



UNITED  
BY OUR  
DIFFERENCE



# MTUBATUBA WATER SUPPLY PIPELINE - FINAL BASIC ASSESSMENT REPORT



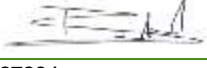
L. TOYI & ASSOCIATES CC

APPLICANT: UMKHANYAKUDE DISTRICT MUNICIPALITY

2012/10/04



# Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft Report			
Date	October 2012			
Prepared by	Rajay Patel			
Signature				
Checked by	Danielle Michel			
Signature				
Authorised by	Rajay Patel			
Signature				
Project number	27284			
Report number	Draft for public comment			
File reference	G://ES Live Projects/27284			

---

# MTUBATUBA WATER SUPPLY PIPELINE - FINAL BASIC ASSESSMENT REPORT

L. TOYI & ASSOCIATES CC

2012/10/04

## Client

L. Toyi & Associates cc  
P.O Box 1691  
Forest Hills  
3624

## Consultant

WSP Environment and Energy  
Block A, 1 on Langford  
Langford Road, Westville  
Durban  
3629  
South Africa

Tel: +27 31 240 8907  
Fax: +27 31 240 8861

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)

## Registered Address

WSP Environment & Energy South Africa  
1995/008790/07

## WSP Contacts

Rajay Patel  
Tel.: 031 240 8907  
Email: [rajay.patel@wspgroup.co.za](mailto:rajay.patel@wspgroup.co.za)

---

# Table of Contents

PART A - Executive Summary .....	1
Project Background .....	1
Proposed Activities and Legal Context .....	1
Feasible and Reasonable Alternatives .....	2
Alternative S1: Preferred pipeline route .....	2
Alternative S2: Alternative pipeline route .....	3
Alternative A1: Preferred technology (process) alternative .....	3
Alternative A2: Alternative pipeline installation technology (process).....	3
Potential environmental Issues and Impacts .....	3
CONCLUSIONS.....	4
PART B - BASIC ASSESSMENT REPORT .....	5
SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS .....	7
SECTION B: ACTIVITY INFORMATION .....	8
Alternative S1: Preferred pipeline route: .....	10
Alternative S2: Alternative pipeline route: .....	10
Alternative A1: Preferred technology (process) alternative:.....	11
Alternative A2: Alternative pipeline installation technology (process):.....	11
SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION .....	19
SECTION D: PUBLIC PARTICIPATION.....	24
SECTION E: IMPACT ASSESSMENT .....	27
SECTION F: RECOMMENDATION OF EAP .....	43
SECTION G: APPENDIXES .....	44
Appendix A: Site plan(s) .....	45
Appendix B: Photographs .....	47
Appendix C: Facility illustration(s).....	48
Appendix D: Specialist reports .....	51
D1- Watercourse Assessment .....	51
Appendix E: Comments and responses report.....	52
Appendix E1: Stakeholder Engagement Report.....	53
Appendix F: Draft Environmental Management Programme (EMPr) .....	54
Appendix G: Other information.....	55



# PART A - Executive Summary

## Project Background

L. Toyi & Associates CC has been appointed by Mhlathuze Water for the design, construction and commissioning of a steel bulk water supply pipeline in the area of Mtubatuba, KwaZulu-Natal. The pipeline is proposed to be approximately 3km in length, with a 813mm diameter. The proposed development of the water pipeline is part of a larger development plan for the area and is proposed to provide bulk water supply as part of the Dukuduku Resettlement Programme (DRSP), co-ordinated by the KwaZulu-Natal Department of Co-operative Governance and Traditional Affairs (COGTA).

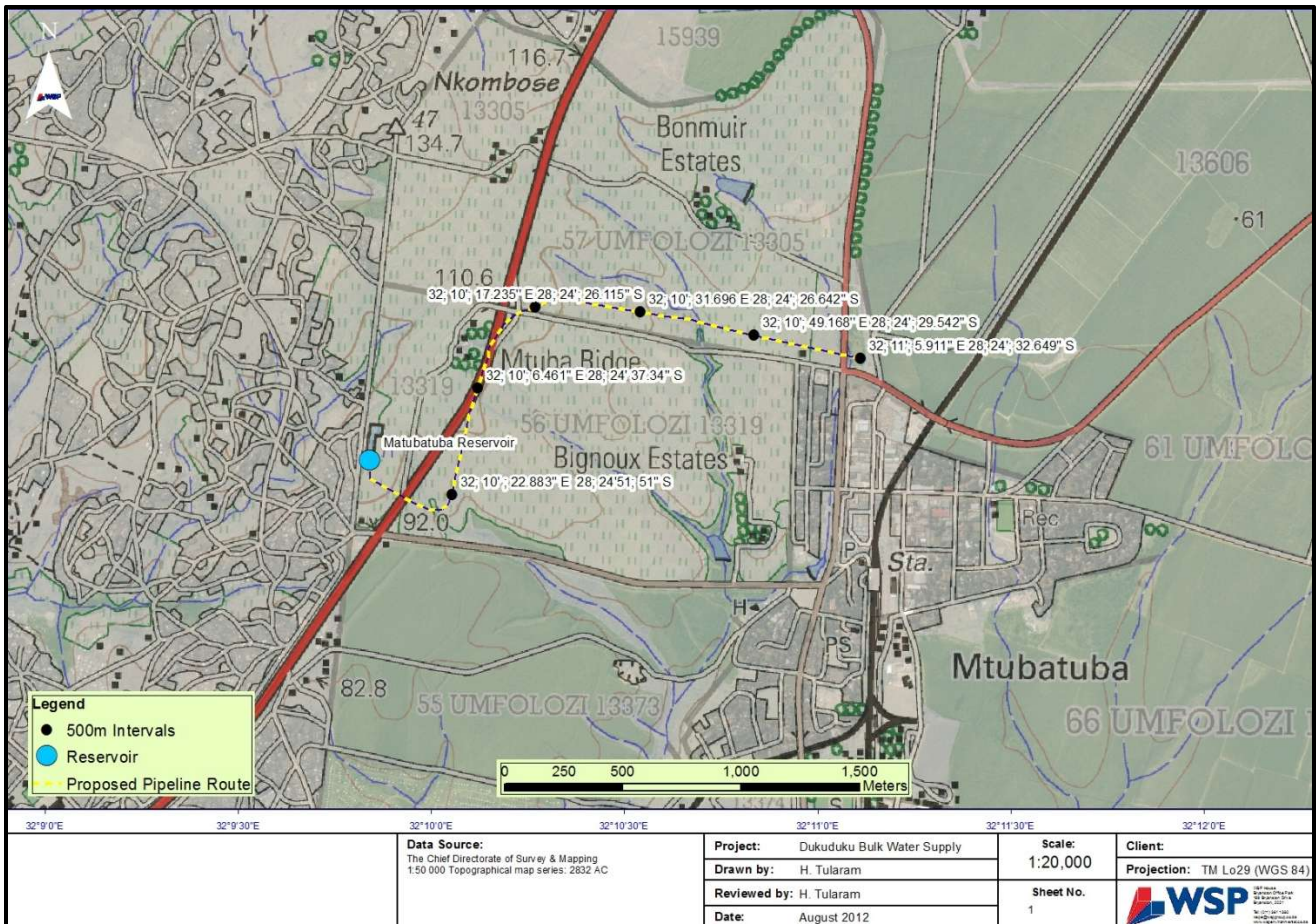


Figure 1 Proposed bulk water supply pipeline, Mtubatuba

## Proposed Activities and Legal Context

The applicability of the National Environmental Management Act (1998) EIA Regulations (GNR: 544, 545 and 546 of 2010) has been considered in light of the proposed activities (see Table 1).

**Table 1 Applicability of the EIA Regulations to the proposed project**

Listed Number	Description of listed activity	Project Relevance
<b>GN. R.544 (9)</b>	<p>The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water –</p> <p>(i) With an internal diameter of 0.36 metres or more; or</p> <p>(ii) With a peak throughput of 120 litres per second or more,</p> <p>Excluding where:</p> <p>a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or</p> <p>b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>	<p>The steel pipeline is proposed to exceed 1000 metres in length (3 000m) and have an internal diameter greater than 360mm (813 mm). In addition, portions of the pipeline will cross several watercourses. Therefore, listed activity 9 of GN: R544 is applicable to this project.</p>
<b>GN. R.544 (11)</b>	<p>The construction of:</p> <p>i.) buildings exceeding 50 square metres in size; or infrastructure or structures covering 50 square metres or more</p> <p>where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>There are sections of the pipeline route where the pipeline will cross watercourses / or be within 32m of a watercourse. Therefore, listed activity 11 of GN: R544 is applicable to this project.</p>

## Feasible and Reasonable Alternatives

The identification of alternatives provides the basis for choice among options available to the decision making authority, the KwaZulu-Natal Department of Agriculture and Environmental Affairs (DAEA), and is a requirement of the EIA Regulations. The following alternatives were considered and evaluated (where deemed reasonable or feasible) in the Basic Assessment Report:

### Alternative S1: Preferred pipeline route

The preferred pipeline route is proposed to extend from the Mtubatuba reservoir located approximately 2.3km west of Mtubatuba, to Mtubatuba itself with the prospect of connection to the Dukuduku reservoir (still under construction). The route will span within existing registered servitude that runs from the Mtubatuba Reservoir, beneath the N2 highway through seven watercourses (wetlands), continuing east of the N2, and north of an unpaved road that links the N2 to Mtubatuba (Figure 1).

This route was proposed due to the ease of access to the pipeline servitude during and after construction. In addition, the existing servitude lies alongside this route, which has therefore already been disturbed from an environmental point of view.



## Alternative S2: Alternative pipeline route

The project is for the upgrade of an existing pipeline with fixed connection points to existing developments and privately owned farms. Due to the restrictions posed by the existing servitudes no alternative pipeline routes have been considered. No alternative routes were therefore considered to be feasible.

## Alternative A1: Preferred technology (process) alternative

The construction process is proposed to consist of the following fundamental activities:

- Mechanical excavation of trenches (1.2 wide and 1.6m deep) and stockpiling (excavations within the watercourses will be undertaken manually). The slopes of excavation will be battered / shored;
- Importing and placing of granular bedding to a depth of 300mm;
- Construction and installation of a 813mm diameter steel pipeline and associated fittings,
- General backfilling and re-instatement using excavated spoil from stockpiles (temporarily stored from excavation phase);
- Construction of permanent apartment works including tie into existing 375mm AC pipeline, air valve chambers, scour valve chambers and associated pipework;
- Hydrostatic testing of all permanent works upon completion;
- Provision of permanent and if necessary temporary cathodic protection of the pipeline as required by the nominated sub-contractor; and
- De-commissioning and de-establishment of the site and contractor's camp.

## Alternative A2: Alternative pipeline installation technology (process)

The construction process outlined in Alternative A1 is considered to be "best practice" as it makes use of the most appropriate technologies available to install water pipelines. A technology alternative which has been considered was the use of other construction materials; however due to the 813 mm diameter of the pipe, other pipe materials are not feasible due to other materials like uPVC are not available in big sizes of 813 mm diameter. In addition ductile Iron pipes have to be imported and will be more expensive.

Based on the above, the preferred (Alternative A1) was considered to be the most feasible technology related option; as a result no other technologies have been considered any further within this report.

## Potential environmental Issues and Impacts

During the environmental assessment process, the following potential impacts were identified:

Planning/Design Phase	Construction Phase		Operational Phase
<ul style="list-style-type: none"> <li>■ None</li> </ul>	<p><b>NEGATIVE</b></p> <ul style="list-style-type: none"> <li>■ Disturbance to residents</li> <li>■ Traffic &amp; Access</li> <li>■ Aesthetics</li> <li>■ Cultural heritage</li> <li>■ Surface water</li> <li>■ Ground water</li> <li>■ Air quality</li> <li>■ Noise</li> </ul>	<p><b>POSITIVE</b></p> <ul style="list-style-type: none"> <li>■ Employment &amp; associated social upliftment</li> </ul>	<p><b>POSITIVE</b></p> <ul style="list-style-type: none"> <li>■ Access to services &amp; improved quality of life</li> <li>■ Employment &amp; associated social upliftment</li> </ul>

---

	<ul style="list-style-type: none"><li>■ Geology &amp; Soils</li><li>■ Waste generation</li><li>■ Wetlands</li><li>■ Flora &amp; Fauna</li></ul>	
--	-------------------------------------------------------------------------------------------------------------------------------------------------	--

The potential negative impacts identified relate primarily to the construction phase associated with the proposed project. An Environmental Management Programme (EMPr) has been compiled to mitigate and reduce the potential impacts identified. The strict implementation of the EMPr will ensure the proposed development, if approved, does not have any significant detrimental impacts on the receiving environment.

## CONCLUSIONS

It is the view of the Environmental Assessment Practitioner (EAP) that the information contained in this report, and the documentation attached hereto, is sufficient for the DAEA to make an informed decision in respect of the activities applied for. It is recommended that the proposed construction of the Mtubatuba water supply pipeline should be authorised and allowed to proceed.

---

# PART B - BASIC ASSESSMENT REPORT



## agriculture & environmental affairs

Department:  
Agriculture  
& Environmental Affairs  
**PROVINCE OF KWAZULU-NATAL**

(For official use only)

EIA File Reference Number:

TBC

NEAS Reference Number:

KZN/EIA/

Waste Management Licence Number:  
(if applicable)

Date Received:

## BASIC ASSESSMENT REPORT

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

This template may be used for the following applications:

- Environmental Authorization subject to basic assessment for an activity that is listed in Listing Notices 1 or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- Waste Management Licence for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This basic assessment report meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Agriculture & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not 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 text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. 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.
9. The KZN Department of Agriculture & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.

10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.
11. Please note that this report must be handed in or posted to the District Office of the KZN Department of Agriculture & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).

## DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	
File reference number (Waste Management Licence):	

## SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

### 1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	WSP Environmental & Energy		
Physical address:	WSP House, 1 on Langford, Langford Road, Westville, 3629		
Postal address:	PO Box 1442, Westville		
Postal code:	3630	Cell:	0716718883
Telephone:	(031) 240 8860	Fax:	(031) 2408861
E-mail:	Rajay.patel@WSPGroup.co.za		

### 2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Hilary Konigkramer	<ul style="list-style-type: none"> <li>▪ BSoc Sci (Honours): Environmental Management, University of KwaZulu-Natal, 1998</li> <li>▪ BSoc Sci: Geography and Environmental Management, University of KwaZulu-Natal, 1997</li> </ul>	IAIAsa	10
Rajay Patel	<ul style="list-style-type: none"> <li>▪ BSc (Honours): Environmental Science, Unisa, 2010</li> <li>▪ BSc: Environmental</li> </ul>	None	4

	Science Zoology & Botany, University of KwaZulu-Natal, 2005		
--	-------------------------------------------------------------	--	--

3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/s contributed to in this basic assessment report	Title of specialist report/s as attached in Appendix D
Andrew Gemmell	<ul style="list-style-type: none"> <li>▪ MSc. Hydrology (Cum Laude), University of KwaZulu-Natal, 2010.</li> </ul>	Environmental Hydrologist	Wetland Assessment	Wetland Assessment
Len van Schalkwyk	<ul style="list-style-type: none"> <li>▪ MA: Archaeology, University of Cape Town (1992)</li> <li>▪ BA (Honours): Archaeology, University of Stellenbosch (1983)</li> </ul>	Cultural and Heritage Consultant	Exemption to HIA	Exemption to HIA

**SECTION B: ACTIVITY INFORMATION**

1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

Installation of the Mtubatuba Bulk Water Supply Pipeline
----------------------------------------------------------

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

<p>The project involves the construction, commissioning and operation of a steel bulk water supply pipeline in Mtubatuba, KwaZulu-Natal. The pipeline is proposed to be approximately 3km in length, with a 813mm diameter. The pipeline is proposed to extend from the Mtubatuba reservoir, located approximately 2.3km west of the town of Mtubatuba, into the town itself.</p> <p>The route will follow an existing registered municipal servitude that runs from the Mtubatuba Reservoir (west of Mtubatuba), beneath the N2 highway, and continues east of the N2 near to an unpaved road to the town of Mtubatuba (Figure 1). The pipeline is proposed to cut across seven watercourses (wetlands), and farm lands along the route. The pipeline is proposed to terminate immediately north of the town, and will be connected to the Dukuduku reservoir, located north east Mtubatuba, in the future (not part of this study).</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

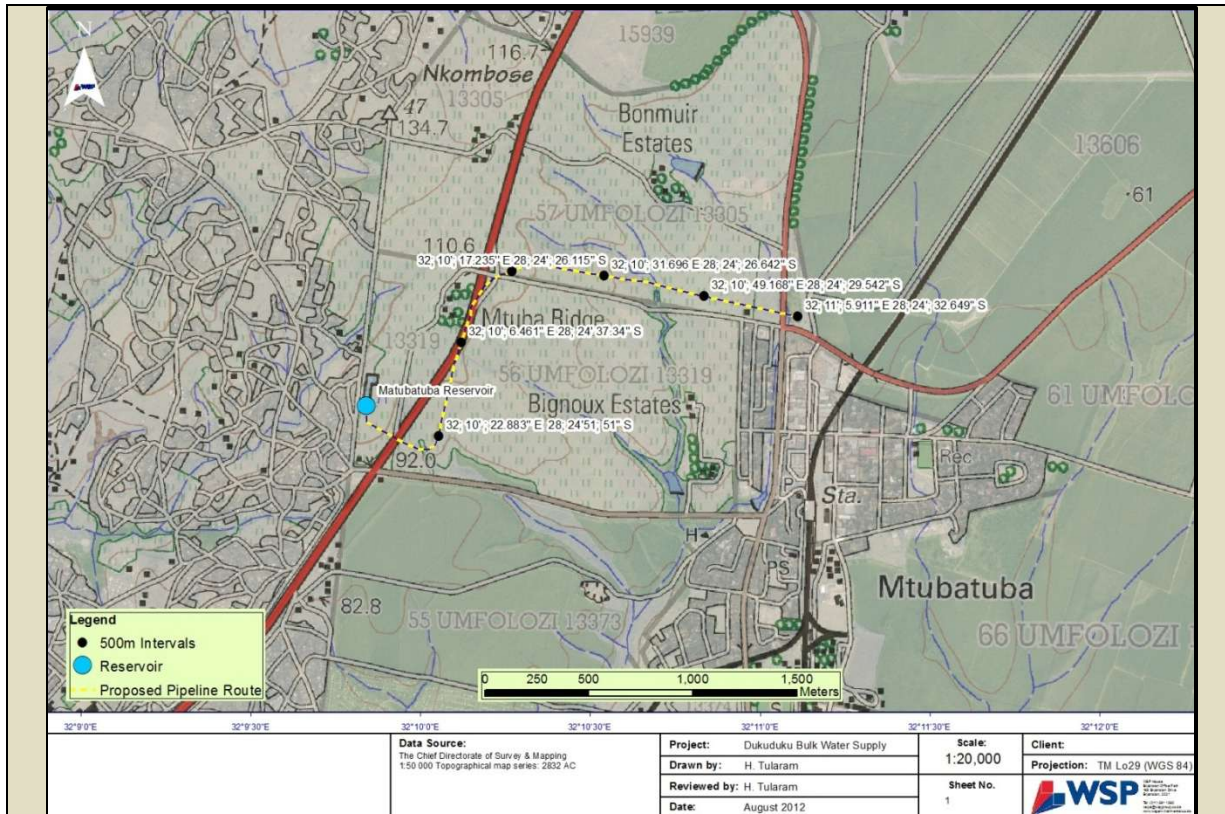


Figure 1 Locality of proposed pipeline route for the Mtubatuba Pipeline (with the pipeline route indicated in yellow). **Please refer to Appendix A for larger version of map**

### 3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June 2010), Listing Notice 3 (GNR 546, 18 June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

GN. R.544	9	The steel pipeline is proposed to exceed 1000 metres in length (3 000m) and have an internal diameter greater than 360mm (813 mm). Therefore, listed activity 9 of GN: R544 is applicable to this project.
GN. R.544	11	There are sections of the pipeline route where the pipeline may cross wetlands and / or be within 32m of a watercourse. Therefore, listed activity 11 of GN: R544 will be applicable to this project.

### 4. 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—

- the property on which or location where it is proposed to undertake the activity;
- the type of activity to be undertaken;
- the design or layout of the activity;
- the technology to be used in the activity;
- the operational aspects of the activity; and
- the option of not implementing the activity.

Describe alternatives that are considered in this report. 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 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.

Alternative S1: Preferred pipeline route:

The preferred pipeline route is proposed to extend from the Mtubatuba reservoir located approximately 2.3km west of the town of Mtubatuba, to the town itself with the view to connect to the Dukuduku reservoir (still under construction) in the future. The route will follow an existing registered servitude that runs from the Mtubatuba Reservoir, beneath the N2 highway, continuing east of the N2, and north of an unpaved road that links the N2 to Mtubatuba (Figure 1).

This route was proposed due to the ease of access to the pipeline servitude during and after construction. In addition, the existing servitude is already disturbed from an environmental point of view.

Alternative S2: Alternative pipeline route:

The project is for the upgrade of an existing pipeline with fixed connection points to existing developments and privately owned farms. The existing fixed connection points consist of i) the existing reservoir connections and ii) the existing connection points that supply the reticulation system of Mtubatuba Town. Due to the restrictions posed by the existing servitudes, no alternative pipeline routes were considered reasonable or feasible.



Alternative A1: Preferred technology (process) alternative:

The construction process is proposed to consist of the following fundamental activities:

- Mechanical excavation of trenches (1.2 wide and 1.6m deep) and stockpiling (excavations within the watercourses will be undertaken manually). The slopes of excavation will be battered / shored;
- Importing and placing of granular bedding to a depth of 300mm;
- Construction and installation of a 813mm diameter steel pipeline and associated fittings;
- General backfilling and re-instatement using excavated spoil from stockpiles (temporarily stored from excavation phase);
- Construction of permanent apartment works, including tie into existing 375mm AC pipeline, air valve cambers, scour valve chambers and associated pipework;
- Hydrostatic testing of all permanent works upon completion;
- Provision of permanent and if necessary temporary cathodic protection (consists of the installation of a low voltage current to the pipeline) as required by the nominated sub-contractor; and
- De-commissioning and de-establishment of the site and contractor's camp.

Alternative A2: Alternative pipeline installation technology (process):

The construction process outlined in Alternative A1 is considered to be "best practice" as it makes use of the most appropriate technologies available to install water pipelines. A technology alternative which has been considered was the use of other construction materials; however due to the 813 mm diameter of the pipe, other pipe materials are not feasible.

Based on the above, the preferred (Alternative A1) was considered to be the most feasible technology related option; as a result no other technologies have been considered any further within this report.

No Go Alternative:

In this case the construction of the pipeline will not occur, thus the status quo will remain. Consequently, Mhlatuze Water will not meet the current and future water demands of the area.

Sections B 5 – 15 below should be completed for each alternative.

## 5. 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. List alternative sites were applicable.

Basic Assessment Report

Alternative:  
 Alternative S1<sup>1</sup> (preferred or only site alternative)  
 Alternative S2 (if any)  
 Alternative S3 (if any)

Latitude (S):

Longitude (E):

N/A
-----

In the case of linear activities:

Alternative:  
 Alternative S1 (preferred or only route alternative)

Latitude (S):

Longitude (E):

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

28°	24'	51.01"	32°	10'	22.883"
28°	24'	26.642"	32°	10'	6.461"
28°	24'	29.542"	32°	11'	5.911"

Alternative S2 (if any)

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

0	'	"	0	'	"
0	'	"	0	'	"
0	'	"	0	'	"

Alternative S3 (if any)

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

0	'	"	0	'	"
0	'	"	0	'	"
0	'	"	0	'	"

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment. (Please refer to Appendix A)

## 6. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A12 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities:

Size of the activity:

m <sup>2</sup>
m <sup>2</sup>
m <sup>2</sup>

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

3000 m
m
m

<sup>1</sup> "Alternative S.." refer to site alternatives.

<sup>2</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

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)

4500 m<sup>2</sup>

Alternative A2 (if any)

m<sup>2</sup>

Alternative A3 (if any)

m<sup>2</sup>

## 7. 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

N/A - existing access
-----------------------

Describe the type of access road planned:

The pipeline route is currently accessible from the N2 and R618. As a result, no new access roads will be required for the construction and operational phases.

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.

## 8. 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 report.

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/erf/farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. 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;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;
- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers, streams, drainage lines or wetlands;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. 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
- 8.10. The positions from where photographs of the site were taken.

9. SITE PHOTOGRAPHS

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

10. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

11. ACTIVITY MOTIVATION

11.1. Socio-economic value of the activity

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

R27 million
-------------

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

R3.5 million
--------------

Will the activity contribute to service infrastructure?

YES ✓	<del>NO</del>
----------	---------------

Is the activity a public amenity?

<del>YES</del>	NO ✓
----------------	---------

How many new employment opportunities will be created in the development phase of the activity?

200
-----

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

R 8.5 million
---------------

What percentage of this will accrue to previously disadvantaged individuals?

65%
-----

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?

R R 500 000.00
----------------

What percentage of this will accrue to previously disadvantaged individuals?

80%
-----

11.2. Need and desirability of the activity

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

The proposed pipeline forms part of a larger undertaking by Mhlathuze Water to meet the infrastructural needs of the area. The existing water supply system in the Mtubatuba area currently does not have the capacity to provide sufficient potable water to residents of Mtubatuba as well to the future Dukuduku Resettlement Programme (DRSP) (north-east of Mtubatuba). A number of pipelines and reservoirs have been proposed to meet the future water demands of the DRSP and Mtubatuba as well as downstream areas viz. St Lucia, Khula, Dukuduku and the iSimangaliso Wetland Park. This proposed project, therefore, will transport water from the Mtubatuba Reservoir to Mtubatuba itself.

Indicate any benefits that the activity will have for society in general:

The pipeline forms part of a larger scheme for the improved basic provision of water, which will improve sanitation and improve living standards for a number of previously disadvantaged areas, and potentially allow for the future development of these areas.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

Residents of Mtubatuba, and ultimately Dukuduku and surrounds, will be provided with a reliable supply of potable water. This is likely to prevent reliance on illegal taps or broken pipes for water. The provision of this basic service is likely to contribute towards an improved quality of life, and will also provide services to the DSRP, as well as assist the development potential of the town of Mtubatuba.

In addition to the above, employment opportunities and capacity building are likely to be provided to local communities. Job opportunities will be created through the employment of local low category contractors.

## 12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Date:
Environmental Impact Assessment Regulations, 2010 (GN: R543;544 & 546)	Department of Environmental Affairs	2010
National Environmental Management Act (Act No 107 of 1998)	Department of Environmental Affairs	2006
National Environmental Management: Air Quality Act (Act No.39 of 2004)	Department of Environmental Affairs	2004
South African National Standards (SANS): 10103 - The Measurement and Assessment of Environmental Noise with Respect to Land Use, Health, Annoyance and Speech Communication.	South African Bureau of Standards	2003
Occupational Health and Safety Act (Act No. 85 of 1993)	Department of Labour	1993

## 13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 13.1. Solid waste management

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

YES ✓	NO <del>✗</del>
± 20 m <sup>3</sup>	

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

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

Typical construction waste, consisting of rubble and general domestic waste is likely to be produced. Any excavated soil is proposed to be used for levelling of working areas. Pipe off cuts are likely to be gathered and sold to/reused by scrap steel collectors. Rubble and general domestic waste is proposed to be temporarily stored in on-site waste receptacles and removed by the contractor when necessary. Furthermore the EMPr make recommendations with regard to best waste management practises.

Where will the construction solid waste be disposed of? (provide details of landfill site)

The contractor will be responsible for the removal of construction waste from the collection area / waste skip to an accredited landfill. The closest landfill site will be the Mtubatuba municipal landfill.

Will the activity produce solid waste during its operational phase?

<del>YES</del>	NO ✓
0 m <sup>3</sup>	

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

How will the solid waste be disposed of? (provide details of landfill site)

N/A

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 competent authority to determine the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

<del>YES</del>	NO ✓
----------------	---------

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

<del>YES</del>	NO ✓
----------------	---------

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

### 13.2. Liquid effluent

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

<del>YES</del>	NO ✓
----------------	---------

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

m <sup>3</sup>	
----------------	--

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

<del>YES</del>	NO ✓
----------------	---------

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

<del>YES</del>	NO ✓
----------------	---------

If yes, provide the particulars of the facility:

\_\_\_\_\_

Basic Assessment Report

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

N/A

Cell:  
Fax:

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

N/A

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES ✓	<del>NO</del>
YES ✓	<del>NO</del>

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

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

If no, describe the emissions in terms of type and concentration:

Vehicular and dust emissions will be the only source of ambient emissions generated as a result of the project. There will be some vehicular emissions during the construction phase. There is also the potential for dust generation during the construction phase. This may be a result of wind over exposed areas of cleared land. Dust can be relatively easily prevented through the implementation of air pollution mitigation measures contained in the EMPr (Appendix F).

Air Quality guidelines are provided by the ambient dust (particulate matter) concentration limits prescribed by SANS 1929:2005. This is not enforceable but provides recommendations for good practice for application within the EMPr (Appendix F) (e.g. the daily limit for the protection of human health is 75ug/m<sup>3</sup> over a 24 hour averaging period). The National Environmental Management: Air Quality Act (Act No.39 of 2004) stipulates control measures for dust in Part 6 of Chapter 4 of the Act (Section 33).

13.4. Generation of noise

Will the activity generate noise?

YES ✓	<del>NO</del>
YES ✓	<del>NO</del>

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

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:

The activity is only likely to produce noise during the construction process as a result of normal construction and excavation (trenching) activities; as such a change to Scoping and EIA is not warranted. Acceptable levels are prescribed by SANS 10103:2008 (The Measurement and Rating of Environmental Noise with Respect to Annoyance and to Speech Communication). It is the most relevant code of practice for environmental noise impact assessment in SA. In addition mitigation measures are contained in the EMPr (Appendix F).

Typical rating levels for noise in districts (adapted from SANS 10103:2008)

Type Of District	Equivalent Continuous Rating Level for Noise (LReq,T) (dBA)					
	Outdoors			Indoors (with windows open)		
	Day-Night (LR,dn)	Daytime (Lreq,d)	Night-time (Lreq,n)	Day-Night (LR,dn)	Daytime (Lreq,d)	Night-time (Lreq,n)
a) Rural	45	45	35	35	35	25
b) Suburban (with little road traffic)	50	50	40	40	40	30

#### 14. WATER USE

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

<input checked="" type="checkbox"/> Municipal	<input type="checkbox"/> Water Board	<input type="checkbox"/> Groundwater	<input type="checkbox"/> River, Stream, Dam or Lake	<input type="checkbox"/> Other	<input type="checkbox"/> 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?	<table border="1"> <tr> <td>YES <input checked="" type="checkbox"/></td> <td>NO <input type="checkbox"/></td> </tr> </table>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>		

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

The proposed construction will occur within wetland areas / watercourses and may require the alteration of beds / banks. The necessary Water Use License applications (WUL) (in terms of Section 21, (i) and (j)) or exemption thereof will be submitted to the Department of Water Affairs following receipt of the environmental authorisation. WUL will be obtained prior to the commencement of construction (as per EMPr – Appendix F)

#### 15. ENERGY EFFICIENCY

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

It has been proposed that a gravity-fed solution be used to transport the water to the end point. This eliminates the need for a pump system making the operation energy consumption zero.

During construction, general construction and site management procedures as defined in the EMPr will be implemented to minimise energy usage, such as switching off engines when not in use, etc (refer to Appendix F for EMPr).



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

No alternative energy sources have been considered for the proposed application, as the pipeline will be gravity-fed during operation resulting in no energy draw.

## SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

- 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):

- Subsections 1 - 6 below must be completed for each alternative.

### 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
-----------	------------------	-------------	-------------	--------------	-------------	------------------

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 (Please cross the appropriate box).

Alternative S1 (preferred site):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain ✓	Undulating plain/low hills ✓	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	------------	---------------------------------	------	-----------

Alternative S2 (if any):

Basic Assessment Report

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	----------------------------	------	-----------

Alternative S3 (if any):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	----------------------------	------	-----------

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?

YES ✓	NO ✗
----------	---------

If YES, please complete the following:

Name of the specialist:	Yusuf Simjee		
Qualification(s) of the specialist:	Bsc (Hons) Environmental & Engineering Geology		
Postal address:	P.O Box 1442, Westville		
Postal code:	3630		
Telephone:	031) 240 8860	Cell:	3629
E-mail:	Yusuf.Simjee@wspgroup.co.za	Fax:	(031) 2408861

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?

YES ✗	NO ✓
----------	---------

If YES, specify and explain:

N/A
-----

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?

YES ✓	NO ✗
----------	---------

If YES, specify and explain:

The pipeline route will transverse through seven watercourses, a watercourse assessment has been undertaken. (Please see Section C.4 below).
----------------------------------------------------------------------------------------------------------------------------------------------

Are any further specialist studies recommended by the specialist?

YES ✗	NO ✓
----------	---------

If YES, specify:

Due to the limited extent of wetlands, a functional assessment is not expected to be required. However, to limit the impacts to the watercourses during construction it is recommended that mitigation measures are implemented as per the EMPr.
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

If YES, is such a report(s) attached in Appendix D?

YES ✗	NO ✓
----------	---------

Signature of specialist:



Date:

23/08/2012
------------

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

Basic Assessment Report

	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	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

Has a specialist been consulted for the completion of this section?

<del>YES</del>	NO ✓
----------------	---------

If YES, please complete the following:

Name of the specialist:	Andrew Gemmell		
Qualification(s) of the specialist:	MSc. Hydrology		
Postal address:	PO Box 1442, Westville		
Postal code:	3630		
Telephone:	(031) 240 8860	Cell:	-
E-mail:	Andrew.gemmell@wspgroup.co.za	Fax:	(031) 2408861

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?

<del>YES</del>	NO ✓
----------------	---------

If YES, specify and explain:

N/A
-----

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?

YES ✓	<del>NO</del>
----------	---------------

Basic Assessment Report

If YES, specify and explain: The pipeline route will transverse through seven watercourses, a watercourse assessment has been undertaken

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

If YES, specify:

If YES, is such a report(s) attached in Appendix D? YES  
✓ NO

Signature of specialist:



Date: 23/08/2012

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 <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	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

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

Land use character	YES	NO	Description
Natural area	YES	NO	
Low density residential	YES ✓	NO	There are low density residential areas in close proximity towards the end of the pipeline route.
Medium density residential	YES	NO	
High density residential	YES	NO	
Informal residential	YES	NO	
Retail commercial & warehousing	YES ✓	NO	There are small scale retail & commercial facilities in close proximity towards the end of the pipe-line route.
Light industrial	YES	NO	
Medium industrial	YES	NO	
Heavy industrial	YES	NO	
Power station	YES	NO	
Office/consulting room	YES	NO	
Military or police base/station/compound	YES	NO	
Spoil heap or slimes dam	YES	NO	
Quarry, sand or borrow pit	YES	NO	
Dam or reservoir	YES	NO	

Basic Assessment Report

Hospital/medical centre	YES	NO	
School/creche	YES	NO	
Tertiary education facility	YES	NO	
Church	YES	NO	
Old age home	YES	NO	
Sewage treatment plant	YES	NO	
Train station or shunting yard	YES	NO	
Railway line	YES	NO	
Major road (4 lanes or more)	YES ✓	NO	N2 Highway
Airport	YES	NO	
Harbour	YES	NO	
Sport facilities	YES	NO	
Golf course	YES	NO	
Polo fields	YES	NO	
Filling station	YES	NO	
Landfill or waste treatment site	YES	NO	
Plantation	YES	NO	
Agriculture	YES ✓	NO	Most of the pipeline route transverse through private agricultural areas
River, stream or wetland	YES ✓	NO	The proposed pipeline will transverse seven wetlands – as discussed above.
Nature conservation area	YES	NO	
Mountain, hill or ridge	YES	NO	
Museum	YES	NO	
Historical building	YES	NO	
Protected Area	YES	NO	
Graveyard	YES	NO	
Archaeological site	YES	NO	
Other land uses (describe)	YES	NO	

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 archaeological or palaeontological sites, on or within 20m of the site?

<del>YES</del>	NO ✓
----------------	---------

If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.

Briefly explain the recommendations of the specialist:

For the most part the pipeline will be installed within an existing servitude within the road reserve. The land has been subjected to cane and timber production and part of it is currently under macadamia production. A single gated residential complex (Bignoux and Bonmuir Estates) is currently being planned and Applications for change of land use are currently being pursued through DAEA (separate from this application).

Based on the above, an application has been made by Entembeni Cultural & Heritage (Heritage specialist) to Amafa for exemption from an Heritage Impact Assessment (HIA). It is also the view of the specialist that no heritage resources of any significance will be affected by the construction of the water pipeline and/or its attendant servitudes.

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

<del>YES</del>	NO ✓
YES ✓	<del>NO</del>

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

If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.

## SECTION D: 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 competent authority) 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 local and district municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
  - (vii) any other party as required by the competent authority;
- (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 metropolitan or district 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 competent authority, 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 an application for environmental authorization has been submitted to the KZN Department of Agriculture & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)
  - (iii) a brief project description that includes the nature and location of the activity to which the application relates;
  - (iv) where further information on the application can be obtained; and
  - (iv) 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 competent authority 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 the EIA regulations.

Advertisements and notices must make provision for all alternatives.

## 4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Agriculture & Environmental Affairs as appropriate for this application. 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 competent authority 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 this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as Appendix E to this report.

## 6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality?

<input checked="" type="checkbox"/>	NO ✓
-------------------------------------	---------

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

No comment has been received from the district municipality on the background information document (BID). The UMkhanyakude District Municipality will be provided with an opportunity to comment on the Draft Basic Assessment Report (DBAR). Comments received in response to the DBAR will be included in the Final Basic Assessment Report (FBAR).

Has any comment been received from the local municipality?

<input checked="" type="checkbox"/>	NO ✓
-------------------------------------	---------

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

No comment has been received from the local municipality on the BID. The Mtubatuba Municipality will have a n opportunity to comment on the DBAR. Comments received in response to the DBAR will be included in the FBAR.

Has any comment been received from a traditional authority?

<input checked="" type="checkbox"/>	NO ✓
-------------------------------------	---------

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

A meeting was held with the traditional authorities on the 20th of April 2012, during which the project was discussed. No written comments have been received thus far; however the traditional authorities will have a further opportunity to submit comments upon distribution of the DBAR.

## 7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

<input checked="" type="checkbox"/>	NO ✓
-------------------------------------	---------



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

No comment has been received from stakeholders thus far. All registered stakeholders will have an opportunity to comment on the DBAR. Comments received in response to the DBAR will be included in the FBAR.

## SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the 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.

No issues have been raised to date. Issues raised in response to the DBAR 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 as Appendix E to this report):

This requirement will be met when finalising the BAR following receipt of comments and issues.

### 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

#### 2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

##### a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

Alternative S1 (preferred alternative)

*Direct impacts / Indirect impacts / Cumulative impacts:*

Planning and design entails limited, non-intrusive site survey and desktop design work. Accordingly, no direct, indirect or cumulative 'site' related impacts are anticipated.

Alternative S2 (if any)

N/A

No-go alternative (compulsory)

In this case there will be no planning and design, therefore no direct, indirect or cumulative 'site' related

impacts are anticipated in the planning and design phase.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

Alternative S2

None required

N/A

b. Process, technology, layout or other alternatives

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

*Direct impacts / Indirect impacts / Cumulative impacts:*

Planning and design entails limited, non-intrusive site survey and desktop design work. Accordingly, no direct, indirect or cumulative 'site' related impacts are anticipated.

Alternative A2 (if any)

*Direct impacts / Indirect impacts / Cumulative impacts:*

N/A

No-go alternative (compulsory)

In this case there will be no planning and design, therefore no direct, indirect or cumulative 'process, technology or layout' related impacts are anticipated in the planning and design phase.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

Alternative A2:

N/A

## 2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 (preferred site)

*Direct impacts:*

Biological Environment

- Watercourses / Wetlands

The pipeline route is proposed to cut across a number of wetland areas. The construction phase is there likely to impact these sensitive area. A watercourse assessment was undertaken (Appendix D1), in order to a) identify the location and extent of watercourses that may be impacted by the proposed pipeline development,

Seven watercourses were identified with low wetland functionality. These crossings are predominantly characterised by drainage lines with limited evidence of wetland conditions. Therefore only the crossings (and not surrounding areas)

As a result, the functioning with regard to wetland benefits is limited at these crossings. In addition the pipeline will be placed within the existing servitude. Based on the above, the impacts of this development on the wetland are expected to be low.

Due to the limited extent of wetlands, a functional assessment is not expected to be required. However, in order to limit the impacts to the watercourses during construction it is recommended that mitigation measures are required to be implemented during construction. Water use under Section 21 of the National Water Act (Act No. 36 of 1998) will be required.

*Indirect impacts / Cumulative impacts:*

No indirect or cumulative impacts are anticipated as a result of the construction phase of this activity.

Alternative S2 (if any)

N/A

No-go alternative (compulsory)

No direct 'site' related impacts are likely to occur with the no-go alternative, as the status quo will remain.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

Alternative S2

An EMPr (Appendix F) has been developed to address environmental issues related to the construction phase.	
------------------------------------------------------------------------------------------------------------	--

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

The following environmental aspects associated with the proposed construction methodology have been considered. Whilst they will not result in "likely environmental impacts", they have been documented for

purposes of completeness.

*Direct impacts:*

Socio-economic Environment:

▪ Traffic & Access

There may be temporary inconvenience and minor delays to traffic along the pipeline route section of the N2 during the construction phase due to the presence of construction machinery and trucks delivering construction materials. Access may be restricted or be temporarily disrupted while pipelines are being installed. This road is, however, not a main thoroughfare. Should the mitigation measures recommended in the EMPr be implemented, these impacts are likely to be short term and minimised, and therefore not significant in nature.

▪ Aesthetics

There may be a visual impact on aesthetics along the pipeline route due to vegetation clearing, the presence of construction materials and vehicles, storage areas for pipes, as well as ground excavation for pipeline installation. Due to the rural nature of the area (predominantly agriculture) and lack of residential or other receptors, and the short term nature of this phase, the impact is likely to be low. Over and above this, should the recommendations made in the EMPr be implemented, the construction phase is not expected to have a significant long term impact on the aesthetics of the area.

▪ Employment and social upliftment

The construction phase (6 months) is likely to provide a positive impact by providing approximately 20 temporary employment opportunities. This short term employment has the potential to have a positive impact on the local area. The direct impact is however likely to be low, although positive.

▪ Cultural Heritage

The pipeline will be installed within an existing servitude and within a road reserve, and as such, no heritage resources of any significance will be affected by the provision of the water pipeline. An application for exemption from the need to undertake a Heritage Impact Assessment (HIA) has been submitted to AMAFA, the decision of which will be included within the Final Basic Assessment report. However, should any cultural or heritage resources be identified during construction, mitigatory measures have been incorporated into the EMPr. The impact on heritage and cultural resources is therefore likely to be none to low.

Physical Environment

▪ Surface Water

Aspects such as soil erosion and accidental spillage of chemicals during construction have the potential to contaminate stormwater runoff. Contamination of stormwater may in turn impact on the water quality of the watercourses along the route. The potential for contamination will be significantly reduced provided that soil erosion and surface water protection measures recommended in the EMPr (Appendix F) are implemented, thereby reducing potential impacts on these areas. The potential impact on surface water resources is likely to be low.

▪ Ground Water Contamination

Accidental or negligent large scale spills to the environment can potentially contaminate both soil and groundwater rendering it dangerous for either human or ecological use. Provided that hazardous substances are stored and handled in the correct manner (as stipulated in the EMPr), the risk of spills

will be reduced. In the event of accidental spills, the correct clean up procedures are stipulated in the EMPr (Appendix F). There are unlikely to be any impacts on groundwater as long as the EMPr is appropriately implemented.

- Air Quality

- I. Dust

During construction, localised air quality may be affected as dust and other particulate matter will potentially be released into the air as a result of the movement of construction plant and vehicles. Dust emissions have the potential to deteriorate local air quality which may result in a nuisance factor to the local community, particularly during dry and windy conditions. Potential dust impacts are likely to be short term (i.e. limited to the construction period), and provided that dust control measures are implemented (Appendix F), it is unlikely that there will be significant impacts. The impact of dust emissions is therefore likely to be low.

- II. Vehicular emissions

Emissions from vehicles transporting materials and labour may have an impact on local air quality. However considering that the pipeline will be installed in close proximity to the road reserve, the areas in close proximity are already exposed to persistent vehicular emissions. Transportation of construction materials is not considered to significantly increase the volumes of traffic, and as a result is unlikely to impact on the current air quality of the area. The impact of vehicular emissions is therefore likely to be low.

- Noise

Noise emissions are likely to be generated from typical construction sources, such as construction plant and workforce. Noise emissions are not likely to have a significant impact as construction activities will be limited to normal working hours (i.e. Monday to Friday 7:30am to 5pm); in addition due to the pipeline route being adjacent to the road reserve, noise levels are considered to be elevated. It is however suggested that the recommendations made in the EMPr (Appendix F) should be followed in order to ensure minimal disturbance. Noise impacts are therefore likely to be of low significance.

- Geology and soils

There is the potential for soil erosion to occur as a result of excavation activities and movement of construction vehicles. This is especially true for high rainfall periods, and due to the extent of temporary storage of soils and the proposed earthwork process. Soil erosion may also occur at areas designated for pipe storage due to site clearing activities. The extent of soil erosion will be minimised through the implementation of stringent soil erosion control measures stipulated in the EMPr (Appendix F). The impact on soils and geology are therefore likely to be low.

- Waste Generation

A small amount of solid waste will be generated during the construction phase and will include general waste such as food containers and plastics, as well as aggregate materials from the construction itself, including excavated soil / rubble, and pipe offcuts. Pipe offcuts will be sold to scrap steel collectors. Any excavated soil will be used for levelling of working areas. Portable chemical toilets will also be brought to site for the use by the onsite workforce. These facilities will be serviced by an appointed service provider with all wastes being removed offsite.

General domestic waste will be temporarily stored in on-site waste receptacles and removed by the contractor when necessary. Construction waste generated during the construction process and in the contractor's camp will be the responsibility of the contractor.

Portable chemical ablution facilities will be provided to the workforce. These facilities will be serviced by an accredited waste service provider.

Provided that control measures are imposed as per the EMPr (e.g. providing an adequate number of waste receptacles / ensuring that correct disposal procedures) are followed, it is unlikely that there will be any significant impacts as a result of improper waste management.

Biological Environment

- Watercourses

Other than potential impacts to the seven low functional watercourses already outlined in section 2.2(a) S1, no further impacts are anticipated during the construction phase of this activity. It is recommended that a rehabilitation plan for the various watercourse crossings be developed prior to the construction phase. This should be a condition of the environmental authorisation and must ensure that any potential impacts on sensitive habitats are managed and mitigated. Provided that control measures are imposed as per the EMPr and the rehabilitation plan, it is unlikely that there will be any significant impacts as a result of construction activities across these watercourses. The overall impact for the construction phase on wetlands are therefore likely to be low, should the above mitigation measures be put in place.

- Flora & Fauna

The majority of the pipeline will be installed within vacant land (Bignoux and Bonmuir Estates), agricultural areas and adjacent to the road reserve. As a result, vegetation to be cleared along the pipeline route should be fairly minimal, as the majority of this servitude is already disturbed and consists of bare soil and agricultural land. Based on the current land use along the pipeline route, potential impacts to fauna and flora are considered to be minimal due to the disturbed nature of the site (primarily due to agricultural activities and the temporary nature of the construction activities). Mitigation measures to prevent secondary impacts on surrounding ecosystems include the management of alien and invasive floral species, as per the EMPr (Appendix F).

*Indirect impacts / Cumulative impacts:*

No indirect or cumulative impacts are anticipated as a result of the construction phase of this activity.

Alternative A2

N/A

No-go alternative (compulsory)

*Direct impacts:*

No direct process/technology/layout related impacts are likely with the no-go alternative, as the status quo will remain, i.e. no construction will take place.

*Indirect impacts / Cumulative impacts:*

- Employment and Associated Social Upliftment

Loss of temporary employment opportunities will lead to a short term impact. In addition water supply to the area will not be upgraded.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

Alternative A2:

An EMPr (Appendix F) has been developed to

N/A

address environmental issues related to the construction phase.

### 2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

#### a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

##### Alternative S1 (preferred alternative)

There are not expected to be any direct, indirect or cumulative site related impacts likely during the operational phase of the project.

##### Alternative S2 (if any)

N/A

##### No-go alternative (compulsory)

###### *Direct, indirect or cumulative impacts*

No direct, indirect or cumulative site related impacts are likely with the no-go alternative, as the status quo will remain.

Indicate mitigation measures to manage the potential impacts listed above:

##### Alternative S1

##### Alternative S2

None required

N/A

#### b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

##### Alternative A1 (preferred alternative)

###### *Direct impacts:*

###### Socio-economic Environment:

- Access to Services & Quality of Life

The upgrade of water supply to the area is likely to impact positively on adjacent and downstream communities in terms of access to a reliable supply of potable water, potentially improving quality of life and health of communities. This impact is long term and of medium significant in nature.

- Aesthetics

No visual impacts are anticipated, as the pipeline will be constructed below ground, and the route will be

appropriately rehabilitated.

*Indirect / Cumulative impacts:*

No further direct, indirect or cumulative 'process, technology or layout' related impacts are likely to occur in the operational phase. However, potential impacts could include leaks which would result in clean water entering the below ground environment. This will present no risk to the environment but will be monitored, controlled and limited since it will represent a financial loss to the municipality as well as a waste of a limited resource.

Alternative A2

N/A

No-go alternative (compulsory)

*Direct impacts:*

No direct process/technology/layout related impacts are likely with the no-go alternative, as the status quo will remain.

*Indirect / Cumulative impacts:*

- Access to services

There are likely to be potable water supply shortages within the areas downstream of Mtubatuba (i.e. Dukuduku, Khula, St Lucia and iSimangaliso Wetland Park) in the near future should the status quo remain. This is likely to impact on health and other social aspects, as a lack of water supply is likely to impact on the quality of life and health of communities within this area. The lack of services is also likely to negatively impact upon the development plan for the area, and contradict aims of service delivery.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

Alternative A2

An EMPr (Appendix F) has been developed to address environmental issues related to the operational phase.

N/A

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

Alternative S1 (preferred alternative)

*Direct impacts / Indirect impacts / Cumulative impacts:*

The proposed pipeline is likely to be used for the foreseeable future, and therefore the likely impacts of



decommissioning cannot be accurately predicted at this stage. If the pipeline were to be decommissioned, the likely impact would be similar to those discussed in Section 2.2.b (Construction phase impacts).

Alternative S2

*Direct / Indirect / Cumulative impacts:* N/A

No-go alternative (compulsory)

In this case, there will be no decommissioning of the pipeline, as the pipeline will not be installed.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2
None required	N/A

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

*Direct impacts / Indirect impacts / Cumulative impacts*  
 This pipeline is likely to be used for the foreseeable future, and therefore the likely impacts of decommissioning this infrastructure cannot be accurately predicted at this stage. If the pipeline was to be decommissioned and left in situ, no environmental impacts are likely to occur. If it is removed and replaced, the likely impact would be similar to those discussed in Section 2.2.b (Construction phase impacts).

Alternative A2

N/A

No-go alternative (compulsory)

In this case, there will be no decommissioning of the facility, and the pipeline will continue to be operational

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1	Alternative A2
None required	N/A

2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative S1 (preferred site)

Alternative S2

An EMPr (Appendix F) has been developed to address site specific environmental issues related to the construction phase.

N/A

Alternative A1 (preferred alternative)

Alternative A2

I. Construction Phase:

An EMPr (Appendix F) has been developed to address environmental issues related to the construction phase.

II. Operational Phase:

An EMPr (Appendix F) has been developed to address environmental issues related to the operational phase.

III. Decommissioning Phase:

None required.

N/A

### 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.

#### IMPACT ASSESSMENT METHODOLOGY:

The following section comprises a summary table of potential environmental impacts identified in the preceding sections (i.e. how, where and when the proposed installation could interact with and affect the environment), and summarises the mitigation measures that may be taken to ameliorate the significance of the identified impacts.

A quantitative rating of the significance of environmental issues has been included. The purpose of the significance rating is to highlight relevant important issues, and to eliminate the insignificant issues from the investigation. Each category was divided into a number of different levels. These levels were then assigned various criteria (as per the table below). Refer to the EMPr in Appendix F for a mitigation summary (i.e. recommendations for minimising or eliminating negative impacts).

NATURE OF THE POTENTIAL IMPACT		DESCRIPTION OF THE EFFECT, AND THE AFFECTED ASPECT OF THE ENVIRONMENT
Duration (time scale)	Short-term	Impact restricted to construction and early operation (e.g. 0-5 years)
	Medium-term	Impact restricted to operational phase (e.g. 5 years – closure)
	Long-term	Impact will cease after the operational life of the activity either by natural processes or by human intervention
	Permanent	Where mitigation either by natural processes or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.
Probability	Improbable	Possibility of the impact to materialise is very low, either because of design or historic experience
	Probable	There is a distinct possibility that the impact will occur
	Highly probable	Where it is most likely that the impact will occur
	Definite	Where the impact will occur regardless of any mitigation measures
Mitigation summary		Summary of recommendations for minimising or eliminating negative impacts
Overall Significance (Synthesis of the aspects produced in terms of their nature, duration, intensity, extent, and probability)	Low	Where the impact will not have an influence on the decision
	Medium	Where it should have an impact on the decision unless it is mitigated
	High	Where it would influence the decision regardless of any possible mitigation

Table 2 Evaluation of Potential Environmental Impacts Associated with the construction of the Mtubatuba Pipeline.

## Alternative S1

Type of Impact	Duration	Probability	Mitigation Summary	Overall Significance
<b>NEGATIVE</b>				
<u>Wetlands / Watercourses:</u> There is the potential for watercourses along the pipeline route to be impacted on during the construction phase.	Short term (Construction phase only)	Probable: The pipeline route directly intersects with watercourses.	<ul style="list-style-type: none"> <li>– Follow mitigation measures set out in the EMPr.</li> <li>– Wetlands must be rehabilitated immediately after construction as per recommendations of the wetland rehabilitation plan.</li> </ul>	Low to Medium: - Should the recommendations and mitigation measures in the EMPr be followed, this overall impact will be reduced to an acceptable level.

## Alternative A1 (preferred alternative)

Type of Impact	Duration	Probability	Mitigation Summary	Overall Significance
<b>NEGATIVE</b>				
<u>Traffic &amp; access</u> There is the potential for construction vehicles and site activities to impact traffic on the N2 and R618 during construction.	Short term (Construction phase only)	Probable: Construction vehicles will be present on site, and the pipeline route is in close proximity to the road reserves.	<ul style="list-style-type: none"> <li>– Ensure that relevant traffic calming measures are in place (e.g. signage, flag men, etc.).</li> <li>– Construction activities and storage facilities must not obstruct roads or traffic flow as far as possible.</li> </ul>	Low: - Should the mitigation measures in the EMPr be followed, this impact will be limited to the construction phase (6 months) only.
<u>Aesthetics</u> The aesthetics of the site are likely to be altered during the construction phase.	Short term (Construction phase only)	Probable: Vegetation clearing and site activities may impact aesthetics of the area.	<ul style="list-style-type: none"> <li>– The construction area must be suitably screened, and vegetation rehabilitation of watercourses must occur immediately after construction, as per recommendations of the EMPr.</li> </ul>	Low: - Should the recommendations and mitigation measures in the EMPr be followed, this impact will be reduced to an acceptable level.

Basic Assessment Report

Type of Impact	Duration	Probability	Mitigation Summary	Overall Significance
<p><u>Surface water</u></p> <p>There is the potential for surface water to be contaminated by eroded soils and chemicals.</p>	<p>Short term (Construction phase only)</p>	<p>Probable: The construction of the pipeline proposed to transverse watercourses.</p>	<ul style="list-style-type: none"> <li>– Implementation of spillage management and safety procedures as per the EMPr.</li> <li>– Implementation of stormwater management recommendations as per the EMPr.</li> </ul>	<p>Low: - Should the recommendations and mitigation measures in the EMPr be followed, this impact will be limited.</p>
<p><u>Ground water</u></p> <p>There is the potential for accidental spillages of fuel or other contaminants to occur during the construction phase, resulting in soil and groundwater contamination.</p>	<p>Short term (Construction phase only)</p>	<p>Improbable: Few potentially contaminating materials on site, therefore low risk of spillage</p>	<ul style="list-style-type: none"> <li>– Implementation of spillage management and safety procedures as per the EMPr.</li> </ul>	<p>None – Low: - Should the recommendations and mitigation measures in the EMPr be followed, this impact will be limited.</p>
<p><u>Air Quality</u></p> <p>There is the potential for construction activities to deteriorate local air quality due to dust generation and vehicular emissions.</p>	<p>Short term (Construction phase only)</p>	<p>Probable: Dust generation may increase due to the presence of soil stockpiles. Vehicle emissions may also deteriorate air quality.</p>	<ul style="list-style-type: none"> <li>– Implementation of dust suppression techniques / recommendations as per the EMPr.</li> </ul>	<p>Low: - Should the recommendations and mitigation measures in the EMPr be followed, this impact will be limited.</p>
<p><u>Noise</u></p> <p>There is the potential for construction activities to increase noise levels in the area.</p>	<p>Short term (Construction phase only)</p>	<p>Highly probable: Construction vehicles and workers may increase noise levels on site. The noise levels will be limited to normal working hours.</p>	<ul style="list-style-type: none"> <li>– Ensure that working hours are limited to between 7am and 5pm during the week.</li> </ul>	<p>Low: - Based on the distance of the closest receptor, the frequency of exceedances and implementation of mitigation measures in the EMPr, this impact will be limited.</p>

Basic Assessment Report

Type of Impact	Duration	Probability	Mitigation Summary	Overall Significance
<p><u>Geology &amp; Soils</u></p> <p>There is the possibility of some soil erosion occurring on site. Potential impacts relate to soil entrainment into surface water resources.</p>	<p>Short term (Construction phase only)</p>	<p>Probable: There is the potential for some soil erosion to occur on site during rain events.</p>	<ul style="list-style-type: none"> <li>– Minimising the area excavated for construction will limit the amount of exposed soil vulnerable to erosion.</li> <li>– Vegetation rehabilitation must commence immediately after construction to reduce the likelihood of erosion.</li> </ul>	<p>Low: Should the recommendations and mitigation measures in the EMPr be followed, this impact will be limited.</p>
<p><u>Waste Generation</u></p> <p>Waste generated during construction activities may include general domestic waste construction rubble and sewage from portable ablution facilities.</p>	<p>Short term (Construction phase only)</p>	<p>Probable: Waste is likely to be generated as part of construction activities – domestic and construction</p>	<ul style="list-style-type: none"> <li>– Waste receptacles need to be placed at the site and the staff trained regarding the correct storage and disposal of this waste Regular waste collection and disposal at suitable facilities</li> <li>– Suitable onsite storage facilities</li> <li>– Credited waste services providers will be appointed for the removal and servicing of the portable chemical ablution facilities.</li> </ul>	<p>Low: Should the recommendations and mitigation measures in the EMPr be followed, this impact will be limited.</p>
<p><u>Wetlands</u></p> <p>There is the potential for seven wetlands along the pipeline route to be affected on during the construction phase.</p>	<p>Short term (Construction phase only)</p>	<p>Highly Probable: The pipeline route directly intersects with seven wetlands.</p>	<ul style="list-style-type: none"> <li>– Follow mitigation measures set out in the EMPr.</li> <li>– Wetlands must be rehabilitated as per recommendations of the Wetland Assessment and EMPr during and immediately after construction.</li> </ul>	<p>Low - Medium: Should the recommendations and mitigation measures in the EMPr be followed, this impact will be reduced to an acceptable level.</p>

Basic Assessment Report

Type of Impact	Duration	Probability	Mitigation Summary	Overall Significance
<b>POSITIVE</b>				
<u>Access to services &amp; Improved quality of life</u> The upgrade of bulk water supply will provide better access to services and improve quality of life.	Long term (Operational phase)	Definite: Improved access to potable water in suburban and rural areas is likely to improve quality of life.	– None required.	High: Improved quality of life will have a significant positive impact on local communities.
<u>Employment and Associated Social Upliftment</u> There is the potential for local communities to receive employment opportunities during the construction phase.	Short to Long term (Construction and Operational phase)	– Probable: Potential employment opportunities exist for semi-skilled and skilled workers in the construction sectors.	– Use local skilled workers as far as possible.	Medium: The construction phase will provide 20 employment opportunities.

On the basis of the above evaluation, the overall negative impact of the proposed installation of the reservoir and bulk water pipeline is deemed to be of low to medium significance. The proposed upgrade serves a basic need to surrounding communities and will increase the standard of living for the residents as well as ensuring easier access to services in the future (positive impact).

No-go alternative (compulsory)

Type of Impact	Duration	Probability	Mitigation Summary (refer to EMP for full measures)	Overall Significance
<b>NEGATIVE</b>				
<u>Access to Services &amp; Quality of life</u> No upgrade of the water supply will	Long term	Definite: A lack of potable water is likely to reduce quality of life.	– None	High: Current conditions will deteriorate in the near future resulting in a significant decrease in quality of life, health and development potential for the area due to

Basic Assessment Report

Type of Impact	Duration	Probability	Mitigation Summary (refer to EMP for full measures)	Overall Significance
occur. As a result this will reduce the potential for development and quality of life for local residents.				reduced access to a basic necessity.
<u>Employment and Social Upliftment</u> Loss of temporary employment opportunities	Short term (Construction phase only)	Probable: The possible employment opportunities for local communities would no longer be available.	— None	High: This is a significant negative/adverse impact in an area where employment opportunities are scarce, and one person may support an entire household.

On the basis of the above evaluation, the overall negative impact of the “no-go” option is deemed to be of high significance. Maintaining the status quo is likely to negatively affect the local communities in the long term.



## SECTION F RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAP sufficient to make a decision in respect of this report?

YES ✓	NO ✗
----------	---------

If "NO", please contact the KZN Department of Agriculture & Environmental Affairs regarding the further requirements for your report.

If "YES", please attach the draft EMPr as Appendix F to this report and 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:

The EAP recommends the following to prevent and mitigate impacts on the receiving environment:

- Recommendations from the Watercourse Assessment: Although the threats to the wetland functionality by the proposed development are regarded as low, this is reliant on mitigatory measures to limit the impacts to the wetland during the development, and suitable rehabilitation measures to restore the wetland functionality." The rehabilitation recommendations of the EMPr must be implemented within the suggested timeframes. Due to the limited extent of wetlands, a functional assessment is not expected to be required. However, to limit the impacts to the watercourses during construction it is recommended that mitigation measures listed in the EMPr are adopted.
- Water Use Licenses: It is probable that a Water Use License or exemption thereof will be required in terms of Section 21 (i) and (j) of the National Water Act. The relevant authorisations and water use licenses must be obtained prior to the commencement of construction activities.
- Cultural or Heritage Resources: Given the nature of the pipeline route (The entire servitude is highly disturbed through road construction and maintenance; the creation of formal and informal access roads and tracks; and adjacent afforestation activities), it is recommended that Amafa grant an exemption from a full Phase 1 Heritage Impact Assessment for this project. Should cultural or heritage resources be identified during construction, the recommendations and mitigation measures in the EMPr must be followed to minimise any potential impacts.
- Water Conservation Strategy: The water service provider (Mhlathuze Water) must have a demand management and water conservation strategy in place. This strategy must include leak detection and infrastructure maintenance as part of its long term monitoring plan. It is recommended that Mhlathuze Water implement a community awareness programme on the responsible use of water.

The implementation of the EMPr is required to alleviate the potential negative impacts on the environment to a level of no or low significance. This should be a condition of the Environmental Authorisation, together with the requirement for the appointment of an independent ECO.

## SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

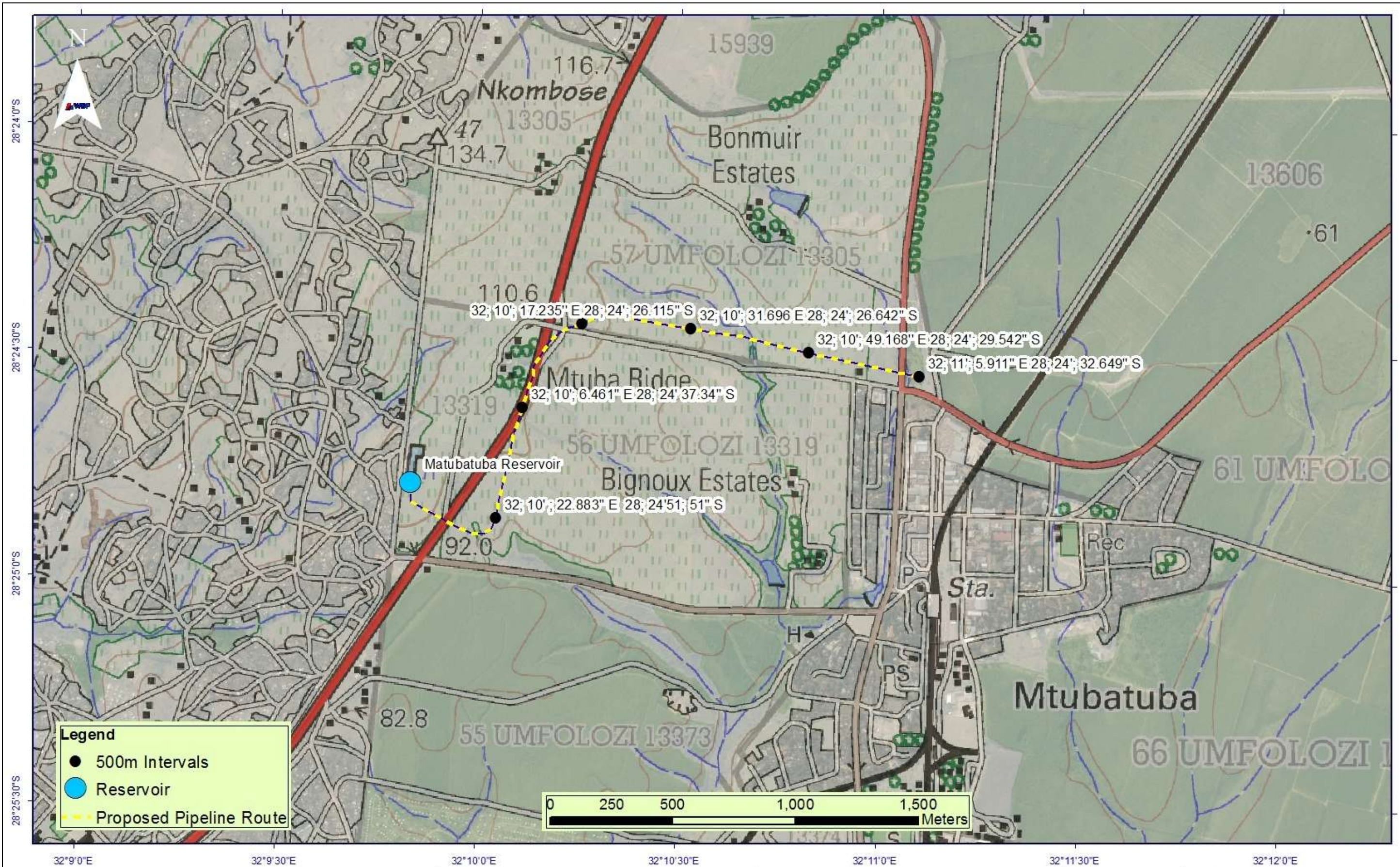
Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information

## Appendix A: Site plan(s)



**Data Source:**  
 The Chief Directorate of Survey & Mapping  
 1:50 000 Topographical map series: 2832 AC

**Project:** Dukuduku Bulk Water Supply  
**Drawn by:** H. Tularam  
**Reviewed by:** H. Tularam  
**Date:** August 2012

**Scale:**  
 1:20,000  
**Sheet No.**  
 1

**Client:**  
**Projection:** TM Lo29 (WGS 84)



WSP House  
 Swanton Office Park  
 50 Swanton Drive  
 Swanton, 2012  
 Tel: (011) 261 1260  
 Fax: (011) 261 1262  
 www.wspgroup.co.za

## Appendix B: Photographs



**Figure 2: End of Pipeline Route**



**Figure 3: Pipeline Route South of Mtubatuba**



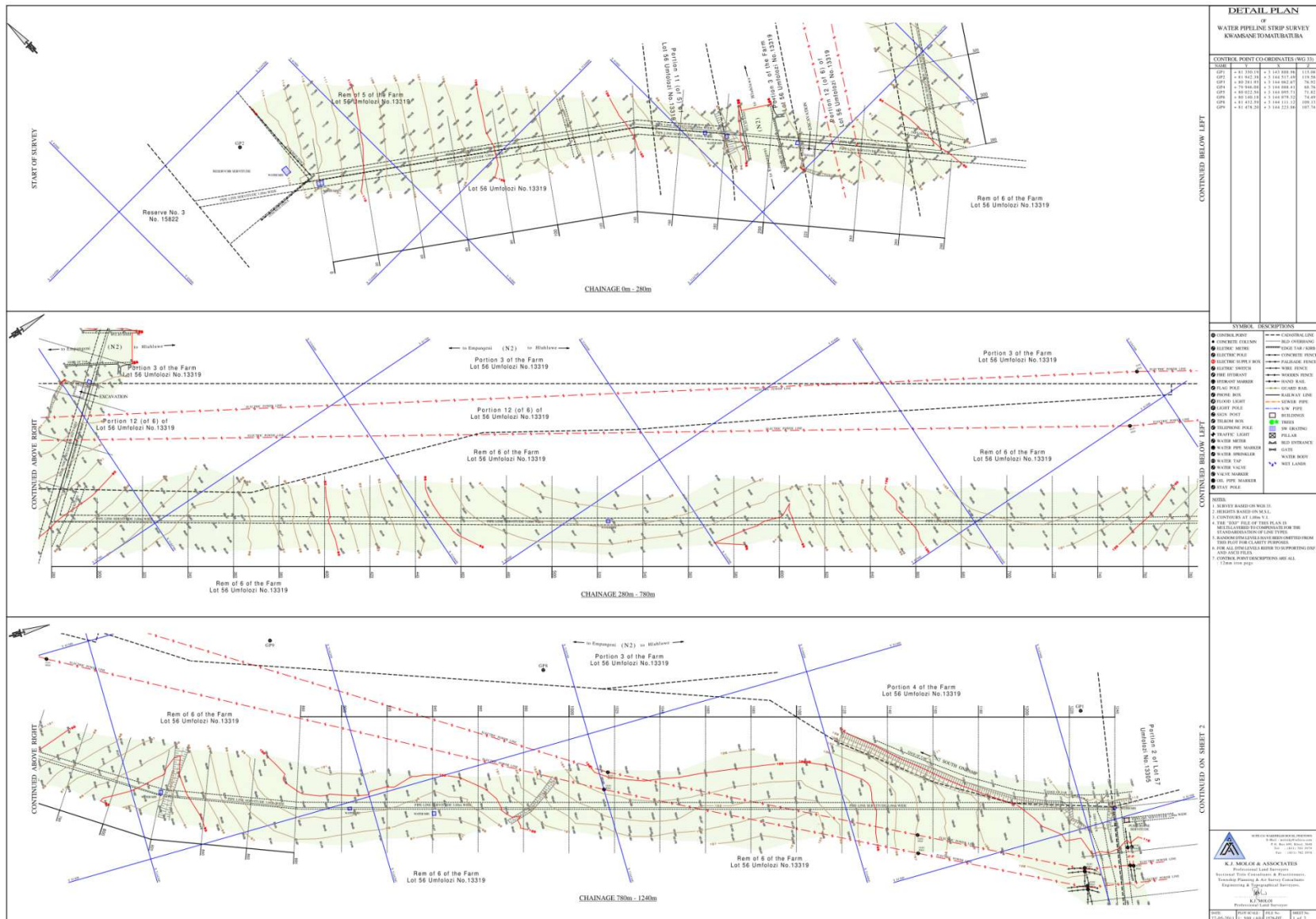
**Figure 4: Existing Servitudes to be utilized for Pipeline**



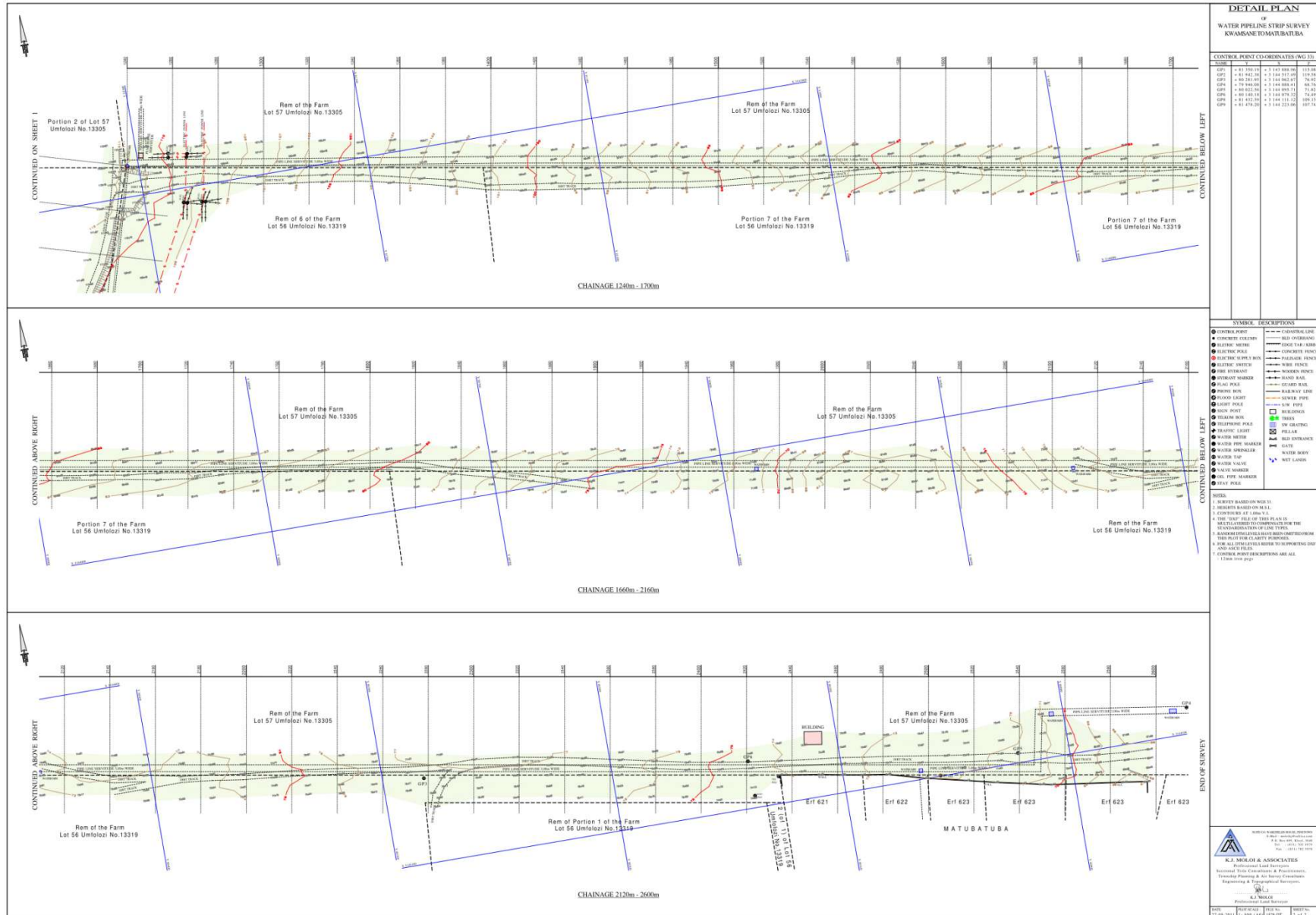
**Figure 5: Pipeline Route North-east of Mtubatuba**


Appendix C: Facility illustration(s)

Basic Assessment Report



# Basic Assessment Report





## Appendix D: Specialist reports

D1- Watercourse Assessment



UNITED  
BY OUR  
DIFFERENCE


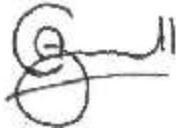






# MTUBATUBA BULK WATER SUPPLY

## Wetland Delineation

2012/09/26

# Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft for Comment	Final Report		
Date	August 2012	September 2012		
Prepared by	A Gemmell	A Gemmell		
Signature				
Checked by	A Sanderson	A Sanderson		
Signature				
Authorised by	A Sanderson	A Sanderson		
Signature				
Project number	27284			
File reference	27284_Mtubatuba Bulk Water Supply_Wetland Delineation_Draft Report_20120926			

---

# MTUBATUBA BULK WATER SUPPLY

## Wetland Delineation

2012/09/26

### Client

L Toyi and Associates  
Suite 10, hillcrest Office aprk  
2 Old Main Road  
Hillcrest

### Consultant

WSP Environment & Energy  
Block A, 1 on Langford  
Langford Road, Westville  
Durban  
3629  
South Africa

Tel: +27 31 240 8889  
Fax: +27 31 240 8861

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)

### Registered Address

WSP Environment & Energy South Africa  
1995/008790/07  
WSP House, Bryanston Place, 199 Bryanston Drive,  
Bryanston, 2191, South Africa

### WSP Contacts

Andrew Gemmell  
[Andrew.Gemmell@WSPGroup.co.za](mailto:Andrew.Gemmell@WSPGroup.co.za)  
031 240 8889

---

# Table of Contents

1	Introduction .....	1
1.1	Authorisation .....	1
1.2	Background .....	1
2	Methodology .....	1
2.1	Desktop Study .....	1
2.2	Watercourse Screening.....	1
2.2.1	Soil Wetness Indicators .....	2
2.2.2	Vegetation Indicators .....	2
2.3	Assumptions and Limitations .....	2
3	Watercourse Delineation .....	3
3.1	Site Description .....	3
3.2	Watercourse 1 .....	3
3.3	Watercourse 2 .....	3
3.4	Watercourse 3 .....	4
3.5	Watercourse 4 .....	4
3.6	Watercourse 5 .....	4
3.7	Watercourse 6 .....	4
3.8	Watercourse 7 .....	4
4	Conclusions .....	5
	Plates.....	6
	Figures .....	15
	Appendix A – Site Plan.....	17

---

# 1 Introduction

## 1.1 Authorisation

WSP Environment & Energy (WSP) was appointed by L. Toyi & Associates cc. on behalf of Mhlatuze Water, to undertake a watercourse assessment as part of the environmental authorisation process for a bulk water supply project in the vicinity of Mtubatuba, KwaZulu-Natal.

The offer to carry out the works was contained in WSP Proposal Reference 27284, dated the 15<sup>th</sup> of May 2012. L. Toyi & Associates cc. commissioned the work under Purchase Order No. 1012-01.

The objectives of this report are to provide a preliminary identification of any watercourses (including wetlands) expected to be impacted by the project.

## 1.2 Background

The construction of a steel pipeline is proposed between the towns of Mtubatuba and Dukuduku. The environmental authorisation process is being conducted for each construction phase.

The section of pipeline included within this study is approximately 3km in length, and is expected to run from the Mtubatuba reservoir located approximately 2.3km west of Mtubatuba, to Mtubatuba itself. The route will run from the reservoir, beneath the N2 highway, and within a current servitude that runs east of the N2, and north of an unpaved road that links the N2 to Mtubatuba (**Figure 1**).

# 2 Methodology

## 2.1 Desktop Study

A desktop study was undertaken to determine the expected topography, land-use and watercourse layout in the vicinity of the proposed pipeline. The desktop study defined the location and extent of watercourses expected to be impacted. This was based on the following:

- Topographical mapping (Chief Directorate: Surveys and Mapping);
- Aerial imagery (Department of Rural Development and Land Reform: National Geospatial Information); and,
- Soil mapping (Department of Agriculture and Forestry).

## 2.2 Watercourse Screening

A site walkover was conducted by Andrew Gemmell of WSP on the 30<sup>th</sup> of July 2012 to groundtruth the extent of watercourses identified during the desktop study.

Where present, the watercourse delineation was based on the presence of surface water, defined drainage channels, and any riparian vegetation. In the absence of these indicators, the identification of watercourses was based primarily on the observations of wetland conditions, including:

- Soil wetness indicators identifying morphological "signatures" developed in the upper 0.5m of the soil profile as a result of prolonged and frequent saturation; and,
- Vegetation indicators associated with frequently saturated soils.

### 2.2.1 Soil Wetness Indicators

The colours of various soil components are often the most diagnostic indicator of wetland (hydromorphic) soils. Colours of these components are strongly influenced by the frequency and duration of soil saturation. Generally, the higher the duration and frequency of saturation in a soil profile, the more prominent grey colours become in the soil matrix.

Coloured mottles, another feature of hydromorphic soils, are usually absent in permanently saturated soils, are at their most prominent in seasonally saturated soils, becoming less abundant in temporarily saturated soils until they disappear altogether in dry soils.

Generally, in mineral soils, a grey soil matrix and/or mottles must be present for the soil horizon to qualify as having signs of wetness in the temporary, seasonal and permanent zones.

### 2.2.2 Vegetation Indicators

Vegetation in an untransformed state is a helpful field guide in identifying the boundary of the wetland. Plant communities undergo distinct changes in species composition across the wetness gradient. This change in species composition provides valuable clues for determining the wetland boundary, and wetness zones.

When using vegetation indicators for delineation, emphasis is placed on the group of species that dominate the plant community rather than on individual indicator species. The emphasis is the definition of the temporary zones of a wetland for delineation purposes. The relationship between the wetness zones and the hydrophilic vegetation types outlined in **Table 1** was used to characterise these zones.

**Table 1 - Relationship between Wetness Zones and Vegetation Types (DWA, 2005)**

Vegetation	Temporary	Seasonal	Permanent/Semi-permanent
<b>Herbaceous</b>	Predominantly grass species; mixture of species which occur extensively in non-wetland areas, and hydrophilic plant species which are restricted largely to wetland areas.	Hydrophilic sedge and grass species which are restricted to wetland areas.	Dominated by: (1) emergent plants, including reeds ( <i>Phragmites australis</i> ), a mixture of sedges and bulrushes ( <i>Typha capensis</i> ), usually >1m tall; or (2) floating or submerged aquatic plants.
<b>Woody</b>	Mixture of woody species which occur extensively in non-wetland areas, and hydrophilic plant species which are restricted largely to wetland areas.	Hydrophilic woody species, which are restricted to wetland areas.	Hydrophilic woody species, which are restricted to wetland areas. Morphological adaptations to prolonged wetness (e.g. prop roots).

## 2.3 Assumptions and Limitations

- This study serves as a screening level identification of watercourses potentially impacted by the proposed pipeline development;
- Although wetlands were used to define the extent of watercourses, the screening level assessment did not include wetland delineation; and,
- The exact route of the servitude is unknown; therefore, this was estimated based on the location of sporadic manholes probably associated with the servitude's route.

---

## 3 Watercourse Delineation

### 3.1 Site Description

The route of the pipeline will follow the current servitude that runs parallel to the N2 and an unpaved access road that links the N2 to the town of Mtubatuba. The route of this servitude was estimated based on the location of probably associated manholes (**Appendix A**).

The general landscape in the area is characterised by gently undulating topography. Based on available land type maps, the soils within the study area are expected to be dominated by sandy clay loams and sandy clays, with soils becoming more clayey near the base of slopes.

The desktop study and site walkover identified seven watercourses expected to be impacted, to some extent, by the construction of the pipeline. Each of these watercourses, and the features used to define their extent are described in the following sections. The identified watercourse map is presented in **Appendix A**.

The watercourses drain in a general south-easterly forming a non-perennial watercourse that contributes to the Mfolozi River roughly 4km south of the study area (**Figure 1**). Since the study was conducted in the dry season, the flow within the non-perennial watercourses is expected to be limited.

### 3.2 Watercourse 1

This watercourse originates to the west of the N2, passes under the highway via a culvert and continues to flow in a south-easterly direction.

The upper reaches of the watercourse had no flow at the time of observation; hence, the extent of the watercourse was visually identified based on soil wetness indicators and vegetation indicators (including riparian vegetation) (Plate 1).

At the outlet of the culvert, the flat terrain as well as stormwater runoff from the highway has allowed for a small wetland area to develop (estimated extent 350m<sup>2</sup>). This area was defined based on soil wetness indicators and vegetation indicators.

The terrain then becomes steeper leading to a better defined drainage channel. Water ponding was noted (Plate 2) without observable flow. The extent of this portion of the watercourse was identified based on the presence surface water, soil wetness indicators, and vegetation indicators (including riparian vegetation). The proposed pipeline is expected to cross the watercourse in this portion.

Down-gradient of the proposed pipeline route, the watercourse contributes to two small earth-walled dams (Plate 3).

### 3.3 Watercourse 2

This watercourse originates to the west of the N2, passes under the highway via a culvert and continues to flow in a south-easterly and southerly direction.

The upper portions of the watercourse comprised an ill-defined drainage line (Plate 4) identifiable by soil wetness indicators. The soils within the identified watercourse had evidence of a dark brown matrix with orange-red mottles (Plate 5), indicative of wetland soils. Soils within the drainage line had a higher clay content in comparison to soils outside of the watercourse. The proposed pipeline is expected to cross the watercourse within this portion.

The lower portions of the watercourse had no evidence of surface water at the time of observation (as this was undertaken during the dry season), with the drainage line contributing to the lower of the two earth-walled dams associated with Watercourse '1'.



---

### 3.4 Watercourse 3

This watercourse originates to the west of the N2, passes under the highway via a culvert and continues in a south-easterly direction, towards Watercourse '5'.

The upper portions of the watercourse directly adjacent to the culvert were identified based on soil wetness indicators due to the lack of surface water and vegetation indicators (Plate 6). The soils within the watercourse had evidence of a dark brown clayey matrix with orange mottles.

Approximately 30m downstream from the culvert, the watercourse becomes better defined by a drainage line, with associated riparian vegetation (Plate 7). This portion of the watercourse is expected to be crossed by the proposed pipeline. Although evidence of previous surface ponding (dried waterholes) is present in the lower portions of this watercourse in the vicinity of the confluence with Watercourse '5', there was no evidence of water flow (Plate 8).

### 3.5 Watercourse 4

Watercourse '4' originates approximately 12m east of the N2 and continues in a south-easterly direction, to confluence with Watercourse '5'.

The upper portions of the watercourse (Plate 9) directly adjacent to the culvert were identified based on terrain factors, the presence of riparian vegetation and soil wetness indicators. No surface water was present.

Although no surface flow was noted, the lower portions of the watercourse have increased evidence of surface ponding within a well-defined watercourse (Plate 10) and dried waterholes (Plate 11). This portion of the watercourse is expected to be crossed by the proposed pipeline.

### 3.6 Watercourse 5

Watercourse '5' originates west of the N2, passes under the highway and associated off-ramp via a culvert, and continues in a south-easterly direction.

The upper portions of this watercourse (Plate 12) were identified by terrain factors leading to the formation of a drainage line, the presence of riparian vegetation and soil wetness indicators. No surface water was present.

The lower portions of the watercourse, expected to be crossed by the proposed pipeline development, have increased evidence surface ponding of water within a well-defined watercourse (Plate 13); and associated dry waterholes (Plate 14); however, no water flow was noted.

### 3.7 Watercourse 6

Watercourse '6' originates in the vicinity of the N2 highway, and flows east and south-east towards the proposed pipeline route that will run to the north of the unpaved access road linking the N2 to Mtubatuba.

There was no surface flow noted in the vicinity of the expected pipeline route, despite a culvert being located beneath the road located to the south. The presence of the road and culverts has led to the creation of wetland conditions (covering an area of approximately 500m<sup>2</sup>), identified based on vegetation indicators (Plate 15). This is expected to be due to water ponding during rainfall events leading to prolonged wetness.

### 3.8 Watercourse 7

Watercourse '7' originates north of the proposed pipeline route and unpaved access road. The watercourse was identifiable by a channel that runs parallel to the R618 regional road (Plate 16), possibly excavated to channel surface flow originating from the road as well as from the veld to the north. Evidence of wetland vegetation and surface water ponding was noted in the vicinity of the proposed pipeline route; however, no flow

---

was observed. The channel leads to culverts leading below the unpaved road, directing flow to the south of the servitude (Plate 17).

## 4 Conclusions

This watercourse assessment serves as an initial indication of the location and extent of watercourses that may be impacted by the proposed pipeline development.

The expected pipeline crossings at Watercourse 1, 2, 3, 4, 5 and 7 are characterised by drainage lines with limited evidence of wetland conditions. As a result, the functioning with regard to wetland benefits is limited at these points and the impacts to the wetlands during construction are expected to be low.

At Watercourse 6 the current road crossing has allowed for wetland conditions to develop due to the promotion of water ponding. However, the wetland extent is limited; hence, the wetland functioning is expected to be low. Since the pipeline will be placed within servitude currently in place, the impacts of this development on the wetland are expected to be low.

Based on the outcome of the watercourse assessment, the construction will cross seven watercourses. Due to the potential impacts, environmental authorisation for this water use under Section 21 of the National Water Act (Act No. 36 of 1998) will be required.

Due to the limited extent of wetlands, a functional assessment is not expected to be required. However, to limit the impacts to the watercourses during construction it is recommended that mitigation measures are adopted.

# Plates



Plate 1: Watercourse 1, immediately west of N2 highway (GPS coordinates: -28.413829°; 32.165939°)



Plate 2: Watercourse 1, east of N2 highway (GPS coordinates: -28.414705°; 32.166425°)



Plate 3: Dam located on Watercourse 1 (GPS coordinates: -28.416053°; 32.167579°)



Plate 4: Upper portions of Watercourse 2 (GPS coordinates: -28.412804° 32.167803°)



Plate 5: Wetland soils present in upper portion of Watercourse 2 (GPS coordinates: -28.412585°  
32.167607°)



Plate 6: Culvert beneath N2, associated with Watercourse 3 (GPS coordinates: -28.411020°;  
32.168393°)



Plate 7: Riparian vegetation associated with the upper portion of Watercourse 3 (GPS coordinates: -28.410918°; 32.168594°)



Plate 8: Dried waterhole associated with Watercourse 3 (GPS coordinates: -28.411270°; 32.169254°)



Plate 9: Upper portions of Watercourse 4 (GPS coordinates: -28.409550°; 32.169365°)



Plate 10: Surface water associated with lower portions of Watercourse 4 (GPS coordinates: -28.410020°; 32.169635°)



Plate 11: Dried waterhole associated with Watercourse 4 (GPS coordinates: -28.410175°; 32.169765°)



Plate 12: Upper portion of Watercourse 5 (GPS coordinates: -28.408390°;32.169915°)





Plate 13: Surface water ponding associated with Watercourse 5 (GPS coordinates: -28.409180°  
32.170443°)



Plate 14: Dried waterhole associated with Watercourse 5 (GPS coordinates: -28.409498°;  
32.170611°)



Plate 15: Dried watercourse in the vicinity of the access road culverts associated with Watercourse 6 (GPS coordinates: -28.408966°; 32.178130°)



Plate 16: Channel associated with Watercourse 7 (GPS coordinates: (-28.408955°; 32.184049°)

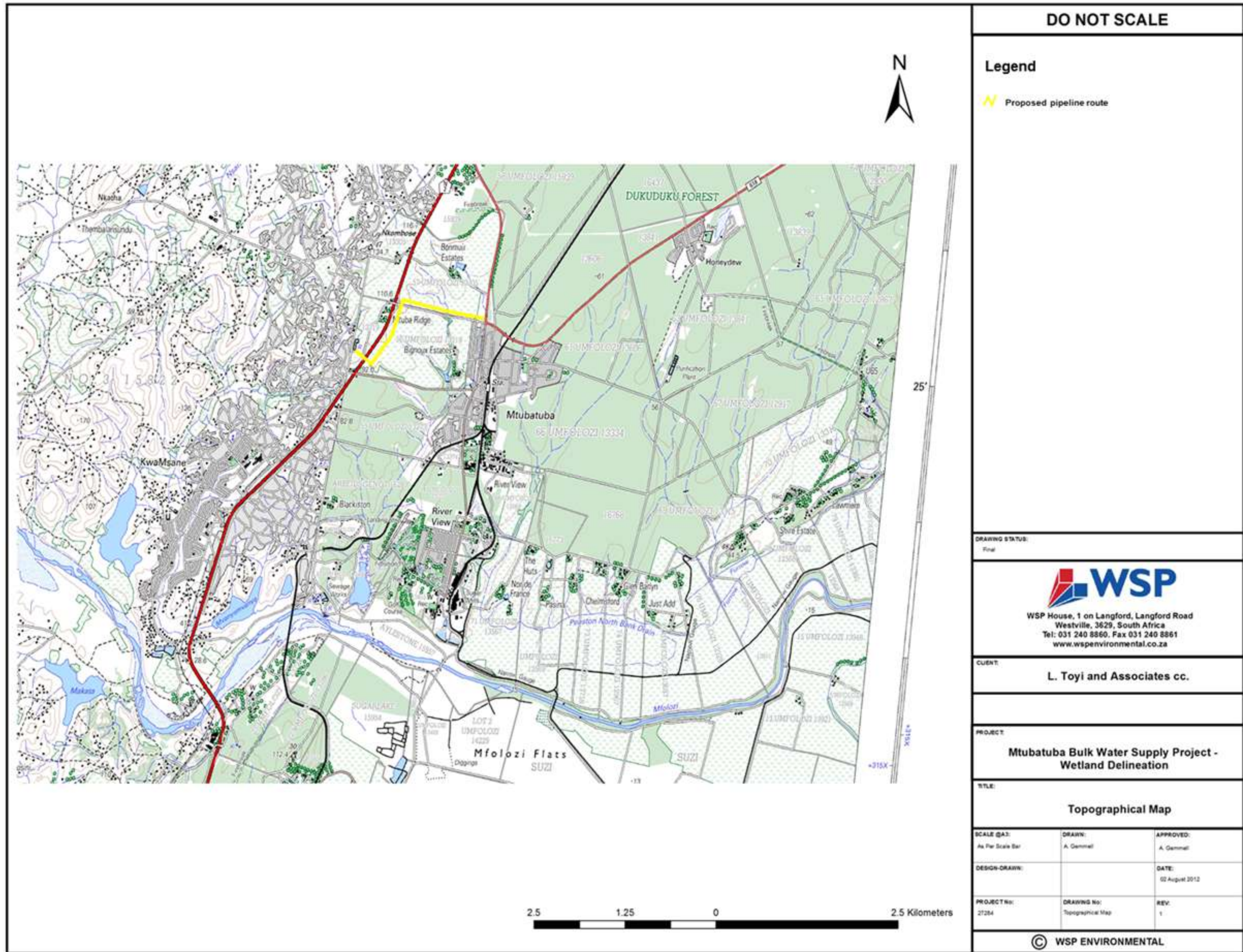


Plate 17: Culverts located beneath the unpaved road, associated with Watercourse 7 (GPS coordinates: -28.409735°; 32.184087°)

---

# Figures

Figure 1 – Topographical layout of the proposed development






---

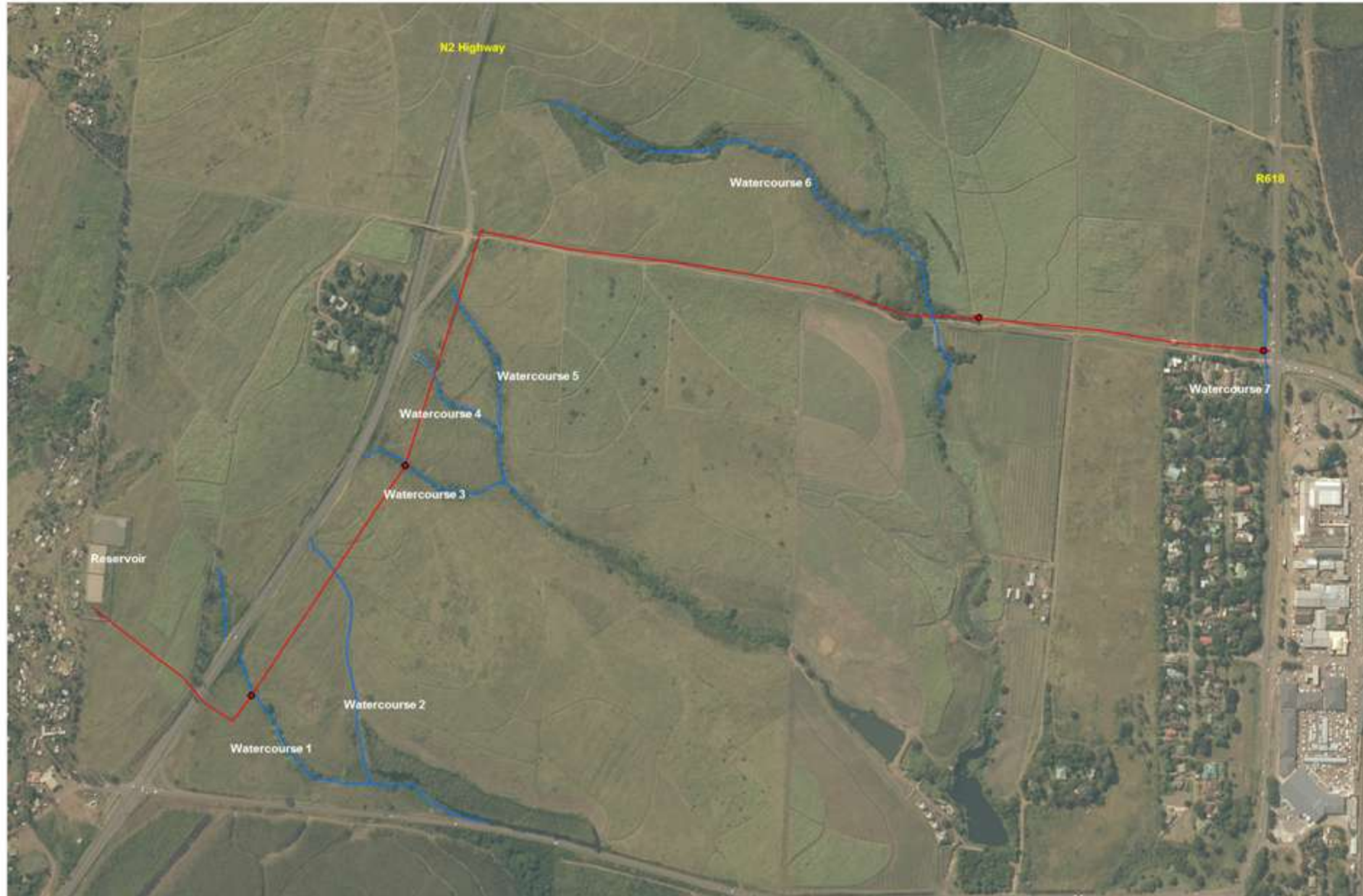
## Appendix A – Site Plan

DO NOT SCALE



**Legend**

-  Proposed pipeline route
-  Manhole
-  Watercourse



DRAWING STATUS:  
Final



WSP House, 1 on Langford, Langford Road  
Westville, 3629, South Africa  
Tel: 031 240 8860. Fax 031 240 8861  
www.wspenvironmental.co.za

CLIENT:

L. Toyi and Associates cc.

PROJECT:

Mtubatuba Bulk Water Supply Project -  
Wetland Delineation

TITLE:

Watercourse Delineation

SCALE (A3):

As Per Scale Bar

DRAWN:

A. Gemmal

APPROVED:

A. Gemmal

DESIGN-DRAWN:

DATE:

02 August 2012

PROJECT No:

27284

DRAWING No:

1

REV:

1



© WSP ENVIRONMENTAL



**WSP Environment & Energy South Africa**

Block A, 1 on Langford  
Langford Road, Westville  
Durban  
3629  
South Africa  
Tel: +27 31 240 8889  
Fax: +27 31 240 8861  
[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)

UNITED  
BY OUR  
DIFFERENCE





## Appendix E: Comments and responses report

\*\* To be included in the FBAR



UNITED  
BY OUR  
DIFFERENCE



# INSTALLATION OF MTUBATUBA WATER SUPPLY PIPELINE

Stakeholder Engagement Report

August 2012

Public

---

# Table of Contents

1	Description of the stakeholder engagement process .....	3
1.1	<b>ADVERTISING</b> .....	3
1.2	<b>PUBLIC NOTICES</b> .....	3
1.3	<b>FLYER DISTRIBUTION</b> .....	5
1.4	<b>WRITTEN NOTICES</b> .....	5
1.5	<b>BACKGROUND INFORMATION DOCUMENT</b> Error! Bookmark not defined.	
2	Stakeholder Database.....	12
3	Issues Trail.....	13
4	Report Distribution .....	12

# 1 Description of the stakeholder engagement process

The stakeholder engagement process was undertaken in accordance with the provisions of GN: R543, Chapter 6 of the 2010 NEMA EIA Regulations. The process ensured that the widest range of potential stakeholders were identified and provided with an opportunity to review the details of the proposed project and submit any issues and concerns. The following was undertaken:

## 1.1 Advertising

In accordance with the 2010 NEMA EIA Regulations, advertisements were placed in the Umlozi Wezindaba (Zulu) and the Zululand Observer (English) on the 14th June and 15th of June 2012, respectively. The advert gave notice in terms of the EIA Regulations for the proposed project and requested stakeholders to register their interest in the project with WSP Environmental (WSP).

**WSP**

**NOTICE OF BASIC ENVIRONMENTAL ASSESSMENT APPLICATION**

Notice is given in terms of Section 24 of the National Environmental Management Act, (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010 (GN: R544, R545, and R546) of the intent to submit a Basic Assessment application to the National Department of Environmental Affairs (DEA) for the following activity:

**Proponent:** Mhlathuze Water  
**Activity:** Dukuduku Bulk Water Supply: installation of water reservoir and pipeline

**Project Overview:**  
 L. Toyi & Associates CC has been appointed by Mhlathuze Water for the design, construction, of a steel pipeline in the area of Mtubatuba, KwaZulu-Natal. The project is proposed to comprise the design, construction, commission and operation of a steel pipeline, between Mtubatuba and Dukuduku. The pipeline reticulation is proposed to be approximately 3km in length, with a 813mm diameter and to be routed over the N2 and a watercourse. The construction phase will require the development of new servitudes through surrounding agricultural and rural land.

**Details of the Stakeholder Engagement Process:**  
 WSP Environment & Energy has been appointed as the independent environmental assessment practitioner, to undertake the Basic Assessment process and associated stakeholder engagement. To receive further information on the project in the form of a Background Information Document, and to participate in the Basic Assessment process, please submit your details to the contact person given below within 14 days of this publication.

Ntando Khuzwayo  
 WSP Environment & Energy  
 P.O. Box 1442, Westville, 3630  
 1 Langford Rd, Westville, 3629  
 Tel: 031 240 8953; Fax: 031 240 8801  
 Email: Ntando.Khuzwayo@WSPGroup.co.za

**MHLATHUZE WATER - ANANZI**

4023807 23 12u

**Figure 1: Proof of newspaper advertisement published in the Umlozi Wezindaba on the 14<sup>th</sup> of June 2012.**

**WSP**

**ISAZISO SESICELO SOKUBHEKELELWA KWEMVELO**

Isaziso sikhishwe ngaphansi kwesigaba 24 somthetho wokuphathwa kwezemvelo kuzwelonke (Act No 107 of 1998), njengoba kuchitshiyelwe, kanye nezimiselo zokuphazamiseka kohlelo lwezemvelo, 2010 (GN. R544, R545, and R546) ngenhloso yokuthumela isicelo kumnyango wezemvelo (DEA) ngaluhlelo olulandelayo:

**Abengamele:** Mhlathuze Water  
**Okuzokwenziwa:** Dukuduku Bulk Water Supply: Ukwakhiwa kwedamu kanye nokufakwa kwepayipi

**Okuzohlolwa:**  
 Abakwa - L. Toyi & Associates CC bakhonjwe abakwa - Mhlathuze Water ukuqonda, ukufaka, ipayipi lensimbi endaweni yaseMtubatuba, KwaZulu-Natal. Leprojekthi iphakamisa ihlanganisa ukuqonda, ukwakha, ukwenza kanye namandla okwenza umsebenzi wokufaka ipayipi lensimbi, eliphakathi kwendawo yaseMtubatuba kanye naseDukuduku. Leipayipi lilinganiselwa kumakhilomitha amathathu ubude, kanye nedayamitha engamakhulu ayisishiyagalombili neshumi nantathu ngaphansi komgwaqo u-N2. Lesisakhiwo sidinga ukuthuthukiswa ngendlela entsha esondelene nezolimo kanye nezasemaphandleni.

**Imininingwane yokuthinteka komphakathi kulolucwaningo:**  
 Abakwa-WSP Environment & Energy baqokwe ukuba benze umsebenzi wabacwaningi abazimele ukwenza ucwaningo lwezemvelo kanye nokuthinteka komphakathi. Ukuze uthole ulwazi olwanele mayelana nalolucwaningo, sicela ubhalise imininingwane yakho kulowo obhalwe ngezansi zingakapheli izinsuku eziyishumi nane siphumile isaziso.

Ntando Khuzwayo  
 WSP Environment & Energy  
 P.O. Box 1442, Westville, 3630  
 1 Langford Rd, Westville, 3629  
 Ucingo: 031 240 8953; Isikhahlemez: 031 240 8801  
 Imeyili: Ntando.Khuzwayo@WSPGroup.co.za

**MHLATHUZE WATER - ANANZI**

4023807 23 12u

**Figure 2: Proof of newspaper advertisement published in the Zululand Observer on the 15<sup>th</sup> June 2012.**

## 1.2 Public Notices

Posters conforming to the size specifications of the 2010 NEMA EIA Regulations were placed in English and Zulu at the following destinations as illustrated below. These posters were placed on the 26th June 2012.



Figure 3: Zulu poster placed at the site boundary.



Figure 4: English poster placed at the Mtubatuba Local Municipality.



Figure 5: Zulu poster placed at the Mtubatuba Local Municipality.



Figure 6: English poster placed at the Mtubatuba Library.



Figure 7: Zulu poster placed at the Mtubatuba Library.

## 1.3 Flyer Distribution

Flyers were distributed to local communities and committee members via the ISD Consultant for the project (Mr M.A Malwane), the Communication Officer for the Mtuba Municipality (Mr M.E Sithole), and the Mtubatuba Library. These flyers included a brief description of the project and the environmental authorisation process, as well as contact details of the Environmental Assessment Practitioner (EAP).

## 1.4 Written Notices

Written notices (Figure 8) were handed to the communication officer at the Mtuba Local Municipality, Mr M.E Sithole as well as Mr M.A Malwane, the ISD Consultant for the project for distribution to the community leaders. The land for which the pipeline shall be routed on is currently vacant land; hence no individuals were occupying the land at the time of the site visit. Proof of distribution to the surrounding owners and occupiers is presented in Figures 10 and 11.

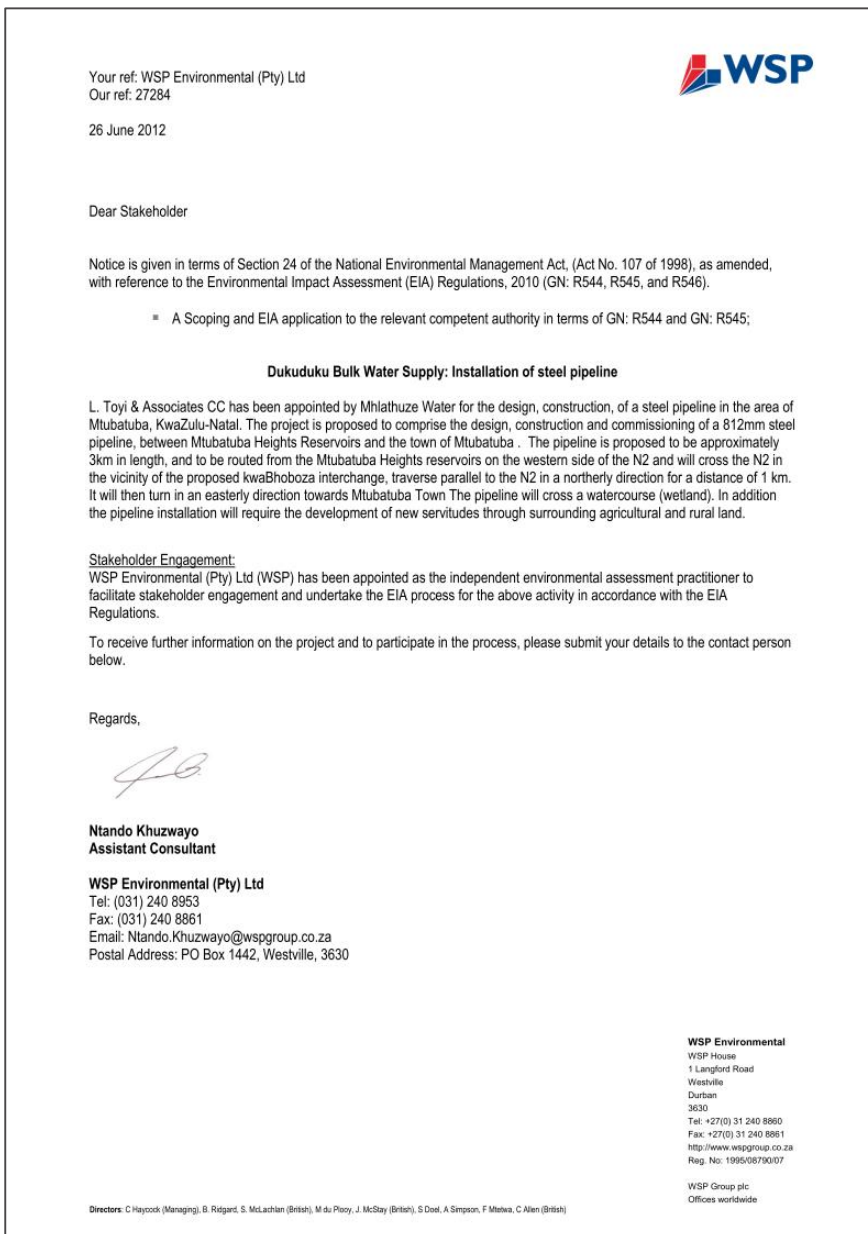




Figure 8: Written Notice distributed to surrounding landowners and occupiers

## BULK WATER SUPPLY: INSTALLATION OF STEEL PIPELINE

Please sign on receipt of the written notice distributed on the 26<sup>th</sup> June 2012

ORGANISATION	NAME	ADDRESS	CONTACT NUMBER	SIGNATURE
BSD S	M. A. Malwane	P.O. Box 6805 <sup>3776</sup> <del>Nkomo</del>	07284619527	
MTMBA L.M K2 275	M. E. SITHOLE	P.O. Box 52, MTMB 3975	0825194184	

www.wspenvironmental.co.za

Figure 8: Receipt of Written Notice for distribution to surrounding landowners

# Background Information Document

Dukuduku Bulk Water Supply: Basic Assessment

July 2012

## Introduction

L. Toyi & Associates CC has been appointed by Mhlathuze Water for the design, construction, of a steel pipeline in the area of Mtubatuba, KwaZulu-Natal. The project is proposed to comprise the design, construction, commission and operation of a steel pipeline, between Mtubatuba and Dukuduku. The pipeline reticulation is proposed to be approximately 3km in length, with a 813mm diameter and to be routed over the N2 and a watercourse. The construction phase will require the development of new servitudes through surrounding agricultural and rural land. The site for the proposed installation of bulk water supply pipeline is indicated on Figure 1.

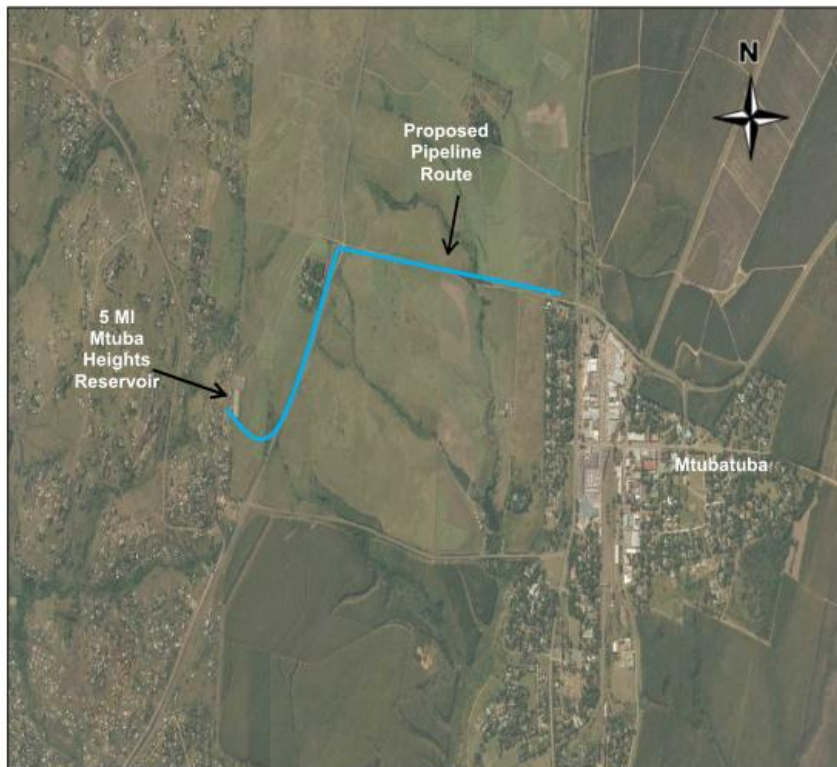


Figure 1 – Locality of proposed pipeline route for the Dukuduku Bulk Water Supply Project, with the proposed pipeline route indicated in blue (Image Source: Mowbray Imagery)

## Technical Scope

The proposed development intends to supply potable water between Mtubatuba and Dukuduku. Water currently gravitates through existing pipelines from the Mtubatuba reservoir to a break pressure tank at the Monzi turnoff on the R618, and gravitates further east to St Lucia. This project proposes to utilise existing servitudes alongside the N2 and the R618, and install a new 813mm diameter steel pipeline, with an approximate length of 3km. The construction phase will require the formalisation of the road reserve and servitude.

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)





# Background Information Document

27284 – July 2012

Page 2

## Legal Context

The proposed activity is a scheduled activity in terms of the National Environmental Management Act (NEMA), (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment (EIA) Regulations, 2010 (GN: R544, R545, and R546), and is subject to the Basic (environmental) Assessment process (Table 1).

Table 1: Scheduled activities applicable to the proposed project

Listed Number	Description of listed activity	Project Relevance
GN: R544 (9)	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – (i) With an internal diameter of 0.36 metres or more; or (ii) With a peak throughput of 120 litres per second or more, Excluding where: a. Such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or b. Where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.	The supply steel pipeline will have a length of 3 km and an internal diameter of 813 mm. The pipeline route is proposed to be constructed in existing servitudes with the possibility of constructing additional servitudes along the N2. There are sections where the pipeline may cross small watercourses or be within 32 of a watercourse.  Therefore, listed activity 9 of GN: R544 is <b>applicable</b> to this project.
GN. R.546 (13)	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation...  a. ii) Outside urban areas, in: (aa) In a protected area identified in terms of NEMPAA, excluding conservancies; (ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve.	The proposed construction may require the clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.  Therefore, listed activity 13 of GN: R546 may be applicable to this project.
GN. R.546 (16)	The construction of infrastructure covering 10 square metres or more where such construction occurs within a watercourse of within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.  a. ii) Outside urban areas, in: (aa) In a protected area identified in terms of NEMPAA, excluding conservancies; (hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve.	The total footprint of the reservoir and pipeline is expected to be greater than 50 square metres and will be within 32 metres of a watercourse.  Therefore, listed activity 16 of GN: R546 is <b>applicable</b> to this project.

In order for the project to proceed, it will require Environmental Authorisation from the Department of Agriculture, Environmental Affairs and Rural Development (DAEA&RD). WSP Environment & Energy has been appointed by L. Toyi & Associates to undertake the function of independent Environmental Assessment Practitioner to facilitate the process, the objectives of which are to:

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)



---

# Background Information Document

27284 – July 2012

Page 3

- Identify potential environmental impacts associated with the proposed activities;
- Identify feasible and reasonable project alternatives;
- Propose measures that avert or minimise environmental risk, and enhance positive aspects;
- Provide transparency by involving the public, authorities and interested organisations; and,
- Provide the DAEA&RD with sufficient information to make an informed decision.

## Environmental Authorization process

The Basic Assessment process includes all the environmental impact assessment aspects required by National Environmental Management Act, but in a way that facilitates a concise process. The process involves the consideration, investigation, assessment and reporting of the proposed project in order to identify the impacts the proposed development may have on the environment. The following process will be followed:

- **Identification of Issues:** Environmental issues, concerns, development constraints and development alternatives will be evaluated using professional judgement, project information, experience of similar projects, a review of available literature, site visits and consultation with authorities and the public.
- **Evaluation of Potential Alternatives:** Reasonable alternatives will be identified and evaluated. Alternatives may consist of alternative positioning of the infrastructure, design and construction process, as well as the 'no-go' option.
- **Evaluation of Impacts:** The significance of environmental issues will be evaluated in terms of potential impacts, their expected extent, intensity, duration and probability of occurrence.
- **Mitigation and Management Measures:** Measures to manage and minimise impacts to acceptable levels and maximise the benefits associated with project, will be identified and recorded in the basic assessment report.
- **Authority Decision:** The Basic Assessment Report will be submitted to the DAEA&RD and the information therein used as to make a decision regarding the proposed project.

## Purpose of this Document

Public participation is a legal requirement in terms of the EIA regulations; not only does it improve transparency, it plays an important role in gathering and gauging public concerns for a project proponent to address in the Basic Assessment process. This briefing document initiates the public participation process and serves to:

- Inform potential stakeholders about the proposed project;
- Provide an overview of the proposed activities; and,
- Explain the way forward in the Basic Assessment procedure.

## Your Invitation to Participate

This briefing document has been prepared for information purposes only. A detailed Basic Assessment Report will be made available to all stakeholders at an appropriate stage of the process for review and comment

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)



---

# Background Information Document

27284 – July 2012

Page 4

purposes. For further information, or to register as a stakeholder, please contact the practitioner below. The attached registration form may be used for stakeholder registration purposes. If you would like us to keep you informed during the EIA process, please fill in and return the form to WSP.

**Ntando Khuzwayo**

**WSP Environmental (Pty.) Ltd. P O Box 1442, Westville, 3630**

**Tel: (031) 240-8953; Fax: (031) 240-8801 E-mail: [ntando.khuzwayo@wspgroup.co.za](mailto:ntando.khuzwayo@wspgroup.co.za)**

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)



# Background Information Document

27284 – July 2012

Page 5

## Comment Form



WSP Environmental (Pty) Ltd  
P O Box 1442, WESTVILLE, 3630  
Tel: (031) 240-8953 – Fax: (031) 240-8801  
e-mail: ntando.khuzwayo@wspgroup.co.za

Title:	First name:	Surname:	Initials:
Organisation:		Designation:	
Address:			
Postal Code:			
Tel No:		Cell No:	
Fax No:		E-mail:	

### Comments on the Proposed Installation of Bulk Water Supply Pipeline, Dukuduku

1. The following issues should be addressed in the environmental assessment of the proposed project:

---

---

---

---

---

---

---

---

---

---

---

---

---

2. Details of additional stakeholders that should be consulted with:

---

---

---

---

---

Thank you for your participation

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)



## 2 Stakeholder Database

Stakeholders who may be interested in or affected by the project were identified at the project outset, and continue to be identified throughout the environmental process. Specific attention was paid to local community organizations, government departments, non-governmental organisations (NGO's) and other active organisations in the area. A stakeholder database will be maintained throughout the basic assessment process. The stakeholder database contains the details of known stakeholders, together with those persons who registered as a result of the notification process.

Table 1: Stakeholder Database

Name	Company / Organisation	Division / Position
<b>Authority Departments: National</b>		
Ms.Colleen Moonsamy	Department of Water Affairs	Commenting authority
Mr. Robert Lindsay	Department of Transport	Commenting authority
<b>Authority Departments: Provincial</b>		
MS Zama Mbanjwa	DAEA&RD North Region	DAEA Assessing Officer
Mr Dominic Wieners	Ezemvelo KZN Wildlife	Commenting authority
Jenny Longmore	Ezemvelo KZN Wildlife	Commenting authority
Weziwe Shabalala	Amafa	Commenting authority
<b>Authority Departments: District and Local</b>		
Mr K.M Moodely	Umkhanyakude District Municipality	Municipal Manager
Mr Sibusiso Gwacela	Umkhanyakude District Municipality	Municipal Manager
Mr. Boxer Mpontshane	Umkhanyakude District Municipality	Environmental Manager
Mr Mpukunyoni C.Zungu	Umkhanyakude District Municipality	Representative
Mr M.L.Dlamini	Umkhanyakude District Municipality	Representative
Mr S.R Ntuli	Mtubatuba Local Municipality	Municipal Manager
P. F. Mkhwanazi.	Kwankombose	Induna
Mr K. T. Tembe	Mtubatuba Local Municipality	Councillor (Ward 16)
<b>Landowners</b>		
Rob Bonella	Private	Landowner
Mr. ML Dlamini	Umkhanyakude District Municipality	Representative
Dr N.E Jorgensen	Private	Landowner
<b>NGOs</b>		
Carolyn Schwegman	WESSA EIA co-ordinator (KZN)	

## 3 Report Distribution

The Draft Basic Assessment Report will be made accessible for stakeholder comment at:

- **Mtubatuba Library**
- **[www.wspenvironmental.com/publicreview](http://www.wspenvironmental.com/publicreview)**

As legislated in NEMWA, the report will be available for a public and authority comment for a period of 60 days. Hard copies of the Draft Basic Assessment report and Environmental Management Programme (EMPr) will be made available to key stakeholders (authorities) for comment. Public stakeholders will be informed of the availability of reports.

---

## 4 Issues Trail: DBAR

No comment has been received thus far, all registered stakeholders will have a subsequent opportunity to comment on the draft basic assessment report .Comments received in response to the DBAR will be included in the FBAR

**Block A, 1 on Langford**

Langford Road, Westville

Durban

3629

South Africa

Tel: +27 31 240 8874

Fax: +27 31 240 8861

[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)

UNITED  
BY OUR  
DIFFERENCE



## Appendix E1: Stakeholder Engagement Report



## Appendix F: Draft Environmental Management Programme (EMPr)

## Appendix G: Other information

**WSP Environment & Energy South Africa**

Block A, 1 on Langford  
Langford Road, Westville  
Durban  
3629  
South Africa  
Tel: +27 31 240 8907  
Fax: +27 31 240 8861  
[www.wspenvironmental.co.za](http://www.wspenvironmental.co.za)

UNITED  
BY OUR  
DIFFERENCE

