of type and level:		
Minimal noise will emanate from construction machinery and vehicles.		

12. WATER USE

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

Municipal✓	water board	groundwater	river, stream, dam or lake	other	the activity will not use water
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:	Litres	
Does the activity require a water use permit from the Department of Water Affairs?	YES	NO✓
If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.		

13. ENERGY EFFICIENCY

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

- None

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

- None

ELECTRICITY WILL BE USED FOR LIGHTING AND TO RUN OTHER EQUIPMENT DURING CONSTRUCTION AND OPERATION. ESKOM PRESENTLY SUPPLIES ELECTRICITY TO THE PROPERTY WITH AN OVERHEAD LINE..

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 C and indicate the area, which is covered by each copy No. on the Site Plan.

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

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

3. Has a specialist been consulted to assist with the completion of this section?	YES	NO✓
If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:		
All specialist reports must be contained in Appendix D.		

Property description/physical address:	Wolverdiend 243KT		
	(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.		
	In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.		
Current land-use zoning:	Conservation		
	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✓
Must a building plan be submitted to the local authority?		YES✓	NO
Locality map:	<p>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:</p> <ul style="list-style-type: none"> • an indication of the project site position as well as the positions of the alternative sites, if any; • 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. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection) 		

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat√	1:50 1:20√	–	1:20 1:15	–	1:15 1:10	–	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 1:15	–	1:15 1:10	–	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 1:15	–	1:15 1:10	–	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
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Proposed Hoedspruit bulk water supply project will take place in a 3 hectares land, as such; the area traversed is generally flat and slightly sloping.

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline		2.6 Plain	√
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
	YES	NO√	YES	NO	YES	NO
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	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. GROUND COVER

Indicate the types of groundcover present on the site:

No floral assessment was undertaken for the site however, background information obtained from the Kruger Canyon is described. There have been more than 2,761 plant species recorded in the Biosphere. The escarpment has the highest concentration of threatened plant species. Plants noted on site include the Red bush willow, knob thorn, *Sclerocarya birrea* (Marula).

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

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

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

5 LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does 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:

The entrance to the site via R40 is currently used as game farm. Surrounding landuse include game farming, residential (Raptors View), Transnet staff quarters and a railway line.

5.1 Natural area ^V		5.22 School ^V	The pipeline will run across the road from a school.
5.2 Low density residential ^V		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial ^{AN}		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam ^A		5.29 Sewage treatment plant ^A	
5.9 Light industrial		5.30 Train station or shunting yard ^N	
5.10 Heavy industrial ^{AN}		5.31 Railway line ^N	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport ^N	

5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station ^H		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	The portion of the farm to be utilised for the WTP is adjacent to an area used for game farming.
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland ✓	The proposed bulk line will traverse across wetlands/ streams
5.21 Dam or Reservoir		5.42 Other land uses (describe)✓	Protected trees

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

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

If YES, specify and explain:	
If NO, specify:	

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

If YES, specify and explain:	
If NO, specify:	

6. 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	YES	NO√
Archaeological or palaeontological sites, on or close (within 20m) to the site?	Uncertain	
If YES, explain:		
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	The HIA report concludes that the proposed Hoedspruit bulk water supply project may be approved by Heritage authority to proceed as planned subject conditional inclusion of heritage monitoring measures in the project EMP, although the possibility of encountering previously unidentified burial sites is limited on the affected project site, should such sites be identified they are still protected by applicable legislations and they may not be disturbed.	
Will any building or structure older than 60 years be affected in any way?	YES	NO√
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO√
If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.		

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the department;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or

- (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation;
and
- (b) state—
 - (i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained;
and
 - (v) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices detailing the Basic Assessment process, the nature of the location of the proposed project, where further information on the proposed activity could be obtained and manner in which representation on the application could be made were published in the Hoedspruit and Mopani Herald on the 25th of October 2013.

Copies of the advertisement and notices are included in Appendix E.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

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

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

ALL ISSUES, COMMENTS AND CONCERNS RAISED REGARDING THE PROPOSED BULK LINE PROJECT, AS WELL AS RESPONSES PROVIDED WILL BE CAPTURED AND RECORDED WITHIN THE COMMENTS AND RESPONSES REPORT TO BE ATTACHED WITHIN APPENDIX E OF THE FINAL BAR.

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

Name of Authority informed:	Comments received (Yes or No)
• Maruleng Local Municipality	Comments yet to be received from authorities

• Mopani District Municipality	Comments yet to be received from authorities. To be updated after public comment period has ended. All comments received will be include in the final bar.
• Department of Water Affairs	Comments yet to be received from authorities
• Limpopo Department of Economic Development, Environment and Tourism	Comments yet to be received from authorities
• Department of Agriculture and Forestry	Comments yet to be received from authorities
• Department of Land Affairs	Comments yet to be received from authorities
SAHRA	Comments yet to be received from authorities

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?	YES	NO ✓
If “YES”, briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):		

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, 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.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Comments yet to be received from authorities. To be updated after public comment period has ended. All comments received will be included in the final bar.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

To be updated after the Public commenting period has ended.

2. 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

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) 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.

ALTERNATIVE S1

Potential Impacts (Direct)	Proposed mitigation measures
Surveying and demarcation of the site for the proposed WWTP would result in vegetation clearing for the access to the required site.	<ul style="list-style-type: none"> • Identification and undertaking of all necessary risk assessments during site demarcation.
Lack of adequate planning and negotiation of site may lead to site changes, higher than expected cost opportunities and increased visual impacts.	<ul style="list-style-type: none"> • Construction and operation phases must be planned for in advance. • Undertake adequate consultation with stakeholders for negotiation of servitudes.

Indirect Impacts:

Increase of hardened surfaces due to compaction by construction

machinery and equipment used, thereby increasing storm water run-off which may lead to soil erosion. Excavations should not be filled immediately for health and safety risk purposes

Cumulative Impacts:

No impacts are expected with the exception of an increase in the business potential of the area.

ALTERNATIVE S2 AND S3: N/A

Indirect Impacts:

None

Cumulative Impacts:

None

NO-GO ALTERNATIVE

Should the status quo prevail, Mopani District Municipality will not meet the growing demand for water in Hoedspruit.

POTENTIAL IMPACTS (DIRECT IMPACTS)	PROPOSED MITIGATION MEASURES
Loss of employment opportunities associated with the proposed development.	Construction of a WTP
INDIRECT IMPACTS	
No additional employment will be created.	Construction of a WTP.

CONSTRUCTION PHASE IMPACTS (PREFERRED SITE).

POTENTIAL IMPACTS (DIRECT)	PROPOSED MITIGATION MEASURES
1. ESTABLISHMENT OF A CONSTRUCTION CAMP: <ul style="list-style-type: none"> DISTURBANCE OF FLORA AND FAUNA DISTURBANCE OF SOILS AND SOIL EROSION POLLUTION OF WATER SOURCES 	<ul style="list-style-type: none"> THE ECO HAS TO OVERSEE VEGETATION CLEARING AND CUTTING AS THE CLEARING REQUIRED FOR THE HOTEL ESTABLISHMENT. INVASIVE ALIEN VEGETATION FALLING WITHIN THE PROPOSED WTP SITE SHOULD BE REMOVED

<ul style="list-style-type: none"> • NOISE AND DUST POLLUTION • LITTER 	<p>AND DISCARDED.</p>
<p>2.WATER RESOURCES: POTENTIAL POLLUTION OF GROUNDWATER AND SURFACE WATER POLLUTION</p>	<ul style="list-style-type: none"> • FUEL LEAKAGES NEED TO BE PROPERLY REMOVED TO PREVENT GROUND WATER POLLUTION.
<p>3. LOSS OF BIODIVERSITY: THE IMPACTS ON BIODIVERSITY MIGHT RANGE FROM LOSS OF PROTECTED OR RED DATA PLANTS AND ANIMAL SPECIES AS A RESULT OF CLEARANCE OF VEGETATION, LEADING TO LOSS OF SOIL, HABITAT, LOSS OF FOOD AND RAW MATERIALS, LOSS OF MEDICINAL PLANTS AND ALL THIS CAN DRIVE SPECIES TOWARDS BEING ENDANGERED.</p>	<ul style="list-style-type: none"> • UNNECESSARY REMOVAL OF VEGETATION COVER SHOULD BE AVOIDED AT ALL TIMES. • CONFINE IMPACTS ONLY TO THE DEVELOPMENT AREA. • LIMIT MOVEMENT OF VEHICLES AND PERSONNEL THROUGH AREAS OF SENSITIVITY. • GRASSLAND OCCURRING ON AND NEAR CONSTRUCTION SITE SHOULD BE RETAINED WHERE POSSIBLE IN ORDER TO ASSIST IN RETARDING EROSION
<p>4. SOIL: CONTINUOUS MOVEMENT OF HEAVY MACHINERY TO AND FROM THE CONSTRUCTION SITES WILL RESULT IN SOIL COMPACTION THEREBY REDUCING ITS CAPACITY TO HOLD WATER WHICH WILL IN TURN RESULT IN INCREASED RUNOFF DURING THE RAINY SEASON. FUEL LEAKAGES AND ACCIDENTAL OIL SPILLS FROM CONSTRUCTION VEHICLES AND MACHINERY HAVE THE CAPABILITY OF CONTAMINATING SOIL ONCE THEY INFILTRATE INTO THE SOIL, THIS INDIRECTLY ALSO AFFECTS PLANT GROWTH IN THE NEAR FUTURE. MIXING OF CEMENT ON UNPAVED SURFACES DURING CONSTRUCTION WILL RESULT IN CHANGE OF SOIL CHEMICAL ALKALINITY/ ACIDITY LEVELS THERE CREATING DISEQUILIBRIUM IN THE SOIL</p>	<ul style="list-style-type: none"> • WHEN THE VEGETATION COVER IS REMOVED, MANAGEMENT TECHNIQUES TO PREVENT WATER AND WIND EROSION SHOULD BE EMPLOYED E.G. SEEDING OF TOPSOIL AND SUBSOIL. • TOP SOIL SHOULD BE SOURCED FROM AREAS, WHICH ARE CLEARED FOR CONSTRUCTION. • THE CONTRACTOR SHOULD STRIP TOPSOIL TOGETHER WITH GRASS FROM ALL AREAS WHERE PERMANENT OR TEMPORARY STRUCTURES ARE LOCATED, CONSTRUCTION RELATED ACTIVITIES OCCUR AND ACCESS ROADS TO BE CONSTRUCTED. • TOP SOIL MUST NOT BE COMPACTED IN ANY WAY NOR SHOULD ANY HEAVY OBJECTS BE

<p>FERTILITY</p>	<p>PLACED ON IT.</p> <ul style="list-style-type: none"> • TOP SOIL STRIPPED FROM DIFFERENT SITES MUST BE STORED SEPARATELY • TOPSOIL PILES SHOULD NOT BE MORE THAN 2M IN HEIGHT • IN ALL CONSTRUCTION AREAS (E.G. MATERIAL LAY DOWN AREAS), TOPSOIL AND SUB-SOIL SHOULD BE PROTECTED FROM BEING CONTAMINATED BY WASTE OR FUEL SPILLS. • INSPECT EQUIPMENT FOR FUEL LEAKS PRIOR TO USE ON CONSTRUCTION SITES AND IMPLEMENT INSPECTION SCHEDULES TO PREVENT CONTAMINATION OF SOIL AND GROUND BY FUEL SPILLS. • CEMENT MIXING SHOULD BE DONE ON IMPERVIOUS SURFACES AND NOT DIRECTLY ON THE SOIL. • MEASURES TO PREVENT SOIL EROSION SHOULD BE IMPLEMENTED SUCH AS DESIGN OF STORM WATER DRAINAGE SYSTEM IN ORDER TO CONTROL THE VOLUME, SPEED AND LOCATION OF RUNOFF. • VEHICLE MAINTENANCE YARD AND OTHER AREAS WHERE HYDRAULIC FLUIDS ARE TO BE STORED MUST HAVE BUND WALLS AND LINED WITH IMPERMEABLE MATERIAL TO PREVENT SOIL EROSION.
<p>5. AIR POLLUTION: THE QUALITY OF THE AIR WILL BE IMPACTED ON DURING THIS PHASE AND THE SOURCES WILL EMANATE FROM: EXCESSIVE EMISSION OF EXHAUST GASES, DUST DURING EXCAVATION WORKS, DIGGING OF</p>	<ul style="list-style-type: none"> • ALL ACTIVITIES ON SITE MUST COMPLY WITH THE REQUIREMENTS OF THE ATMOSPHERIC POLLUTION PREVENTION ACT (ACT NO. 45 OF 1965). • NO OPEN FIRES SHOULD BE

<p>FOUNDATIONS, STOCK PILED SOILS. CONSTRUCTION MACHINES AND CONSTRUCTION VEHICLES WILL CAUSE AIR POLLUTION THROUGH EMISSION OF GASES SUCH AS CARBON DIOXIDE OR MONOXIDE.</p>	<p>PERMITTED ON SITE AS THE AREA IS ALSO PRONE TO VELD FIRES.</p> <ul style="list-style-type: none"> • BURNING OF MATERIALS, GRASS AND REFUSE SHOULD NOT BE PERMITTED ON SITE. • CONSTRUCTION MACHINERY AND VEHICLES SHOULD BE MAINTAINED AND SERVICED REGULARLY. • MEASURES TO PREVENT DUST SUCH AS INTER ALIA SPRAYING OF UNTARRED ACCESS ROADS USING WATER SHOULD BE IMPLEMENTED. • SPEED LIMITS OF ABOUT 40KM/HR MUST BE ENFORCED AND MAINTAINED ON THE CONSTRUCTION SITE. • STOCK PILED TOP SOILS MUST BE POSITIONED IN SUCH A WAY THAT THEY ARE NOT VULNERABLE TO WIND. • SPOIL AND OTHER DUST GENERATING DUMPS WHICH ARE NOT USED FOR MORE THAN 28DAYS SHOULD BE SPRAYED WITH WATER TO CONTROL DUST. • ACCESS ROADS SHOULD BE TARRED.
<p>6. NOISE POLLUTION: NOISE POLLUTION IS LIKELY TO BE GENERATED BY CONSTRUCTION MACHINES AND CONSTRUCTION VEHICLES DURING CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT AND THIS CAN BE A NUISANCE IN THE SURROUNDING ENVIRONMENT.</p>	<ul style="list-style-type: none"> • WORKING HOURS SHOULD BE LIMITED TO 7:00AM -17:00PM STRICTLY FROM MONDAY-FRIDAY. • AFFECTED RESIDENTS SHOULD BE NOTIFIED OF EXCESSIVE NOISY ACTIVITIES (IF ANY ARE GOING TO TAKE PLACE). • OPEN LIAISON CHANNELS WITH AFFECTED COMMUNITY MUST BE DEVELOPED IN ORDER TO FACILITATE THEIR CONCERNS AND COMPLAINTS ABOUT THE CONSTRUCTION ACTIVITIES.
<p>7. WASTE: WASTE GENERATED DURING THE CONSTRUCTION PHASE WILL HAVE A NEGATIVE IMPACT ON THE</p>	<ul style="list-style-type: none"> • IF POSSIBLE CONSTRUCTION WASTE ON SITE MUST BE RE-USED OR RECYCLED.

<p>ENVIRONMENT IF NOT MANAGED PROPERLY.</p>	<ul style="list-style-type: none"> • WASTE MUST BE DISPOSED OF IN ACCORDANCE TO THE NATIONAL WASTE MANAGEMENT ACT. • BURNING OF WASTE ON SITE SHOULD NOT BE PERMITTED.
<p>8. SOCIAL: THERE COULD BE NEGATIVE SOCIAL IMPACTS AS A RESULT OF LOSS OF GRAZING LAND AND IMPACT OF LANDOWNERS SENSE OF PLACE</p>	<ul style="list-style-type: none"> • NEGOTIATIONS WITH LANDOWNERS SHOULD INCLUDE COMPENSATION OF LAND LOST.
<p>9. HERITAGE: ANY DEVELOPMENT THAT ALTERS THE STATUS QUO HAS THE POTENTIAL TO IMPACT UPON ANY OF THE LISTED HERITAGE RESOURCES PARTICULARLY DURING CONSTRUCTION PHASE</p>	<ul style="list-style-type: none"> • IF DURING CONSTRUCTION, THE CONTRACTOR UNEARTHS ARCHAEOLOGICAL RESOURCES OR UNMARKED GRAVES, ALL WORK SHOULD STOP IMMEDIATELY AND MARULENG LOCAL MUNICIPALITY SHOULD BE NOTIFIED WHO WILL IN TURN INFORM AN ARCHAEOLOGIST FOR FURTHER ACTION ON WHAT SHOULD BE DONE. • A HERITAGE MONITORING PROGRAM SHOULD BE DESIGNED BY THE ARCHAEOLOGIST. THE MONITORING PLAN WILL DEAL WITH POTENTIAL CHANCE ARCHAEOLOGICAL OR HISTORICAL FINDS, INCLUDING UNMARKED HUMAN BURIALS THAT MAY ACCIDENTALLY BE FOUND DURING DEVELOPMENT.
<p>10. TRAFFIC An increase in heavy vehicle (construction vehicles) traffic will be limited to the construction period.</p>	<ul style="list-style-type: none"> • Provide sufficient area for the storage of heavy vehicles within the construction site; • Ensure that all road diversions and closures are considered as part of the development footprint and do not add any unnecessary roads; • Ensure that vehicle traffic which may obstruct traffic flow is scheduled outside of peak travelling time;

	<ul style="list-style-type: none"> • Erect appropriate warning signage to warn road users, pedestrians and school children of the increased heavy vehicle traffic during the construction phase; • Ensure that heavy / large load traffic is appropriately routed and appropriate safety precautions are taken to prohibit road collisions and traffic incidences; and • Ensure that vehicle operators are suitably licensed, have had appropriate environmental and safety induction, are aware of specific site procedures, and are well rested and cognisant when operating heavy or unsafe vehicles / machinery. •
<p>INDIRECT IMPACTS:</p> <p>1. FLORA: POSSIBILITY OF ALIEN INVASIVE SPECIES</p>	<ul style="list-style-type: none"> • THE POTENTIAL SPREAD OF ALIEN INVASIVE SPECIES SHOULD BE MONITORED ON A CONTINUAL BASIS.
<p>CUMULATIVE IMPACTS:</p> <p>1. AIR QUALITY</p> <p>THE GENERATION OF DUST AND EMISSION OF GASES BY MACHINES WILL INCREASE THE CURRENT LEVELS OF AIR POLLUTION, WHICH WILL IMPACT ON NEARBY PLANTS BY COATING ON TO THEM. FOR VEGETATION SERIOUS DUST POLLUTION CAN CAUSE PLANT IMMORTALITY.</p>	<ul style="list-style-type: none"> • ALL ACTIVITIES ON SITE MUST COMPLY WITH THE REQUIREMENTS OF THE ATMOSPHERIC POLLUTION PREVENTION ACT (ACT NO. 45 OF 1965). • MEASURES TO PREVENT DUST SUCH AS INTER ALIA SPRAYING OF UNTARRED ACCESS ROADS USING WATER SHOULD BE IMPLEMENTED.
<p>2. WASTE</p> <p>INCREASED WASTE DURING THE CONSTRUCTION PHASE WILL OR MAY RESULT IN GREATER PRESSURE ON THE LOCAL AUTHORITY TO DEAL WITH INCREASED WASTE.</p>	<ul style="list-style-type: none"> • IF POSSIBLE CONSTRUCTION WASTE ON SITE MUST BE RE-USED OR RECYCLED. • WASTE MUST BE DISPOSED OF IN ACCORDANCE TO THE NATIONAL WASTE MANAGEMENT ACT.
<p>3. WATER</p> <p>IF STORM WATER MANAGEMENT TECHNIQUES ARE NOT PUT IN PLACE THIS</p>	<ul style="list-style-type: none"> • MEASURES TO CONTROL STORM WATER MUST BE IMPLEMENTED.

WILL RESULT IN EROSION WHICH MEANS DOWNSTREAM WATER QUALITY BECOMES DETERIORATED AND WILL IN TURN INCREASE THE COST OF TREATING WATER WHICH WILL INDIRECTLY AFFECT THE RESIDENTS

NO GO ALTERNATIVE

POTENTIAL IMPACTS	PROPOSED MITIGATION MEASURES
<ul style="list-style-type: none"> • It is expected that demand will increase as living standards improve and populations increase. • The existing water treatment works will continue but the future demand associated with population increase will not be provided for, resulting in members of the public not having access to potable water. <p>Indirect impacts:</p> <ul style="list-style-type: none"> • Decrease in hygiene levels and possible infections where water is extracted from alternative, untreated sources such as nearby streams and dams • Denial of basic human rights and needs. <p>Cumulative Impacts</p> <ul style="list-style-type: none"> • Existing water services infrastructure will deteriorate and maintenance costs may increase • The communities involved will continue to be served at a substandard level which is not in line with Government standards • Decrease in hygiene levels and possible infections where water 	<p>Proposed construction of the WTP.</p>

<p>is extracted from alternative, untreated sources such as nearby streams and dams</p> <ul style="list-style-type: none"> Increased costs of medical treatment associated with substandard water service provision. 	
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OPERATIONAL PHASE IMPACTS (PREFERRED).

POTENTIAL IMPACTS (DIRECT IMPACTS)	PROPOSED MITIGATION MEASURES
<p>1. OIL SPILLS THE ACCIDENTAL SPILLAGE OF OIL MAY RESULT IN GROUND AND SOIL POLLUTION THROUGH INFILTRATION.</p>	BUND WALLS TO COLLECT ACCIDENTAL SPILLAGES.
<p>2. VISUAL IMPACTS LITTERING AND ILLEGAL DUMPING ON THE SITE MAY RESULT IN AN ALTERATION OF THE VISUAL CHARACTER OF THE SITE. THE DEVELOPMENT WILL RESULT IN THE REMOVAL OF VEGETATION AND THE CONSTRUCTION OF BUILDINGS WHICH MAY BE VISUALLY INTRUSIVE.</p>	NO MITIGATION MEASURES PROPOSED.
<p>3. IMPACTS ON AVIFAUNA NOT MUCH INTRUSION EXPECTED WITH THE AVIFAUNAL LIFE</p>	NO MITIGATION MEASURES PROPOSED
<p>INDIRECT IMPACTS 1. SOCIO-ECONOMIC CONSTRUCTION OF THE PROPOSED DEVELOPMENT WILL RESULT IN DIRECT JOBS BEING CREATED FOR THE CONSTRUCTION OF THE VARIOUS FACILITIES. INDIRECTLY, JOBS ARE ALSO CREATED IN INDUSTRIES THAT PROVIDE GOODS, MATERIALS AND SERVICES. FOR EXAMPLE, AN ADDITIONAL AMOUNT OF GOODS USED IN CONSTRUCTION WILL BE REQUIRED FROM BUSINESS AND INDUSTRIES RELATED TO THE CONSTRUCTION SECTOR</p>	NO MITIGATION PROPOSED AS THIS IS A POSITIVE IMPACT.
<p>2. SAFETY</p>	<ul style="list-style-type: none"> SHOULD BE CONTROLLED ACCESS

<ul style="list-style-type: none"> • DANGER OF CONSTRUCTION RELATED INJURIES. • OPEN FIRES IN CONSTRUCTION CAMP COULD RESULT IN ACCIDENTS • CONSTRUCTION ACTIVITIES ARE BY THEIR VERY NATURE DANGEROUS. • POOR WASTE MANAGEMENT PRACTICES AND UNHYGIENIC CONDITIONS AT TEMPORARY ABLUTION FACILITIES COULD CAUSE DISEASES 	<p>TO THE AREA.</p> <ul style="list-style-type: none"> • LOCAL COMMUNITY SHOULD BE INFORMED ABOUT THE NEW DEVELOPMENT. • SAFETY OF WORKERS AND GENERAL PUBLIC MUST BE ENSURED.
CUMULATIVE IMPACTS: NONE	

NO GO ALTERNATIVE

POTENTIAL IMPACTS (DIRECT)	PROPOSED MITIGATION MEASURES
IF THE NEW DEVELOPMENTS ARE NOT CONSTRUCTED, THE STATUS QUO OF WATER IN THE AREA WILL REMAIN AS IS, SHORTAGE OF FUEL SUPPLY.	CONSTRUCTION OF THE PROPOSED WTP
INDIRECT IMPACTS: NONE	
CUMULATIVE IMPACTS: NONE	

DECOMMISSIONING AND CLOSURE PHASE IMPACTS (PREFERRED AND ALTERNATIVES).

POTENTIAL IMPACTS: DIRECT IMPACTS	PROPOSED MITIGATION MEASURES
<p>1. SOIL AND GROUNDWATER CONTAMINATION</p> <ul style="list-style-type: none"> • GROUNDWATER CONTAMINATION MAY OCCUR DURING THE CONSTRUCTION PHASE AS A RESULT OF NEGLIGENCE, INAPPROPRIATE PLANNING, LACK OF SUPERVISION AND GENERAL HANDLING ERRORS. POLLUTANTS INCLUDE HYDROCARBONS I.E. DIESEL OR HYDRAULIC OILS FROM CONSTRUCTION MACHINERY, STORED FUELS AND CEMENT IN 	<ul style="list-style-type: none"> • OIL SPILLS SHOULD BE CLEANED UP IMMEDIATELY TO THE SATISFACTION OF THE COMPETENT AUTHORITY BY REMOVING THE SPILLAGE TOGETHER WITH THE POLLUTED SOIL AND BY DISPOSING OF THEM AT A REGISTERED WASTE DISPOSAL FACILITY AND THE ENVIRONMENTAL SECTION AT THE MUNICIPALITY MUST BE INFORMED.

SOLUTION.	
2. HEALTH AND SAFETY DANGER OF CONSTRUCTION RELATED INJURIES	<ul style="list-style-type: none"> SAFETY MEASURES SHOULD BE IMPLEMENTED AT ALL TIMES
INDIRECT IMPACTS: NONE	
CUMULATIVE IMPACTS: 1. INCREASE IN PURIFICATION COSTS OF WATER DUE TO POLLUTION OF WATER RESOURCES FROM OIL SPILLS.	<ul style="list-style-type: none"> BUND WALLS SHOULD BE BUILT TO COLLECT ACCIDENTAL OIL SPILLAGES.
2. INCREASE IN POLLUTION OF WATER WOULD HAVE A NEGATIVE IMPACT ON AQUATIC LIFE.	
3. REDUCED STANDARDS OF LIVING FOR THOSE HOUSEHOLDS WHO MAY LOSE THEIR BREADWINNERS FROM THE OCCUPATIONAL HAZARD MENTIONED ABOVE.	ONLY TRAINED AND CERTIFIED PERSONNEL SHOULD REMOVE ELECTRICAL EQUIPMENT. IF A NEED ARISES.

NO GO ALTERNATIVE

POTENTIAL IMPACTS	PROPOSED MITIGATION MEASURES
NONE	

3. 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.

The proposed development will take place in an area reserved for conservation, within Khaya Ndlovu Game Reserve which houses the big five and is a tourist attraction. The environment is made up of tree species such as the Red bush willow, knob thorn, *Sclerocarya birrea* (Marula). Animals observed during the site visit include the Warthog,

Guinea Fowl and horses.

The impacts related to the Hoedspruit Water Treatment Plant will mainly occur during the construction phase of the activity. All these impacts can be mitigated as described in the document above. Furthermore, detailed mitigation and management principles for the construction phase will be included in the Environmental Management Programme (EMP). The proposed activity will have no significant negative impact on the receiving environment if the mitigation measures and management of the impacts (particularly during the construction phase) are undertaken. Most of the negative impacts are expected to be of low significance and short duration. Most of the negative impacts are unlikely, or if they are likely to occur, will still have a low risk rating for the receiving environment. It is imperative that an approved EMP be in place for the construction activities as well as the decommissioning of the contractor's camp. An independent ECO should be appointed to enforce EMP compliance. The social impact of the proposed project will be of high significance to the local and wider community during the construction phase. The impact shall be of long-term significance with a high impact. In the light of the impending need for improving the current water service levels in Hoedspruit; the impacts identified herein; the definite successful mitigation of these impacts; and the definite positive impacts that will be forthcoming from the activity, it is our opinion that there are no fatal flaws associated with the project that should prevent it from receiving environmental approval.

ALTERNATIVE A (PREFERRED ALTERNATIVE)

The proposed activity will have no significant negative impact on the receiving environment if the mitigation measures and management of the impacts (particularly during the construction phase) are undertaken. Most of the negative impacts are expected to be of low significance and short duration. Most of the negative impacts are unlikely, or if they are likely to occur, will still have a low risk rating for the receiving environment. It is imperative that an approved EMP be in place for the construction activities as well as the decommissioning of the contractor's camp. An independent ECO should be appointed to enforce EMP compliance. It must be ensured that a Waste Management Plan be incorporated into the Operational Plan to ensure that all sludge is correctly disposed of.

NO-GO ALTERNATIVE (COMPULSORY)

The no-go alternative will have both a negative social and economic impact, of a long term duration of a high significance, on the surrounding communities; basic levels of sanitation and service provision will not be met, maintenance costs may increase as the

current infrastructure ages with no upgrades or improvements and the status quo will thus remain the same.

Alternative B

Alternative C

For more alternatives please continue as alternative D, E, etc.

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
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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 department in respect of the application:

The Environmental Authorisation should include the following provisions:

- An Environmental Management Programme must be compiled for the Site Establishment and Construction phases, prior to the contractor moving on site.
- An independent Environmental Control Officer (ECO) to complete monthly compliance audits of the EMP for the duration of the construction phase.

With regards to the following:
Noise Pollution:

- Maintain machinery regularly, as per the manufacturer's specifications.
- Limit working hours from 7:00 to 17:00 on weekdays. No works should occur on weekends or public holidays.

Air Pollution:

- Maintain vehicles and machinery to control exhaust emissions
- Topsoil stockpiles to be vegetated if they are to stand for more than 2 months.
- Topsoil piles should not be more than 2m in height.

Water Pollution:

- Machinery is to be maintained so that it does not leak or spill fluids
- Fuel leakages need to be properly removed to prevent ground water pollution
- All measures shall be taken to prevent any pollution from entering any watercourse or any wet area.
- Stabilising vegetation must only be removed where necessary, and must be replaced with indigenous, non-invasive vegetation as soon after development as possible.
- Storm water runoff following completion of construction must approximate pre-development conditions.

Heritage Issues:

- If, under any circumstance an artefact of cultural or historical significance is unearthed, SAHRA must be contacted immediately and all work must cease.

Health and Safety:

- Traffic signage should be erected to advise people of roadworks and heavy machinery in the area.
- A maximum speed limit of 40km/h, should be imposed on all construction vehicles.
- Pollution that could be detrimental to humans, flora and fauna shall be minimised as much as possible (dust control methods must be implemented, avoid using the surrounding environment as a toilet, avoid pollution of any kind

entering the soil and water systems).

Waste Management:

- All solid waste shall be collected and separated into recyclable and non-recyclable waste in on site waste bins and regularly disposed of in the nearest registered landfill site.
- No long drop toilets will be allowed on site. All chemical/portable toilets are to be serviced regularly by a registered service provider.

Environmental Control:

An independent Environmental Control Officer must be employed to undertake monthly audits of the compliance with the Environmental Management Programme (EMPr). .

Alien Invasive:

All invasive species must be cleared from the construction site and measures must be put in place to inhibit the relocation of these species into disturbed areas during the rehabilitation phase of the project.

Is an EMPr attached?	YES ✓	NO
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The EMPr must be attached as Appendix F.

SECTION F: APPENDIXES

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, STANLEY MALUSELE declare that I –

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (h) will keep a register of all interested and affected parties that participated in a public participation process; and

(i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:

Nzumbululo Heritage Solutions

Name of company:

14 October 2013

Date:

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Tel: 27 11 021 4937 / 015 291 3661 Email: info@nzumbululo.com Web: www.nzumbululo.com