Rondolog (Pty) Ltd.

Basic Assessment

Locality: Iswepe
Departmental Ref No: 17/2/3/GS-72

SHANGONI
Management Services (Pty) Ltd

DRAFT BASIC ASSESSMENT REPORT

Rondolog (Pty) Ltd.

Basic Assessment

Locality: Iswepe
Departmental Ref No: 17/2/3/GS-72

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SHANGONI
Management Services (Pty) Ltd

PROJECT DETAILS

Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET)

Reference No.:17/2/3/GS-72

Project Title: Expansion of the Rondolog sawmill situated on Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga

Applicant: Rondolog (Pty) Ltd.

Project Number: RON/eia/1-11-11

Compiled by:Miss Lizette Crous

Date: 9 March 2012

Location: Iswepe, Mpumalanga

Technical Reviewer: Mr. Lourens de Villiers

Approval: Signature

SHANGONI
Management Services (Pty) Ltd

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DEFINITIONS

Environment

The surroundings (biophysical, social and economic) within which humans exist and that are made up of

i. the land, water and atmosphere of the earth;
ii. micro organisms, plant and animal life;
iii. any part or combination of (i) and (ii) and the interrelationships among and between them; and
iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Environmental Aspects

Elements of an organization's activities, products or services that can interact with the environment.

Environmental Degradation

Refers to pollution, disturbance, resource depletion, loss of biodiversity, and other kinds of environmental damage; usually refers to damage occurring accidentally or intentionally as a result of human activities.

Environmental Impacts

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

Environmental Impact Assessment

A study of the environmental consequences of a proposed course of action.

Environmental Impact Report

A report assessing the potential significant impacts as identified during the environmental impact assessment.

Environmental impact

An environmental change caused by some human act.

Land use

The various ways in which land may be employed or occupied. Planners compile, classify, study and analyse land use data for many purposes, including the identification of trends, the forecasting of space and infrastructure requirements, the provision of adequate land area for necessary types of land use, and the development or revision of comprehensive plans and land use regulations.

Pollution Prevention

Any activity that reduces or eliminates pollutants prior to recycling, treatment, control or disposal.

Public Participation Process

A process of involving the public in order to identify needs, address concerns, in order to contribute to more informed decision making relating to a proposed project, programme or development.

Topography

Topography, a term in geography, refers to the "lay of the land" or the physio-geographic characteristics of land in terms of elevation, slope and orientation.

Vegetation

All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

Waste

Waste is unwanted or undesired material left over after the completion of a process. "Waste" is a human concept: in natural processes there is no waste, only inert end products.

ABBREVIATIONS

BID	-	Background Information Document
BAR	-	Basic Assessment Report
CRR	-	Comments and Response Report
MPDEDET	-	Mpumalanga Department of Economic Development, Environment and Tourism, Mpumalanga
DWA	-	Department of Water Affairs
EAP	-	Environmental Assessment Practitioner
ECA	-	Environmental Conservation Act of 1989
EIA	-	Environmental Impact Assessment
EIR	-	Environmental Impact Report
EMF	-	Environmental Management Framework
EMP	-	Environmental Management Programme
GN	-	Government Notice
I&AP	-	Interested and Affected Party
NEMA	-	National Environmental Management Act, Act 107 of 1998 as amended
R	-	Regulation

EXECUTIVE SUMMARY

The purpose of this document is to supply the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET) with the requested information pertaining to the National Environmental Management Act (NEMA), as amended, and Regulation 22 of the Environmental Impact Assessment Regulations, 2010. Contained in this document is a brief overview of the activity and site specific information of the proposed sawmill expansion project (location, topography and surrounds, vegetation, etc.). The latter part of the document contains an environmental management framework that includes a description of activities on the site, an identification of environmental aspects and a construction- and operational- EMP for the effective mitigation of identified environmental impacts associated with the activity.

1. INTRODUCTION

This report forms part of an application for environmental authorisation for the proposed expansion of the Rondolog sawmill, situated on Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga. The application process is undertaken on behalf of the applicant, Rondolog (Pty) Ltd., by Shangoni Management Services (Pty) Ltd. Shangoni was appointed, as independent environmental practitioner, to assist the applicant in complying with the 2010 EIA Regulations in terms of the National Environmental Management Act (Act 107 of 1998).

An application to undertake an Environmental Impact Assessment (Basic Assessment) process was submitted to the identified competent authority, the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET). The Department subsequently registered the project and the formal BAR (Basic Assessment Report) process was thereby initiated.

All the findings from the BAR process are included in this report. Also included in this report is a construction- and operational- Environmental Management Plan (EMP) that addresses the appropriate mitigation steps for the different phases of the project.

1.1 Applicant

Name of Applicant	Rondolog (Pty) Ltd. Mr. Ralf Paul
Postal Address	Private Bag X9061, Ermelo, 2350
Telephone No.	017 811 5892
Fax No.	086 516 3155
Farm name and portion on which the activities take place	Portion 10 of the farm Springbokkraal 434 IT
Co-ordinates of operation	26°51’63.57’’S; 30°31’35.63’’E

1.2 Appointed Environmental Assessment Practitioner

Name of firm	Shangoni Management Services (Pty) Ltd.
Postal address	PO Box 74726 Lynnwood Ridge Pretoria 0040

Telephone No.	012 807 7036	
Fax	012 807 1014 / 086 643 5360	
E-mail	lizette@shangoni.co.za	
Team of Environmental Assessment Practitioners on project		
Name	Qualifications	Responsibility
Mr. Lourens de Villiers	B.Sc. (Hons) (PU for CHE) M.Sc. (UP)	EIA Project Leader and Co-ordinator
Ms. Lizette Crous	Post-graduate Certificate – Environmental Management (University of London)	Environmental Assessment Practitioner

Detailed CVs of the project team are appended as Appendix F.

1.3 Background information

A sawmill has been operational on Portion 10 of the farm Springbokkraal since 1978. The sawmill is owned by Rondolog (Pty) Ltd., while the property is owned by Iswepe Timber Buyers (Pty) Ltd. At the sawmill, timber is processes and a number of products are sold, including green timber, sawdust, chips, bark and dried (processed) timber. Historically, water has been obtained from two boreholes on the site. A coal-fired boiler has also been operating at the sawmill for many years.

1.4 Activities applied for

- R544, Listing Notice 1 of 18 June 2010: Activity Nr. 28: The expansion of or changes to existing facilities for any process or activity where such expansion or changes to will result in the need for a permit or license in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.
- R544, Listing Notice 1 of 18 June 2010: Activity Nr. 23(ii): The transformation of undeveloped, vacant or derelict land to -
  (ii) residential, retail, commercial, recreational, industrial or institutional use, outside and urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -
  except where such transformation takes place –
  (i) for linear activities; or

(ii) for purposes of agriculture or afforestation, in which case Activity 16 of Notice No. R. 545 applies.

- R544, Listing Notice 1 of 18 June 2010: Activity Nr. 13: The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.

Application has been made to the Mpumalanga Department of Economic Development, Environment and Tourism for the last mentioned activity (Activity Nr. 13) to be removed from the application for environmental authorisation after it was confirmed that less than 80 cubic metres of the dangerous good, Tanalith® C oxide liquor, would be stored at the sawmill.

1.5 Current situation

At present, approximately 2 000 tons of timber is processed at the sawmill per month. The following pine species are processed: *Pinus patula* (Mexican weeping pine), *P. elliottii* (slash pine) and *P. taeda* (loblolly pine).The logs are fed into a wetmill where they are cut into lumber. Some of the lumber is sold at this stage. The remaining lumber is then placed in the kiln to be dried. The kilns dry the lumber to a final moisture content of approximately 12%. The drying is necessary to prevent the lumber from cracking or twisting, and to alleviate internal stresses.

A coal-fired boiler is used to generate the steam used in the kiln. Once dry, the boards are either sold or placed into a secondary process where they are planed before being sold. All sawdust, bark and chips are directly loaded onto trailers and sold to nearby factories that manufacture pressed wood boards. The process is shown visually in Figure 1 below.

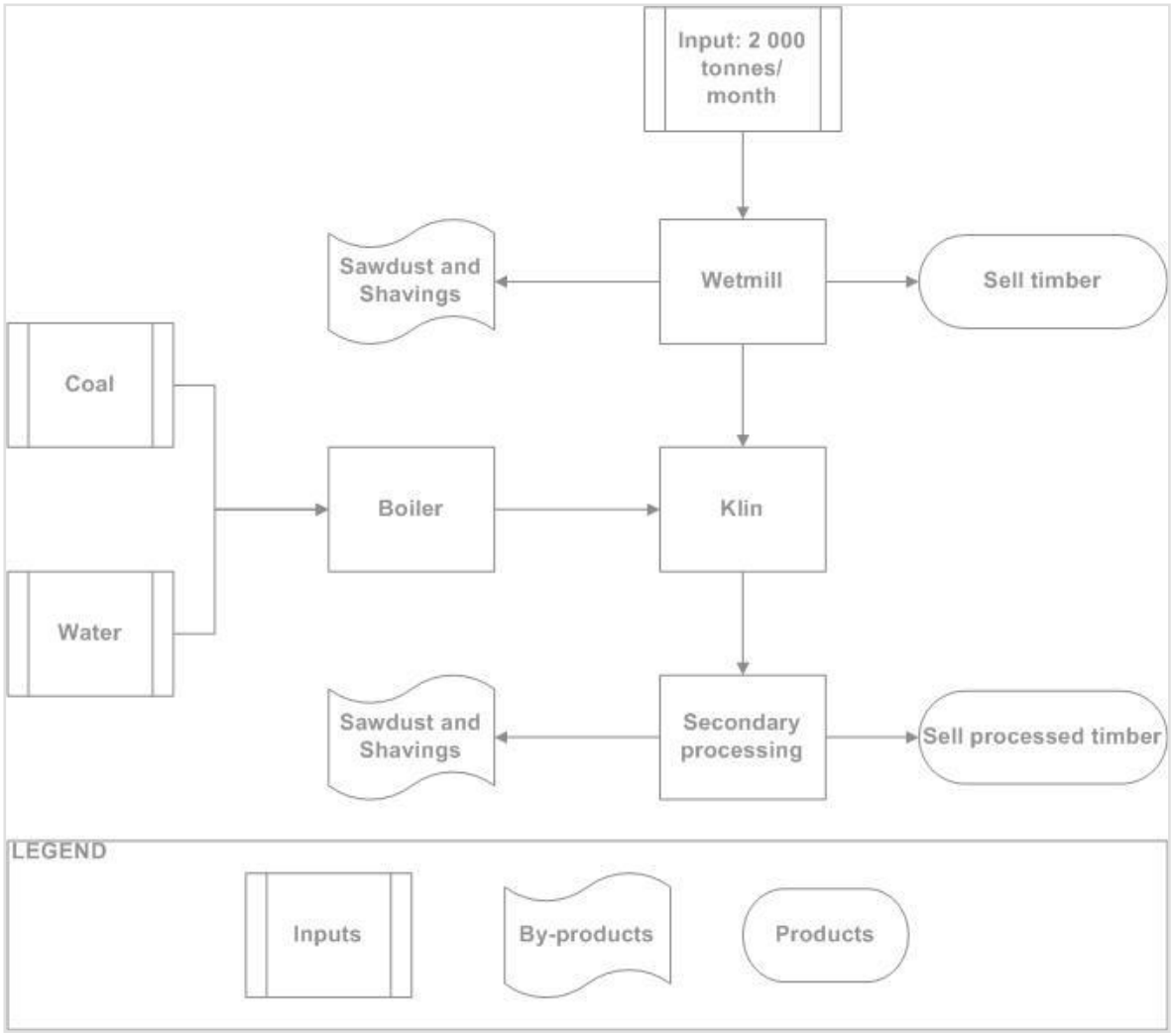

Figure 1: Current process at the sawmill

1.6 Proposed Activity

The proposed project entails the upgrading and expansion of the Rondolog sawmill so that 120 000m^3 or 120 000 tons of timber can be processes per annum (10 000 tons per month).The expansion will achieve better economies of scale at the sawmill. Upgrading will occur within the current sawmill infrastructure and the infrastructure will also be expanded onto vacant land. The developmental footprint will be approximately 20 000m^2.

The process described in 1.4 (Current situation) will be upgraded and expanded and the entire sawmill will then process timber according to the description given in the next paragraph. For this process, state of the art technologies will be installed to increase the effectiveness and reliability of production and to reduce production costs.

Logs will be stockpiled in a 3 000m^3 storage area to ensure uninterrupted operation of the sawmill. The logs will first be debarked and sorted according to size. Debarking is required so

that the new machinery can process the logs. The bark will be used as fuel for a new boiler that is wood-fired. Once sorted, the logs will be cut into lumber in the wetmill using circular saws. Under-specification sawdust from the cutting will also be used to fuel the boiler. Separating the bark and sawdust from the wood chips will increase the quality and selling price of the chips. Approximately 3 000m^3 of wood chips and specification sawdust will be sold to nearby chip plants like Sonae Novobord (Pty) Ltd.

All timber from the wetmill will be dried in hot water compartment kilns, at 80 to 85°C. A kiln is a well-insulated chamber in which the temperature, air circulation and relative humidity can be controlled, maintained and easily changed. Compartment kilns are fully loaded at one time and the entire load of timber remains stationary during the drying process. Temperature and humidity is varied as the timber dries (IOWA State University, 1999). The kilns will use hot water and not steam, which makes the drying process simpler and safer. The water for the kiln will be heated in the aforementioned boiler.

The boiler will not require coal as it will run exclusively on sawdust and bark. Ash from the boiler will be transported back to the supplying plantations where it will be used as fertiliser. The fuel house will be used to store bark and sawdust so that the boiler always has enough fuel.

The new secondary process will provide new processing options. In the finger-jointing plant, pieces of lumber will be glued together, thereby increasing the length of the product. In the laminating facility, lumber will be glued together side by side, to increase the width of the product. All the timber will then be sold as a finished product. A total of approximately 5 000m^3 of sawn timber will be sold per month. The process is shown visually in Figure 2 below.

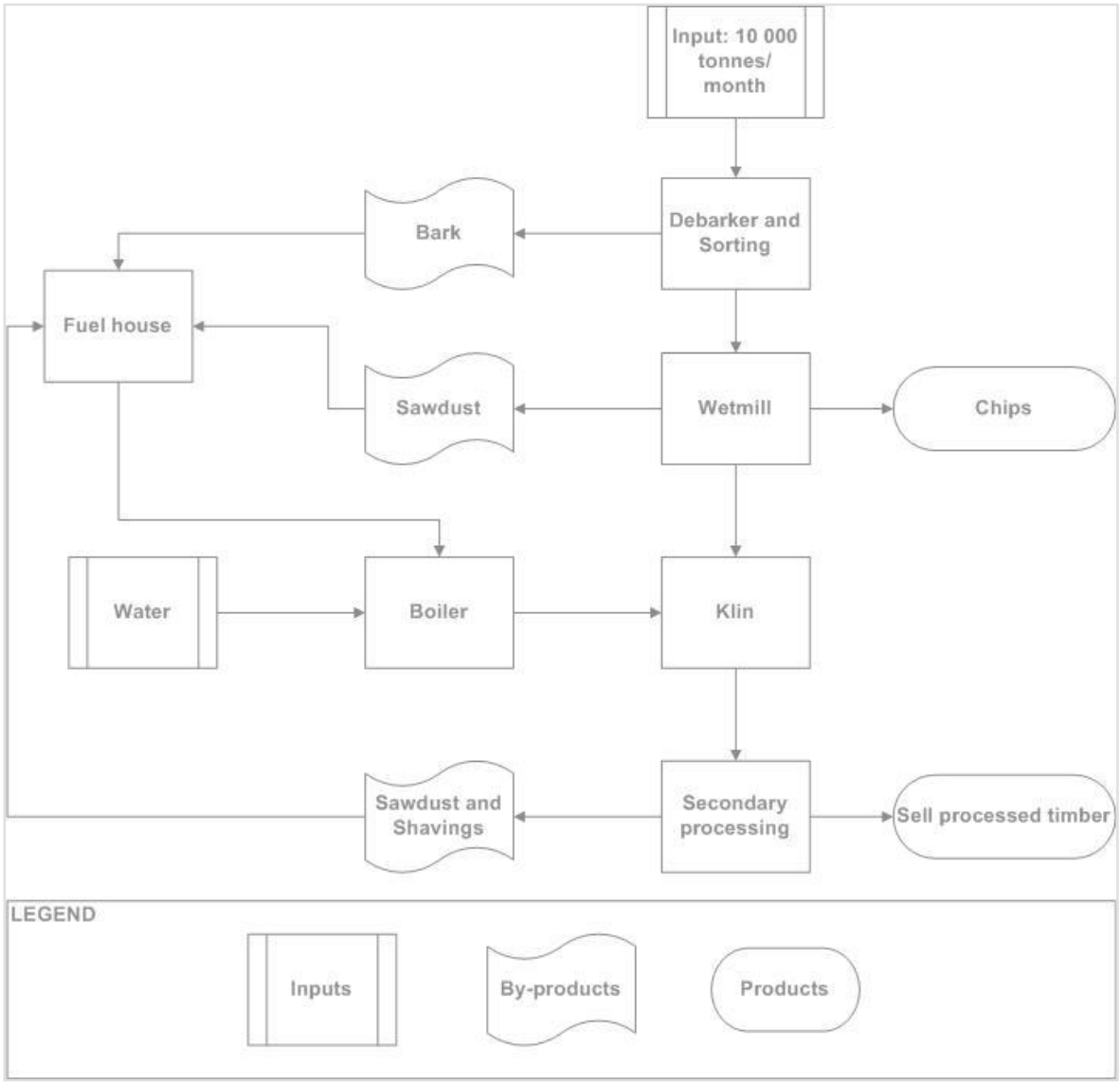

Figure 2: Proposed process

Latest technologies will be installed to reduce electricity demand as far as possible. These include the use of power factor correction units, soft starts, variable speed drives, energy saving lighting where practicable and daylight switches.

A new Tanalith® C treatment plant (timber preservation plant) will also be constructed at the sawmill. An example of such as plant is shown in Figure 3. The plant will be used to treat approximately 20% of the timber (±14 000m^3 per annum) with a water-borne preservation chemical, providing long term protection against soft rots, fungal decay, termites, insect borers and marine borers. The treatment of timber destined for structural purposes is compulsory under the Unfair Business Practice Act and is included in the National Building Regulations. The chemical used in the treatment process is Tanalith® C Oxide Liquor, which is classified as a dangerous good (UN2994). The chemical is a chromate, copper arsenate (CCA) and is

registered under the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act 34 of 1947).

The treatment plant will consist of a 1.67 x 13.5m treatment vessel with a single quick lock door. The plant will be capable of treating at least 856m^3 of wood per day. The components of the treatment plant have the following volumes:

1. Working tank – 25 935 litres
2. Measuring tank – 11 974 litres
3. Mixing tank – 12 270 litres
4. Bulk storage tank – 5 000 litres

This equates to a combined storage capacity of 55 179 litres or 55.179m^3 for the storage of Tanalith® C Oxide liquor. Although the liquor is a dangerous good, the combined storage capacity is small enough (less than 80 cubic metres) to not require environmental authorisation (according to the National Environmental Management Act, 1998 (Act No. 107 of 1998), Environmental Impact Regulations, the storage of a dangerous good with a combined capacity of 80 cubic metres or more requires environmental authorisation).

The treatment process is known as a full-cell modified Bethell process and includes the following steps:

1. The timber is placed into the treatment vessel.
2. The vessel is partially filled with the Tanalith® C oxide wood preservation solution and a vacuum of -84kPa is applied for about 15 minutes. The vacuum draws air out of the wood cells.
3. The vessel is completely filled with the solution and 600kPa of hydraulic pressure is applied for approximately 10 minutes. The pressure forces a predetermined amount of solution into the timber.
4. The vessel is partially emptied and a second vacuum of about -50kPa is applied for 5 minutes. This extracts any excess solution that will be pumped back to the treatment solution storage tank.
5. The vessel is emptied and the timber is withdrawn from the vessel.

The total treatment time is approximately 50 minutes and the high pressure treatment process ensures that the Tanalith® C preservative remains in the wood. The following precautionary measures will be implemented to ensure the safe use of the Tanalith® C oxide liquor:

Receipt of chemicals

The chemicals will be supplied in bulk or 25 litre UN approved polykegs by the chemical manufacturer and supplier(Arch Wood Protection (SA) (Pty) Ltd.) and will be delivered once a month by truck, directly from their facility to the sawmill. The chemicals will be offloaded under

supervision, stored within a bunded pit at the treatment plant and kept under lock and key. The chemical bulk storage area will be labelled with the chemical UN number, Hazchem Code and tank capacity. The chemical is a controlled substance and will be received and issued using a stock control system maintained under the SANS quality system. Chemicals received in bulk will be offloaded over a concrete pad that is designed to contain any spillages.

Leakage of chemicals during the treatment process

The treatment plant will be contained within a waterproofed, bunded concrete pit that is designed to contain 110% of the total volume of Tanalith® C held within the plant tanks and treatment vessel, as per clause 6 of SANS10255. An emergency spill kit and emergency procedure will be stored within the bunded area.

Leakage of chemicals after the treatment process

The treated timber will be removed from the treatment vessel on trolleys that run on an external rail. The rail will be designed to contain any drippage from the trolleys and treated timber and will divert the chemical back to the bunded pit, from where it will be recovered and re-used in the treatment plant.

Personnel health and safety

The plant operators will be trained by Arch Wood Protection (SA). The training will include process control, as well as emergency, health, safety and environmental matters. The personnel working at the plant will wear appropriate safety equipment as recommended by the chemical supplier. An emergency shower and eye wash will be installed within the plant area as per SANS10255. Contaminated water will be returned to the treating solution and used in the treatment process.

Storm water

The treatment plant will be covered with a roof to keep rainwater out of the bunded area. The plant will be constructed at an elevation to ensure that storm water runs away from the plant, does not flood the treatment facility and cannot become contaminated. All rain water that is captured by the rail slab and offloading bay slab will be recovered from a sump within the bund and used as process water.

Waste management

The chemical itself does not produce any waste during the treatment process, however the plant accumulates about 50 litres of chemical waste per annum. This waste consists of sludge, sand particles, dust, strapping and sawdust contaminated by the chemical. The waste will be stored within the bunded area in sealed plastic containers until it is disposed of using a registered waste disposal company like Enviroserv.

Empty chemical containers will be triple rinsed and returned to the chemical supplier. The rinsing water will be collected and returned to the chemical solution tank. If the chemical is supplied in bulk, there will be no empty containers to dispose of. Should any cut-offs be produced, these will be disposed of at an approved landfill site, as recommended by the chemical supplier.

Maintenance

The treatment plant will be maintained according to a preventative maintenance program recommended by the plant manufacturer.

The Material Safety Data Sheet for Tanalith® C Oxide Liquor is attached under Appendix F.

Figure 3: Example of a Tanalith® C treatment vessel (Tanalised® C)

1.7 Design

The design plan for the sawmill expansion is attached as Appendix C.

1.8 Proposed Locality

The proposed site for the expansion if the location of the existing Rondolog sawmill, situated on Portion 10 of the farm Springbokkraal 434 IT. The site is situated approximately 1.2km to the South of Iswepe. Iswepe is located approximately 32km to the Northwest of Piet Retief. In the

North-western corner of the site there are houses for the sawmill workers. Adjacent to these and outside of the site boundary are private houses.

Figure 4 and Appendix A show the location of the site together with the areas surrounding it.

The site is located on level to sloping land, with a slope of no greater than 8% according to the AGIS Comprehensive Atlas (2007). It is mainly drained by means of surface runoff and is situated at approximately 1 412 metres above mean sea level.

The vegetation onside comprises of disturbed grasslands, with a few large trees and many small shrubs present.

Table 1: Direction & distance to the nearest town

Direction	Distance from site	Closest town
North	1.2km	Iswepe

The site locality map is given below as Figure 4 and in Appendix A. The topography of the site is shown in Figure 5 and Appendix A. The site photographs are Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13 and Appendix B.

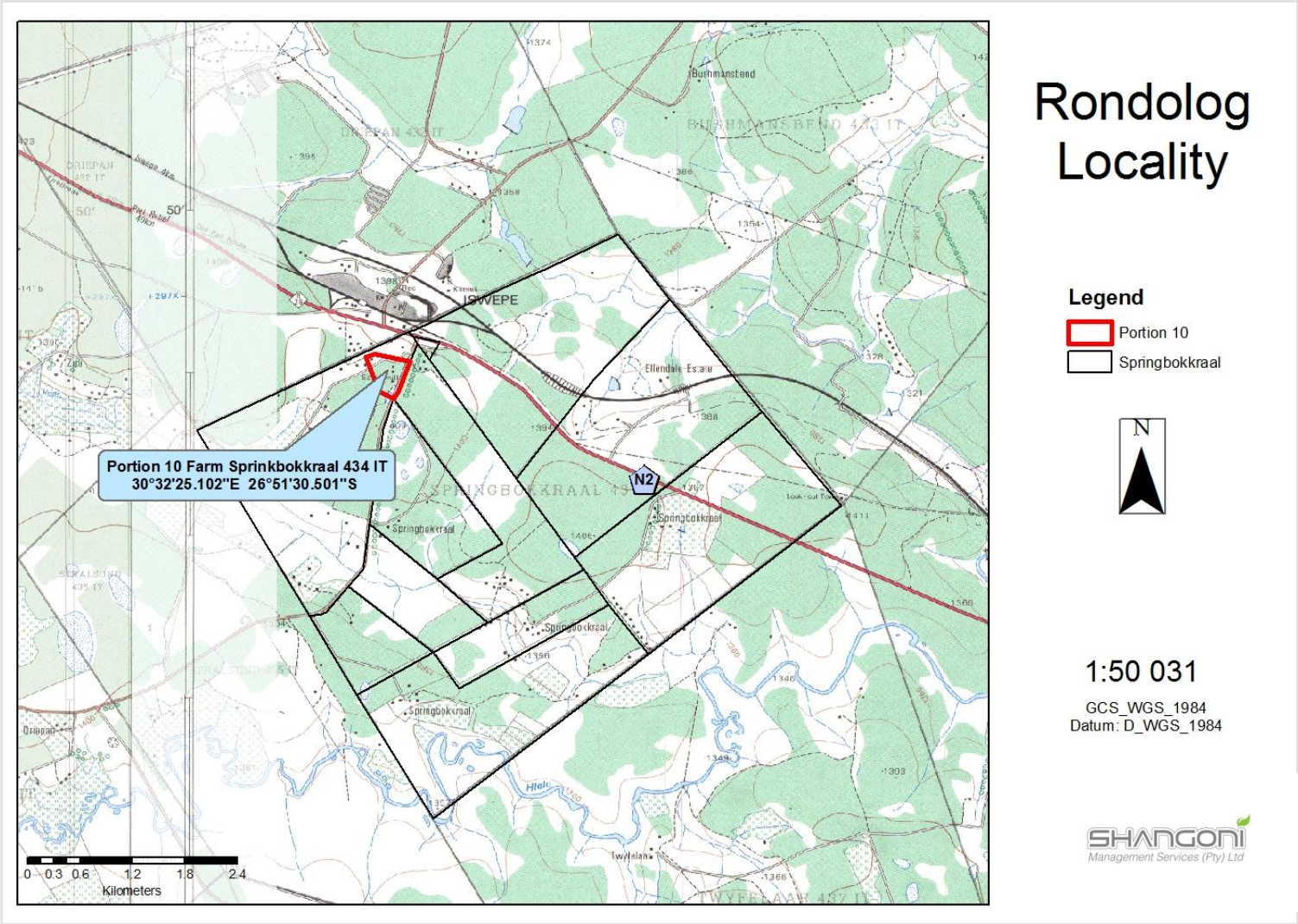

Figure 4: Site locality map

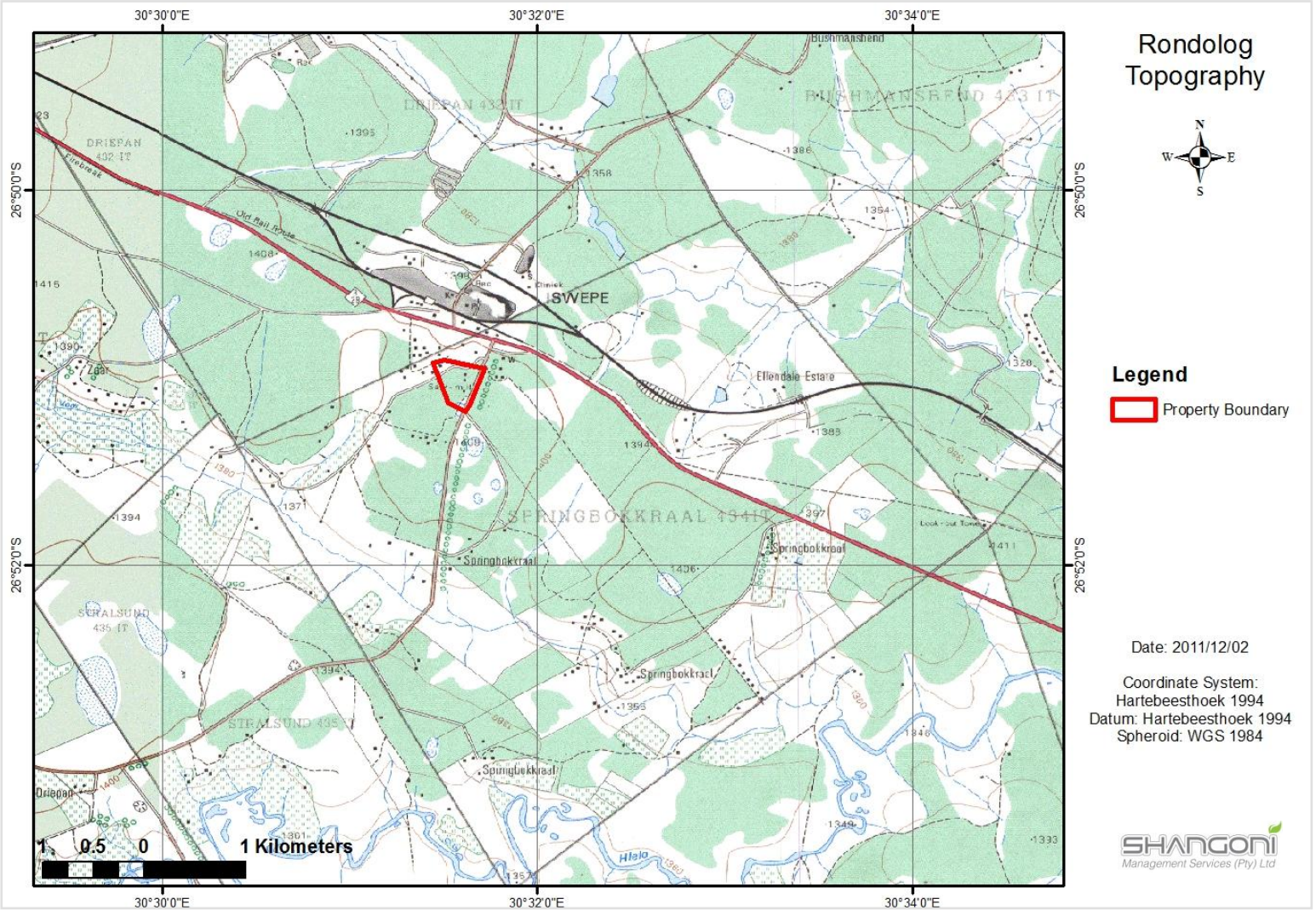

Figure 5: Topography of the site

Figure 6: Site photograph 1

Figure 7: Site photograph 2

Figure 8: Site photograph 3

Figure 9: Site photograph 4

Figure 10: Site photograph 5

Figure 11: Site photograph 6

Figure 12: Site photograph 7

Figure 13: Site photograph 8

2. NATURE AND EXTENT OF THE ENVIRONMENT AFFECTED BY ACTIVITY

The following section provides as brief description of the baseline or status quo environment as well as the socio-economic parameters that characterise the region and the study area, and is derived from data sources like aerial photographs, topo-cadastral maps and national and provincial databases.

2.1 Biophysical aspects affected

2.1.1 Geology

As can be seen in Figure 14, the site is underlain by rocks of the Swazian Erathem. These rocks originate from the Archaean Eon, between 4 500 and 2 500 million years ago (Tarbuck & Lutgens, 2008). The rock is made up of Granite and Gneiss.

Granite is a felsic igneous rock consisting of approximately 25% quartz, 65% feldspar (mostly potassium- and sodium-rich varieties) and smaller quantities of muscovite and dark silicates like biotite and amphibole. Quartz crystals are often glassy, clear to light grey in colour and spherical in shape. Feldspar crystals are white to grey or salmon pink in colour and have a rectangular shape.

Gneiss is the term used for medium- to coarse-grained, banded metamorphic rocks in which granular and elongated minerals predominate. The most common minerals found in gneiss rocks are quartz, potassium feldspar and sodium-rich plagioclase feldspar. Muscovite, biotite and amphibole also occur in gneiss to a lesser extent. Most gneisses have a felsic composition and are derived from granite or its aphanitic equivalent, rhyolite.

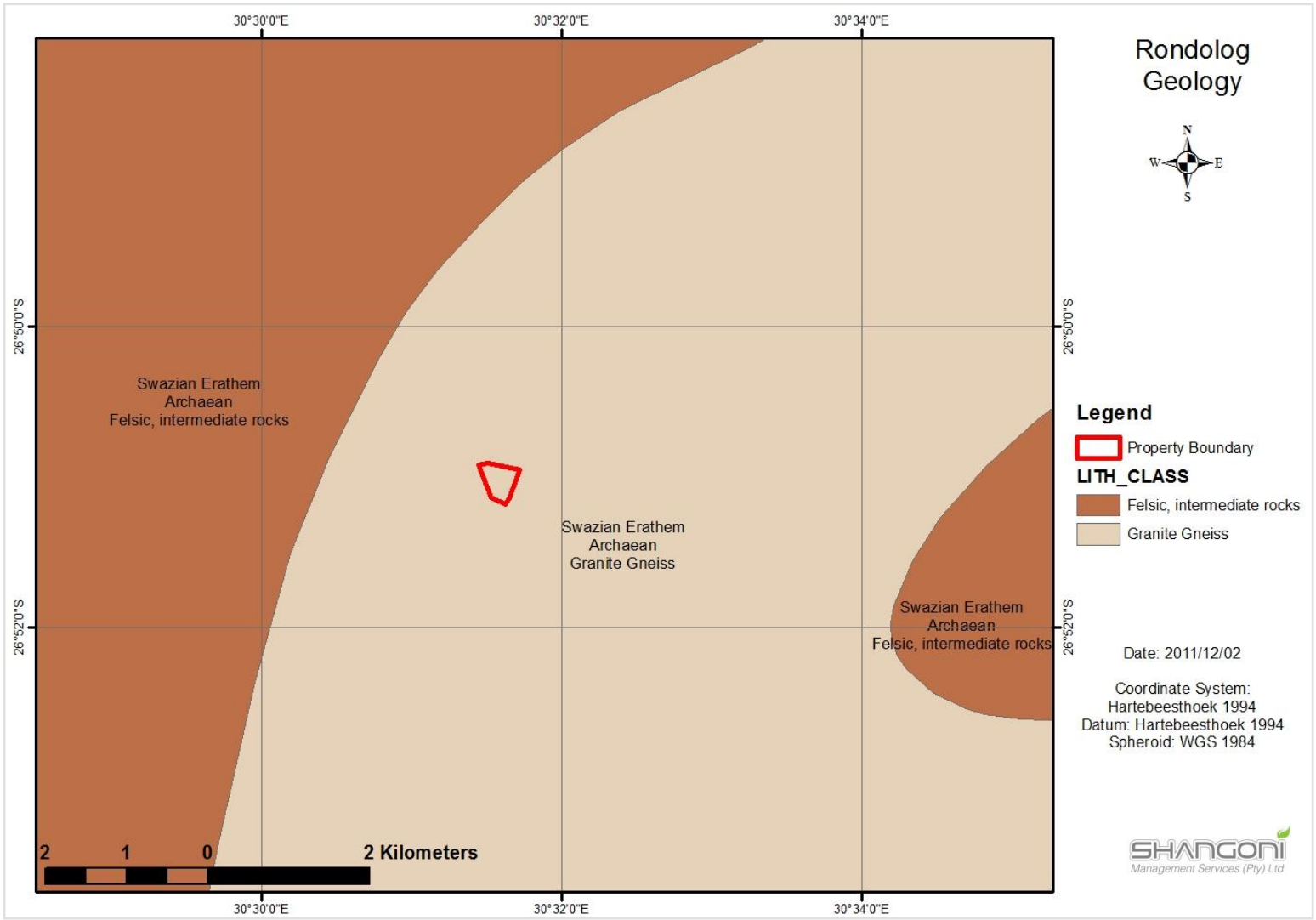

Figure 14: Geology of the site

2.2 Regional climate

The climate of the site is typical of Highveld conditions, with relatively warm to hot summers and fairly high rainfall, and moderate to cool winters with little or no rain. Valleys and wetlands are much cooler at night and more prone to frost than higher lying areas. The area experiences thunderstorms during the summer months, which usually occur in the late afternoons.

2.2.1 Rainfall

The site occurs in a summer rainfall area receiving a mean annual precipitation of between601 and 800mm (AGIS, 2007). The minimum and maximum rainfall range for Iswepe can be seen in Figure 15 (AGIS, 2007).

The variability of rainfall as well as the high intensity events will affect the construction phase of the project. It could hinder construction activities with mud being formed in excavation areas.

Construction should preferably be planned for the winter months to avoid construction delays that might have a negative socio-economic impact on the development.

The potential impact of the rainfall should be low if mitigated properly.

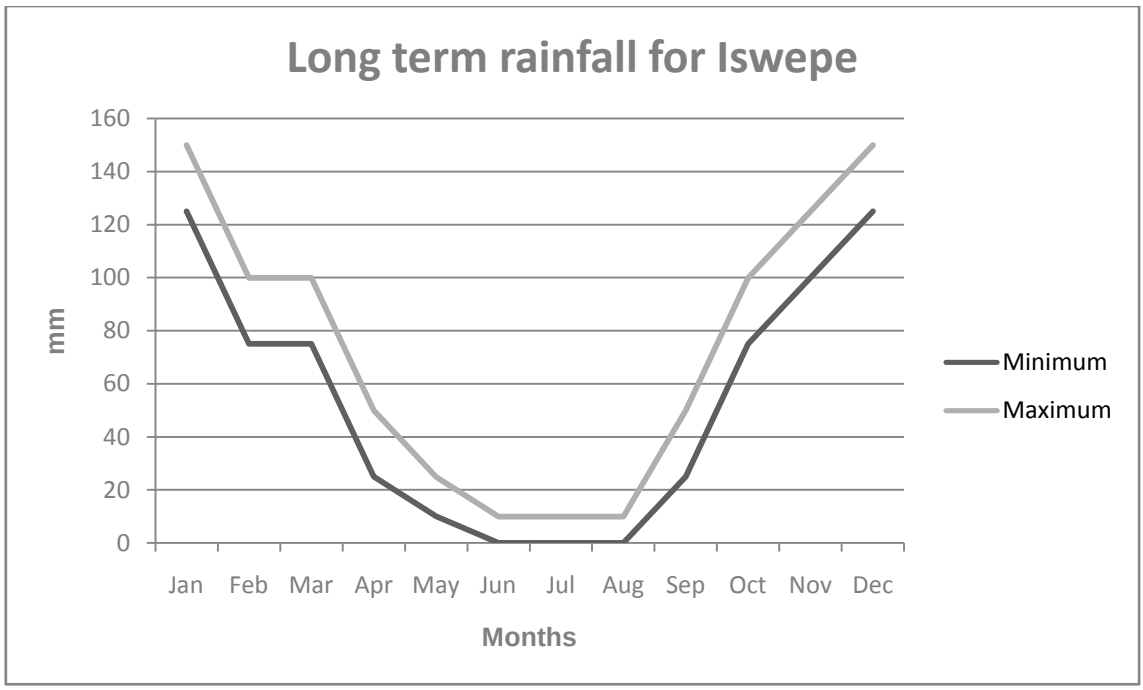

Figure 15: Long term rainfall maximums and minimums for Iswepe

2.2.2 Temperature

During the summer months, the temperatures range from 13.4 to 29.2°C. In winter, the temperature range is from 4°C to 21.9°C (AGIS, 2007). The minimum and maximum temperature ranges for Iswepe can be seen in Figure 16 .

The occurrence of frost during winter months results in the grasslands being very dry, which contributes to veldt fires.

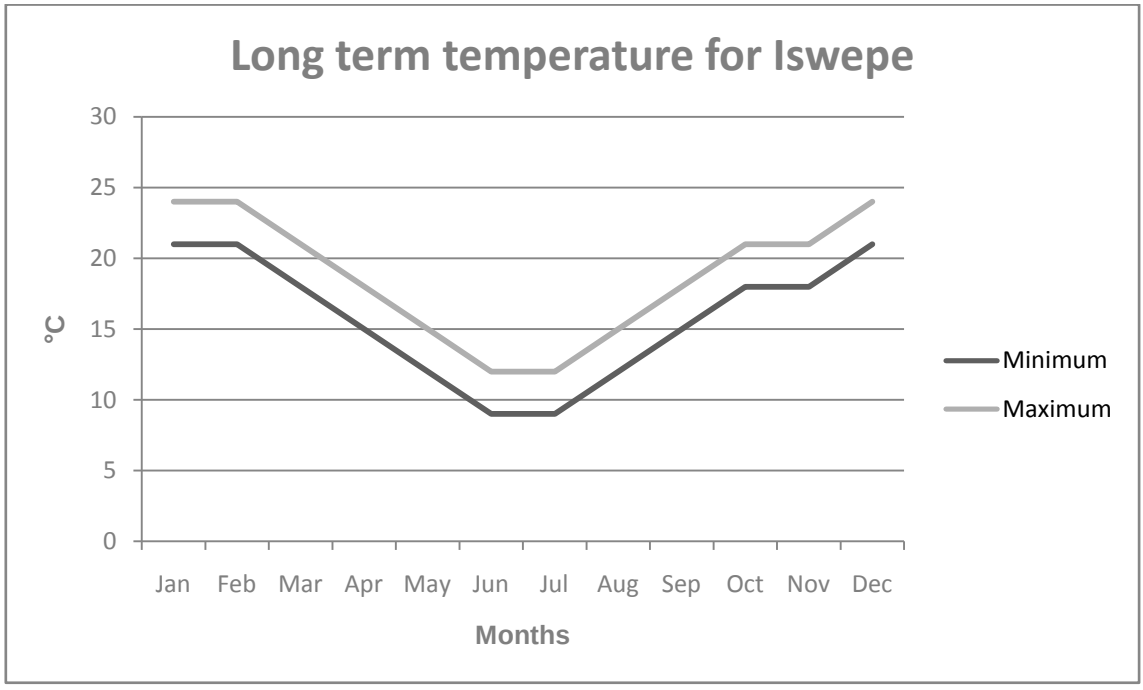

Figure 16: Long term maximum and minimum temperatures for Iswepe

2.2.3 Wind

Please see below for the wind roses of the closest weather station, Ermelo weather station, as obtained from Weather SA.

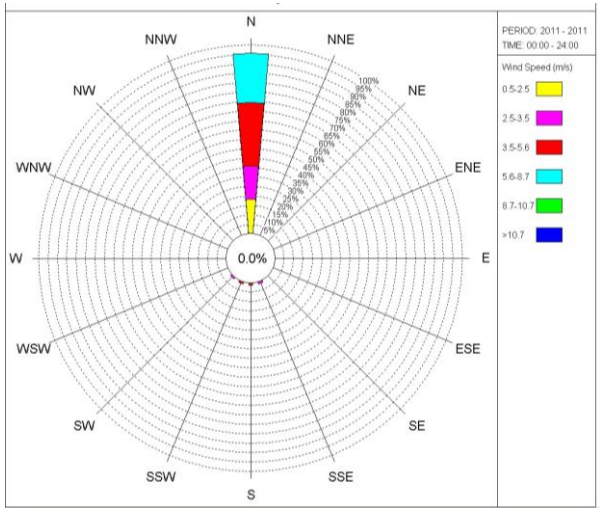

Figure 17: Wind rose for January

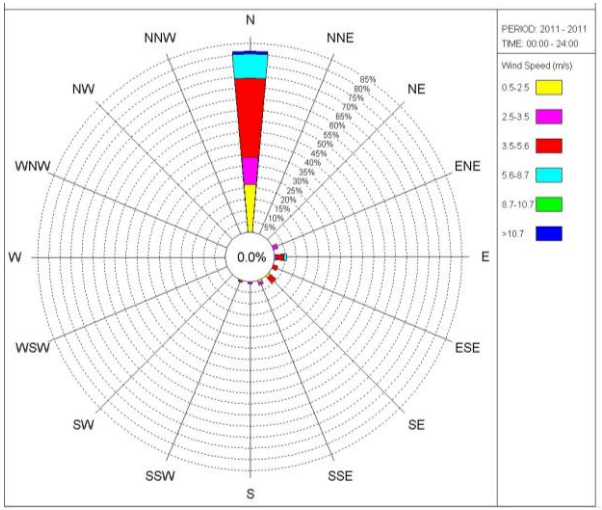

Figure 18: Wind rose for February

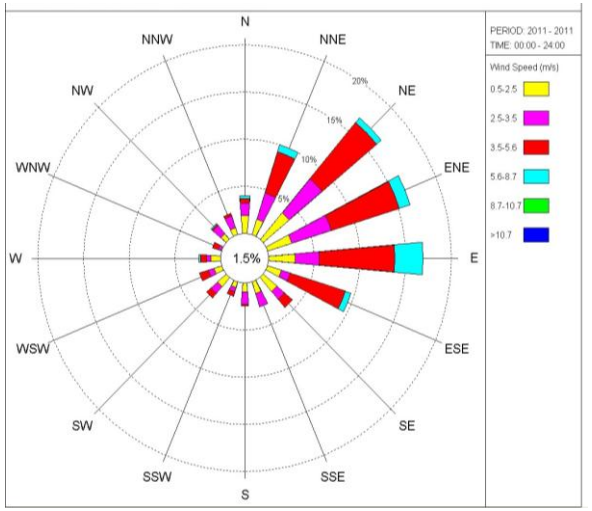

Figure 19: Wind rose for March

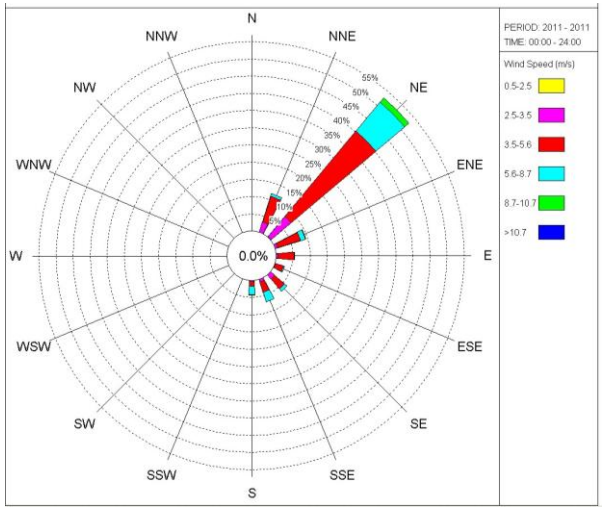

Figure 20: Wind rose for April

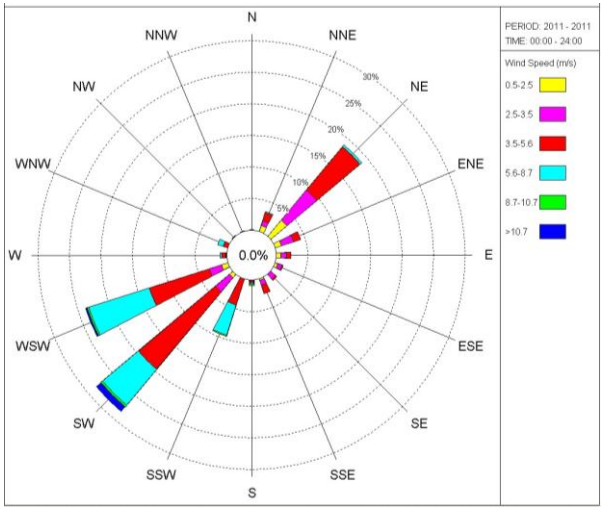

Figure 21: Wind rose for May

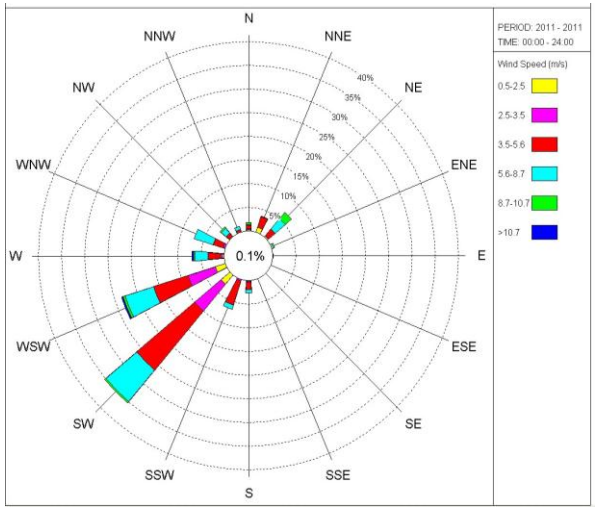

Figure 22: Wind rose for June

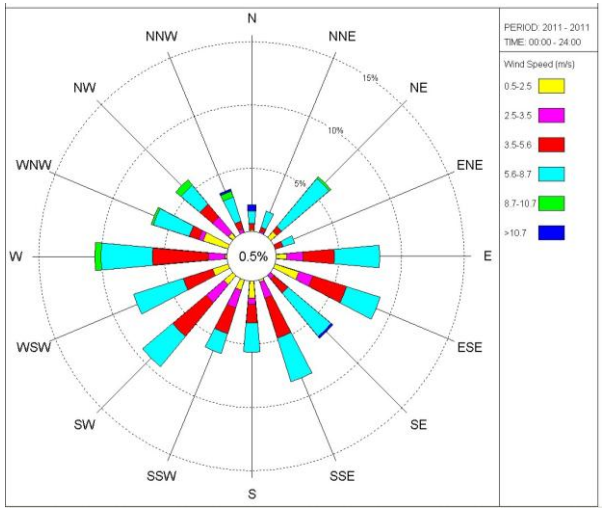

Figure 23: Wind rose for July

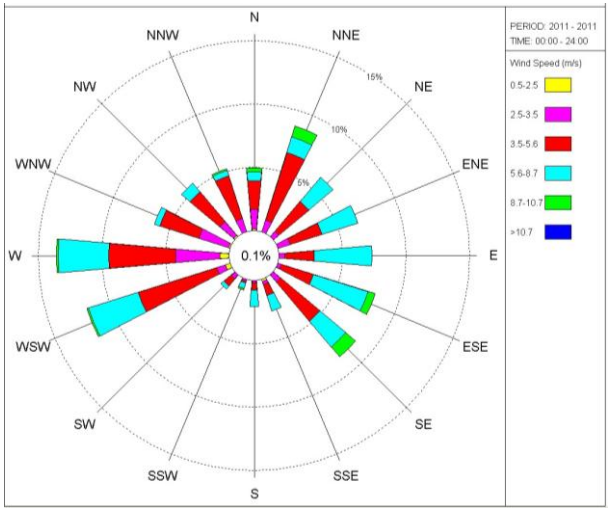

Figure 24: Wind rose for August

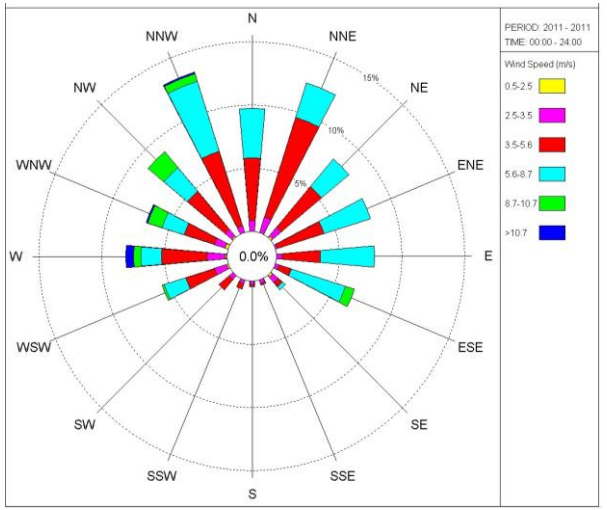

Figure 25: Wind rose for September

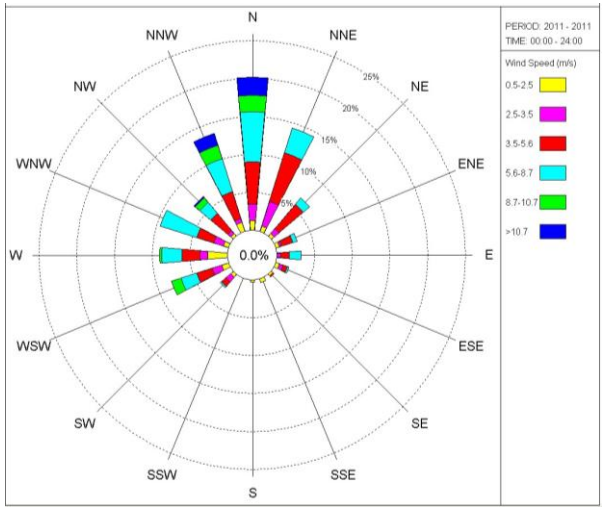

Figure 26: Wind rose for October

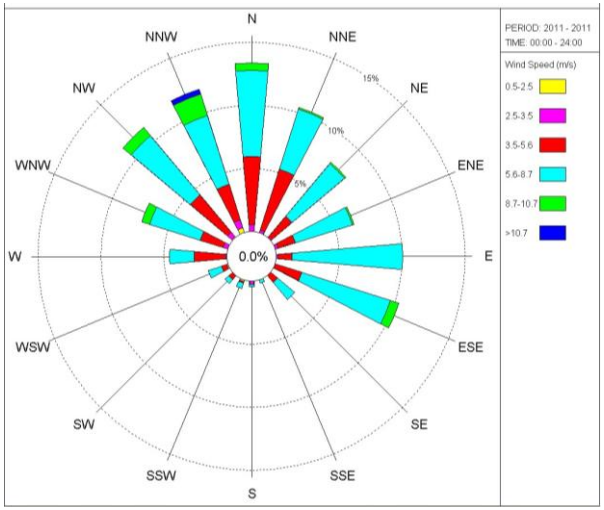

Figure 27: Wind rose for November

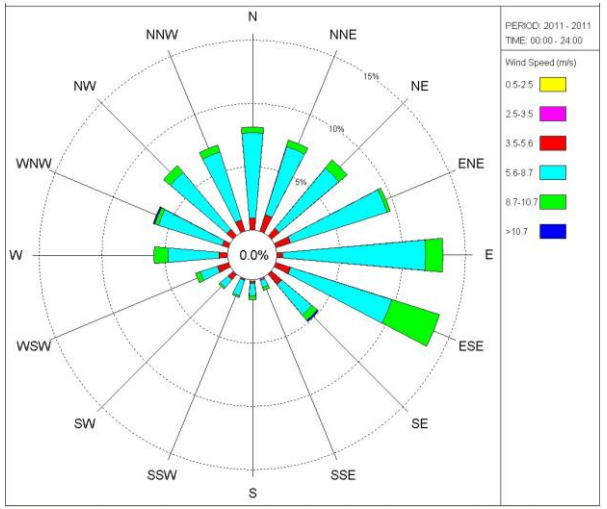

Figure 28: Wind rose for December

2.3 Topography

The general topography of the area is level to sloping, with a slope of no greater than 8% according to the AGIS Comprehensive Atlas (2007). The area is located approximately 1 412 metres above mean sea level.

2.4 Soils

The land type of the project site is Bb35 according to the AGIS Land Type Survey (AGIS, 2007).The area has mostly mesotrophic to euthrophic soils (AGIS, 2007) that are red-yellow and greyish in colour (Figure 29). These soils have low to medium base status (AGIS, 2007) and the soil depth lies in the range of between 450 mm and 750 mm deep (Figure 30). The clay component of the topsoil represents between 15 % and 35 % of the total volume of soil (Figure 31) and these soils have a moderate agricultural production potential. According to Figure 32, the soil present on the site is classified as code S17. This means that the soil is undifferentiated and structureless, with favourable physical properties. However, the soil may have low base status, restricted soil depth, excessive and imperfect drainage and high erodibility.

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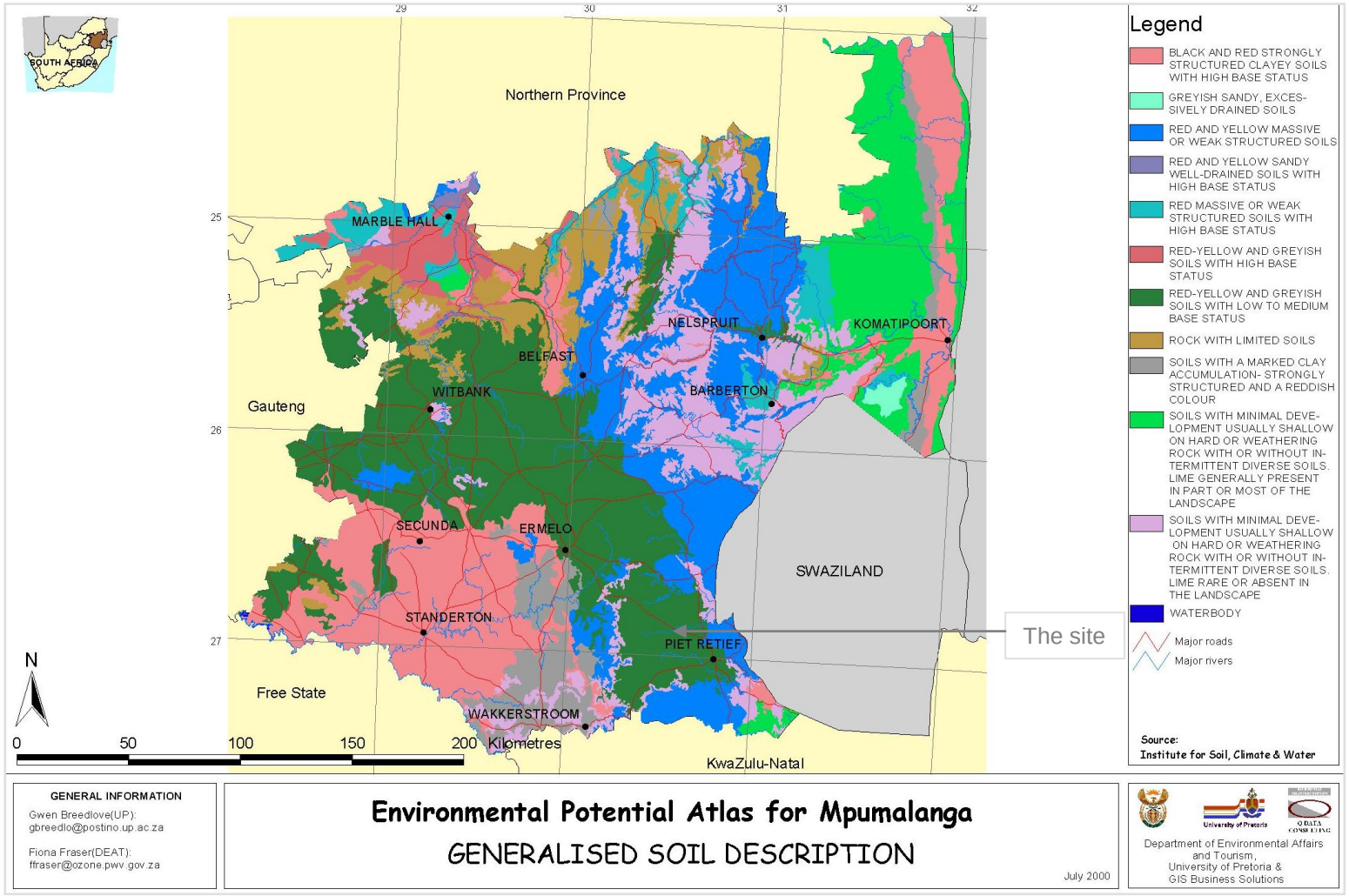

Figure 29: Generalised soil descriptions of Mpumalanga

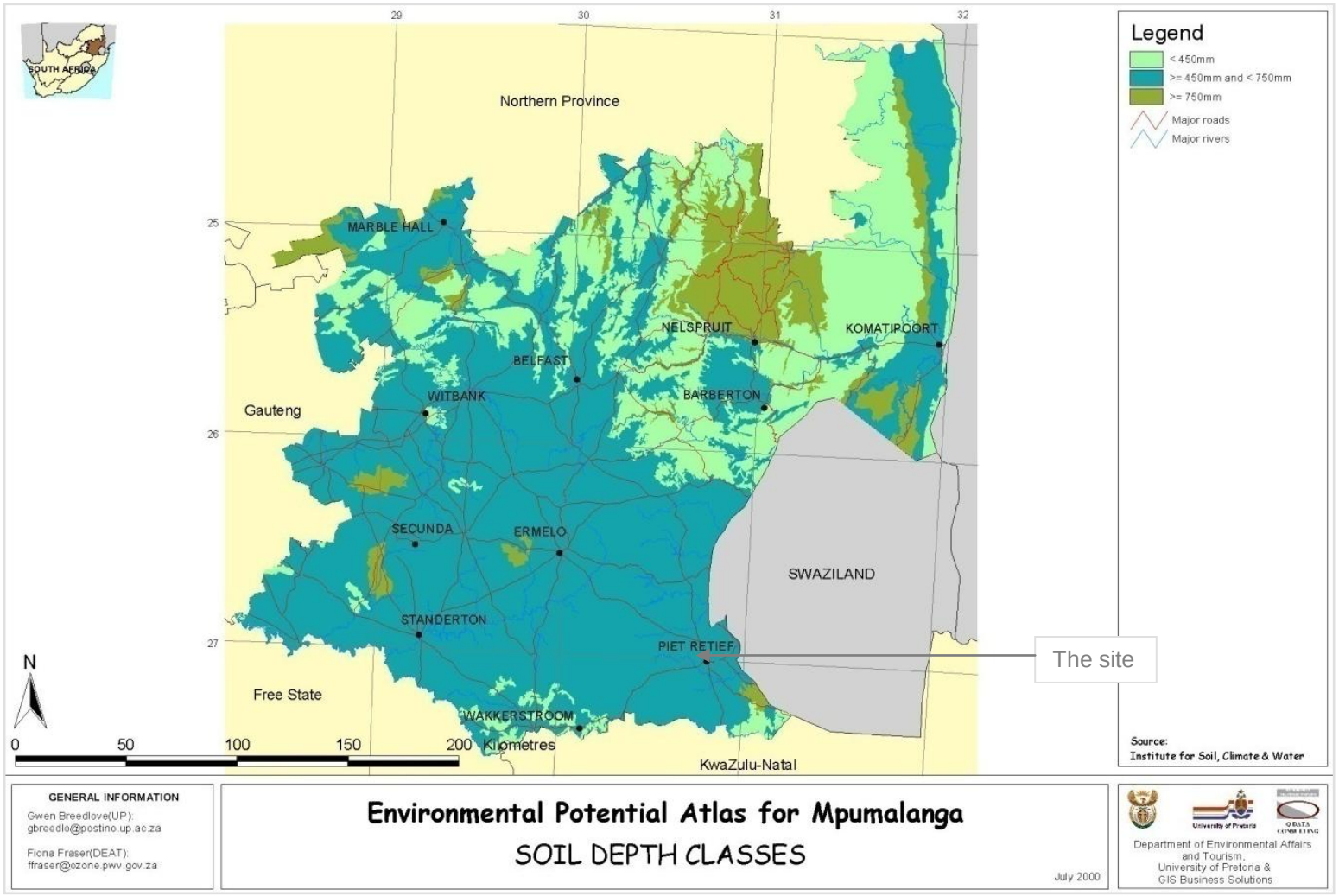

Figure 30: Soil depths in Mpumalanga

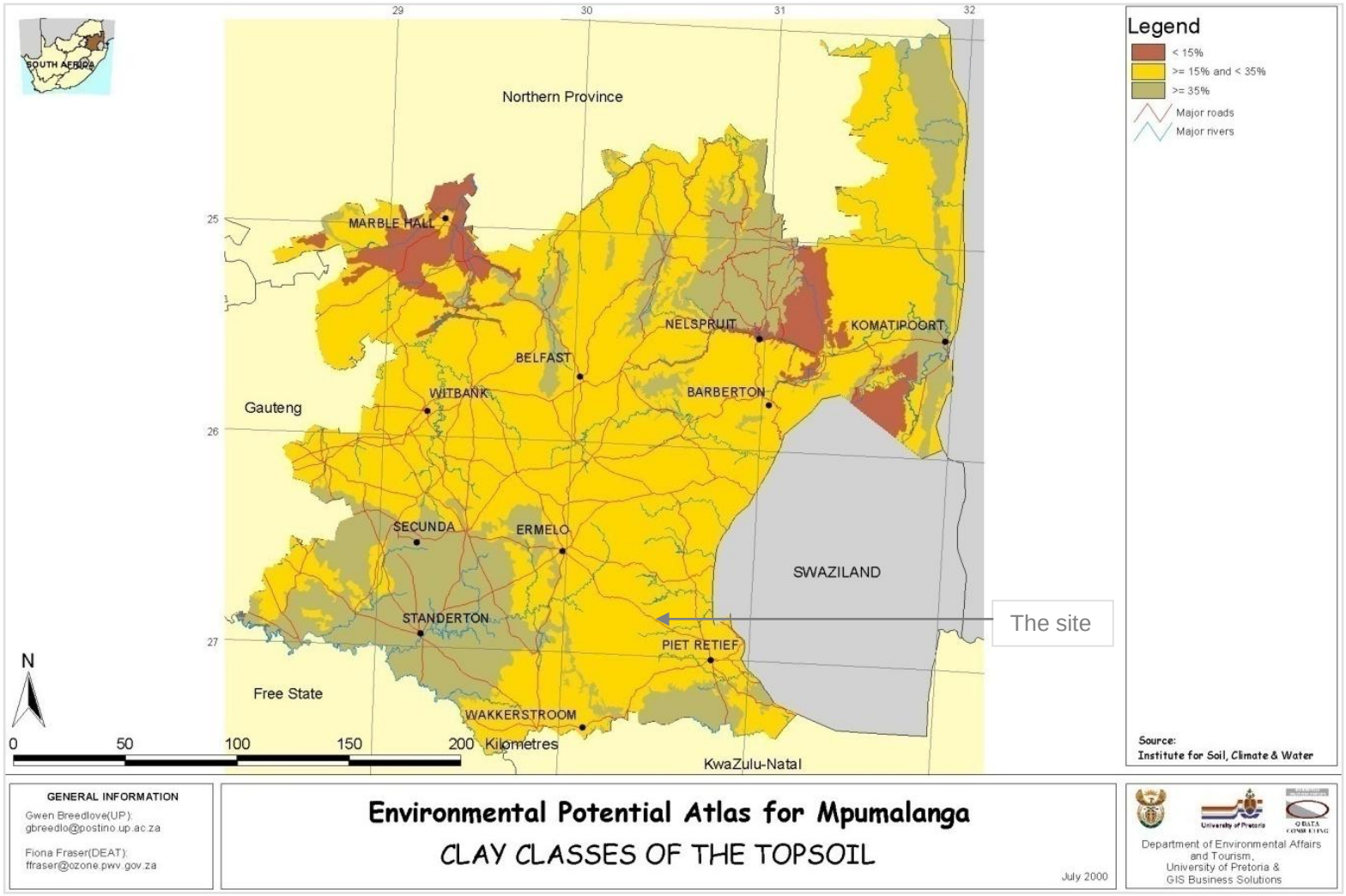

Figure 31: Clay classes in Mpumalanga

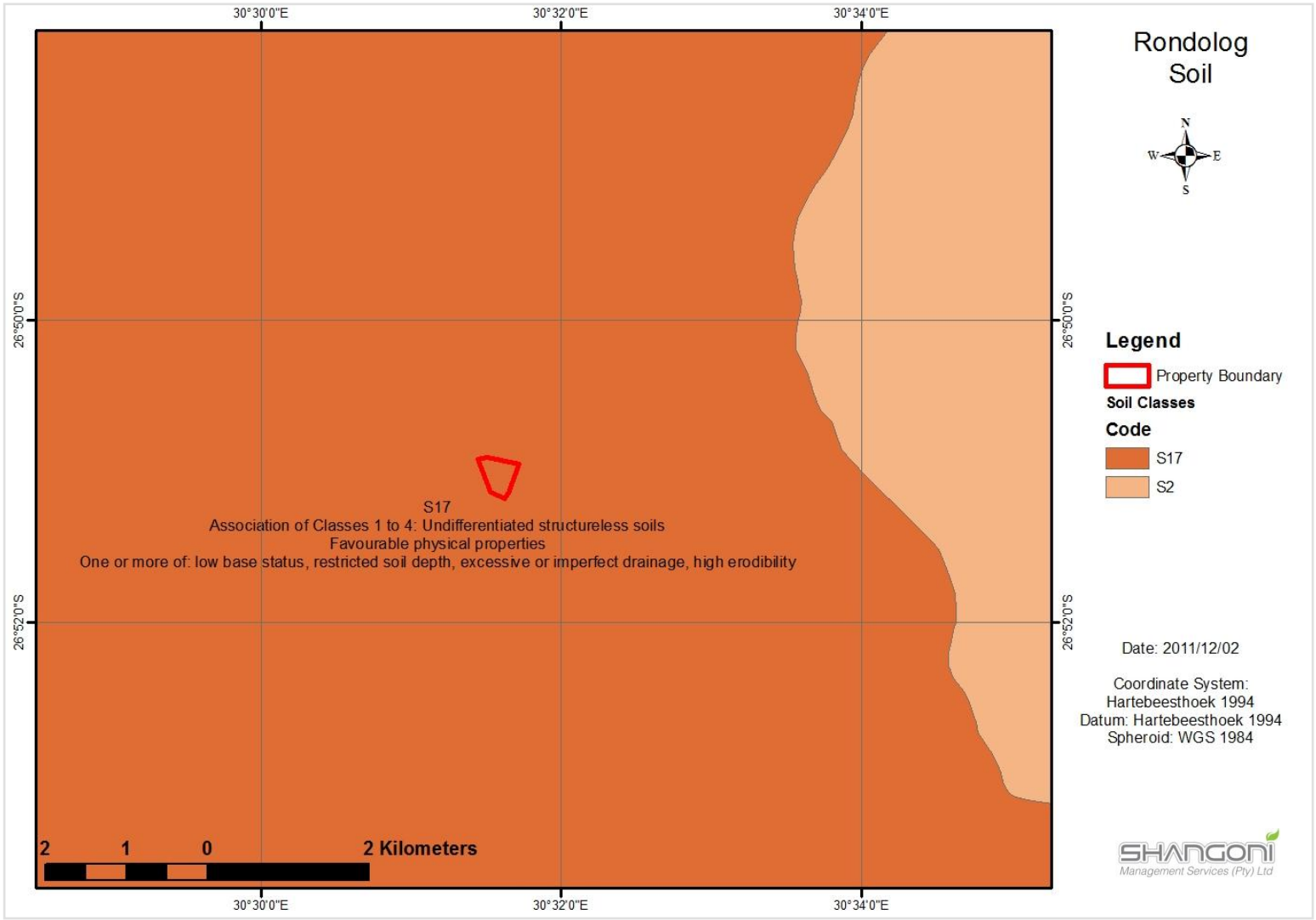

Figure 32: Classification of the soil type present at the site

2.5 Land use and land capability

The land is currently zoned as Agricultural land and the Rondolog sawmill has been present on the site for a number of years. An application is in process to have the current land use of the site (Agri-industrial) formalised. The application is being undertaken by Nuplan Development Planners on behalf of the property owners, Iswepe Timber Buyers (Pty) Ltd. The site is no longer in its natural state and the dominant land use surrounding the site is mainly forestry. Cultivated land, vacant land and land of which the use has not been specified is also present (Figure 33).

According to the AGIS Comprehensive Atlas (2007), the land capability of the site is classified as arable land of moderate potential.

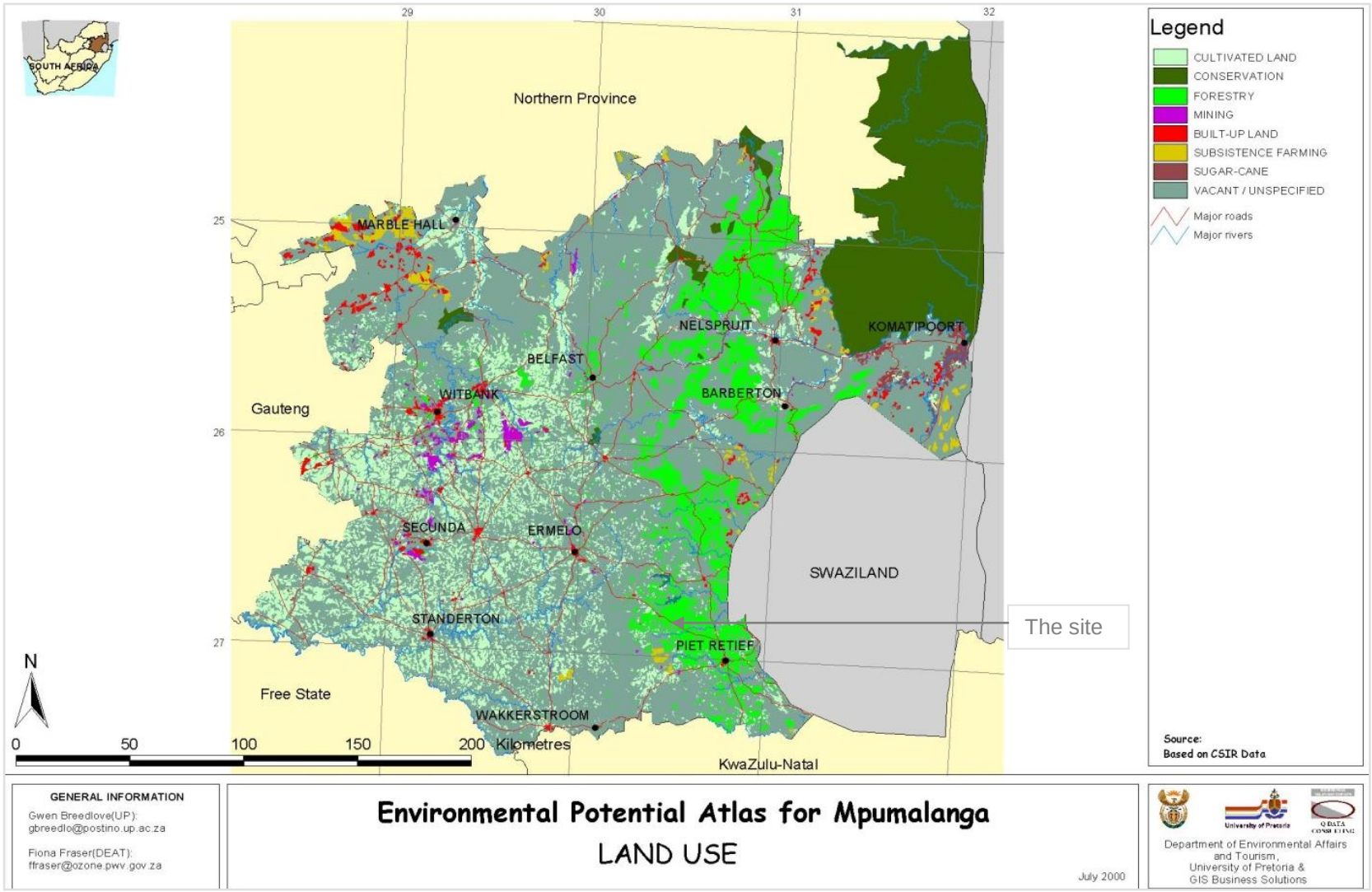

Figure 33: Land uses in Mpumalanga

2.6 Fauna and Flora

2.6.1 Flora

Due to the disturbed nature of the vegetation onsite, a desktop assessment was undertaken to describe the nature of any natural vegetation surrounding the site. Most of the surrounding land is used for forestry.

This farm falls within the Grass Land biome region and is specifically classified as Eastern Highveld Grassland (GM 12) (Figure 34).

The Grassland Biome is found mainly on the high central plateau of South Africa and the inland regions of KwaZulu-Natal and the Eastern Cape. Frost, fire and grazing maintain the dominance of grasses and prevent the establishment of trees. Fire is a natural factor caused by lightning and regular burning is essential for maintaining the structure and biodiversity of this biome. Grasslands are unique ecosystems with rich and often highly specialized animal life, both above and below ground. Formerly, native grasslands supported vast herds of ungulates such as blesbok, black wildebeest and springbok. Bird densities range from 50 to 380 birds per 100 ha, and include a wide range of species.

South African grasslands essentially comprise of a simple, single-layered herbaceous community of tussocked (or bunch) grasses. It is not generally known that the majority of plant species in grasslands are non-grassy herbs, most of which are perennial plants with large underground storage structures that can live for several decades. The Grassland Biome has an extremely high biodiversity, second only to the Fynbos Biome. At a 1 000 square metre scale, the average species richness of the Grassland Biome is even higher than those of most Fynbos communities, being surpassed only by Renosterveld.

Eastern Highveld grasslands occur in the Gauteng and Mpumalanga Provinces at an altitude of 1 520 – 1 780 metres above mean sea level, but can occur as low as 1 300 metres above mean sea level. The short dense grassland is dominated by species commonly found in grasslands (*Aristida, Digitaria, Eragrostis, Tristachya* and *Themeda* among others). There are small rocky outcrops scattered throughout the grassland where some woody species and wiry, sour grasses occur (*Celtis africana, Acacia caffra, Parinari capensis, Diospyros lycioides* subsp *lycioides, Protea caffra, P. welwitschii* and *Rhus magalismontanum).*

Important taxa within the Eastern Highveld grasslands are the following:

Graminoids: *Digitaria monodactyla, D. tricholaenoides, Brachiaria serrata, Aristida aequiglumis, A. junciformis* subsp. *galpinii, A. congesta, Cynodon dactylon, Eragrostis chloromelas, E. plana,*

E. sclerantha, E. curvula, E. racemosa, Heteropogon contortus, Microchloa caffra, Monocymbium ceresiiforme, Loudetia simplex, Setaria sphacelata, Themeda triandra, Sporobolus africanus, S. pectinatus, Alloteropsis semialata subsp. *eckloniana, Andropogon appendiculatus, A. schirensis, Trachypogon spicatus, Bewsia biflora, Tristachya leucothrix, T. rehmannii, Diheteropogon amplectens, Ctenium concinnum, Eragrostis capensis, E. patentissima, E. gummiflua, Rendlia altera, Harpochloa falx, Schizachyrium sanguineum, Panicum natalens, Setaria nigrirostris* and *Urelytrum agropyroides.*

Herb: *Haplocarpha scaposa, Berkheya setifera, Justicia anagalloides, Acalypha angustata, Pelargonium luridum, Chamaecrista mimosoides, Euryops gilfillanii, E. transvaalensis* subsp. *setilobus, Dicoma anomala, Ipomoea crassipes, Senecio coronatus, Pentanisia prunelloides* subsp. *latifolia, Helichrysum aureonitens, H. callicomum, H. caespititium, H. rugulosum, H. oreophilum, Selago densiflora, Wahlebergia undulata* and *Vernonia oligocephala.*

Geophytic Herbs: *Haemanthus humilis* subsp. *hirsutus, Ledebouria ovatifolia, Gladiolus crassifolius* and *Hypoxis rigidula* var. *pilosissima.*

Succulent Herb: *Aloe ecklonis.*

Low Shrubs: *Stoebe plumosa* and *Anthospermum rigidum* subsp. *pumilum.*

The natural grasslands are considered endangered with only a small percentage conserved in statutory and private reserves. The target for conservation is 24% (Mucina & Rutherford, 2006). However, the site and its surroundings (tree plantations) cannot be classified as true Eastern Highveld grassland as a result of their disturbed state. For this reason, the impact of the proposed development on natural vegetation can be regarded as very low.

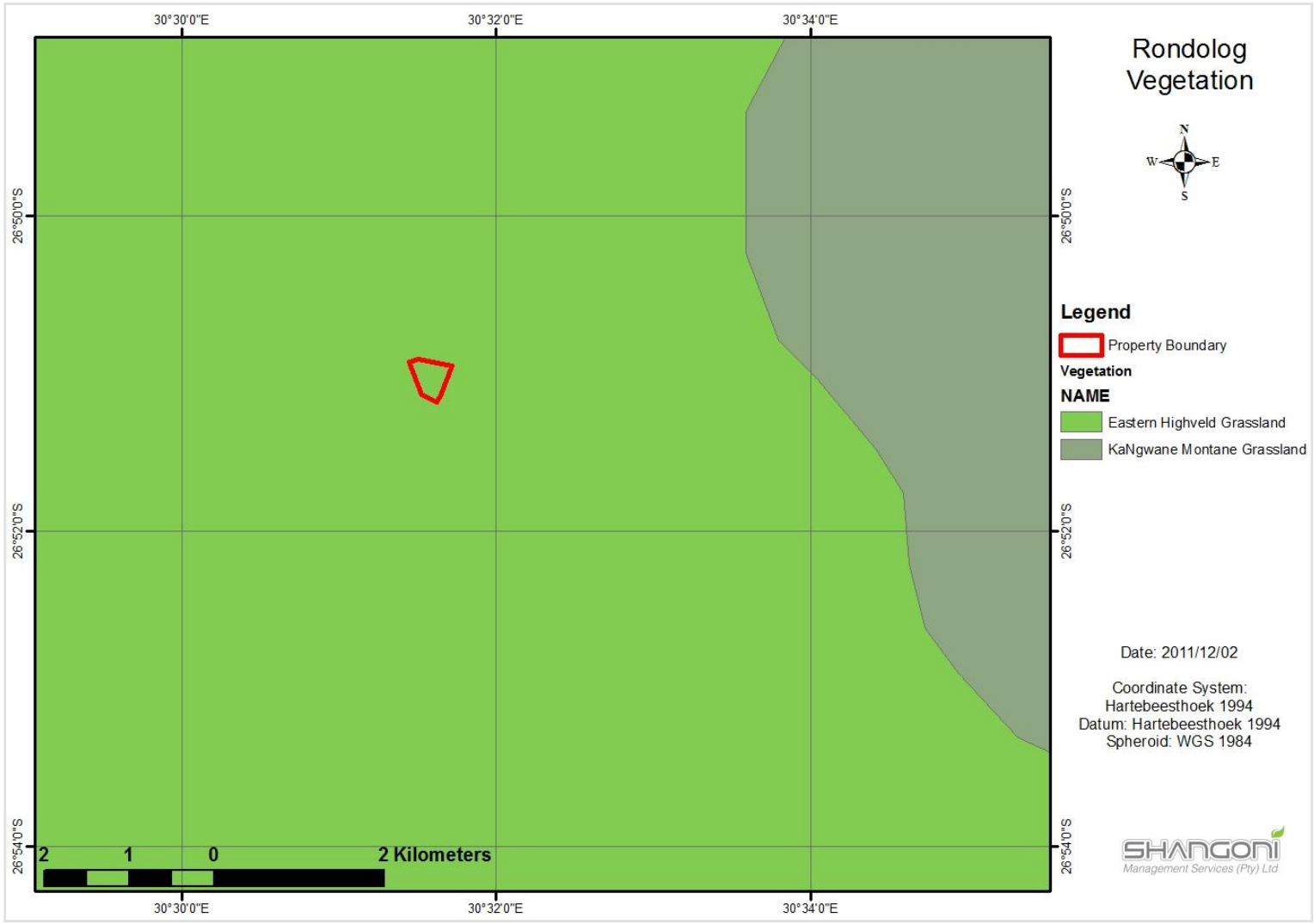

Figure 34: Vegetation type of the site

2.6.2 Fauna

The presence of a number of large trees and shrubs on site indicates that a number of bird species may be present. Vegetation cover onsite is conductive to foraging and nesting habitat for a variety of smaller mammals and birds, but very few faunal species were encountered on site.

A desktop assessment of the area was undertaken to get a better understanding of the potential impact that the proposed development might have on the fauna of the site and the surrounding area.

The fauna species likely to be present on the site and its surrounds can be seen in Table 2.

Table 2: Fauna species of general occurrence

Vertebrates	Invertebrates
Mammals: Porcupine Hedgehog Springhare Ground Squirrel Giant Rat Suricates	**Lower Invertebrates:** Garden Snail (*Helix aspersa*) Common Earthworm (*Lumbricus terrestris*) Wood Lice (Order *isopodra*) Large Centipedes (Order *scolopendromorpha*) Earth Centipedes (Order *geophilmorpha*) Stone Centipedes (Order *lithobiomorpha*)
Amphibians: Guttural Toad (*Bufo gutturalis*) Bushveld rain frog (*Breviceps adsperus*) Bubbling Kassina (*Kassina senegalensis*) Common Caco (*Cacosternum boettgeri*) Natal Sand Frog (*Tomopterna natalensis*)	**Insects:** Fishmoths (Order *thysanura*) Skimmer Dragonflies (Family *libellulidae*) Darner Dragonflies (Family *aeschnidae*) Damselflies (Suborder *zygoptera*) Common Termites (Family *termitidae*) Cockroaches (Order *blattodea*) Earwigs (Order *dermaptera*) Grasshoppers (Family *acrididae*) Bush Crickets (Family *tettigoniidae*) Horseflies (Family *tabanidae*) House flies (Family *muscidae*) Social Wasps (Family *vespidae*) Social Bees (Family *apidae*) African Monarch (*Dannaus chryssipus*) Garden Acraea (*Acraea horta*) Foxy Charaxes (*Charaxes jasius*) Common joker (*B. ilithyia*) Gaudy Commodore (*Precis octavia*) Garden Commodore (*Precis archeria*) Painted Lady (*Vanessa cardui*) Common Blue (*Leptotes pirithous*)
Reptiles: Brown House Snake (*Lamprophis fuliginosus*) Common Slugeater (*Duberria lutrix*) Rinkhals Spotted Sand Lizard (*Pedioplanis lineoocellata*)	

It is possible that a number of fauna and flora species may be disturbed by the development. However, with proper mitigation measures applied, the impact on the fauna and flora will be low.

2.7 Water

2.7.1 Surface water

The site is mainly drained by means of surface run-off. No streams are present within the site boundary, but a first order stream is located 2km to the South of the site. This stream flows to the west where it forms a tributary of the Hlelo river (second order stream at this stage).

2.7.2 Catchment areas

The primary catchment areas for the Mpumalanga Province are indicated on Figure 35. The catchment areas have a typical Highveld topography, mild to flat areas and are predominantly rural. The flat areas are mostly used for cultivation or forestry.

The site falls within the Mfolozi/Pongola primary river catchment, as shown on Figure 35. This catchment is part of the Usuthu to Mhlatuze Water Management Area, which comprises Primary Drainage Region W (DWA, 1999).The Usuthu to Mhlatuze Water Management Area is divided into five drainage areas as shown on Figure 36.The site falls within the Usuthu drainage area, which includes all the W5 catchments.

The Usuthu catchment originates on the eastern escarpment of South Africa, drains a part of Mpumalanga and most of Swaziland, and joins the Pongola river just before it flows into Mozambique. The mean annual runoff from the Usuthu catchment is 2 281 million m^3/annum.

The site falls within the W52 (specifically W52B) quaternary catchment area. The Hlelo river is the dominant river in this catchment and has a mean annual runoff of 111 million m^3/annum. There are no major dams within this quaternary catchment. Irrigation is the dominant water use in the catchment and forestry the main stream flow reduction activity (Mallory, 2002).

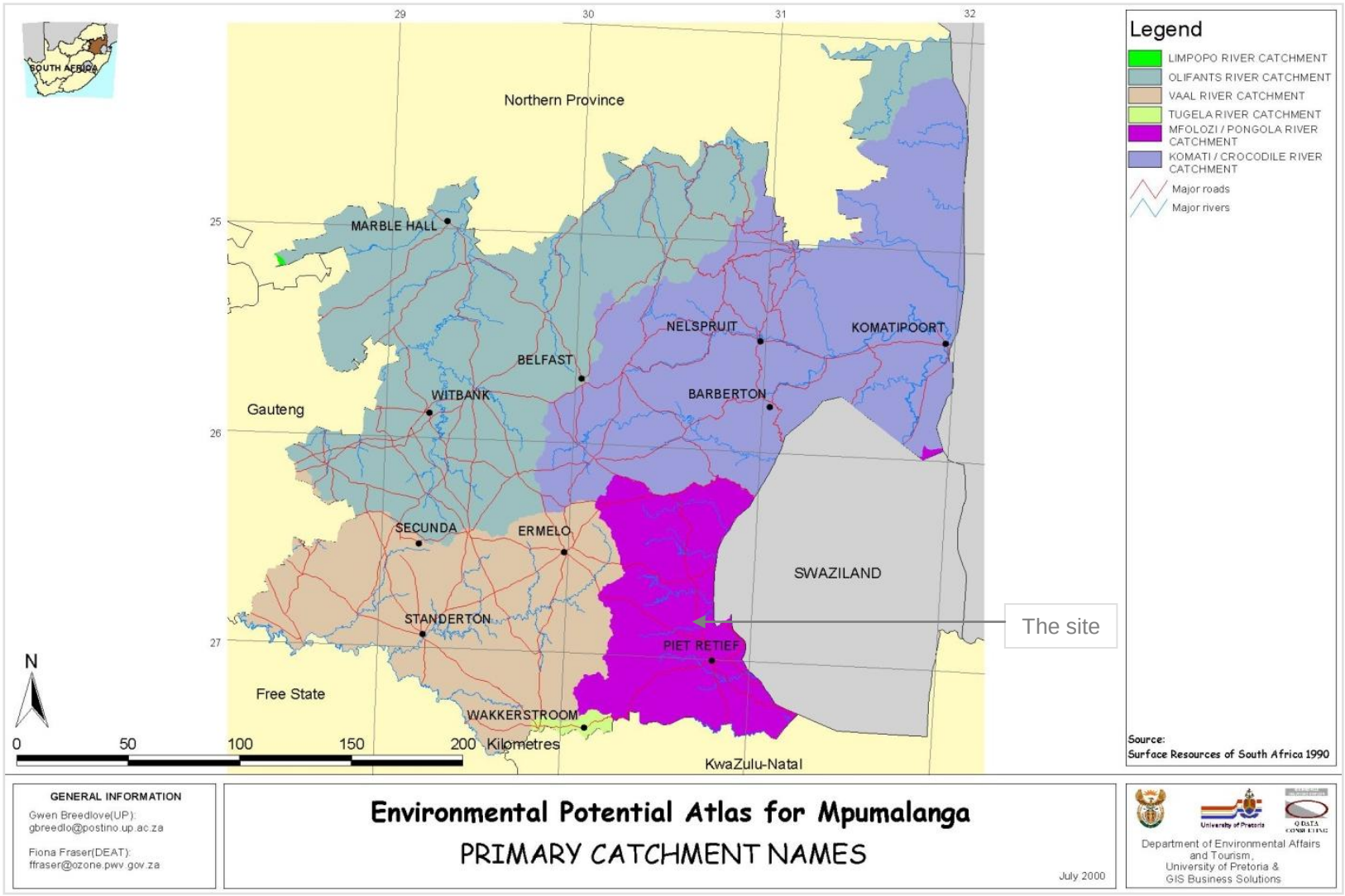

Figure 35: Primary catchments for Mpumalanga

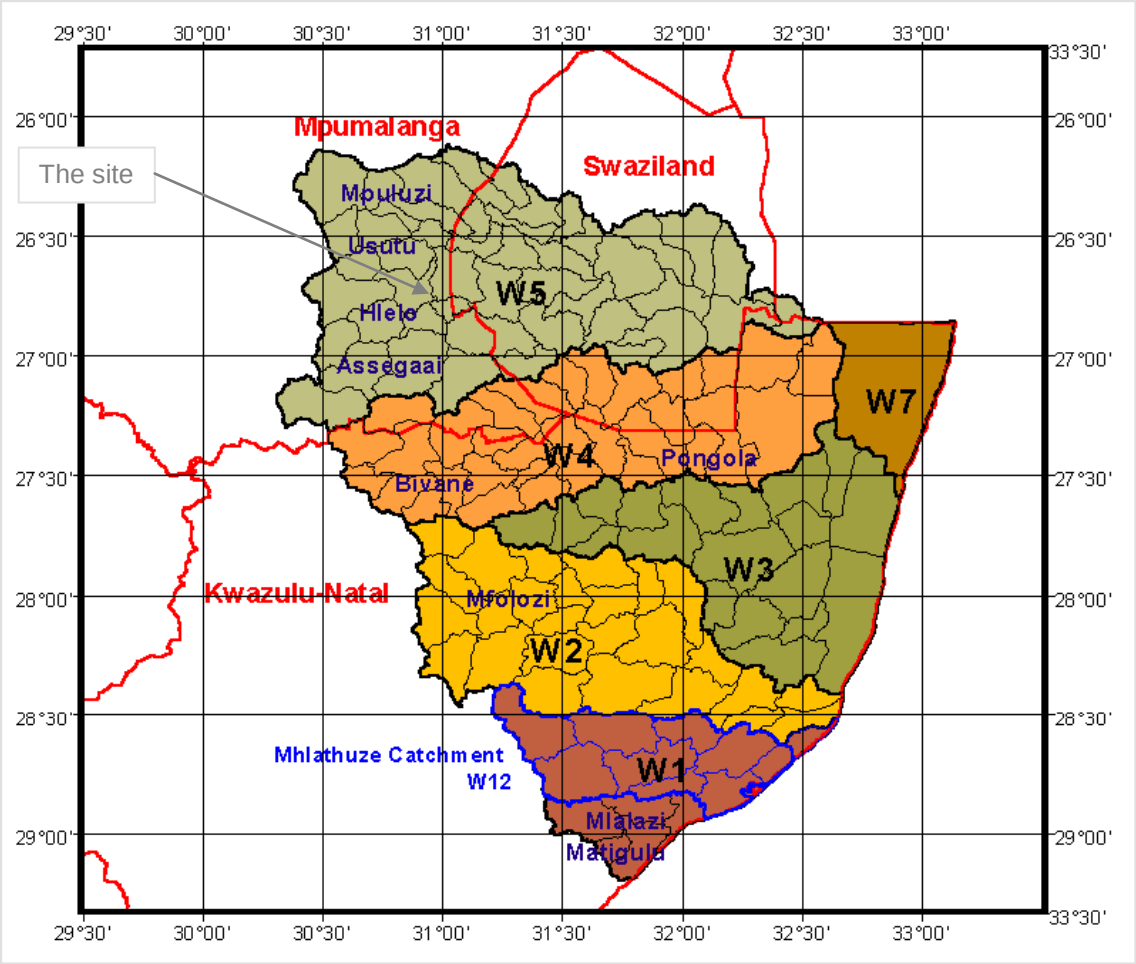

Figure 36: Drainage areas of the Usuthu to Mhlathuze Water Management Area

2.8 Water Authority

The relevant Water Authority is the Department of Water Affairs (DWA), Mpumalanga Regional Office (Nelspruit).

2.9 Groundwater

Groundwater is obtained from two boreholes located within the site boundaries. All water used at the sawmill comes from these boreholes. Most of the water is used for the processing of the timber and the remainder is used for domestic purposes. The two boreholes will be registered with the Department of Water affairs.

A Water Use License Application will be submitted to the Department of Water Affairs for the licensing of water use activities at the sawmill. The application will be for the following activities:

- 21(a): Taking water from a water resource

- 21(b): Storage of water

2.9.1 Taking water from a water resource (21(a))

As previously stated, groundwater is extracted from two boreholes within the site boundary. Approximately 600m^3 of water will be extracted per month for use at the sawmill. The site falls within the W52B Quaternary Drainage Region and according to the revision of General Authorisations (GN 399) in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998), 150m^3 of groundwater may be extracted per hectare per annum. As the site is 12.8317ha, a total of 1 924.755m^3/annum of groundwater may be extracted on the site without a water use license. As the water use at the sawmill will be approximately 7 200m^3 per annum, a water use license is required for the extraction of the groundwater.

2.9.2 Storage of water (21(b))

Approximately 150m^3 of water from the two boreholes will be stored in raised water tanks at the sawmill. 40m^3 of the water will be stored for use in the kilns and the remaining water will be stored for potential fire fighting purposes. According to the revision of General Authorisations (GN 399) in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998), the site falls within a quaternary drainage region (W52B) that is excluded from General Authorisations for any storage of water. A water use license for the storage of water is therefore required.

2.10 Wastewater

The sawmill will potentially produce three types of wastewater during its operation. These include process wastewater, storm water and domestic wastewater.

2.10.1 Process wastewater

Water will be used for the conditioning of timber in the kilns, in the boiler and in the Tanalith® C Oxide treatment plant. Process wastewater from the first two sources will be released into the existing french drain system. This system is being investigated and will possibly be replaced by a treatment plant. Process wastewater from the Tanalith® C Oxide treatment plant will be collected and returned to the treatment plant for re-use.

2.10.2 Storm water

Storm water running over paved and unpaved areas may be contaminated by for example oil and fuel spills from machinery and vehicles used on site. Contamination may also occur from leaching of sawdust and other wood-by-product stockpiles. Water with high tannin levels may have a slightly acidic pH and lower than usual levels of oxygen (SEMF Holdings).

Another potential source of wastewater is the runoff from the log storage yard. This runoff can contain toxic chemicals like tannins, phenols, resins and fatty acids that have leached from the timber, together with soil and other materials washed out of the bark (World Bank Group, 2007 (a)). At the sawmill this will however not be a problem as the logs will be stored in an enclosed storage area, thereby keeping rain- and storm-water away from the logs.

2.10.2Domestic wastewater

Water for domestic use is obtained from the two on-site boreholes. The wastewater from domestic use includes grey water and sewage generated by sawmill employees. Approximately 50 litres of wastewater is generated per employee per day. The sawmill will employ approximately 140 people after the expansion, resulting in the production of approximately 7 kilo-litres of wastewater per day. At present, this wastewater is pumped into a french drain system. A wastewater treatment plant, such as a package plant, is being considered as an alternative to the french drain system. The treated wastewater could then potentially be re-used in the industrial process should the water quality be good enough.

2.11 Noise

Noise in the area is generated mainly by forestry activities, trucks and vehicles, industrial processes and general bird and animal life.

Noise will be generated at the sawmill during the construction and operational phases.

2.11.1 Construction phase

According to Jorgensen & Johnson (1981), the noise levels generated by general construction activities on a building site can reach levels of approximately 70dB, caused by for instance heavy machinery.

The proposed development will have a negative impact on the environmental noise of the area once construction has started, with the highest noise levels experienced on the site.

The decline curve below (Figure 37) gives an indication of how noise generated at the site will decrease with distance. This gives a clear indication of the distance that the sound would have travelled when reaching the acceptable level of 60dB, prescribed by the SABS as being the acceptable limit for environmental noise.

According to Figure 37, at a distance of 27 metres from the construction site, the generated noise would have decreased to a level of 60dB and at a distance of 45 metres it would have decreased to approximately 55dB.

The construction activities will have some impact on people living in close proximity to the sawmill. There are a couple of workers houses within the site boundary, in the north-western corner of the site, and more houses to the north and west of the before mentioned houses. Besides these houses, there are no neighbouring houses within a 45-metre radius of the site.

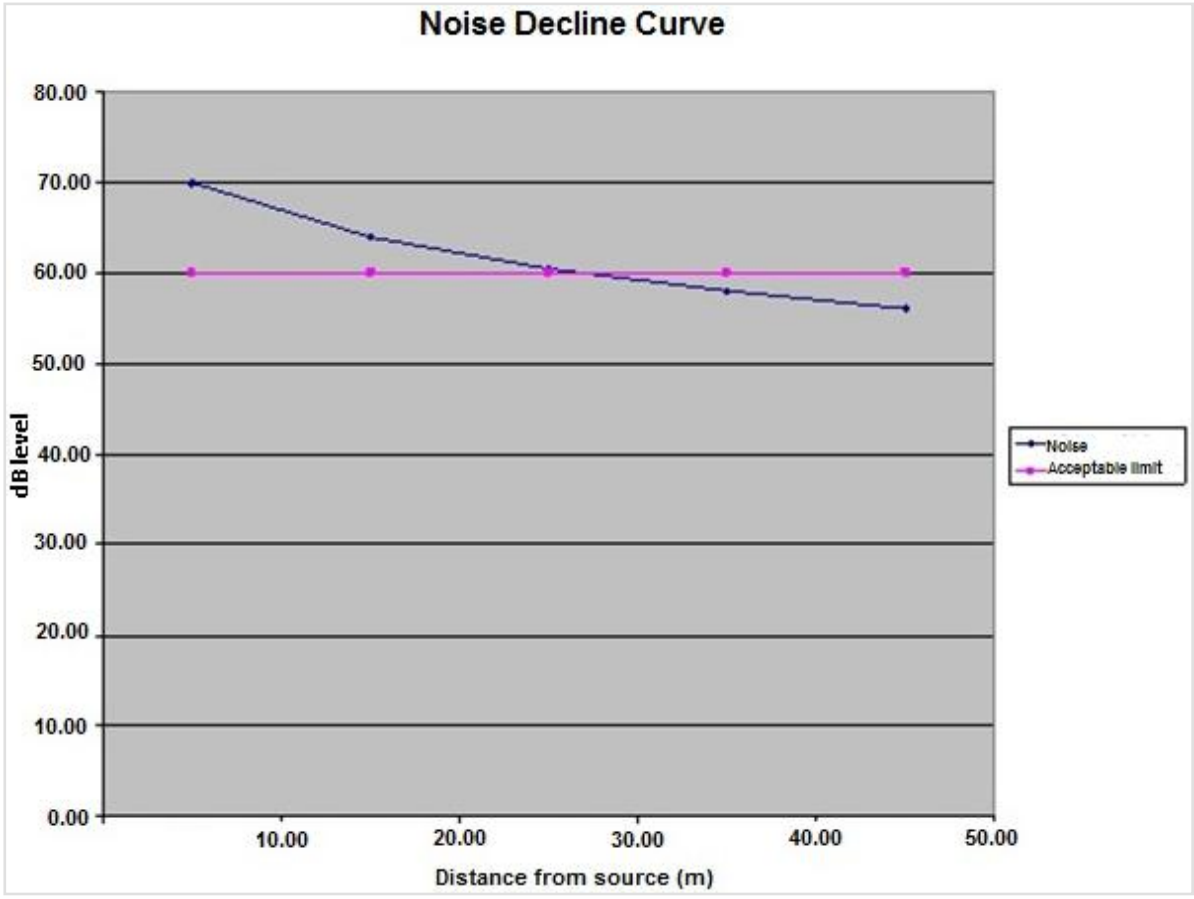

Figure 37: Noise decline curve

2.11.2 Operational phase

The main sources of noise during the operational phase are the following:

- Transport, unloading and loading of logs
- Debarkers
- Automatic sorters
- Automatic stackers
- Milling and planing operations
- Chippers
- Forklifts
- Kiln associated sources such as fans

- Reversing alarms on vehicles (World Bank Group, 2007; Environmental Protection Authority Perth, 2010).

Noise generated at the sawmill could impact upon the people who live within the sawmill property and adjacent to the sawmill (to the Northwest). People in Iswepe itself should generally not be affected as the town is more than 450 metres away from the sawmill and the sawmill is surrounded by a plantation of trees that act as an additional noise buffering medium.

2.12 Sites of archaeological and cultural interest

A site walk-through of the proposed development was undertaken. The objective of the study was to identify possible archaeological, cultural and historic sites within the proposed development areas.

No obvious features, sites, graves or artefacts of cultural significance that would be impacted on by the proposed development were found.

A letter was received from the South African Heritage Resources Agency (SAHRA) stating that it is not necessary for a Heritage Impact Assessment (HIA) to be conducted as the site has been disturbed by previous developments and it is therefore unlikely that any heritage resources will be identified on the property.

2.13 Visual aspects

The expansion will increase the size of the existing visual impact of the sawmill. The sawmill is however screened from view on all except the north-west side of the site. The visual impact of the expansion will therefore be low.

2.14 Air Quality

Potential atmospheric emissions at the sawmill include the following:

- Boiler stack emissions
- Water vapour from the kilns
- Volatile Organic Compound (VOC) emissions from kiln dryers accompanied by minor emissions of acetaldehyde, methanol and formaldehyde.
- Emissions from the wetmill and secondary process
- Dust from stockpiles and yards
- Dust from vehicles moving on site

- Vehicle exhaust fumes
- Dust and small amounts of Volatile Organic Compound emissions from debarking, cutting and sanding.

The potential impacts from the most important emission sources are discussed in more detail below. Emission values have only been supplied for the boiler stack emissions and kilns' emissions as these are deemed to be the largest sources of atmospheric emissions at the sawmill.

2.14.1 Boiler stack emissions

Currently, coal is the fuel source for the boiler and 30 tons of coal is used per week. Should the expansion be authorised, the coal boiler will be replaced with a wood-fired boiler. Approximately 80 tons of sawdust and 35 tons of bark generated at the sawmill will be used to fuel the boiler. This change of fuel source will mean that the sawmill can use its by-products (sawdust and bark) to their full potential.

The following emissions will likely be generated in the wood-fired boiler:

- Nitrogen oxides (NO_x)
- Carbon monoxide (CO)
- Sulphur oxides
- Volatile Organic Compounds (VOCs)
- Greenhouses gases (GHG)
- Particulate
- Dioxins and furans

These emissions are described in more detail below:

Nitrogen oxides

Nitrogen oxides (NO_x) are produced in all combustion processes. In a wood fired boiler, NO_x is produced mainly through the oxidation of chemically bound nitrogen in the fuel source (sawdust, bark and wood shavings). Nitrogen oxides produced in this manner are called fuel NO_x. The nitrogen content of wood residues is typically 0.1% by weight. This low nitrogen content means that when the wood residues are used to fuel the boiler, the levels of NO_x emissions will be low.

Carbon monoxide

Carbon monoxide (CO) is generated through the incomplete combustion of carbonaceous materials like wood residues.

Sulphur oxides

Sulphur emissions are of minor concern as clean wood residues contain only very small amounts of sulphur. The sulphur content of clean wood is approximately 0.02% by weight and 0.1% by weight for bark. During the combustion process, approximately 90% of the sulphur in the wood is adsorbed onto the fly ash particles. The remaining sulphur is converted into sulphur dioxide gas (SO_2). The sulphur oxide emissions are therefore very low.

Volatile Organic Compounds

During the combustion process, pyrolysis gases are released from the wood and bark used to fuel the boiler. When these gases are not oxidised before leaving the boiler, volatile organic compound (VOC) emissions are generated. VOC emissions can be controlled through good operational practices like ensuring that gases are mixed thoroughly in the boiler, that the boiler temperature is controlled and by ensuring that there is adequate excess air available (Amec, 2002).

Greenhouse gases

Emissions of carbon dioxide (CO_2), nitrous oxide (N_2O) and methane (CH_4) result from the combustion of wood residues. Approximately 99% of the fuel carbon in wood residue gets converted into CO_2 during the combustion process. Due to incomplete combustion, some of the fuel carbon is not converted into CO_2. This fuel carbon forms part of the bottom ash. CO_2 emitted from the combustion of wood residue is generally not counted as a greenhouse gas emission as it is considered part of the short-term CO_2 cycle of the biosphere(EPA, 2003).

N_2O formation is governed by a complex series of reactions and is dependent on a number of factors. More N_2O is formed when combustion temperatures are low and when the percentage of excess air in the boiler is high.

Emissions of CH_4 are highest when combustion temperatures are low or when incomplete combustion occurs. These conditions typically occur during the start-up and

shut-down cycles of a boiler. In general, conditions that favour the formation of N_2O will also favour the formation of CH_4.

Particulate

Approximately 80 to 95% of the total ash residue produced by a wood-residue-fired-boiler is in the form of gas borne particulate called carry over or fly ash. The fly ash is composed of unburned wood char that is composed of pure carbon and intrinsic ash of the clean wood and bark. The ash may also contain small quantities of clay or sand contaminants and earth picked up during forest operations. Most of the ash residue will remain in the furnace and fall out as bottom or grate ash.

Dioxins and furans

These emissions are generally associated with the combustion of salt-laden wood waste (Amec, 2002) and will therefore not be of concern for the Rondolog sawmill.

Atmospheric emissions at the sawmill are not monitored at present. No baseline emission levels for the current boiler have been calculated as this boiler will no longer be used should the expansion be authorised. Emission figures have been obtained from a sawmill that is currently operating a wood-fired boiler. The Rondolog sawmill will be approximately the same size as this reference sawmill once the expansion has been completed. The emission levels from the reference sawmill, as measured from the boiler stack, are given in the table below (Table 3).

Table 3: Emission levels from a reference sawmill

Emission	$mgNm^{-3}$	g/h (NTP)	kg/h	t/day	t/annum
Particles (actual)	150	-	-	-	-
Particles (NTP)	180	-	-	-	-
CO	2 120	102 915.4	102.9154	2.47	839.79
NO	57.5	2 791.3375	2.7913375	0.07	22.78
NO_2	27	1 310.715	1.310715	0.03	10.70
NO_x as NO_2	115	5582.675	5.582675	0.13	45.55
SO_2	0	0	0	0	0

2.14.2 Emissions from the drying of timber in the kilns

Emissions will be produced when the timber is dried in the hot water compartment kilns. As no monitoring is done at the sawmill at present, the likely emission levels have been calculated from a reference paper called Emissions of hazardous air pollutants from lumber drying by Mike Milota and Paul Mosher (2008). In this paper, the emissions from Loblolly pine (*Pinus taeda*) were measured at 112.7°C using Method 99.02 of the National Council of Air and Stream Improvement's Method Manual (NCASI 2002). The emissions in the before mentioned report are given in the unit lb/mbf (pounds per thousand board feet). These values were converted to mg/Am^3 using the following conversion factors:

1lb = 453592.37mg
1mbf = 2.359737216m^3

The emissions are given with the unit mg/Am^3 and not mg/Nm^3 as the measurements in the report by Milota and Mosher were made at 112.7°C and not at the Normal Temperature and Pressure values of 20°C and 1atm respectively. Calculated emissions for the drying of timber in the kilns are given in the table below (Table 4). Please note that these emission levels have been calculated using the reference measurements made at 112.7°C.

Table 4: Calculated emission levels for the drying of timber in the kilns (calculated from Milota and Mosher, 2008)

Emissions	mg/Am^3
Methanol	46 133.17
Formaldehyde	3 459.99
Acetaldehyde	8 457.75
Propionaldehyde	384.44
Acrolein	1 153.33

The values given in Table 4 are an overestimate of the emissions that will occur at the Rondolog kilns. This is due to the fact that emissions generally increase as temperatures increase. As the Rondolog kilns will operate at 80 - 85°C and not at the 112.7°C used in the reference report (Milota and Mosher, 2008), the emissions at the Rondolog kilns will be less than the values given in Table 4.

Approximately 5 000m^3 of timber will be dried in the kilns per month. The emissions will therefore be approximately 230.67kg of methanol, 17.30kg of formaldehyde, 42.29kg of acetaldehyde, 1.92kg propionaldehyde and 5.77kg acrolein per month.

2.14.3 Emissions from the wetmill and secondary process

Emissions from the wetmill and secondary process may include sawdust, volatile organic compound (VOC) emissions from lubricants, solvents and the wood itself. Sawdust and shavings from the wetmill and secondary process will be taken to the fuel house for use in the boiler. As the sawdust is a valuable fuel source, attempts will be made to use all of the sawdust to fuel the boiler, thereby decreasing the amount of sawdust that can impact on the air quality.

2.14.4 Dust from stockpiles, yards and vehicles moving on site

Dust created at the sawmill could have an environmental as well as social impact. As most of the site is surrounded by plantations, dust blown off site will most likely end up within the plantations. The prevailing wind direction is from the North-east and the wind speed from this direction is up to 10.7m/s. As the wind blows from the town of Iswepe towards the sawmill, the atmospheric emissions from the sawmill will have very little impacts on residents in Iswepe.

2.14.5 Vehicle exhaust fumes

Vehicles such as forklifts and trucks will be used on site to transport logs, processed timber and wood chips. Exhaust emissions generally contain unburned hydrocarbons, nitrogen oxides (NO_x), carbon monoxide (CO) and carbon dioxide (CO_2).

2.14.6 Atmospheric emission license

An atmospheric emission license application will be submitted to the Gert Sibande District Municipality in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) List of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Application will be made for the following activity at the sawmill:

- 18. Category 9: Pulp and Paper Manufacturing Activities, including By-Products Recovery; (5) Subcategory 9.6: Wood drying and the production of manufactured wood products.

2.15 Socio-economic aspects

The site falls within the Mkhondo Local Municipality, which is part of the Gert Sibande District Municipality. The closest rural node or settlement is Iswepe.

2.15.1 Demography

According to the 2007 census, there were 106 457 people and 29 927 households in the Mkhondo Local Municipality. The average household size was 3.6 people per household. The municipality constituted 12% of the total number of people in the Gert Sibande District Municipality in 2007 (Mkhondo Local Municipality, 2011).

The table below (Table 5) indicates the Census 2007 population statistics for the Mkhondo Local Municipality.

Table 5: Mkhondo Local Municipality population statistics (2007)

Population group	Figures (number of people)
African	101 256
Coloured	772
Asian	306
White	4 123
Total Population	**106 457**

In 2007, the ratio of males to females was 46:54. The municipality had a young population, with 60% of the population under the age of 25.

2.15.2 Unemployment and employment

Only 33% of the population was economically active (between the ages of 15 and 65) in 2007. 57% of the economically active people were employed. These statistics indicate that the dependency ratio in the municipality is high, even though the employment rate increased by 3% since the 2001 census.

The average annual income per individual was R1 281.54. This figure is very low when compared to national averages.

2.15.3 Major economic activities

In terms of Gross Geographical Product, the most important employment sector is agriculture at 36% of the total Gross Geographical Product. Other prominent sectors are community services

at 18%, trade at 13% and manufacturing at 12%. These figures indicate that agriculture, dominated by forestry, is and will remain an important sector in the municipality.

2.15.4 Social infrastructure

People living in the Iswepe settlement will benefit from the additional jobs that will be created by the expansion. Areas further away will also benefit from the expansion. An example of this is the stimulation of more work opportunities in the greater Iswepe region where Rondolog will supply more wood chips to Sonae Novobord, one of Africa's largest wood based panel producers.

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3. LEGISLATION AND GUIDELINES APPLICABLE

3.1 Laws of general application

- Constitution of the RSA, 1996 (Act No 108 of 1996)
- National Environmental Management Act, 1998 (Act No 107 of 1998)
- Environment Conservation Act, 1989 (Act No 73 of 1989 as amended)
- Promotion of Access to Information Act, 2000 (Act No 2 of 2000 as amended)

3.2 Atmospheric emissions

- National Environmental Management: Air Quality Act (Act No 39 of 2004)
- Environment Conservation Act, 1989 (Act No 73 of 1989) – Noise Control Regulations in terms of Section 25 of the Environment Conservation Act, 1989

3.3 Water Management

- National Water Act, 1998 (Act No 36 of 1998)

3.4 Waste management

- National Environmental Management: Waste Act (Act No 59 of 2008)

3.5 Planning of new activities

- National Environmental Management Act, 1998 (Act No 107 of 1998)

3.6 Biodiversity

- National Environmental Management Biodiversity Act, 2004 (Act No 10 of 2004)
- Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983)
- National Veld and Forest Fire Act, 1998 (Act No 101 of 1998)
- Agricultural Pest Act, 1983 (Act No 36 of 1983 as amended) – GN R276 of 5 March 2004
- National Fencing Act, 1963 (Act No 31 of 1963 as amended)
- National Forest and Fire Laws Amendment Act (Act No 12 of 2001)

3.7 Land and Soil Management

- National Environmental Management Act, 1998 (Act No 107 of 1998)
- Environmental Conservation Act, 1989 (Act No 73 of 1989)

3.8 Heritage resources

- National Heritage Resources Act No 25 of 1999 (Act No 25 of 1999 as amended)

3.9 Protected areas

- National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003 as amended)

During the course of the development, the developer and contractors must comply with all other relevant legislation (including the bylaws of the Local Municipality).

4. PUBLIC PARTICIPATION PROCESS

4.1 Introduction

A Public Participation Process (PPP) is a requirement in terms of the 2010 EIA Regulations of the National Environmental Management Act, 1998 (Act 107 of 1998) and it forms an integral part of any EIA process.

This section provides information pertaining to the PPP that was conducted by Shangoni Management Services during this particular assessment.

The purpose of this process is to gather information from the community and relevant Stakeholders that could ultimately affect the decision-making process concerning the Planning, Construction and Operational Phases of the proposed expansion of the Rondolog sawmill. The community and public have been identified as I&APs and have been given the opportunity to participate in this process. Their comments, whether positive or negative, will influence the decision of the Authorities and the developer's final actions.

4.2 Objectives of the PPP

The PPP has the following objectives:

- To inform I&APs as well as all Stakeholders of the proposed development;
- To provide an opportunity for I&APs and Stakeholders to raise environmental issues or concerns and make suggestions;
- To promote transparency and an understanding of the project and its consequences;
- To serve as a structure for liaison and communication with I&APs and Stakeholders.

To summarise, the objective of the ongoing PPP is to promote openness and transparency concerning the proposed sawmill expansion for the duration of the project. The process should by no means be regarded as a vehicle to temper opposition or objections. Any conclusions agreed upon must be socially, financially and technically acceptable and feasible in order to meet the requirements of the National Environmental Management Act (Act No. 107 of 1998), and the vision of Rondolog (Pty) Ltd.

4.3 The Guidelines Followed for the PPP

The PPP for this project was conducted by Shangoni Management Services and undertaken strictly according to the guidelines in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, Chapter 6:

54. (1) This regulation only applies in instances where adherence to the provisions of this regulation is specifically required.

(2) 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 at a place conspicuous to the public at the boundary or on the fence of -
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to -
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  (v) the municipality which has jurisdiction in the area;
  (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  (vii) any other party as required by the 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 local municipality in which it is or will be undertaken: Provided that this

paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in sub regulation (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;
(iii) or any other disadvantage.

(3) A notice, notice board or advertisement referred to in sub regulation (2) must

(a) give details of the application which is subjected to public participation; and

(b) state-

(i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;

(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;

(iii) the nature and location of the activity to which the application relates;

(iv) where further information on the application or activity can be obtained; and

(vi) the manner in which and the person to whom representations in respect of the application may be made.

(4) A notice board referred to in sub regulation (2) must-

(a) be of a size at least 60cm by 42cm; and

(b) display the required information in lettering and in a format as may be determined by the competent authority.

(5) Where deviation from sub regulation (2) may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub regulation to the extent and in the manner as may be agreed to by the competent authority.

(6) Where a basic assessment report, scoping report or environmental impact assessment report as contemplated in regulations 22, 28 and 31 respectively is amended because it has been rejected or because of a request for additional information by the competent authority, and such amended report contains new information, the amended basic assessment report, scoping report or environmental impact assessment report must be subjected to the processes contemplated in regulations 21, 27 and 31, as the case may be, on the understanding that the application form need not be resubmitted.

(7) When complying with this regulation, the person conducting, the public participation process must ensure that-

(a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and

(b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application.

(8)Unless justified by exceptional circumstances, as agreed to by the competent authority, the applicant and EAP managing the environmental assessment process must refrain from conducting any public participation process during the period of 15 December to 2 January.

Register of interested and affected parties

55. (1) An EAP managing an application must open and maintain a register which contains the names, contact details and addresses of -

(a) all persons who, as a consequence of the public participation process conducted in respect of that application in terms of regulation 54, have submitted written comments or attended meetings with the applicant or EAP;

(b) all persons who, after completion of the public participation process referred to in paragraph (a), have requested the applicant or the EAP managing the application, in writing, for their names to be placed on the register; and

(c) all organs of state which have jurisdiction in respect of the *activity* to which the application relates.

(2) An EAP managing an application must give access to the register to any person who submits a request for access to the register in writing.

Registered interested and affected parties entitled to comment on submissions

56. (1) A registered interested and affected party is entitled to comment, in writing, on all written submissions, including draft reports made to the competent authority by the applicant or the EAP managing an application, and to bring to the attention of the competent authority any issues which that party believes may be of significance to the consideration of the application, provided that-

(a) comments are submitted within-

(i) the timeframes that have been approved or set by the competent authority; or

(ii) any extension of a timeframe agreed to by the applicant or EAP;

(b) a copy of comments submitted directly to the competent authority is served on the EAP; and

(c) the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.

(2) Before the EAP managing an application for environmental authorisation submits a final report compiled in terms of these Regulations to the competent authority, the EAP must give registered interested and affected parties access to, and an opportunity to comment on the report in writing.

(3) The report referred to in sub regulation (2) include-

(a) basic assessment reports;
(b basic assessment reports amended and resubmitted in terms of regulation 24 (4);
(c) scoping reports;
(d) scoping reports amended and resubmitted in terms of regulation 30(3);
(e) specialist reports and reports on specialised processes compiled in terms of regulation 32;
(f) environmental impact assessment reports submitted in terms of regulation 31;
(g) environmental impact assessment reports amended and resubmitted in terms of regulation 34(4); and
(h) draft environmental management programmes compiled in terms of regulation 33.

(4) The draft versions of reports referred to in sub regulation (3) must be submitted to the competent authority prior to awarding registered interested and affected parties an opportunity to comment.

(5) Registered interested and affected parties must submit comments on draft reports contemplated in sub regulation (4) to the EAP, who should record it in accordance with regulations 21, 28 or 31.

(6) Registered interested and affected parties must submit comments on final reports contemplated in sub regulation (3) to the competent authority and provide a copy of such comments to the applicant or EAP.

(7) The competent authority must, in order to give effect to section 24O of the Act, on receipt of the draft reports contemplated in sub regulation (5), request any State department that administers a law relating to a matter affecting the environment to comment within 40 days.

(8) The timeframe of 40 days as contemplated in sub regulation (7) must be read as 60 days in the case of waste management activities as contemplated in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on which the Department of Water Affairs must concur and issue a record of decision in terms of section 49(2) of the National Environmental Management: Waste Management Act, 2008 (Act No. 59 of 2008).

(9)(a)When a State department is requested by the competent authority to comment, such State department must, within 40 days or in the case of Department of Water Affairs, 60 days for waste management activities, of being requested to comment by the competent authority, provide comments to the competent authority.

(b)If a State department fails to submit comments within 40, or 60 days for waste management activities, from the date on which the Minister, MEC, Minister of Mineral Resources or identified competent authority requests such State department in writing to submit comment, it will be regarded that there are no comments.

Comments of interested and affected parties to be recorded in reports submitted to competent authority

57. (1) The EAP managing an application for environmental authorisation must ensure that the comments of interested and affected parties are recorded in reports and that such written comments, including records of meetings, are attached to the report, submitted to the competent authority in terms of these Regulations.

(2) Where a person is desiring but unable to access written comments as contemplated in sub regulation (1) due to-

(i) a lack of skills to read or write;

(ii) disability; or

(iii) any other disadvantage,

reasonable alternative methods of recording comments must be provided for.

4.4 Public Participation Process Followed

The following PPP was conducted for the proposed Rondolog sawmill expansion project:

- Identification of key Interested and Affected Parties (all adjacent landowners);
- Identification of key Stakeholders;
- Informing the key Stakeholders and I&APs of the process by means of correspondence;
- Placement of a press notice in the Excelsior News and the Beeld, informing the public of the process;
- Placement of site notices at the site; and
- Correspondence with I&APs and Stakeholders and the addressing of their comments.

4.4.1 Identification of I&APs

Through networking and advertising, I&APs were registered on a database. Shangoni ensured that individuals or organisations from an institutional as well as a geographical point of view were identified.

Geographically, Shangoni focused on nearby and/or adjacent land owners, communities and structures that represent them. Institutionally, the focus was on those organisations or individuals that may influence policies and decisions or make a contribution to the project. Not all of these organisations were necessarily in the direct project sphere of impact.

4.4.2 Notification of key stakeholders and I&APs

Stakeholders are all the relevant authorities and land owners which may possibly be affected by the proposed sawmill expansion. The following stakeholders were identified (Table 6):

Table 6: Stakeholders identified during the PPP

Name	Farm/Association	Postal Address	Contact Details
Ms. Nelisiwe Sithole	Department of Agriculture, Rural Development and Land Administration	Private Bag X11219 Nelspruit 1200	Tel:013 766 6067/6068 Email: sitholenl@mpg.gov.za
Mr. David Mahlobo	Department of Co-operative Governance and Traditional Affairs	Private Bag X11304 Nelspruit 1200	Tel:013 766 6087/6675 Fax: 013 766 8441/2 Email: ILSetlogelo@mpg.gov.za
Mr. Isaiah Khoza	Department of Safety, Security and Liaison	Private Bag X11269 Nelspruit 1200	Tel: 013 766 4062 Fax: 013 766 4615 Email: ANMahlalela@mpg.gov.za
Ms. Sibongile Nkosi	Department of Culture, Sport and Recreation	PO Box 1243 Nelspruit 1200	Tel: 013 766 5242 Fax: 013 766 5591/8253
Ms. Mahlasedi Mhlabane	Department of Education	Private Bag X11341 Nelspruit 1200	Tel:0800 203 116 Email: L.brits@education.mpu.gov.za
Mr. J. Mbatha	Department of Finance	Private Bag X11205 Nelspruit 1200	Tel: 013 766 4229 Fax: 013 766 9424 Email:jbmbatha@mpg.gov.za
Dr. Johnson Jerry Mahlangu	Department of Health and Social Development	Private Bag X11285 Nelspruit 1200	Tel: 013 766 3429/30/28 Fax: 013 766 3458 Email:pauleckm@social.mpu.gov.za
Mr. David	Department of	Private Bag X11328	Tel: 013 766 6233

Dube	Human Settlements	Nelspruit 1200	Fax: 013 766 8430 Email:apohl@mpg.gov.za
Mr. Kgopana Mathew Mohlasedi	Department of Public Works, Roads and Transport	Private Bag X11310 Nelspruit 1200	Tel: 013 766 6978/9 Fax: 013 766 8471/67
Mr. F. Mntambo	Department of Water Affairs, Mpumalanga Regional Office	Private Bag X11259 Nelspruit 1200	Tel: (013) 759 7310 Fax: (013) 759 7525 Email: MntamboF@dwa.gov.za
Mr. T.D. Hlanyane	Gert Sibande District Municipality	PO Box 1748 Ermelo 2350	Tel: 017 801 7000 Email: dan.hlanyane@gsibande.gov.za
Mr. Vusi Dube	Mkhondo Local Municipality	PO Box 23 Piet Retief 2380	Tel: 017 826 8130/2211/8100 Fax: 017 826 3129/ 086 542 1173 Email:vusih.dube@gmail.com
Cllr. Patrick S. Nhlabathi	Mkhondo Local Municipality - Ward 6	PO Box 1561 Piet Retief 2380	Cell: 0764664244 Email: sifisopat@gmail.com
Mr. Phillip Hine	South African Heritage Resources Agency (SAHRA)	PO Box 4637 Cape Town 8000	Tel:021 462 4502 Fax: 021 462 4509 Email:phine@sahra.org.za
Mr. Tendo Ramagoma	National Heritage Council (NHC)	PO Box 74097 Lynnwood Ridge Pretoria 0040	
Mr. Johannes Vos – adjacent land owner	R & V Beleggings	Private Bag X9061 Ermelo 2350	Tel: 017 811 5892
Mr. Hans Filter – adjacent land owner		Post Net Suite 175 Private Bag X5022 Piet Retief 2380	Fax: 086 545 2491 Cell: 082 900 5916

Shangoni sent registered letters to all identified stakeholders containing a background information document (BID), map showing the location of the site, and a stakeholder registration form. Figure 38*: Example of the letter sent to Departments, Organs of State and potential I&APs*

is an example of the letters sent out to Departments, Organs of State and potential I&APs and Figure 39 provides proof that these letters were sent. Table 7provides a list of the people who registered as I&APs and were added to the I&AP database during the first public participation phase.

Table 7: Registered I&APs

Name	Farm/Association	Postal Address	Contact Details
Mrs. Gudrun Loubser	Private	PO Box682 Piet Retief Mpumalanga 2380	Cell:072 110 8928 Email:gfloubser@xsinet.zo.za
Mrs. Gudrun Loubser	Mkhondo Environmental Protection Association	PO Box682 Piet Retief Mpumalanga 2380	Cell:072 110 8928 Email:gfloubser@xsinet.zo.za
Mr. Philip Hine	SAHRA	PO Box 4637 Cape Town 8000	Tel: 021 462 4502 Email: phine@sahra.co.za
Mr. Hans Filter	Private	Post Net Suite 175 Private Bag X5022 Piet Retief 2380	Fax: 086 545 2491 Cell: 082 900 5916
Mrs. Erica van Jaarsveld	Department of Agriculture, Rural Development and Land Administration		Cell: 084 799 5921 Email: Erica@mpg.gov.za

PO Box 74726, Lynnwood Ridge, Pretoria, 0040
Unit C8, Block@Nature, 472 Botterklapper Street,
The Willows, 0080, Pretoria, South Africa
Tel: +27 (0) 12 807 7036
Fax: + 27 (0) 12 807 1014
www.shangoni.co.za
info@shangoni.co.za

Registration no: 2002/000002/07

23 JANUARY 2012

EIA Ref: 17/2/3 GS-72
SMS Ref: RON/eia/1-11-11

Mkhondo Local Municipality - Ward 6
PO Box 1561
Piet Retief
2380

Attention: Cllr. Patrick S. Nhlabathi

APPLICATION FOR ENVIRONMENTAL AUTHORISATION: EXPANSION OF THE RONDOLOG SAWMILL SITUATED ON PORTION 10 OF THE FARM SPRINGBOKKRAAL 434 IT, MPUMALANGA.

Rondolog (Pty) Ltd. has initiated an Environmental Impact Assessment Process to obtain Environmental Authorisation from the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET) for the proposed expansion of their sawmill facility situated on Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga.

The proposed expansion project will require environmental authorisation subject to a Basic Assessment Process as required by Sections 21 to 25 of Government Notice R543 of the EIA Regulations of 18 June 2010. Notice is also given of an Atmospheric Emission License Application in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and a Water Use License Application in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998).

Shangoni Management Services (Pty) Ltd. was appointed as the Independent Environmental Assessment Practitioner (EAP) responsible for the Environmental Impact Assessment Procedure.

Attached please find a background information document, stakeholder registration form and locality map in respect of the application. Your written comments on this expansion project will be appreciated. In order to process your inputs, all written comments must reach our offices by **27 FEBRUARY 2012**. In the event of you not wishing to comment on this application, it will be appreciated if we could receive a written confirmation thereof to enable us to continue with the application.

Please do not hesitate to contact the undersigned should you require any additional information.

Contact Details: Shangoni Management Services
Miss Lizette Crous
E-mail: lizette@shangoni.co.za
Cell: 071 673 3355
Fax 2 E-mail: 086 643 5360
Fax: 012 807 1014
Online Participation: Go to www.shangoni.co.za and click on Public Participation.

Yours Faithfully,

_____
Miss Lizette Crous
Environmental Assessment Practitioner

Figure 38: Example of the letter sent to Departments, Organs of State and potential I&APs

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)

Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender:
Naam en adres van afsender: L. Craus
PO Box 74726, Lynnwood Ridge, PTA, 0040

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntafskrif
1	Dep. of Culture, Sport & Recreation - Ms. S. Nkosi PO Box 1243, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 853 ZA A BOOK COPY
2	Dep. of Safety, Security & Liaison - Mr. T. Khoza P/Bag X 11269, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 867 ZA A BOOK COPY
3	Dep. of Co-op Governance & Tradition - Mr O. Mahlobo P/Bag X 11304, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 840 ZA A BOOK COPY
4	Dep. of Agriculture, Rural Dev. & Land Administration - Ms. N. Sithole P/Bag X 11219, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 836 ZA A BOOK COPY
5	R&V Beleggings - Mr. J. Vos P/Bag X 9061, Emelo, 2350					REGISTERED LETTER (with a domestic insurance option) RD 622 627 822 ZA A BOOK COPY
6	Mr. H. Filter PO Box 75, Iswepe, 2382					REGISTERED LETTER (with a domestic insurance option) RD 622 627 819 ZA A BOOK COPY
7	MS Dep. of Education - Ms. M. Mhlabane P/Bag X 11341, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 628 010 ZA A BOOK COPY
8	Dep. of Finance - Mr. J. Mbatha P/Bag X 11205, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 628 006 ZA A BOOK COPY
9	Dep. of Health & Social Dev. - Dr. J.J. Mahlangu P/Bag X 11285, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 990 ZA A BOOK COPY
10	Dep. of Public Works, Roads & Transport - Mr k.M. Mohlasedi P/Bag X 11310, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 986 ZA A BOOK COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos: 10

Signature of client / Handtekening van kliënt: Craus

Signature of accepting officer / Handtekening van aanneembeampte:

Date stamp

Datumstempel

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

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

MASIQHAME PRINTERS 701248

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)

Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender:
Naam en adres van afsender: Lizette Crous
PO Box 74726, Lynnwood Ridge, PTA, 0040

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntafskrif
1	Dep. of Water Affairs, Mpumalanga - Mr. F. Mhlambo P/Bag X 11259, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 972 ZA A BOOK COPY
2	Gert Sibande District Municipality - Mr. T.D. Hlanyane PO Box 1748, Ermelo, 2350					REGISTERED LETTER (with a domestic insurance option) RD 622 627 969 ZA A BOOK COPY
3	Dep. of Human Settlements - Mr. D. Dube P/Bag X 11328, Nelspruit, 1200					REGISTERED LETTER (with a domestic insurance option) RD 622 627 955 ZA A BOOK COPY
4	Mkhondo Local Municipality - Mr. Vusi Dube PO Box 23, Piet Retief, 2380					REGISTERED LETTER (with a domestic insurance option) RD 622 627 941 ZA A BOOK COPY
5	Mkhondo Local Municipality - Ward 6 - Cllr. P.S. Nhlabathi PO Box 23, Piet Retief, 2380					REGISTERED LETTER (with a domestic insurance option) RD 622 627 938 ZA A BOOK COPY
6	SAHRA - Mr. P. Hine PO Box 4637, CPT, 8000					REGISTERED LETTER (with a domestic insurance option) RD 622 627 924 ZA A BOOK COPY
7	NHC - Mr. T. Ramagoma PO Box 74097, Lynnwood Ridge, PTA, 0040					REGISTERED LETTER (with a domestic insurance option) RD 622 627 915 ZA A BOOK COPY
8						
9						
10						
	Total / Totaal	R	R	R	R	

Number of letters posted
Getal briewe gepos 7

Signature of client
Handtekening van kliënt Crous

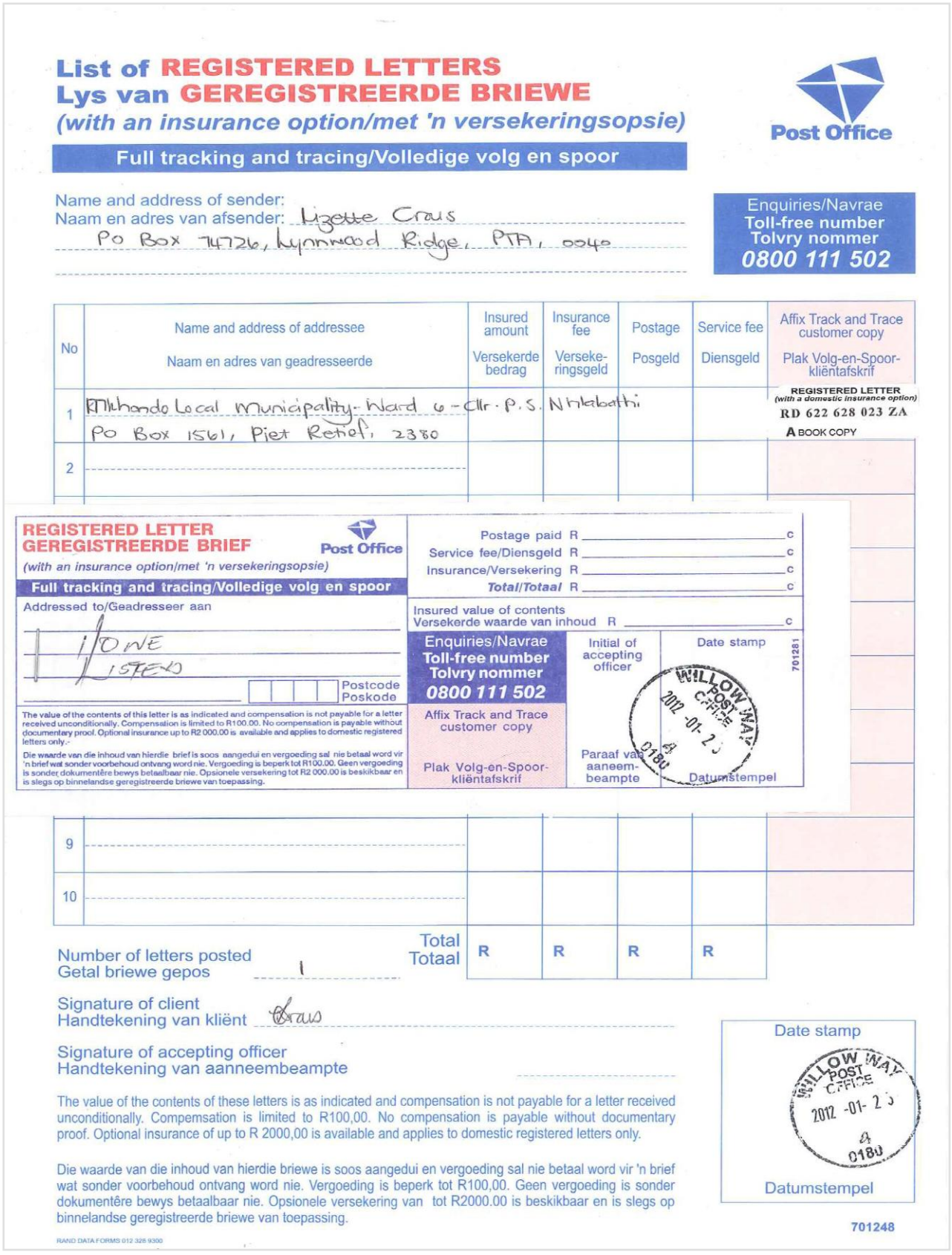
Signature of accepting officer
Handtekening van aanneembeampte

Date stamp
ELARDUSPARK 14 JAN 2017 0047
Datumstempel

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

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

MASIQHAME PRINTERS 701248



List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)

Post Office

Full tracking and tracing/Volledige volg en spoor

Name and address of sender:
Naam en adres van afsender: Lizette Crous
Po Box 74726, Lynnwood Ridge, PTA, 0040

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Verseke-ringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntafskrif
1	RMkhondo Local Municipality - Ward 6 - Cllr. P.S. Nhlabathi Po Box 1561, Piet Retief, 2380					REGISTERED LETTER (with a domestic insurance option) RD 622 628 023 ZA A BOOK COPY
2						
9						
10						
	Total / Totaal	R	R	R	R	

REGISTERED LETTER
GEREGISTREERDE BRIEF
Post Office
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor

Addressed to/Geadresseer aan
1/ONE
LISTED
Postcode / Poskode

The value of the contents of this letter is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance up to R2 000.00 is available and applies to domestic registered letters only.-

Die waarde van die inhoud van hierdie brief is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100.00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering tot R2 000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

Postage paid R ____ c
Service fee/Diensgeld R ____ c
Insurance/Versekering R ____ c
Total/Totaal R ____ c

Insured value of contents
Versekerde waarde van inhoud R ____ c

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

Affix Track and Trace customer copy
Plak Volg-en-Spoor-kliëntafskrif

Initial of accepting officer
Paraaf van aanneem-beampte

Date stamp
Datumstempel
WILLOW WAY POST OFFICE 2012 -01- 2 0180

701281

Number of letters posted
Getal briewe gepos 1

Signature of client
Handtekening van kliënt Crous

Signature of accepting officer
Handtekening van aanneembeampte

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compemsation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R 2000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2000.00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

Date stamp
WILLOW WAY POST OFFICE 2012 -01- 2 0180
Datumstempel

701248

RAND DATA FORMS 012 326 9300

Figure 39: Proof of registered letters sent to Departments, Organs of state and potential I&AP

4.4.3 Feedback from I&APs

Comments and concerns received from I&APs were incorporated into a Comments and Responses Report, which is given below as Table 8 and Appendix E.

Table 8: Comments and responses

Person	Comment(s) raised	Responses
Mr. Philip Hine – South African Heritage Resources Agency (SAHRA)	Thank you for your indication that development is to take place in this area. In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or paleontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that before such sites are disturbed by development it is incumbent on the developer (or mine) to ensure that a Heritage Impact Assessment is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required. However, it is noted in the application that the area where the proposed development will take place has been disturbed by previous developments. It is therefore not necessary for an HIA to be conducted, since it is unlikely that any heritage resources will be identified on the affected property.	The comments are noted.

	If ant evidence of archaeological sites or artefacts, or other heritage resources are found during construction activities, the SAHRA APM Unit (Mrs. Colette Scheermeyer, Mr Phillip Hine, tel: 021-462 4502), must be alerted immediately, and a professional archaeological/paleontologist must be contacted as soon as possible to inspect the findings at the cost of the developer. If the newly discovered heritage resources prove to be of archaeological/paleontological significance, then a Phase 2 rescue operation might be necessary at the cost of the developer.	
Mrs. Erica van Jaarsveld	With reference to the letter submitted to our office on 3 February 2012 regarding the expansion of the Rondolog Sawmill. Can you please confirm what land use rights the owner has to undertake the activities on the property?	We are aware that a re-zoning application was/is in process. This will be followed up and communicated in due course.
Mr. Hans Filter	Everything fine – no comments	Comment noted.

4.4.4 Feedback to Stakeholders

All stakeholder registration letters and comments were acknowledged via email or fax, where applicable.

4.4.5 Registering Stakeholders

All key stakeholders were registered and will receive this draft Basic Assessment Report.

4.4.6 Press Notices

In accordance with the National Environmental Management Act (NEMA), (Act No. 107 of 1998), a notice was placed on the 13th of January 2012 in both the local newspaper, the Excelsior News, and the regional newspaper, the Beeld. The notice was placed in two newspapers so as to comply with the National Environmental Management: Air Quality Act,

2004 (Act No. 39 of 2004).The notice appeared on page 4 of the Excelsior News and page 21 of the Beeld. The press notices are shown below as Figure 40, Figure 41 and Figure 42.

Press notices are crucial to create awareness of the project and to reach a broader range of I&APs.

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION, ATMOSPHERIC EMISSION LICENCE AND WATER USE LICENCE

Notice is hereby given that an application for environmental authorisation in terms of the EIA Regulations of 2010 (Regulations in terms of Chapter 5 of the National Environmental Management Act of 1998, as amended) has been lodged with the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET). The activity requires an application subject to a Basic Assessment Process as required by Sections 21 to 25 of Government Notice R 543 of the EIA Regulations. Notice is also given of an Atmospheric Emission Licence Application in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and a Water Use Licence Application in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998).

EIA Ref. Number: 17/2/3 GS-72

Applicant: Rondolog (Pty) Ltd.

Project Name: Expansion of the Rondolog sawmill situated on Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga.

Project Location: Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga.

Project Description: The proposed expansion project will entail the following:

- The expansion of the existing sawmill facility to accommodate a processing rate of 120 000 m³ of timber per annum.
- The facility will require an atmospheric emissions licence for the emissions produced.
- The construction of a new timber preservation treatment plant.

Activities applied for: EIA Regulations Listing Notice 1 of 2010 (R544), Activity No. 13:
The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.

EIA Regulations Listing Notice 1 of 2010 (R544), Activity No. 23:
The transformation of undeveloped, vacant or derelict land to –
ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares;-
except where such transformation takes place-
(i) for linear activities; or
(ii) for purposes of agriculture or afforestation, in which case Activity 16 of Notice No. R545 applies.

EIA Regulations Listing Notice 1 of 2010 (R544), Activity No. 28:
The expansion of or changes to existing facilities for any purpose or activity where such expansion or changes to will result in the need for a permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.

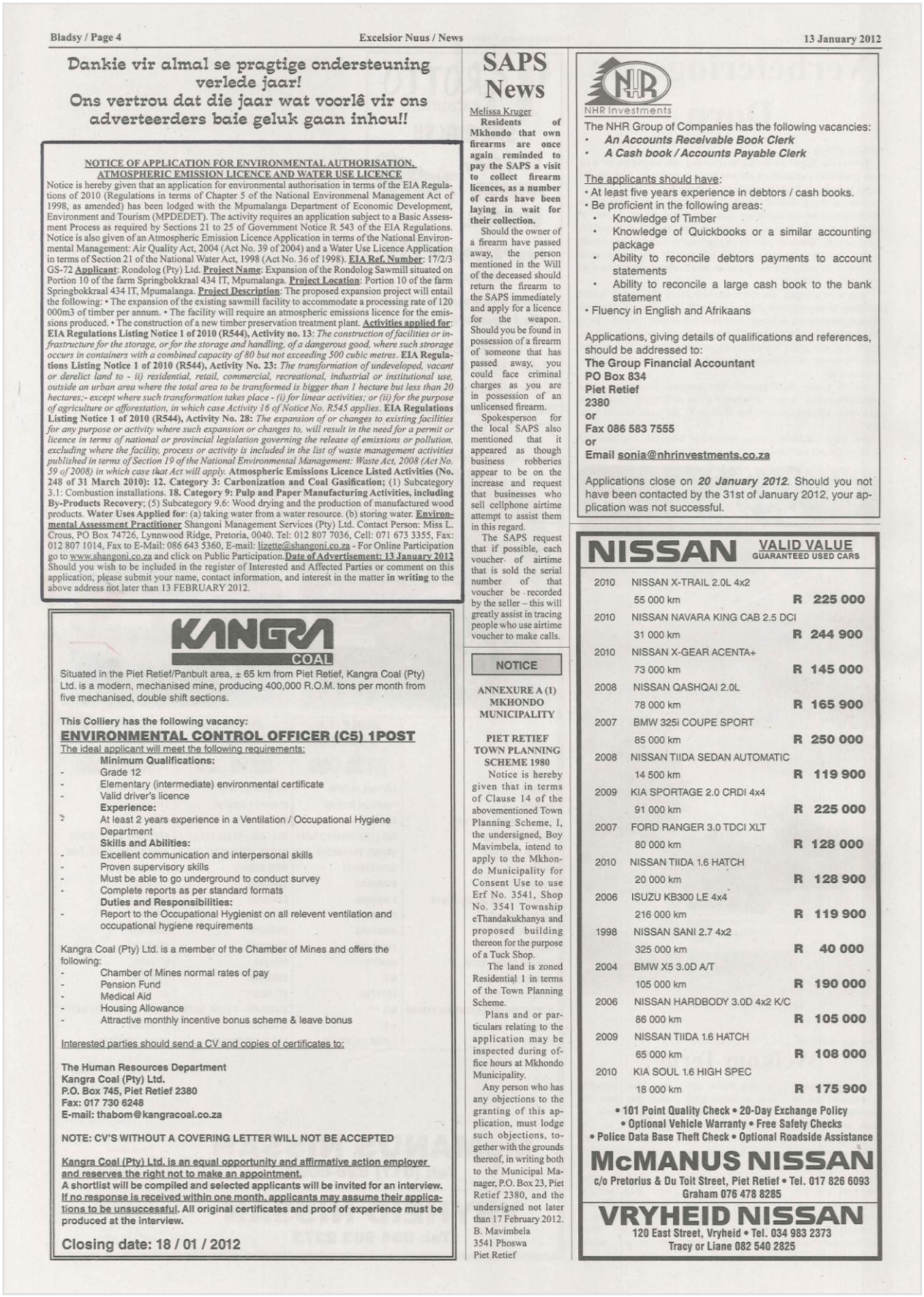
Atmospheric Emissions Licence Listed Activities (No. 248 of 31 March 2010):
12. Category 3: Carbonization and Coal Gasification; (1) Subcategory 3.1: Combustion installations.
18. Category 9: Pulp and Paper Manufacturing Activities, including By-Products Recovery; (5) Subcategory 9.6: Wood drying and the production of manufactured wood products.

Water Uses Applied for:
(a) taking water from a water resource.
(b) storing water.

Environmental Assessment Practitioner
Shangoni Management Services (Pty) Ltd.
Contact Person: Miss L. Crous.
PO Box 74728, Lynnwood Ridge, Pretoria, 0040.
Tel: 012 807 7036, Cell: 071 673 3355, Fax: 012 807 1014; Fax to E-mail: 086 643 5360.
E-mail: lizette@shangoni.co.za, For Online Participation go to www.shangoni.co.za and click on Public Participation.

Date of Advertisement: 13 JANUARY 2012
Should you wish to be included in the register of Interested and Affected Parties or comment on this application, please submit your name, contact information, and interest in the matter in writing to the above address not later than 13 FEBRUARY 2012.

Figure 40: Newspaper advertisement placed in the Excelsior News and Beeld



Bladsy / Page 4 Excelsior Nuus / News 13 January 2012

Dankie vir almal se pragtige ondersteuning verlede jaar!
Ons vertrou dat die jaar wat voorlê vir ons adverteerders baie geluk gaan inhou!!

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION, ATMOSPHERIC EMISSION LICENCE AND WATER USE LICENCE

Notice is hereby given that an application for environmental authorisation in terms of the EIA Regulations of 2010 (Regulations in terms of Chapter 5 of the National Environmental Management Act of 1998, as amended) has been lodged with the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET). The activity requires an application subject to a Basic Assessment Process as required by Sections 21 to 25 of Government Notice R 543 of the EIA Regulations. Notice is also given of an Atmospheric Emission Licence Application in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and a Water Use Licence Application in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998). **EIA Ref. Number**: 17/2/3 GS-72 **Applicant**: Rondolog (Pty) Ltd. **Project Name**: Expansion of the Rondolog Sawmill situated on Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga. **Project Location**: Portion 10 of the farm Springbokkraal 434 IT, Mpumalanga. **Project Description**: The proposed expansion project will entail the following: • The expansion of the existing sawmill facility to accommodate a processing rate of 120 000m3 of timber per annum. • The facility will require an atmospheric emissions licence for the emissions produced. • The construction of a new timber preservation treatment plant. **Activities applied for**: **EIA Regulations Listing Notice 1 of 2010 (R544), Activity no. 13**: *The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres*. **EIA Regulations Listing Notice 1 of 2010 (R544), Activity No. 23:** *The transformation of undeveloped, vacant or derelict land to - ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area where the total area to be transformed is bigger than 1 hectare but less than 20 hectares;- except where such transformation takes place - (i) for linear activities; or (ii) for the purpose of agriculture or afforestation, in which case Activity 16 of Notice No. R545 applies*. **EIA Regulations Listing Notice 1 of 2010 (R544), Activity No. 28:** *The expansion of or changes to existing facilities for any purpose or activity where such expansion or changes to, will result in the need for a permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of Section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.* **Atmospheric Emissions Licence Listed Activities (No. 248 of 31 March 2010): 12. Category 3: Carbonization and Coal Gasification;** (1) Subcategory 3.1: Combustion installations. **18. Category 9: Pulp and Paper Manufacturing Activities, including By-Products Recovery**; (5) Subcategory 9.6: Wood drying and the production of manufactured wood products. **Water Uses Applied for**: (a) taking water from a water resource. (b) storing water. **Environmental Assessment Practitioner** Shangoni Management Services (Pty) Ltd. Contact Person: Miss L. Crous, PO Box 74726, Lynnwood Ridge, Pretoria, 0040. Tel: 012 807 7036, Cell: 071 673 3355, Fax: 012 807 1014, Fax to E-Mail: 086 643 5360, E-mail: lizette@shangoni.co.za - For Online Participation go to www.shangoni.co.za and click on Public Participation. **Date of Advertisement: 13 January 2012** Should you wish to be included in the register of Interested and Affected Parties or comment on this application, please submit your name, contact information, and interest in the matter **in writing** to the above address not later than 13 FEBRUARY 2012.

KANGRA COAL

Situated in the Piet Retief/Panbult area, ± 65 km from Piet Retief, Kangra Coal (Pty) Ltd. is a modern, mechanised mine, producing 400,000 R.O.M. tons per month from five mechanised, double shift sections.

This Colliery has the following vacancy:

ENVIRONMENTAL CONTROL OFFICER (C5) 1POST

The ideal applicant will meet the following requirements:

Minimum Qualifications:
- Grade 12
- Elementary (intermediate) environmental certificate
- Valid driver's licence

Experience:
- At least 2 years experience in a Ventilation / Occupational Hygiene Department

Skills and Abilities:
- Excellent communication and interpersonal skills
- Proven supervisory skills
- Must be able to go underground to conduct survey
- Complete reports as per standard formats

Duties and Responsibilities:
- Report to the Occupational Hygienist on all relevent ventilation and occupational hygiene requirements

Kangra Coal (Pty) Ltd. is a member of the Chamber of Mines and offers the following:
- Chamber of Mines normal rates of pay
- Pension Fund
- Medical Aid
- Housing Allowance
- Attractive monthly incentive bonus scheme & leave bonus

Interested parties should send a CV and copies of certificates to:

The Human Resources Department
Kangra Coal (Pty) Ltd.
P.O. Box 745, Piet Retief 2380
Fax: 017 730 6248
E-mail: thabom@kangracoal.co.za

NOTE: CV'S WITHOUT A COVERING LETTER WILL NOT BE ACCEPTED

Kangra Coal (Pty) Ltd. is an equal opportunity and affirmative action employer and reserves the right not to make an appointment.
A shortlist will be compiled and selected applicants will be invited for an interview. If no response is received within one month, applicants may assume their applications to be unsuccessful. All original certificates and proof of experience must be produced at the interview.

Closing date: 18 / 01 / 2012

SAPS News

Melissa Kruger

Residents of Mkhondo that own firearms are once again reminded to pay the SAPS a visit to collect firearm licences, as a number of cards have been laying in wait for their collection.

Should the owner of a firearm have passed away, the person mentioned in the Will of the deceased should return the firearm to the SAPS immediately and apply for a licence for the weapon. Should you be found in possession of a firearm of someone that has passed away, you could face criminal charges as you are in possession of an unlicensed firearm.

Spokesperson for the local SAPS also mentioned that it appeared as though business robberies appear to be on the increase and request that businesses who sell cellphone airtime attempt to assist them in this regard.

The SAPS request that if possible, each voucher of airtime that is sold the serial number of that voucher be recorded by the seller – this will greatly assist in tracing people who use airtime voucher to make calls.

NOTICE

ANNEXURE A (1)
MKHONDO MUNICIPALITY

PIET RETIEF TOWN PLANNING SCHEME 1980

Notice is hereby given that in terms of Clause 14 of the abovementioned Town Planning Scheme, I, the undersigned, Boy Mavimbela, intend to apply to the Mkhondo Municipality for Consent Use to use Erf No. 3541, Shop No. 3541 Township eThandakukhanya and proposed building thereon for the purpose of a Tuck Shop.

The land is zoned Residential 1 in terms of the Town Planning Scheme.

Plans and or particulars relating to the application may be inspected during office hours at Mkhondo Municipality.

Any person who has any objections to the granting of this application, must lodge such objections, together with the grounds thereof, in writing both to the Municipal Manager, P.O. Box 23, Piet Retief 2380, and the undersigned not later than 17 February 2012.

B. Mavimbela
3541 Phoswa
Piet Retief

NHR Investments

The NHR Group of Companies has the following vacancies:
- ***An Accounts Receivable Book Clerk***
- ***A Cash book / Accounts Payable Clerk***

The applicants should have:
- At least five years experience in debtors / cash books.
- Be proficient in the following areas:
  - Knowledge of Timber
  - Knowledge of Quickbooks or a similar accounting package
  - Ability to reconcile debtors payments to account statements
  - Ability to reconcile a large cash book to the bank statement
- Fluency in English and Afrikaans

Applications, giving details of qualifications and references, should be addressed to:
The Group Financial Accountant
PO Box 834
Piet Retief
2380
or
Fax 086 583 7555
or
Email sonia@nhrinvestments.co.za

Applications close on ***20 January 2012***. Should you not have been contacted by the 31st of January 2012, your application was not successful.

NISSAN **VALID VALUE** GUARANTEED USED CARS

2010	NISSAN X-TRAIL 2.0L 4x2 55 000 km	R 225 000
2010	NISSAN NAVARA KING CAB 2.5 DCI 31 000 km	R 244 900
2010	NISSAN X-GEAR ACENTA+ 73 000 km	R 145 000
2008	NISSAN QASHQAI 2.0L 78 000 km	R 165 900
2007	BMW 325i COUPE SPORT 85 000 km	R 250 000
2008	NISSAN TIIDA SEDAN AUTOMATIC 14 500 km	R 119 900
2009	KIA SPORTAGE 2.0 CRDI 4x4 91 000 km	R 225 000
2007	FORD RANGER 3.0 TDCI XLT 80 000 km	R 128 000
2010	NISSAN TIIDA 1.6 HATCH 20 000 km	R 128 900
2006	ISUZU KB300 LE 4x4 216 000 km	R 119 900
1998	NISSAN SANI 2.7 4x2 325 000 km	R 40 000
2004	BMW X5 3.0D A/T 105 000 km	R 190 000
2006	NISSAN HARDBODY 3.0D 4x2 K/C 86 000 km	R 105 000
2009	NISSAN TIIDA 1.6 HATCH 65 000 km	R 108 000
2010	KIA SOUL 1.6 HIGH SPEC 18 000 km	R 175 900

• 101 Point Quality Check • 20-Day Exchange Policy
• Optional Vehicle Warranty • Free Safety Checks
• Police Data Base Theft Check • Optional Roadside Assistance

McMANUS NISSAN
c/o Pretorius & Du Toit Street, Piet Retief • Tel. 017 826 6093
Graham 076 478 8285

VRYHEID NISSAN
120 East Street, Vryheid • Tel. 034 983 2373
Tracy or Liane 082 540 2825

Figure 41: Notice placed in the Excelsior News

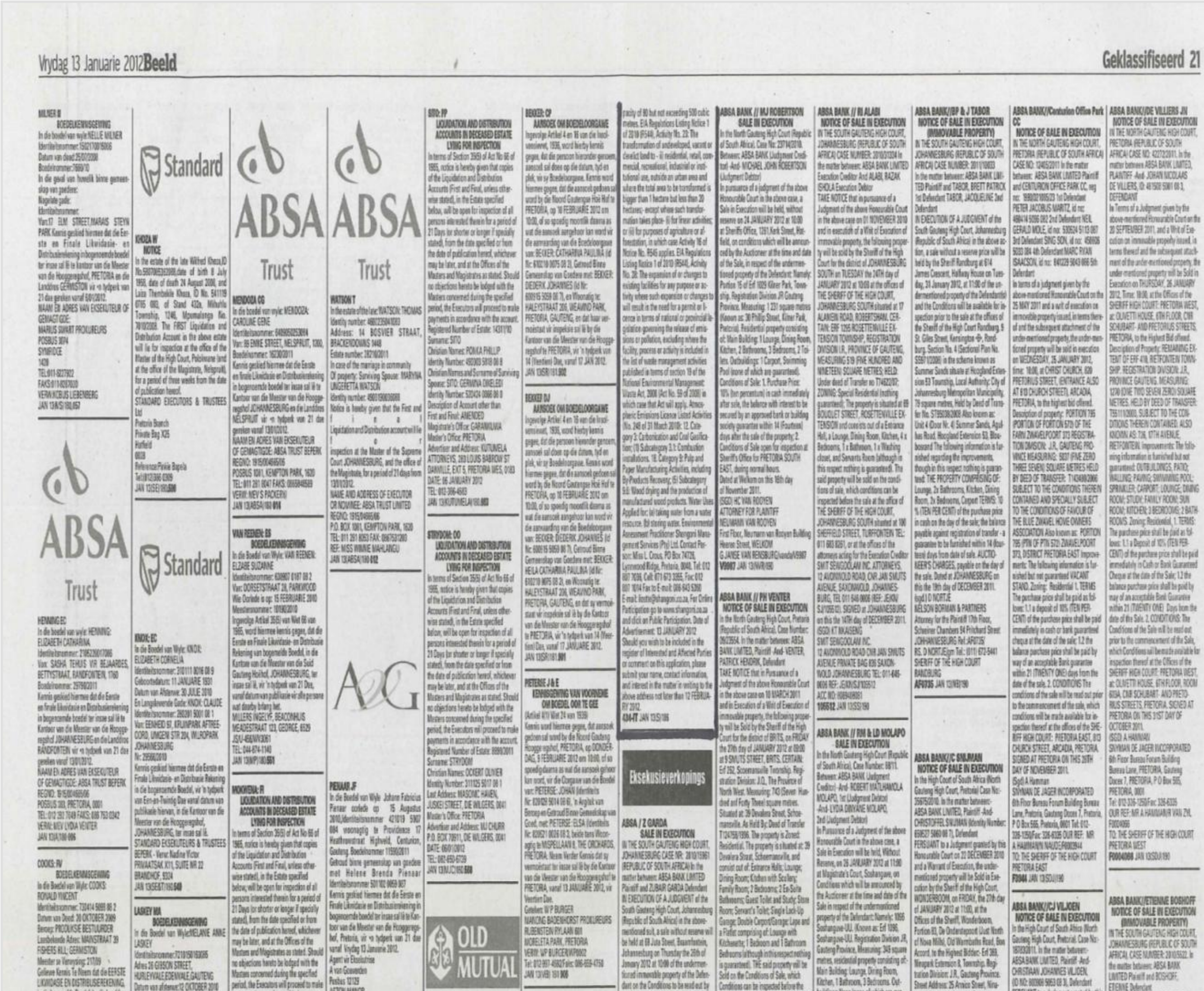

Vrydag 13 Januarie 2012 Beeld
Geklassifiseerd 21
Eksekusieverkopings

Figure 42: Notice placed in the Beeld

4.4.7 Placement of Public Notices

Site notices (A2) were placed in the following locations (shown visually on Figure 43):

- At the entrance gate of the sawmill.
- At the nearest retail shop.
- Two notices were placed where one turns off the N2 towards the sawmill.

Photos showing the site notices are given below (Figure 44, Figure 45, Figure 46, Figure 47 and Figure 48).

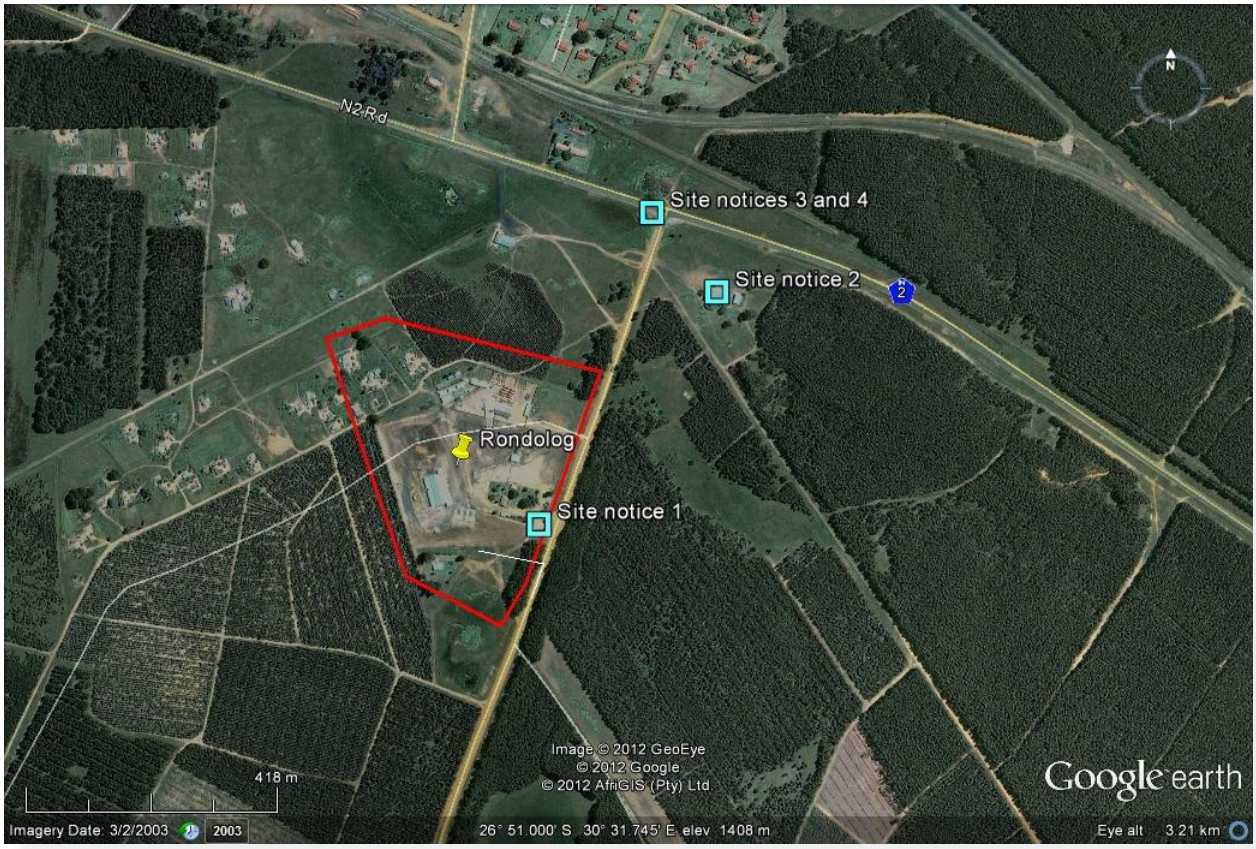


Figure 43: Location of site notices

Figure 44: Site notice 1

Figure 45: Site notice 2

Figure 46: Site notice 3

Figure 47: Site notice 3

Figure 48: Site notice 4

4.4.8 Issuing I&APs and Stakeholders with the Draft BAR

This draft Basic Assessment Report (dBAR) will be sent to all Departments and Organs of State as well as registered I&APs in order to obtain their comments and notices. The report will also be submitted to the Mpumalanga Department of Economic Development, Environment and Tourism for review.

4.4.9 Conclusions of the Public Participation Exercise

In conclusion, the Public Participation exercise has provided adequate information to enable an understanding of what the proposed sawmill expansion would entail and also to address the concerns and comments of this Basic Assessment.

5. NEED AND DESIRABILITY FOR THE ACTIVITY

A need and desirability for this project is evident from the following factors that were considered:

5.1 Developer

A large proportion of timber is transported out of the area to be processed elsewhere. Rondolog has proposed this sawmill expansion to take advantage of the nearby timber suppliers. The latest technologies will be implemented to ensure that the available timber is converted into products more efficiently. Rondolog will benefit from the expansion through the expected increase in profits from the selling of specification wood chips and processed timber.

5.2 Local Community

The local community will benefit from the creation of approximately 40 new jobs at the sawmill. A number of these jobs will be given to previously disadvantaged people from the Iswepe community. The additional jobs will help to decrease the unemployment rate of the community.

Services required by the sawmill will lead to indirect employment and business opportunities in the local community. The local economy will also be stimulated during the construction phase where building materials would need to be supplied.

5.3 District and provincial benefit

The expansion could stimulate the forestry industry at a district level as the demand for logs would increase. Also at district level, the construction industry and building suppliers will benefit for a short time during the construction phase of the project. The planned capital investment for the expansion is approximately R200 million.

6. IDENTIFIED ALTERNATIVES

Typically, alternative assessments are conducted to assist in comparing various projects or attributes of projects that will occur. The most critical comparison is evaluating any proposed project against the No-Go option. The alternatives assessment then considers alternatives to project site selection for the proposed development; alternatives to layout of the development; and alternatives to construction methodologies and/or materials used for the development.

The alternatives assessment was conducted using a simple cost-benefit analysis of each proposed alternative, through assessing various environmental attributes. These attributes can include physical (geology and soils, surface water quality and quantity, groundwater quality and quantity); biophysical (flora and fauna, sensitive environments); and social (site of archaeological or cultural importance, land use issues, social health and welfare).

The impact of the each alternative was then evaluated in terms of whether it has a positive, negative or no impact. In this instance, the impact is not evaluated in terms of significance but rather whether or not it will arise. Positive impacts are assigned a value of 1; no impact a value of 0; and a negative impact a value of -1.

By adding all of the attribute scores for each alternative, a suitability score is derived that indicates the preferred alternative. A total positive score indicates the project benefits outweigh the potential negative impacts, while a total negative score indicates the project environmental costs outweigh the potential benefits. Essentially, the highest scoring alternative is then carried forward for full impact evaluation.

6.1 No-go option

The potential impact of the preferred project option on environmental and socio-economic attributes – identified during the assessment phase – is evaluated against the potential impact of the no-go option on the same attributes. The summary of this assessment is provided in Table 9 hereafter.

Table 9: Development vs. No-Go Option

Attribute	Development Option 1	No-go Option 2
Physical environment		
Air pollution	-1	-1
Noise pollution	0	0
Water quality	0	0
Water quantity	-1	-1
Visual aesthetics	0	0
Biophysical environment		
Flora/fauna	0	0
Sensitive environments	0	0
Socio-economic environment		
Traffic during construction	-1	0
Impact on property values	1	0
Safety and security	0	0
National and regional economy	1	0
Infrastructure development	1	0
TOTAL	**0**	**-2**

The no-go option means that the sawmill will not be expanded and that the timber production rate will remain as is.

The negative environmental impacts expected from the expansion of the sawmill can be mitigated to within acceptable levels. The positive social impacts outweigh the negative impacts and the consideration of the no-go option can be justifiably dismissed as a sustainable alternative.

6.2 Alternative to site selection

As the proposed activity is the expansion of an existing facility, no site alternatives have been considered.

6.3 Construction Alternatives

6.3.1 Alternative Design

The proposed expansions have been designed to fit in with the existing sawmill infrastructure present onsite.

6.3.2. Activity Alternatives

At present, the processing of timber is the only activity at the sawmill. The proposed expansion will expand this activity and therefore no activity alternatives can be considered.

6.3.3 Location Alternatives

No site alternatives have been considered as the proposed activity is the expansion of an existing sawmill. The area where the expansion would take place has been chosen to utilise the remaining open space within the property boundary.

6.3.4 Process Alternatives

Two process alternatives have been considered. The first would be to expand the sawmill and continue using the current production processes. Alternatively, the sawmill could be expanded and an improved and diversified production process could be implemented. The second option has been chosen so that timber can be processed in a more reliable and effective manner. Latest technologies will be installed to reduce electricity demands. These include power factor correction units, soft starts, variable speed drives, energy saving lighting where practical and daylight switches.

6.3.5 Scheduling Alternatives

It is recommended that construction take place during the drier months to avoid any complications in wet weather. No detailed information regarding the proposed time frame for the project is available yet, however it is anticipated that construction will start as soon as possible after all the necessary approvals have been obtained.

6.3.6 Input Alternatives

As timber is the input for the sawmill, no input alternatives can be considered.

7. ENVIRONMENTAL IMPACT ASSESSMENT

Different impacts are associated with the construction and operational phases of the proposed activity. The significance will be determined by both the extent and duration of the impact.

The environmental risk of any aspect is determined by a combination of parameters associated with the impact. Each parameter connects the physical characteristics of an impact to a quantifiable value to rate the environmental risk. A description of the parameters used in this impact assessment is listed in Table 10 below.

Table 10: Environmental impact assessment parameters

Parameter	Description
Extent	Refers to the physical/geographical size that is affected by the impact. It can be categorised into the following ranges: • Onsite–Within specific site boundary (weight value – 1) • Local – Within municipal boundary (weight value – 2) • Regional –Outside municipal boundary (weight value – 3)
Duration	Time span associated with impact: • Short term – 1 Year or less (weight value – 1) • Medium term – 1-5 Years (weight value –2) • Long term –Longer than 5 Years (weight value – 3)
Intensity and reversibility	The severity of an impact on the receiving environment: • Low – Natural and/or cultural processes continue in a modified way and is reversible (weight value – 1) • Medium – Natural and/or cultural processes stop and is partially reversible (weight value – 2) • High – Natural and/or cultural processes disturbed to an irreversible state (weight value – 3)
Significance of Impact / Consequence	Adding the extent, duration and intensity together provides the significance of the impact (High, Medium or Low). **Extent + Duration + Intensity = High/Medium/Low Impact**
Probability	The likelihood of an impact occurring: • Unlikely - 0% - 45% chance of the potential impact occurring (weight value – 1) • Possible - 46% - 75% chance of the potential impact occurring (weight value – 2) • Likely - >75% chance of the potential impact occurring (weight value–3)
Environmental Risk Refer to Table 9 below	Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment. **High/Medium/Low Impact X Probability = High/Medium/Low Environmental Risk**

Table 11: Environmental Risk Matrix

SIGNIFICANCE OF IMPACT				
		Low impact (3 → 5)	**Medium impact (6 → 8)**	**High impact (9)**
PROBABILITY	**Definite/very likely 3**	9 – 5 L - M	18 – 24 M - H	27 H
	Possible 2	6 – 10 L - M	12 – 16 M	18 M – H
	Unlikely 1	3 – 5 L	6 – 8 L	9 L - M

ENVIRONMENTAL RISK	**Guidelines for control strategies**
(H) High	Proactively reduce risk level, short term response.
(M – H) Medium to High	Proactively reduce risk level, short term response.
(M) Medium	Management strategies to reduce risk level, short to medium term response.
(L – M) Low to Medium	Management strategies to reduce risk level, short to medium term response, operational control and housekeeping.
(L) Low	Operational control and housekeeping.

See tables 12 to 26 (construction phase) and Tables 27 to 37 (operational phase) below for a summary of impacts, their associative mitigating actions and the significance of the pre- and post- mitigation of each identified activity. The tables also provide an environmental risk assessment of pre- and post- mitigation of identified activities.

7.1 Construction phase

Table 12: Environmental risk assessment: Construction activities

Activity: Construction activities required to expand the sawmill.	
Nature of Environmental Impact: Potential harm to the environment due to workers or contractors being unaware of how their activities may impact the environment or due to unauthorised access to the site.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent harm to the environment through the actions of uneducated workers or contractors.	
Proposed Mitigation	
• The contractor is to ensure that all employees, including sub-contractors and their employees, are required to attend on-site Environmental Awareness Training prior to commencing work on site. • Follow-up Environmental Awareness Training may be required from time to time as new subcontractors or crews commence work or for specific activities that may potentially impact the environment, or if work is being undertaken in sensitive environments. • The contractor is to maintain accurate records of any training undertaken. • Training is to cover all aspects of the EMP, procedures to be followed, the sensitivity of the site and importance of adhering to “no-go” areas. • The ECO shall monitor the contractor’s compliance with the requirement to provide sufficient environmental awareness training to all site staff. • Environmental signage is to be displayed on the site including – “no smoking”, “fire hazards”, etc. • Emergency numbers are to be clearly displayed. • All construction workers shall be issued with ID badges and clearly identifiable uniforms. • All construction workers shall be transported to and from site on a daily basis. • Workers shall remain on the site at all times during the work day and no one will be allowed to leave site by foot, not even during break times. • Night watchmen are to be provided with adequate cooking and heating facilities (no open fires), a suitable method of disposing of wastewater, and access to communication equipment. • Access to fuel and other equipment stores is to be strictly controlled.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 13: Environmental risk assessment: Site clearance

Activity: Clearance of site and other construction activities.	
Nature of Environmental Impact: • Loss of degraded vegetation during site clearance; • Potential disturbance of natural vegetation on No-Go Areas.	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To minimise the loss of degraded vegetation or disturbance of natural vegetation during site clearance	
Proposed Mitigation	
• Before any construction takes place the proposed area for the sawmill expansion will be pegged out. All construction activities will be limited to these areas in order to reduce the footprint of the proposed activity and avoid impact on adjacent natural vegetation and animal life. • Effective planning of the construction operations. • Construction areas should be fenced off or barricaded prior to and during construction. • Site clearing is to be limited to only the areas necessary for carrying out the specified works. • Significant indigenous trees and landscaped areas to be retained are to be clearly demarcated as “no-go” areas prior to earthworks commencing and are to be protected as such for the duration of the construction phase. • The contractor is to draw up a plan for submission to the ECO and the facility manager indicating the locations of construction infrastructure including the site-camp, paint or cement cleaning pits, toilets, stores, site office, and “no-go” areas. • The minimum standard to fencing of “no-go” areas is 2 strands of wire 500mm apart on droppers of 3m spacing, with danger tape zigzagged between the wires. • The site boundary is to be clearly demarcated and screened from the commencement of works. The erection of the final boundary fence or wall is preferable. • All demarcation is to be regularly maintained. • All sensitive environments or “no-go” areas are to be demarcated with a wire and danger-tape temporary barrier fence attached to planted posts (wooden or metal) at a minimum. • No unauthorised entry, stockpiling, dumping or storage of equipment in “no-go” areas, or outside the site boundary is permitted. • All construction activities, plant, labour and materials are to be restricted to within the site boundary. • Should the only means of completing specified work be to enter “no-go” areas, authorisation must be provided in writing by the ECO. • All trees and natural features to be retained and protected are to be indicated on the site plan and demarcated. Demarcation is to remain in place for the duration of the work on site. • Search and rescue (if necessary) is to take place prior to commencement of work on site. • Removal of vegetation is to be avoided until such time as soil stripping is required. • Should construction in areas that have been stripped not commence within a short period of time the exposed areas shall be re-vegetated or stabilised. Soil stabilising measures could include rotovating in straw bales (at a rate of 1 bale/20m²), applying mulching or brush packing, or creating windbreaks using brush or bales. • Disturbed areas should be rehabilitated once the construction activities have ended.	

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 14: Environmental risk assessment: Stockpiling

Activity: Stockpiling of topsoil and cleared vegetation.	
Nature of Environmental Impact: • Potential loss of valuable topsoil due to inadequate stockpiling practices; • Potential loss of indigenous vegetation; • Potential erosion of cleared areas.	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To ensure the proper management of topsoil and cleared indigenous vegetation and to minimise erosion of cleared areas.	
Proposed Mitigation	
• Before any construction takes place the proposed area for expansion will be pegged out. All construction activities will be limited to these areas. • Topsoil (top 150mm) is to be stockpiled in discrete areas and retained for future landscaping efforts. • Topsoil stockpiles shall not exceed 1m in height and 2m in width and shall be protected from wind, erosion and runoff by covering with a suitable fabric approved by the ECO. Once earthworks are complete, disturbed areas are to be re-vegetated or rehabilitated. • Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention. • Stockpiles of vegetation are only to be located in areas approved by the facility manager and may not exceed 2m in height. Methods of stacking must take cognizance of the possible creation of a fire hazard. • No burning of stockpiled vegetation is permitted. • The contractor is to ensure that all reasonable measures are taken to limit erosion and sedimentation from construction activities. Erosion protection measures include cut-off drains and/or berms. • Any sub-soil or rocks removed should also be stockpiled separately and be used during the rehabilitation. • Once the construction activities have been completed, the remaining disturbed area must be top soiled, sloped and re-vegetated as soon as possible using suitable grass species. This re-vegetation will assist in reducing the potential of erosion. If sterilisation of the topsoil has occurred during stockpiling, inorganic fertilizers should be used to supplement the soils before seeding of the area takes place. Compacted soil should be ripped to ensure effective re-vegetation.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 15: Environmental risk assessment: Fire establishment

Activity: Construction activities.	
Nature of Environmental Impact: Potential disturbance of natural vegetation surrounding the proposed site as a result of runaway veldt fires caused by workers or contractors.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the occurrence of avoidable veldt fires.	
Proposed Mitigation	
• Basic fire-fighting equipment is to be placed at strategic locations on site (e.g. at the site office, flammable material store and watchman's container). • Equipment is to be maintained in good working order to the satisfaction of local fire authorities. • No open fires are permitted. A dedicated braai facility may be permitted in an area approved by the ECO, if the campsite in close proximity to firefighting equipment. At no time is a braai fire to be left unattended. • Smoking is prohibited near places where any readily combustible or flammable materials are present. Notices are to be prominently displayed prohibiting smoking in such areas. • Welding, flame cutting and other hot work is only to be undertaken in places where the necessary safety precautions are in place (i.e. not near potential sources of combustion and with a fire extinguisher immediately accessible). • All flammable materials are to be stored in a suitable, lockable storage area. • Combustible materials may not accumulate on the construction site. • Cooking is to be restricted to bottled gas facilities in designated areas approved by the ECO. This facility is to be supervised and strictly controlled. • Fire extinguishers must be readily available.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 16: Environmental risk assessment: Cement and concrete

Activity: The storage, mixing and disposal of cement and concrete.	
Nature of Environmental Impact: Potential water and/or soil pollution due to incorrect management of concrete and cement.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the contamination of soil and water as a result of concrete and cement used on site.	
Proposed Mitigation	
• Mixing of concrete or cement directly on the ground is not permitted. The mixing of concrete will only be done on mortarboards (dugga-boards). • Ready-mix trucks are not permitted to clean chutes on site. Cleaning into foundations or a dedicated cleaning pit is permitted. • Bricklayers and plasterers are to minimise any cement spill or runoff in their work area and are to ensure that the work area is cleaned of all cement spillage at end of each workday. • Both used and unused cement bags are to be stored in weatherproof containers so as not to be affected by rain or runoff. • Contaminated soil resulting from concrete or cement spills, including residue produced by the washing of cavities, is to be removed immediately after the spillage has occurred and placed on the appropriate rubble stockpile. • Runoff from the washing out of wall cavities is to be contained against the building by excavations of berms around the foundations.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 17: Environmental risk assessment: Generation of wash water

Activity: The cleaning of vehicles, equipment and construction areas.	
Nature of Environmental Impact: Potential soil, surface water and ground water contamination due to contaminated wash water.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the contamination of the soil, surface water and ground water as a result of polluted wash water.	
Proposed Mitigation	
• No washing of vehicles or equipment is permitted on site. • Cleaning of equipment is to take place within designated areas. • A dedicated cleaning area is to be installed to facilitate washing of all cement and painting equipment. The cleaning area could be a plastic lined cleaning pit or dedicated plastic or metal drums, located as close as possible to a water point or within reach of a hose no longer than 10m. • No wash water may be disposed of on site, onto the soil or into any water body.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 18: Environmental risk assessment: Hazardous waste

Activity: Generation of hazardous waste	
Nature of Environmental Impact: The potential pollution of soil, surface water and ground water due to hazardous waste.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	2
Environmental Risk = Significance of Impact X Probability	**14**
Objective of Mitigation Measures	
To prevent soil, surface water and ground water contamination due to hazardous waste.	
Proposed Mitigation	
• Equipment and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site. • Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. Oil and diesel spills are considered hazardous. Disposal of such contaminants should be done by following the recommended steps. • Appropriate equipment to deal with fire or pollution incidents is to be readily available on site. This includes fire extinguishers, spill kits for hydrocarbon spills, drip trays for plant or machinery leaks, drums or containers for contaminated water and drip trays for minor hydrocarbon spills. • Soil contaminated with hazardous substances, fuel or oil shall be treated as hazardous waste and removed from site.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	1
Environmental Risk = Significance of Impact X Probability	**5**

Table 19: Environmental risk assessment: General waste and building rubble

Activity: Production of general waste and building rubble.	
Nature of Environmental Impact:Potential soil, surface water and ground water contamination due to general waste generated.	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**
Objective of Mitigation Measures	
To prevent soil, surface water and ground water contamination due to general waste produced.	
Proposed Mitigation	
• A construction refuse collection structure shall be erected on commencement of construction work within the boundaries of the site. The minimum requirement is as follows: ▪ 4 ready-fence panels (3m x 1.8m) covered with shade cloth or hessian, one panel being movable to provide access. The structure shall have a roof (ready fence panel, or similar) to contain waste materials in windy conditions. The floor shall be lined with DPC plastic to prevent ground contamination from leachate such as cement powder residue or empty chemical or paint containers. ▪ Alternatively, refuse skips can be used but also need to be covered with shade cloth to ensure the containment of waste. • Refuse bins shall be provided for domestic waste (lunch litter) and placed in designated eating areas and any other areas where deemed necessary to control littering. • Refuse bins are not to overflow and are to be emptied regularly. No littering is permitted on site. • Building rubble is to be kept separate from other construction waste. Rubble is to be kept clean of brick ties, plastics, papers and cement bags at all times. • Rubble stockpiles and refuse structures shall be positioned to permit easy access by removal trucks. • Accumulation of large stockpiles of rubble and waste is not permitted. Waste is to be removed at regular intervals at a minimum frequency of once a week. • All waste is to be disposed of at approved landfill sites, no burning or burying is permitted. • The contractor shall delegate a specific waste management job description to an individual or team if directed by the ECO.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 20: Environmental risk assessment: Dust

Activity: Construction activities and vehicles travelling to and from the site.	
Nature of Environmental Impact: Generation of dust as a result of cleared vegetation and from the increase in vehicle frequency. Nature of Socio-economic Impact: Nuisance due to dust generated.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
To prevent the generation of dust and nuisance.	
Proposed Mitigation	
• All areas impacted by construction shall be regularly maintained, including roads and pavements. • A dustcart needs to be onsite to water down dusty roads on dry windy days. • Speed bumps or traffic speed signs need to be erected to reduce speeding onsite, which could result in the generation of dust. • Regular maintenance of vehicles to address wear of tires and breaks. Optimal engine combustion will allow for 'cleaner' exhaust emissions.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 21: Environmental risk assessment: Traffic

Activity: Increased traffic frequency on road infrastructure.	
Nature of Environmental and/or Socio-economic Impact: Potential wear of access roads, potential accidents on access roads, potential unpermitted transport of materials and potential loss of materials being transported on the access roads.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
Minimise the impact of construction activities on the immediate and surrounding natural and social environment and to prevent contamination resulting from construction activities.	
Proposed Mitigation	
• Ensure that all construction vehicles using adjoining roads are roadworthy. • All loads are to be securely fastened when being transported. • All vehicles are to adhere to the tonnage limitation and acquire a permit as required. • All speed limits and other traffic regulations on the public roadways must be adhered to.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 22: Environmental risk assessment: Utilisation of groundwater

Activity: Utilisation of groundwater.	
Nature of Environmental Impact: Potential wastage of water and depletion of water resource as a result of poor management.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the wastage of a natural resource (groundwater).	
Proposed Mitigation	
• Leaking water taps and hosepipes are to be repaired immediately. • Running water taps and hosepipes are not to be left unattended. • Unused water standpipes are to be buried to prevent damage and resultant water leaks. • Taps are to be attached to secured supports and used in preference to standpipes with no valve mechanism to open and close water supply. All hose and tap connections are to be fitted with correct and appropriate plumbing fittings.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 23: Environmental risk assessment: Ablution facilities

Activity: Installation and use of ablution facilities.	
Nature of Environmental Impact: Potential unsanitary conditions on site, potential surface- and ground-water contamination and potential soil contamination.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
To prevent the contamination of the soil, surface- and ground-water.	
Proposed Mitigation	
• Sufficient ablution facilities shall be provided – minimum of 1 toilet per 15 workers. • Plumbed facilities are preferred. Chemical facilities are to be serviced regularly. • Toilets should have properly closing doors and supplied with toilet paper. • The location of toilets is to be approved by the ECO prior to site establishment, but shall be located within 100m of any work point. • Chemical toilets are to be serviced weekly. The contractor is to ensure that no spillage occurs and that the contents are removed from site according to approved methods. • Chemical toilets are to be emptied prior to temporary site closure for a period longer than 4 days. • Only the use of ablution facilities will be permitted onsite.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 24: Environmental risk assessment: Hazardous chemicals

Activity: Storage and handling of hazardous chemicals, including fuel.	
Nature of Environmental Impact: Potential hazardous chemical spills, resulting from incorrect management of resources, can cause soil, surface water and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent or minimise soil and water contamination as a result of accidental spillages of hazardous chemicals used onsite.	
Proposed Mitigation	
• Proper handling, storage and disposal of hazardous chemicals. All fuels and flammable materials are to be handled safely, stored safely and clearly labeled. • Flammable materials are to comply with standard fire safety regulations. • Drip trays must be used to collect spillage from equipment, vehicles and plant. These should be emptied regularly into secondary containers. • Fuels and flammable materials are to be handled in a safety conscious manner. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • All fuels and flammable materials are to be stored safely and clearly labeled. • Safety signage including “No Smoking”, “No Naked Lights” and “Danger”, and product identification signs, are to be clearly displayed on fuel stores and tanks. • All liquid fuels (petrol and diesel) are to be stored in tanks or containers with lids. • Fuel and flammable materials are to be kept under lock and key at all times and are to be stored at a central, easily accessible location. • Storage areas for fuels and flammable materials are to comply with standard fire safety regulations. • Adequate fire-fighting equipment shall be available close at hand and no smoking is permitted within the vicinity of storage areas. • All personnel handling fuels and hazardous materials are to be issued with the appropriate Personal Protective Equipment (PPE).	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 25: Environmental risk assessment: Noise

Activity: Generation of noise from construction vehicles and machinery.	
Nature of Environmental Impact: Potential disturbance or nuisance to neighbours as a result of the increase in ambient noise from construction vehicles and machinery.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
Minimise noise generation from construction activities.	
Proposed Mitigation	
• The site workers and contractors will adhere to the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993). • Regular maintenance of vehicles and equipment. • All plant and machinery are to be fitted with adequate silencers. • Working hours should be restricted to daylight hours. • Working procedures should be structured so as to avoid the unnecessary generation of noise. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • If work is to be undertaken outside of normal work hours permission must be obtained from the ECO and the facility manager. • No noisy work is to be conducted over the weekends or on religious public holidays.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 26: Environmental risk assessment: Resource usage during construction

Activity: The use of resources such as electricity, water, oil, grease, fuel and construction materials.	
Nature of Environmental Impact: Potential wastage of valuable resources due to inefficient or redundant usage.	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**
Objective of Mitigation Measures	
To prevent the unnecessary wastage of resources.	
Proposed Mitigation	
• Regular maintenance and inspection of equipment, such as water pipes, to prevent leaks. • Regular site inspection by supervisors. • Proper environmental training and awareness.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

7.2 Operational phase

Table 27: Environmental risk assessment: Dust

Activity: Generation of dust especially during sawing operations.	
Nature of Environmental Impact: Air quality degradation as a result of the accumulation of dust.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	3
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	2
Environmental Risk = Significance of Impact X Probability	**14**
Objective of Mitigation Measures	
To minimise the potential impact of dust pollution caused by vehicles and other activities onsite.	
Proposed Mitigation	
• A water bowser needs to be onsite to water down dusty roads on dry windy days. • Speed bumps or traffic speed signs need to be erected to reduce speeding onsite that could result in the generation of dust. • Roads must be tarred or paved where possible. • Local extraction systems should be provided for areas where dust is formed (e.g. at circular saws). • Bag filters or cyclones should be used to remove particulates from the air before release into the atmosphere. • Good housekeeping practices should be employed to minimise dust generation. • A dust collection system must be in place to ensure that sawdust and wood dust particles are collected with a high efficiency rate. An example of such a system is a cyclone dust filtration system. • Dust collection systems must be maintained regularly according to manufacturer's guidelines. • Personal Protection Equipment (PPE) such as masks should be provided where necessary. • A complaints register must be kept on site to deal with any dust complaints.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	3
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	1
Environmental Risk = Significance of Impact X Probability	**5**

Table 28: Environmental risk assessment: Storm water management

Activity: Storm water management.	
Nature of Environmental Impact:Potential surface water contamination from the Tanalith® C oxide- and wastewater- treatment plants and potential siltation and loss in topsoil (erosion).	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To minimise the potential for environmental impacts caused by storm water, for instance, erosion of topsoil or siltation of surface water bodies, to control general storm water disposal, and to facilitate appropriate dissipation in heavy rain events.	
Proposed Mitigation	
• Storm water measures must be inspected on a regular basis in order to ensure that the structures are functional and not causing soil erosion. • Storm water from process areas should be segregated from storm water in non-process areas. • The storm water drainage system must be maintained (free-draining) and not be contaminated by other waste sources. • Runoff from areas without potential sources of contamination should be minimised by minimising the extent of impermeable surfaces. • Storm water must be diverted away from the Tanalith® C treatment plant, chemical storage areas and wastewater treatment areas. • The Tanalith® C treatment plant must be covered with a roof to keep rain water out of the bunded area. The plant must be constructed at an elevation to ensure that storm water runs away from the plant and does not flood the treatment plant. Rain water captured by the rail slab and offloading bay must be recovered from a sump within the bunded area and used as process water. • Oil and fuel spills on paved and unpaved areas must be cleaned immediately to avoid storm water contamination. • Prolonged stockpiling of sawdust and other wood-by-products in the open should be avoided. • Placing of erosion prevention structures or vegetation to reduce water velocity at concentration points within the drainage system. • Placing of culverts underneath road foundation.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 29: Environmental risk assessment: Noise

Activity: Increase in ambient noise level as a result of operating machinery (e.g. saws) and vehicles used during operation.	
Nature of Environmental Impact: Potential noise pollution, potential nuisance due to noise, potential disturbance of feeding or breeding animals.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	3
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	2
Environmental Risk = Significance of Impact X Probability	**14**
Objective of Mitigation Measures	
To minimise noise pollution and prevent the facility becoming a nuisance to adjacent landowners as a result of the increase in environmental sound levels.	
Proposed Mitigation	
• Equipment should be selected and maintained to minimise noise levels. • Ensure that machinery on site is in proper working condition, fitted with the necessary silencing equipment. • Enclose machines and equipment with elevated noise emissions (in excess of 85dB) in noise reduction housing. • Conduct regular maintenance, including water lubrication of machines and cutting blades. • Consider the use of low noise saw blades and other less noisy equipment where possible. • Adjust circular saw parameters (blade angle, blade speed and bite depth) in relation to the timber being cut and the machinery being used. • Make sure that the workers on site stick to the prescribed working hours. • Maintain a dB reading of less than 50dB at the site boundary. • Keep equipment in good repair and attend to loose or rattling covers, worn bearings and broken equipment. • Employees working in high noise areas must wear appropriate hearing protection equipment. • A record of noise complaints must be kept in a complaints register for the site, together with details of investigations and actions.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	3
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	1
Environmental Risk = Significance of Impact X Probability	**6**

Table 30: Environmental risk assessment: Spillage of hazardous materials

Activity: Accidental spillage of hazardous chemicals or materials, such as fuel or Tanalith® C oxide liquor.	
Nature of Environmental Impact: Potential soil surface water and/or ground water contamination.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	2
Environmental Risk = Significance of Impact X Probability	**14**
Objective of Mitigation Measures	
To prevent the spilling of hazardous chemicals or materials to soil, surface water and ground water bodies.	
Proposed Mitigation	
• Proper storage of chemicals in a lockable, well ventilated building. • Storage areas for hazardous chemicals are to comply with standard fire safety regulations. • Safety signage including “No Smoking”, “No Naked Lights” and “Danger”, and product identification signs, are to be clearly displayed in areas housing chemicals. • Adequate fire-fighting equipment shall be available close at hand and no smoking is permitted within the vicinity of storage areas. • Chemicals are to be properly labeled and handled in a safety conscious manner. • All personnel handling hazardous chemicals and hazardous materials are to be issued with the appropriate Personal Protective Equipment (PPE). • Limited access to the storage areas. • Bund walls to retain possible spillages. • The removal of only the daily-required amount of chemicals to be used from the shed. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • Use of drip trays during filling of machinery or equipment. Drip trays should be emptied into secondary containers on a regular basis. • An emergency response plan must be drafted and staff trained on the procedures and their responsibilities. Spill kit locations and handling instructions must form part of the response plan. • An inventory must be kept of any hazardous materials being stored and handled on site. This inventory must include Material Safety Data Sheets (MSDS), the quantities stored and the storage locations. • Spill kits should be readily available. • Specific mitigation measures applicable to the Tanalith® C oxide treatment plant: ▪ The chemical may not be stored on wood floors and must be store in a cool, well ventilated area. ▪ The treatment plant must be contained within a waterproofed, bunded concrete pit, designed to contain 110% of the total volume of chemical held within the plant tanks and treatment vessel. ▪ Storage tanks must be regularly inspected for leaks. ▪ Storage tanks and components must meet international standards for operational performance and structural design integrity. ▪ Chemicals received in bulk must be offloaded over a concrete pad designed to contain any spillages. ▪ Offloading of the chemicals must be supervised. The chemicals must be stored within a bunded bit at the plant and kept under lock and key. ▪ Tankers delivering bulk shipments of the chemicals must employ spill prevention measures. ▪ Alarms, level gauges and cutoff systems must be installed on storage tanks to avoid overfilling. ▪ The chemical bulk storage tank must be labelled with the chemical UN number, Hazchem Code	

and tank capacity. ▪ An emergency spill kit and emergency procedures must be stored within the bunded pit. ▪ Trolleys are used to remove the treated timber from the treatment vessel. The trolleys run on an external rail which must be designed to contain any drippage from the trolleys and treated timber within the plant work area. Contaminated water must be returned to the treating solution and used in the treatment process. ▪ Empty chemical containers must be triple rinsed and returned to the supplier. Water used for rinsing must be returned to the treating solution. ▪ The treatment plant must be regularly maintained according to a preventative maintenance program as recommended by the plant manufacturer.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 31: Environmental risk assessment: General and domestic waste

Activity: Generation of general and domestic waste.	
Nature of Environmental Impact: Potential pollution of soil, surface water and/or groundwater by waste generated onsite.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the contamination of the natural environment by pollutants from general and domestic waste generated onsite.	
Proposed Mitigation	
• The facility manager should ensure that waste containers are provided for the collection of general waste at various points on the premises. • Proper domestic waste management and overall waste management on site. • Installation of sufficient waste bins and skips where necessary. • All containers shall be kept in a clean and hygienic manner. • Storage containers shall be stored in a manner that prevents the harboring of pests. • Training of staff in proper hygiene. • Frequent collection of waste in bins. • Disposal of waste at the municipal landfill site.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 32: Environmental risk assessment: Hazardous waste

Activity: Treatment of timber with Tanalith® C oxide liquor solution.	
Nature of Environmental Impact: Potential pollution of soil, surface water and/or groundwater by hazardous waste generated onsite.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the contamination of the natural environment by pollutants from hazardous waste generated onsite.	
Proposed Mitigation	
• Chemical waste created by the Tanalith® C oxide treatment plant (approximately 50 litres per annum) must be stored in sealed plastic containers within the bunded pit until it can be disposed of by a registered waste disposal company like Enviroserv. • Empty containers must be triple rinsed and returned to the chemical supplier. Water used for rinsing must be returned to the treating solution. • Wood waste containing preservative chemicals (Tanalith® C oxide) must be treated as hazardous waste and disposed of in a landfill facility capable of handling waste with possible chemical leaching properties. • Any off cuts generated during re-sizing of poles (after treatment with Tanalith® C oxide) must be disposed of at an approved landfill site as recommended by the chemical supplier. • Use of wood waste as an input for secondary processing or burning in a boiler should consider potential contamination by preservation chemicals. • Hazardous wood waste may not accumulate in a dump or landfill at the sawmill as this would constitute a fire hazard and could lead to groundwater contamination. • Minimise hazardous waste generation by implementing waste segregation to prevent the co-mingling of non-hazardous and hazardous waste.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 33: Environmental risk assessment: Water use

Activity: Water use at the sawmill.	
Nature of Environmental Impact: Potential wastage and/or pollution of water.	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the wastage and/or pollution of water used at the sawmill.	
Proposed Mitigation	
• High-pressure hoses should be used to minimise the amount of water used. • Contaminated water should be efficiently treated and re-used where possible. • Clean storm water must be kept away from areas where it could be contaminated and must be directed to the storm water drainage system. • All chemical storage areas must be situated on impermeable concrete floors with bunding capable of containing 110% of any spillage. • Treated wastewater should be re-used at the sawmill as far as possible. • Leaking taps and hose pipes are to be repaired immediately. • Water supplied to unused areas should be shut off. • Running water taps and hosepipes are not to be left unattended. • Unused standpipes are to be buried to prevent damage and resultant water leaks. • Taps are to be attached to secured supports and used in preference to standpipes with no valve mechanism to open and close the water supply. All hose and tap connections to be fitted with correct and appropriate plumbing fittings. • Water saving equipment such as low-flow toilets can be considered to further save water.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 34: Environmental risk assessment: Sanitation

Activity: General sanitation onsite.	
Nature of Environmental Impact: Potential surface and/or ground water contamination.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the contamination of the natural environment by pollutants from poor sanitation onsite.	
Proposed Mitigation	
• Construction of toilet facilities connected to a septic tank. • The septic tank must be treated with anaerobic bacteria to break down solids and to neutralise “bad” bacteria, such as *E. coli*. • Ablution facilities should be maintained to prevent or minimize blockage and leakages. • Sewerage systems should be kept separate from the storm water system. • Awareness of the importance of proper hygiene should be created among employees. • Toilets should have properly closing doors and supplied with toilet paper.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 35: Environmental risk assessment: Wastewater

Activity: Wastewater generated at the sawmill.	
Nature of Environmental Impact:Potential pollution of soil, surface- and ground-water resources.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the contamination of the natural environment by wastewater.	
Proposed Mitigation	
• Domestic and process wastewater must be treated to an acceptable standard and re-used if and where possible. • Treatment systems must be designed to handle maximum wastewater volumes. • Treatment systems must be well maintained to ensure efficient operation. • The treatment system should avoid uncontrolled air emissions of volatile chemicals from the wastewater. • Wastewater from the Tanalith® C oxide treatment plant must be collected and returned to the plant for re-use. • Runoff from log yards must be contained through for example the use of impervious surfaces, sealed joints and spill containment curbs, to prevent the leaching of contaminated waters into the soil or groundwater. • Storm water from process areas should be viewed as wastewater and should be kept separate from storm water from non-process areas. • Opportunities should be identified to prevent or reduce wastewater pollution through for example recycling, reuse or process modifications.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 36: Environmental risk assessment: Resource use during operation

Activity: Usage of resources such as electricity, timber and water.	
Nature of Environmental Impact: Potential wastage of valuable resources due to inefficient or redundant use.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the unnecessary wastage of resources	
Proposed Mitigation	
• Regular maintenance and inspection of equipment, such as hose pipes, to prevent leaks. • Regular site inspection by supervisors. • Proper environmental training and awareness. • Monitoring of resource consumption. • Implementation of technologies that can reduce resource consumption. • Processes should be designed to save electricity and water where possible.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 37: Environmental risk assessment: Atmospheric emissions

Activity: Timber drying and other activities at the sawmill.	
Nature of Environmental Impact: Possible atmospheric pollution as a result of emissions from the kilns and wood-fired boiler as well as other activities at the sawmill.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	3
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	3
Environmental Risk = Significance of Impact X Probability	21
Objective of Mitigation Measures	
To prevent or minimise the pollution of the atmosphere.	
Proposed Mitigation	
• Boiler: ▪ Ash from the boiler must be disposed of in an appropriate manner. ▪ Ash must be stored and transported in closed containers. ▪ Boilers should use clean fuels that are free of heavy metals and toxic substances. ▪ Combustion equipment and air pollution control equipment should be designed and operated to minimise the production and emission of air pollutants. ▪ Stacks should be high enough to prevent ground level concentrations of pollutants from reaching undesirable levels. ▪ Moisture content of wood waste fuels must be constant. Storage of wet (e.g. sawdust from wetmill) and dry (e.g. sawdust and shavings from drymill) wastes should be separate and stockpiles should be protected from the elements. ▪ The proportion of wet versus dry fuel to the boiler must be kept constant. ▪ An optimal air to fuel ratio must be maintained. It must be possible to adjust the supply of both air and wood waste to the boiler. ▪ Ash from the boiler must be stored in containers in a wind sheltered area until the ash has fully cooled. The ash may be returned to the forest or other sites for use as fertiliser. ▪ Baghouse filters, electrostatic precipitators, cyclones and/or scrubbers should be used to control particulate emissions. ▪ The boiler must be routinely maintained and ash needs to be continuously removed to ensure optimal performance and to reduce ash entrainment, as this will increase particulate emissions. ▪ Boiler operators must be adequately trained. • Kiln drying: ▪ Electrostatic spray systems or High Volume Low Pressure (HVLP) spraying should be used to increase spray transfer efficiency. ▪ VOCs can be removed through adsorption onto carbon filters. • Transport and vehicle exhaust emissions: ▪ Normal vehicle maintenance will minimise the release of gases and combustion particulates. ▪ Emissions of nitrogen oxides, carbon monoxide and sulphur oxides can be minimized through the use of modern combustion equipment that provide an appropriate balance of air to fuel at the correct combustion temperature. ▪ Heavy traffic areas may need to be watered to avoid dust emissions. • Wood fibre particles from milling and fugitive sawdust: ▪ Emissions can be captured using a cyclone dust filtration system and enclosed ducting. A collection system is required to achieve a high collection efficiency rate for sawdust, wood fibres and wood dust particles.	

▪ Cyclone and dust collectors must be regularly maintained. • Emission monitoring should be carried out if prescribed by an Atmospheric Emissions License.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

8. ENVIRONMENTAL IMPACT STATEMENT AND RECOMMENDATION

During the construction phase, the project can be expected to have low negative impacts on the various environmental attributes with proper mitigation measures implemented. The project can be expected to have a positive impact on the regional and local socio-economy during the construction phase. This will be as a result of the creation of jobs as well as procurement opportunities from local suppliers in the area. These benefits can be maximised through preference in procurement processes for local firms and employment of local labourers.

Once expanded, the sawmill will directly contribute to the local economy and indirectly to the regional economy. Benefits of the project outweigh the potential negative environmental and social impacts, which can be mitigated to within acceptable levels.

Based on the outcomes of the environmental risk assessments, that have informed the Basic EIA process, coupled with the recommendations made by the EAP, the overall negative impact of the project is of **Medium significance**, which can be reduced to **Low significance** though the implementation of simple and effective mitigation measures.

The following recommendations are therefore made:

1. **The project should be approved and allowed to proceed.**
2. **The mitigation measures proposed above, that have been incorporated into the EMP in more detail, must be implemented during the construction and operational phases of the project.**
3. **A communications pathway must be established that would allow the designated ECO to accept and deal with stakeholder complaints.**
4. **Mitigation measures proposed above should be incorporated as far as possible into the operational plan for the development.**
5. **Strict monitoring and enforcement of requirements of the EMP must be undertaken to ensure that contractors and operators adhere to these requirements.**