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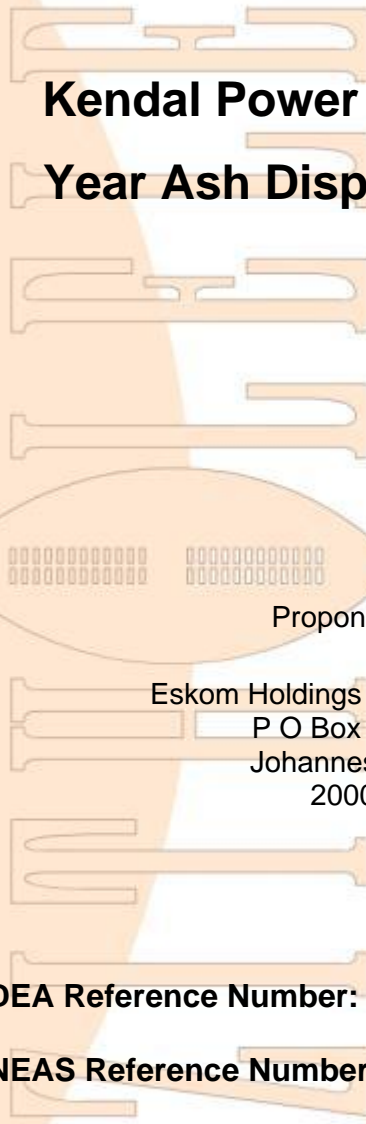
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Kendal Power Station - 30 Year Ash Disposal Facility

Proponent:

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Johannesburg
2000

DEA Reference Number: 14/12/16/3/3/3/68

NEAS Reference Number: DEA/EIA/0001624/2013

June 2013

Project: 12935

DRAFT SCOPING REPORT



YOUR COMMENT ON THE DRAFT SCOPING REPORT

The Draft SR is available for comment from **6 June to 18 July 2013**. This Draft SR has been distributed to the authorities, and copies thereof are available at strategic public places in the project area (see below).

List of public places where the Draft Scoping Report is available:

PLACE	Address / Contact details
Phola Public Library	013 645 0094
Ogies Public Library, 61 Main Street, Ogies	013 643 1150
Delmas Public Library	013 665 2425
Emalahleni Public Library – 28 Hofmeyer Street	013 653 3116
Kungwini Public Library	013 932 6305
Kendal power station – Security Reception	013 647 6002

The report is also available electronically from the Public Participation office or on the Zitholele web site: <http://www.zitholele.co.za>, or the Eskom website <http://www.eskom.co.za/eia>

You may comment on the Draft Scoping Report by:

- Completing the comment sheet;
- Writing a letter, or producing additional written submissions; and
- Emailing or telephoning the public participation office.

DUE DATE FOR COMMENT ON THE DRAFT SCOPING REPORT IS 18 JULY 2013

SEND YOUR COMMENTS TO THE PUBLIC PARTICIPATION OFFICE:

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AN EIA AND WMLA CONSISTS OF SEVERAL PHASES

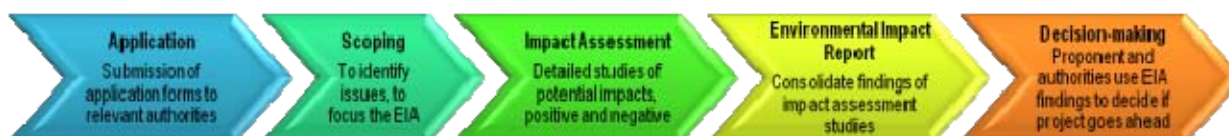


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ABBREVIATIONS

CO ₂	Carbon Dioxide
DMR	Department of Mineral Resources
DEA	Department of Environmental Affairs
DEIR	Draft Environmental Impact Report
DSR	Draft Scoping Report
DWA	Department of Water Affairs
DWEA	Department of Water and Environmental Affairs (Ministry)
FEIR	Final Environmental Impact Report
FSR	Final Scoping Report
EIA	Environmental Impact Assessment
IEA	Integrated Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
GNR	Government Notice Regulation
I&APs	Interested and Affected Parties
IEM	Integrated Environmental Management
NEMA	National Environmental Management Act
NEM:WA	National Environmental Management: Waste Act
NIRP	National Integrated Resource Plan
NWA	National Water Act
SIA	Social Impact Assessment
SR	Scoping Report
TIA	Traffic Impact Assessment
ToR	Terms of Reference
WMLA	Waste Management License Application

1 INTRODUCTION

1.1 CONTEXT AND OBJECTIVES OF THIS REPORT

This Draft Scoping Report (Draft SR) is a key component of the EIA and WML authorisation process and is compiled for stakeholder consumption; for the purposes of review and comment; and to address the requirements for Scoping and the Plan of Study (PoS) for the EIA as outlined in the NEMA EIA regulations. The aim of this Draft SR is to:

- Indicate the methodology followed to identify and evaluate alternatives;
- Provide information to the authorities as well as Interested and Affected Parties (I&APs) on the proposed project as well as a description of the baseline environment;
- Indicate how I&APs have been afforded the opportunity: to contribute to the project; to verify that their issues, raised to date, have been considered; and to comment on the findings of the impact assessments;
- Define the Terms of Reference (ToR) for specialist studies to be undertaken in the EIA; and
- Present the findings of the Scoping Phase in a manner that facilitates decision-making by the relevant authorities.

This report will be subjected to a public review for 40 days, and once completed, comments received will be incorporated into the Final Scoping Report (FSR), which will then be submitted to the competent authority for decision making.

1.2 PROJECT LOCATION

Kendal Power Station is a coal-fired power station situated south west of the town of Ogies in Mpumalanga Province, and became operational in 1993 (see **Figure 1-1**).

1.3 KENDAL POWER STATION

Kendal Power Station uses an indirect dry-cooling through a condenser, cooling water and cooling tower system to effectively cool the cooling water to required temperatures.

The process of electricity generation is such that coal is used as a fuel source to heat pure demineralised water to produce steam. The steam produced, in turn, drives an electrical turbine producing electricity, which is fed into the electricity grid as it is produced. Waste steam exiting the turbine enters the condenser where it condensates for reuse. In the condenser cooling water flows through thousands of condenser tubes, in an enclosed unit surrounded by the waste steam. As a result of the temperature difference between the water and steam, condensation is achieved through transferral of waste heat to the cooling water. Kendal Power Station utilises indirect dry-cooling method for the cooling water. The

warmed cooling water flows to a cooling tower from where the heat is conducted from the water by means of A-Frame bundles of cooling elements. Cooling water flowing through these elements cools down as an upward draft of cool air removes the heat from the water. After cooling, this water returns to the condenser.

This cooling system is a closed system as there is no loss of water due to evaporation. This closed system uses significantly less water in its cooling processes than conventional wet cooled power stations. Kendal has six (6) 686 megawatt (MW) electricity generating units, with a combined installed capacity of 4116 MW. The station's cooling towers are the largest structures of their kind in the world with a height and base diameter of 165 m.

1.4 PROJECT BACKGROUND

The current ash disposal facility of the Kendal Power Station is running out of space due to poor quality coal accessible for combustion, which is producing more ash than was anticipated in station planning processes. In addition the life span of Kendal has also been extended from 2043 to 2053, which would render the available ash disposal space inadequate to accommodate the continuation of disposal. Concurrently with this EIA process for the authorisation of the Kendal 30 year ash disposal facility, another EIA process is underway to apply for authorisation of the continuation of the existing ash disposal facility at Kendal Power Station in order to extend the life of the existing facility sufficiently into the future up to the point that the second ash disposal facility can be authorised, constructed and become operational. These two EIA processes are being undertaken independently but parallel to one another.

The options that are being considered in the Kendal Continuous Ash Disposal project (EIA) can potentially accommodate between 7 years (minimum disposal option) to 17 years (maximum disposal option) of ash, from a benchmark period of September 2012, in the event that the continuation of the existing facility is authorised by the Competent Authority (CA). Assuming the worst case scenario whereby only the minimum disposal option is authorised by the CA for the Kendal Continuous Ash Disposal project, the additional new ash disposal facility would need to accommodate a maximum ash disposal capacity equivalent to 34 years.

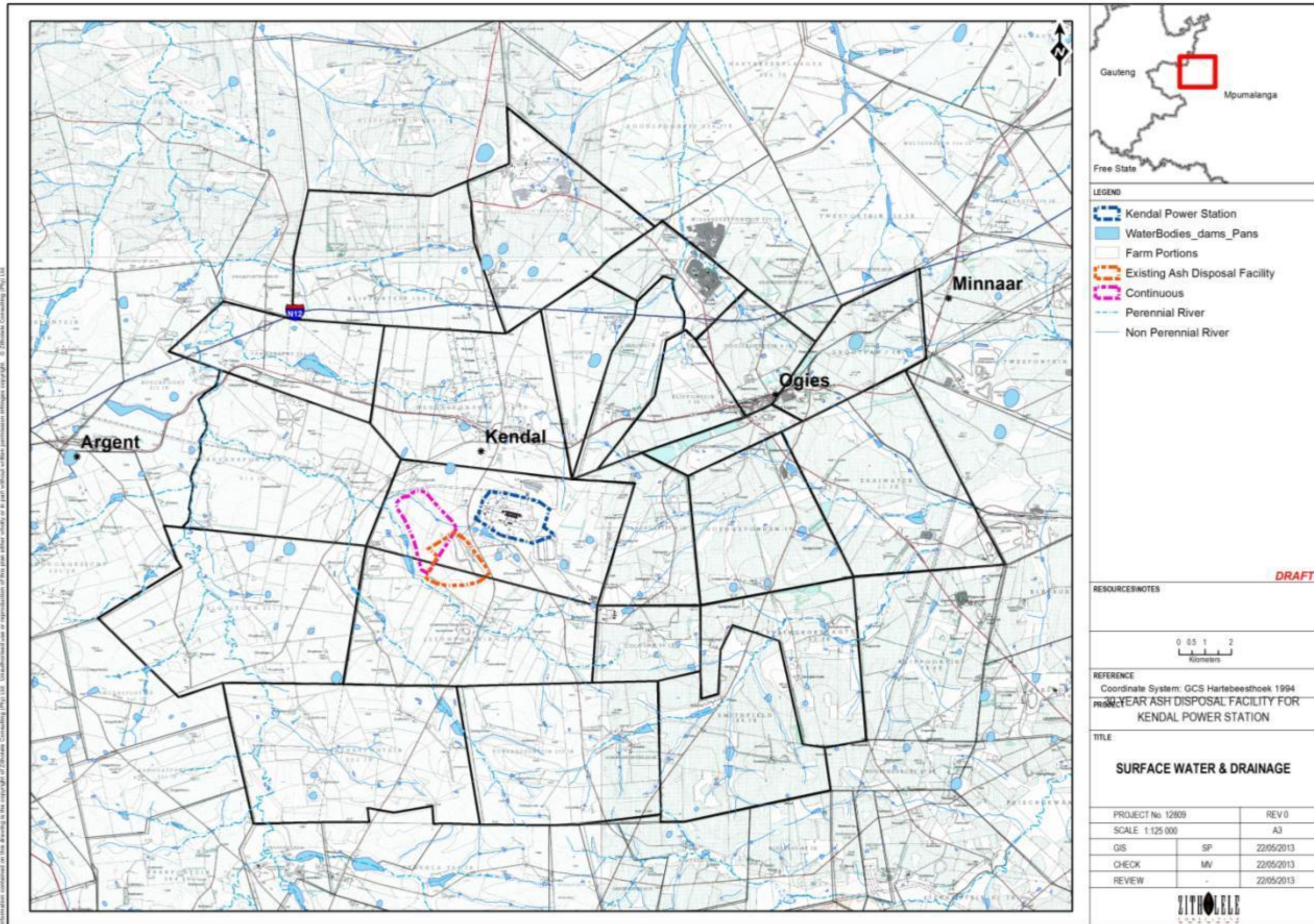
Alternatives for the Kendal 30 Year Ash Disposal Facility have been considered (and are discussed in detail in Chapter 5), and it is envisaged that the project will include the following components (discussed in more detail in Chapter 4):

- Development of an ash disposal facility within a 7 km radius of the Kendal Power Station that can accommodate 37 years of ash. A maximum radius of 10 km could be investigated if enough feasible alternatives for further investigation were not forthcoming;
- Design and construction of the conveyance system from the power station to the ash disposal facility;

- Ash Pollution Control Dams;
- Clean and dirty water cut-off and management systems / trenches;
- Design and construction of new and/or expansion of existing storm water management infrastructure;
- Provision of support services including electricity and water supply in the form of power lines, pipelines, and associated infrastructure;
- Design and construction of access and maintenance roads to and from the site, and associated infrastructures such as culverts and channels; and
- Water Use License Application (WULA).

Zitholele has been appointed to undertake the following activities for the project;

- Environmental Impact Assessment (EIA) – According to the National Environmental Management Act ([NEMA] Act No 107 of 1998, as amended 2010)
- Waste Management License (WML) - According to the National Environmental Management: Waste Act ([NEM:WA] Act No 59 of 2008)
- Water Use License Amendment (WUL) – According to the National Water Act (Act No. 36 of 1998).



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Figure 1-1 - Location of the Project

2 KEY ROLE PLAYERS

2.1 WHO IS THE PROPONENT?

Eskom Holdings SOC Limited (Eskom) is the main South African utility that generates, transmits and distributes electricity. Eskom was established in 1923 by the South African government and today supplies ~95 % of the country's electricity. The utility is the largest producer of electricity in Africa, is among the top seven utilities in the world in terms of generation capacity and among the top nine in terms of sales. Eskom plays a major role in accelerating growth in the South African economy by providing a high-quality and reliable supply of electricity.

Details of the applicant are as follow:

Name of Applicant:	Eskom Holding SOC Limited
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Details of the land owner (Kendal Power Station)

Name of Landowner:	Eskom Kendal Power Station
Contact person:	Christopher Nani
Address:	Private Bag X7272, Emalahleni, 1035
Telephone:	013 295 9119
Cell:	082 805 3392
Fax:	013 647 6904

2.2 ENVIRONMENTAL IMPACT ASSESSMENT PRACTITIONER (EAP) DETAILS

Waste related activities requiring an EIA are listed in terms of the NEM:WA and associated listings. Furthermore, the NEM:WA requires that EIA's for listed waste activities be undertaken in terms of the NEMA EIA Regulations. In terms of the NEMA EIA Regulations, the proponent must appoint an independent Environmental Assessment Practitioner (EAP) to undertake an environmental assessment for an activity regulated in terms of NEMA. In this regard, Eskom appointed Zitholele Consulting to undertake the EIA for the proposed project, in accordance with the aforementioned regulations.

Zitholele Consulting is an empowerment company formed to provide specialist consulting services primarily to the public sector in the fields of Water Engineering, Integrated Water Resource Management, Environmental and Waste Services, Communication (public participation and awareness creation) and Livelihoods and Economic Development.

Zitholele Consulting has no vested interest in the proposed project and hereby declares its independence as required by the EIA Regulations. The details of the EAP representatives are listed below.

Mathys Vosloo, Project Manager

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Telephone: 011 207 2079
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E-mail: mathysv@zitholele.co.za

Dr. Mathys Vosloo graduated from the Nelson Mandela Metropolitan University with a PhD in Zoology in 2012. Over the past few years Mathys has been involved in a variety of projects and has undertaken environmental authorisations for ranging from the construction of roads, rehabilitation of dam wall infrastructure, development of low cost housing, and electrical generation and transmission projects. Mathys has also been involved in the development of strategic environmental assessments and state of the environment reporting, and has developed numerous environmental management programmes during the course of his career. With more than 10 years of environmental and scientific field and more than 6 years in environmental consulting Mathys has gained an advanced and holistic understanding of environmental management in the built environment.

Warren Kok, as Project Director and Reviewer

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Warren Kok is the designated Project Director on behalf of Zitholele. Warren will ensure regulatory compliance, quality assurance and overseeing the Public Participation and Technical Environmental Team. Warren will hold final responsibility for the compilation of the EIA / EMP Reports. Warren holds a B.Hon degree in Geography and Environmental Management from Rand Afrikaans University (2000) and a Higher Certificate in Project Management from Damelin. He is a certified Environmental Assessment Practitioner (EAP) who is registered with EAPASA. Warren has in excess of 10 years' experience in environmental consulting in South Africa. His experience spans both the public and private sector. The majority of his work experience has been gained in the mining sector in South Africa, where he has been responsible for undertaking and managing Integrated EIA Processes. Warren has successfully undertaken countless integrated EIA processes that require integration of the MPRDA, NEM:WA, WULA and NEMA regulatory processes. Many of these projects are considered landmark projects in South Africa's environmental mining

sector and included several hazardous waste facilities. He is ideally skilled and experienced to manage this project to its conclusion. He is currently a Senior Environmental Practitioner for Zitholele Consulting, responsible for overseeing and managing project teams in the Environmental Division, mentoring staff, liaising with clients and public stakeholders at all levels.

2.3 COMPETENT AND RELEVANT AUTHORITIES

The National Department of Environmental Affairs (DEA) is the Competent Authority. The mandate and core business of DEA is underpinned by the Constitution and all other relevant legislation and policies applicable to the government.

Details of the DEA case officer undertaking the assessment of the project are:

Name: Pumeza Skepe
Company Represented: National Department of Environmental Affairs
Address: Private Bag X 447, Pretoria, 0001
Telephone: 012 310 3061
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E-mail: PSkepe@environment.gov.za

The Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) and the Department of Water Affairs (DWA) are commenting authorities for this application.

Details of the contact person at MDEDET are as follow:

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3 LEGAL REQUIREMENTS

Environmental legislation in South Africa was promulgated with the aim of, at the very least, minimising and at the most preventing environmental degradation. The following Acts and Regulations are applicable to this Project:

3.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA ACT (NO 108 OF 1996)

Section 24 of the Constitution states that:

Everyone has the right

- ii) to an environment that is not harmful to their health or well-being; and*
- iii) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-*
 - prevent pollution and ecological degradation;*
 - promote conservation; and*
 - secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development*

The current environmental laws in South Africa concentrate on protecting, promoting, and fulfilling the Nation's social, economic and environmental rights; while encouraging public participation, implementing cultural and traditional knowledge and benefiting previously disadvantaged communities.

3.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NO 107 OF 1998)

NEMA provides a framework for environmental law reform in South Africa and covers three areas, namely:

- Land, planning and development;
- Natural and cultural resources, use and conservation; and
- Pollution control and waste management.

This law is based on the concept of sustainable development. The objective of NEMA is to provide for co-operative environmental governance through a series of principles relating to:

- The procedures for state decision-making on the environment; and
- The institutions of state which make those decisions.

The NEMA principles serve as:

- A general framework for environmental planning;
- Guidelines according to which the state must exercise its environmental functions; and
- A guide to the interpretation of NEMA itself and of any other law relating to the environment.

3.2.1 What are the NEMA principles?

Some of the most important principles contained in NEMA are that:

- Environmental management must put people and their needs first;
- Development must be socially, environmentally and economically sustainable;
- There should be equal access to environmental resources, benefits and services to meet basic human needs;
- Government should promote public participation when making decisions about the environment;
- Communities must be given environmental education;
- Workers have the right to refuse to do work that is harmful to their health or to the environment;
- Decisions must be taken in an open and transparent manner and there must be access to information;
- The role of youth and women in environmental management must be recognised;
- The person or company who pollutes the environment must pay to clean it up;
- The environment is held in trust by the state for the benefit of all South Africans; and
- The utmost caution should be used when permission for new developments is granted.

3.2.2 Environmental Impact Assessment Regulations: 543 of 18 June 2010

In June 2010, an amended set of NEMA Environmental Impact Assessment Regulations was promulgated, GNR.543. These regulations govern, amongst others, the listing of activities that require Environmental Authorisation (EA), the authorisation procedures themselves, and the public participation process for authorisation procedures.

It should be noted that although the main activity of the project triggers the need for a waste management license in terms of NEM:WA, certain activities that will be undertaken as part of the project are also listed activities in terms of NEMA, and therefore also require an EA prior to proceeding with the project. All potential listed activities that may be triggered as a result of this project are listed in

Table 3-1, although, some of these activities may not be undertaken dependent on the preferred alternative selected during the impact assessment phase of the project.

Table 3-1: Relevant NEMA Listed Activities

NOTICE NUMBER AND DATE:	ACTIVITY NUMBER (to the relevant or notice) :	DESCRIPTION OF THE LISTED ACTIVITY
Construction of the waste disposal facility and associated infrastructure		
GN R. 545 of 2010	Activity 15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, industrial or institutional use where the total area to be transformed is 20 hectares or more.
GN R. 544 of 2010	Activity 24	The transformation of land bigger than 1000 square metres in size, to residential, retail commercial, industrial or institutional use, where at the time of coming into effect of this Schedule such land was zoned as open space, conservation or has an equivalent zoning.
GN R. 544 of 2010	Activity 18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from: (i) a watercourse;
GN R. 544 of 2010	Activity 26	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
Construction of a conveyor belt for the transportation of waste to the proposed disposal facility.		
GN R. 545 of 2010	Activity 6	The construction of facilities or infrastructure for the bulk transportation of dangerous goods – in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons per day;
Construction of power lines and substations to service the project and/or realignment of existing infrastructure.		
GN R. 544 of 2010	Activity 29	Regardless the increased output of the facility, the development footprint will be increased by 1 hectare or more.
Construction of a return water dam and/or alteration of existing dams for the management of storm water.		
GN R. 544 of 2010	Activity 12	The construction of facilities for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of Activity 19 of GNR 545.
The construction of access roads for the construction and or long term servicing of all planned infrastructure for the project and/or the realignment and expansion of existing roads.		
GN R. 544 of 2010	Activity 22	The construction of a road outside urban areas: With a reserve wider than 13,5 metres; Where no reserve exists where the road is wider than 8 metres, or For which an EA was obtained for the route determination in terms of Activity 5 of GN 387 of 2006 or Activity 18 of GN 545 of 2010.
GN R. 544 of 2010	Activity 47	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre With a reserve wider than 13,5 metres; Where no reserve exists where the road is wider than 8 metres, Excluding widening or lengthening inside urban areas.
The crossing of rivers by road, conveyor or storm water structures, potential storm water outlets.		
GN R. 544 of 2010	Activity 11	The construction of: Canals; Channels; Bridges; Dams; Bulk storm water outlet structures; Buildings > 50 m ² ; Infrastructure or structures > 50 m ²

Based on the aforementioned list of activities that may be triggered by the project a full Scoping and Environmental Impact Reporting authorisation procedure is required in terms of the NEMA Regulations as amended (June 2010) and published in GNR 543.

3.3 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (NO 59 OF 2008)

In July 2009 the NEM:WA was promulgated, and amongst others makes provision for licensing and management of waste disposal facilities. The Minister of the Department of Water and Environmental Affairs, under Section 19 (1) of the NEM:WA, has published a list of waste management activities, which has or is likely to have, a detrimental effect on the environment in GNR 718 of 3 July 2009. Amendments to the list were proposed by the Minister in 2012 by the publication of GNR 779 of 28 September 2012, which called for comment on the proposed changes. However, this amended list has not been promulgated as yet. GNR 718 of 3 July 2009 listed activities in two different categories:

For **Category “A”** activities: a person who wishes to commence, undertake or conduct an activity listed under this Category, must conduct a Basic Assessment, as stipulated in the EIA regulations under section 24 (5) of the NEMA as part of a Waste Management Licence Application.

For **Category “B”** activities: a person who wishes to commence, undertake or conduct an activity listed under this Category, must conduct a S&EIR process, as stipulated in the EIA regulations under section 24(5) of the NEMA as part of a Waste Management Licence Application.

Proposed inclusion under the proposed amended list of waste management activities, which has or is likely to have, a detrimental effect on the environment are:

*For **Category “C”** activities: a person who wishes to commence, undertake or conduct an activity listed under this Category, must comply with the requirements or standards determined by the Minister in terms of the NEM:WA.*

The activities of the project that require a waste management license in terms of these regulations are listed in **Table 3-2**. It should be noted that the activities listed for the project fall within Category B and will therefore require a full Scoping and EIA process be undertaken for the licensing of the proposed project.

Table 3-2: Relevant GNR 718 (3 July 2009) Listed Activities.

NOTICE NUMBER, CATEGORY AND DATE	ACTIVITY NUMBER (as listed in the waste management activity list) :	Description of Listed Activity
GNR 718, Category B	7	The disposal of any quantity of hazardous waste to land.
	9	The construction of facilities for the activities listed in Category B of this Schedule.

3.4 ENVIRONMENT CONSERVATION ACT (NO 73 OF 1989)

The Environment Conservation Act (ECA) is a law that relates specifically to the environment. Although most of this Act has been replaced by the NEMA there are still some important sections that remain in operation. These sections relate to:

- Protected natural environments;
- Special nature reserves;
- Limited development areas; and
- Regulations on noise, vibration and shock.

3.5 THE NATIONAL WATER ACT (NO. 36 OF 1998)

The identified study area contains a large number of rivers and streams (including the Wilge River), wetlands and pans. Some of these water resources is likely to be affected by the development of the ash disposal facility. As a consequence, this project is likely to require a water use license in terms of Section 21 of the NWA. A full list of water uses to be licensed will be identified during the early stages of the EIA phase. The list of potential water uses that will require licensing is given in the table below.

Table 3-3: Potential applicable Section 21 Water Use Licenses

Water Use	Description	Potential Section 21 Water Uses
Section 21 (a)	Taking of water from a water resource.	Using water for dust suppression on roads or waste disposal facility; and Borehole water abstraction.
Section 21 (b)	Storing of water.	Raw water storage (clean, untreated water) / reservoirs. Storing of water in return water dams, pollution control dams, and or stormwater control dams.
Section 21 (c)	Impeding or diverting the flow of water in a water course.	Activities within or near wetlands, or activities affecting wetlands. Stream diversion.
Section 21 (d)	Engaging in a stream flow reduction activity contemplated in Section 36 of the Act.	To be confirmed.
Section 21 (e)	Engaging in a controlled activity: S37(1)(a) irrigation of any land with waste, or water containing waste generated through any industrial activity or by a water work.	Water used for dust suppression (to be confirmed).
Section 21 (f)	Discharging waste or water containing waste into a water resource.	To be confirmed.
Section 21 (g)	Disposing of waste in a manner which may impact on a water resource.	Construction of a ~1000 ha waste disposal facility. Storage of contaminated water in a pollution control dam / balancing dam / evaporation dam.
Section 21 (h)	Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.	To be confirmed.
Section 21 (i)	Altering the bed, banks, course, or characteristics of a watercourse. This includes altering the course of a watercourse (previously referred to as a river diversion).	Stream diversion.
Section 21 (j)	Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity, or for the safety of people.	To be confirmed.
Section 21 (k)	Using water for recreational purposes.	To be confirmed.

3.6 THE NATIONAL HERITAGE RESOURCES ACT (NO. 25 OF 1999)

The objectives of the National Heritage Resources Act ([NHR] No 25 of 1999) are to:

- Introduce an integrated and interactive system for the management of the national heritage resources; to promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations;
- Lay down general principles for governing heritage resources management throughout the Republic;
- Introduce an integrated system for the identification, assessment and management of the heritage resources of South Africa;
- Establish the South African Heritage Resources Agency (SAHRA) together with its Council to co-ordinate and promote the management of heritage resources at national level;
- Set norms and maintain essential national standards for the management of heritage resources in the Republic and to protect heritage resources of national significance;
- Control the export of nationally significant heritage objects and the import into the Republic of cultural property illegally exported from foreign countries;
- Enable the provinces to establish heritage authorities which must adopt powers to protect and manage certain categories of heritage resources; and
- Provide for the protection and management of conservation-worthy places and areas by local authorities; and to provide for matters connected therewith.

The proposed construction of this project comprises certain activities (e.g. changing the nature of a site of ~ 1000 ha and linear developments in excess of 300 m) that require authorisation in terms of Section 38 (1) of the NHR. Section 38 (8) of the NHR states that, if heritage considerations are taken into account as part of an application process undertaken in terms of the environmental impact assessment process, there is no need to undertake a separate application in terms of the National Heritage Resources Act. The requirements of the National Heritage Resources Act have thus been addressed as an element of this EIA process, specifically by the inclusion of a Heritage Impact Assessment.

3.7 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT 10 OF 2004

The Act, amongst others, provides the framework for biodiversity management and planning. Section 52 provides for the listing of threatened (critically endangered, endangered or vulnerable) and protected ecosystems (of high conservation value or of high national or provincial importance although not listed as threatened) and for activities or processes within those ecosystems to be listed as 'threatening processes', thus triggering the need to comply with the NEMA EIA regulations. The Act establishes the South African National Biodiversity Institute (SANBI), with a range of functions and powers (Chapter 2 Part 1). It also provides for the listing, control and eradication of invasive species (currently the responsibility of the Conservation of Agricultural Resources Act, 1983).

The development of the ash disposal facility will impact on the riparian and wetland areas next to existing streams and rivers. This may trigger requirements and regulations of the National Environmental management: Biodiversity Act.

Other acts that will be taken cognisance of are included in the Table 3-4 below

Table 3-4: List of relevant acts that will be considered

Act name	Act no	Notes/remarks
National Environmental Management: protected Areas Act	57 of 2003	Provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity, natural landscapes and seascapes.
Conservation of Agricultural Resources Act	43 of 1983	Control of utilisation and protection of wetlands; soil conservation; control and prevention of veld fires; control of weeds and invader plants.
Atmospheric Pollution Prevention Act	45 of 1964	Provides for control of dust control and air pollution.
National Environmental Management: Air Quality Act	39 of 2004	Control of dust, noise and offensive odours.
Fencing Act	31 of 1963	Prohibition of damage to a property owner's gates and fences <ul style="list-style-type: none"> ☞ <i>Climbing or crawling over or through fences without permission</i> ☞ <i>Closing gates</i> Any person erecting a boundary fence may clean any bush along the line of the fence up to 1.5 metres on each side thereof and remove any tree standing in the immediate line of the fence. However, this provision must be read in conjunction with the environmental legal provisions relevant to protection of flora.
National Forest Act	84 of 1998	No person may cut, disturb, damage or destroy any indigenous, living tree in a natural forest, except in terms of a licence issued under section 7(4) or section 23.
Veld and Forest Fires Act	101 of 1998	Prevention of unauthorised veld and forest fires
Hazard substances Act, and regulations	15 of 1973 of	Provides for the definition, classification, use, operation, modification, disposal or ing of hazardous substances.
Occupational Health and Safety Act	85 of 1993	Prescribes health and safety measures necessary to adhere to for all construction workers
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act	36 of 1947	Control of the use of registered pesticides, herbicides (weed killers) and fertilisers. Special precautions must be taken to prevent workers from being exposed to chemical substances in this regard.
All relevant Provincial and Municipal bylaws		

3.8 ADDITIONAL RELEVANT POLICY DOCUMENTATION AND GUIDELINES

The policy and waste regulations pertinent to the ash facilities are in the process of being revised by government, and the most recent draft regulations have not yet been promulgated. Cognisance will be taken of these requirements.

4 PROJECT DESCRIPTION

4.1 PROJECT MOTIVATION

The following project motivations are relevant:

- The expansion of South Africa's power generation capacity has become a national strategy and focus areas. Eskom has been mandated to expand and develop new power generation facilities to meet the growing demand for electricity.
- The Kendal Power Station has been in operation since 1993, and as a by-product ash is being produced that must be disposed of on a continuous basis.
- Kendal Power Station is running out of space due to poor quality coal utilised for combustion. This results in higher quantities of ash being produced than the existing facility can receive.
- The life span of Kendal has also been extended from 2043 to 2053, and a new disposal facility must thus be developed to receive the ash generated through the combustion process.

4.2 DESCRIPTION OF THE WASTE STREAM

4.2.1 Sources of Waste to be disposed

This project will address the following waste stream produced at Kendal Power Station:

- Fly and coarse ash from coal burning operations;

4.2.2 Waste Classification

The waste classification regulations pertinent to the ash facility are in the process of being revised by government and the most recent regulations (DEA's draft waste regulations, 2011) have not yet been promulgated.

In terms of the Minimum Requirements methodology the coal derived ash at Kendal Power Station is classified as a Hazard Group 1 waste or an Extreme Hazard waste. This was due to the leachable concentration of chromium VI detected in the leach solution. In terms of the Minimum Requirements, a Hazard Group 1 waste should be disposed of on a landfill with a type H:H barrier system.

4.2.3 Waste Volumes and Densities

The following waste volumes and densities are anticipated for the proposed Kendal 30 year ash disposal facility. These will be used as design parameters for the facility.

Table 4-1: Estimated tonnages and volumes used in the design of the 30 year ash facility

Tonnages per year (tonnes per 6 units per year):	5.9 mill tons/y
Density (tonnes per m ³):	0.85
Volume per year (m ³ per 6 units per year):	6.9 mill m ³ /y
Desired lifespan (years):	37 (2016 – 2053)
Desired total volume (m ³ per 6 units per year):	235 Mill m ³

4.3 DESCRIPTION OF THE PROPOSED 30 YEAR ASH DISPOSAL FACILITY

4.3.1 Location

The location of the proposed study site is within a maximum of 10 km around Kendal Power Station. After a rigorous site selection process (detailed in Appendix F) four developable areas were identified as feasible alternatives. Site areas B and C are located to the west of the Kendal Power Station, while site areas D and F are located to the east and north of the power station, respectively. These four site areas (B, C, D, and F) are shown in Figure 4-1. A comparative assessment of these four alternatives will be undertaken during the impact assessment phase to inform the selection of a preferred alternative.

4.3.2 Footprint, High and Lifespan

It was calculated that for a maximum facility life of 37 years, an ash volume of 256 Million m³ would require a stack with an approximate maximum footprint of 1 000 ha and a height between 50 and 100 m high. Side slopes of 1[v]:5[h] were used with an approach slope of 1[v]:20[h].

A minimum and maximum facility footprint scenario was developed by the technical team. Assuming a facility height of 50 m, which has proven feasible at other dry ash disposal facilities in the region, the maximum footprint scenario would require a facility footprint of approximately **770 ha**. For the minimum footprint scenario a maximum height of 100 m would require a facility footprint of approximately **520 ha**. The viability of the minimum footprint scenario is however dependant of the underlying geotechnical conditions in the study area. In both these scenarios the calculated facility footprints did include 15% additional area to allow for topography variability, and additional 50 ha to house return water dams, ash water treatment channels, roads, conveyor alignment, and site camp.

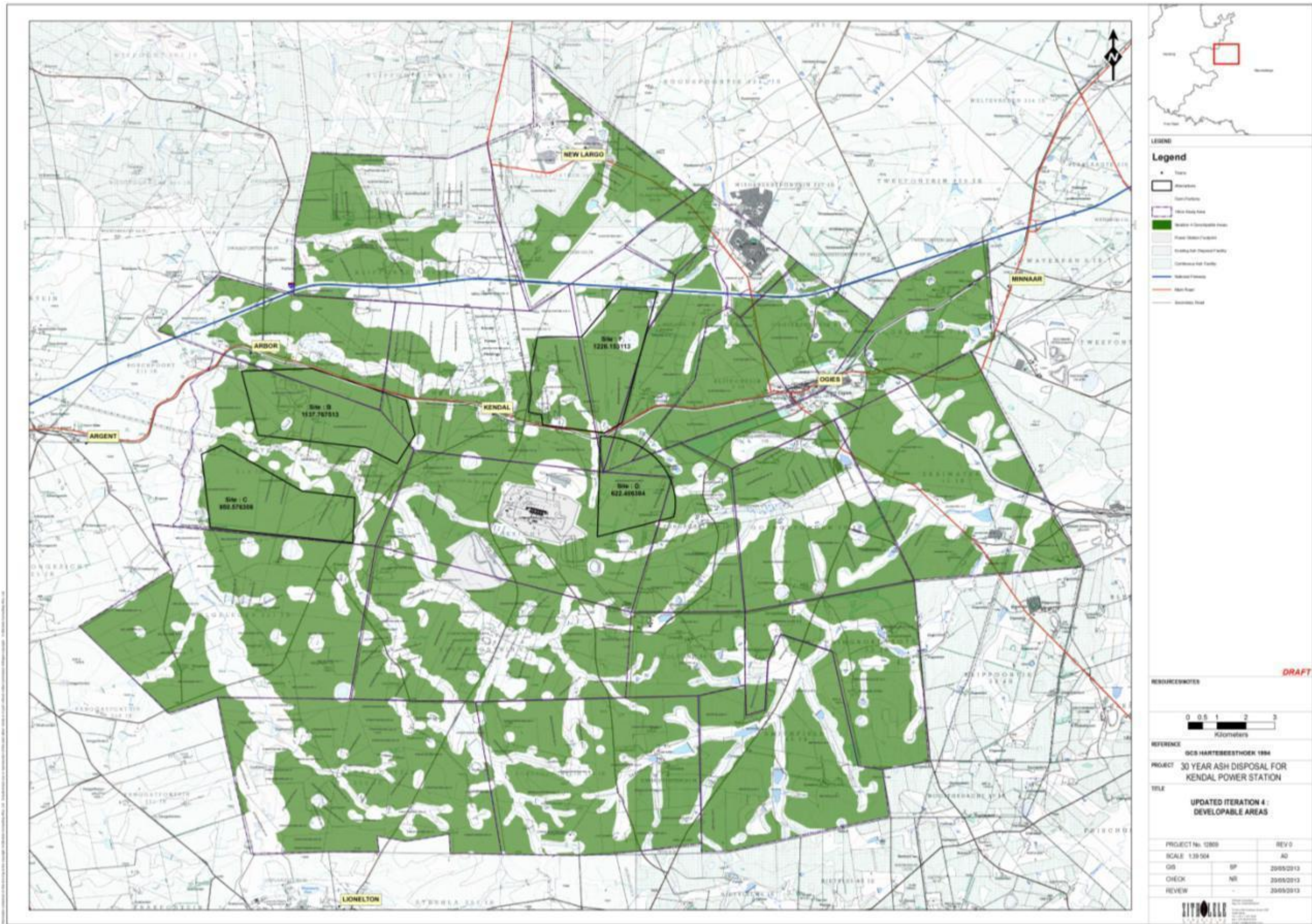


Figure 4-1: Identified feasible sites for the placement of an ash disposal facility

4.3.3 *Geotechnical Conditions and Foundation Design*

Geological stability and properties were considered during the technical evaluation that informed the site identification process. Due to the underlying geology not offering sufficient strength to support a front stack of more than 15 m [Kusile 10 year Ash Stability Report, August 2009], it was assumed that a multi-level stacker setup, similar to the one at Majuba power station (another Eskom power station in Mpumalanga), would be used.

More detailed geotechnical studies are proposed for the sites identified during the Scoping and EIR phase in order to inform the foundation design and the selection of the preferred site.

4.4 PROPOSED ASSOCIATED INFRASTRUCTURE

The following associated infrastructure is envisaged for the Kendal 30 year ash disposal facility.

4.4.1 *Clean and Dirty Water Separation (return water dams and trenches / drains)*

A clean and dirty water separation system will be designed for the facility dependant on the slope. Dirty storm water from the facility will be collected and channelled to a return water dam. The capacity requirements will be determined by an engineering investigation that will be undertaken during the EIA phase. Clean water cut-off canals/trenches/drains will be established to divert clean water back into the natural environment.

4.4.2 *Pipelines or canals*

A network of pipelines or canals, design dependant, will be installed to, amongst others, transport water to and from the return water dams, transport water for dust suppression and to transport water collected from the waste facility to the return water dam.

4.4.3 *Internal and external Access Roads*

Access roads will be established, initially to allow for construction vehicles, but some of these roads may be retained post construction to allow for maintenance of the facility. The location of these access roads has not yet been determined, and will form part of the next phase of assessment.

4.4.4 *Fencing and Access Control*

It is envisaged that the access roads and disposal site will be fenced off for safety and security reasons.

4.4.5 Storm Water Drainage and Monitoring Boreholes

As part of the site design, on-going monitoring of the site storm water drainage features will be undertaken, and additional monitoring boreholes to be installed for monitoring, if required. Monitoring will be conducted with reference to applicable standards. As part of the conceptual designs a storm water management plan will be developed to ensure that storm water is adequately managed.

4.4.6 Relocation of existing Service Infrastructure

Any services on the proposed property shall be identified as part of the impact assessment phase and the rerouting of any of these services will be investigated and potential corridors identified. It is envisaged that wherever possible the rerouting of services will be addressed as a component of this EIA and not as a separate study undertaken at a later date.

4.4.7 Construction area

The construction area for the ash disposal site will include the footprint of the disposal site, as well as any additional features required as part of the construction i.e. an access road, conveyors, new pipelines/canals, and areas to be rehabilitated. At this stage the full size of the site and associated infrastructure is estimated to be in the order of 1000 ha. The exact surface area is still to be determined during the design of the facility. Construction activities will be limited to the areas mentioned above.

4.5 MAJOR ACTIVITIES OF THE PROJECT EXECUTION

The major phases for the proposed project (including the EIA), prior to and after construction, are explained in the table below.

Table 4-2: Major phases for the proposed project.

NO	PHASE	ACTIVITY DETAILS
PRECONSTRUCTION PHASE		
1	Application and Scoping	The Scoping Phase, as its name implies, determines the scope of the project appropriately (i.e. alternatives, consultation requirements, extent of specialist studies, impact assessment methodology and approach, issues / concerns to be addressed, and reporting for decision-making). This is undertaken through an inclusive stakeholder engagement process, which allows for all sectors of society to be involved, including the proponent, the various spheres of government, the regulator, the immediately affected parties, interest groups or individuals, the consulting team, and the public at large. This phase of the project is structured and minimum requirements are regulated through legislation.
2	EIA	An EIA is being undertaken to ensure that all environmental, social and cultural impacts are identified. During this phase the specialist studies as identified during the Scoping Phase are undertaken, and issues / concerns identified are addressed. This phase of the project is also undertaken in consultation with all stakeholder groups as identified during the Scoping Phase. This phase of the project is a necessary precursor to obtaining EA from the CA, without which the project cannot proceed any further.
3	Approval from authorities.	
4	Appeal	Once authorities have issued their decision an appeal process will commence. During

NO	PHASE	ACTIVITY DETAILS
		this phase both the proponent and other stakeholders have the opportunity to appeal the decisions, or conditions thereof.
5	Property acquisition (if required)	Purchase of property if the chosen site is not on existing Eskom property.
6	Structure foundation investigation	Investigations will be undertaken to ensure that the foundation specifications are in line with the underlying geology.
CONSTRUCTION PHASE		
7	Site establishment	The first stage of the construction phase is the establishment of contractors on site. This must be undertaken in line with the conditions of EA.
8	Relocation of services	The relocation of services is imperative, and will be undertaken during the initial phases of the project to ensure that the supply of services is not interrupted.
9	Structures	Fencing - Provide a safe and secured waste disposal area to restrict access and prevent injuries to livestock.
		Formation and lining - Provide a ground formation/lining compacted to the correct standard on which to build the ash disposal site.
		Drainage - Provide water drainage channels within the site.
10	Rehabilitate facilities made redundant.	Rehabilitation of facilities that are made redundant, such as pipelines / pump stations that will no longer be required, due to the implementation of this project.
11	Rehabilitate the construction area	The area where construction activities have taken place must be rehabilitated to minimise environmental degradation by following the Environmental Management Programme that is compiled in conjunction to the EIA.
OPERATIONAL PHASE		
12	Operations for continuation of ash disposal	Current operations to be continued onto the proposed new portion by means of adjusting the spreader and stacker.
13	Rehabilitation and closure of existing ash dam.	The current and continuous ash disposal facility shall be rehabilitated as required.
DECOMMISSIONING AND CLOSURE PHASE		
14	Decommissioning of the ash site and its infrastructure	Once the ash disposal site is no longer in use and is no longer required a decommissioning process may commence.

5 CONSIDERATION OF ALTERNATIVES

The optimal goal in establishment of a waste disposal facility and associated infrastructure (such as conveyors, pipelines and return water dams) is to effectively minimise the negative environmental and social impact while ensuring safety, reliability, and cost savings for the facility.

A structured approach was utilised to ensure that a defensible approach was utilised in the consideration of alternatives. Initially, the project team determined the need and motivation for the proposed project (NEMA, 1998). Once the need was established, potential solutions that can fulfil that need were identified; at this point no alternative solutions had been excluded. When dealing with waste related projects, this discussion typically is structured around the waste hierarchy (National Management Waste Strategy [NMWS], 2010) as shown in Figure 5.1.

The essence of the approach is to group waste management measures across the entire value chain in a series of steps, which are applied in a descending order of priority. The foundation of the hierarchy, and the first choice of measures in the management of waste, is waste avoidance and reduction. Where waste cannot be avoided, it should be recovered, reused, recycled and treated (NMWS, 2010). Waste should only be disposed of as a last resort. Remediation on the other hand is part of the rehabilitation process and is on-going until the decommissioning of the power station.

In working through these systematic hierarchical steps alternative solutions are generated. Waste management could be a single solution best suited to the type of waste, or a combination of several solutions. In each of these steps alternatives can be evaluated and excluded as being not feasible. Once feasible solutions are identified a process of evaluation can commence to evaluate the environmental, social, and technical acceptability of these solutions for the site may be considered to improve the positive aspects or reduce the negative aspects of each solution. A graphical representation of the approach utilised is shown in Figure 5-2.

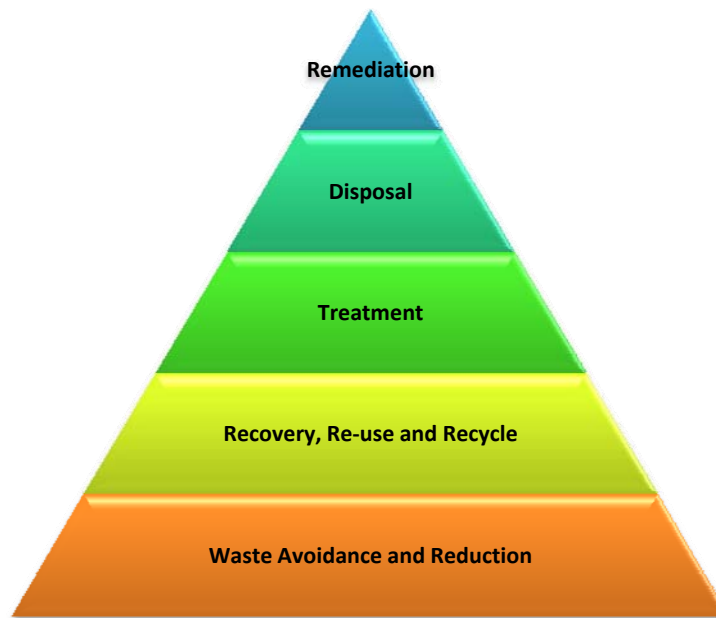


Figure 5-1: Waste hierarchy (NMWS, 2010)

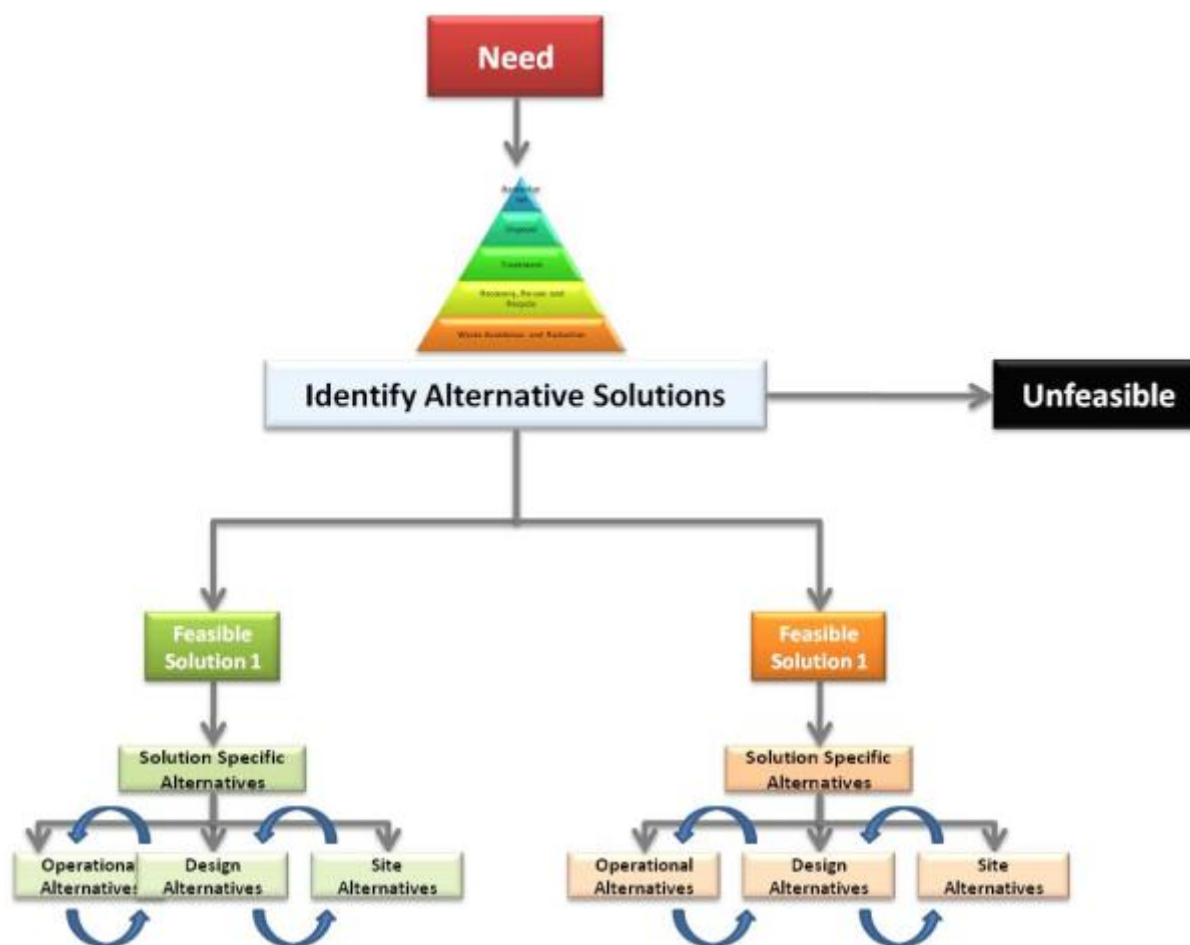


Figure 5-2: Alternatives identification and evaluation process.

5.1 ALTERNATIVE WASTE MANAGEMENT SOLUTIONS

The current status, available information, and further studies required based on the implementation of the Waste Hierarchy is summarised in Figure 5-1. Based on the information available to date the following alternative solutions to the ash waste stream exists:

- **Avoidance and Minimisation:**
 - None. Kendal Power Station has been in operation since 1993, therefore the generation of the ash waste stream is unavoidable.
- **Recovery / Recycling / Re-use:**
 - Use of ash in construction activities i.e. as aggregate in road construction, or as a cement extender;
 - Other applications include cosmetics, toothpaste, kitchen counter tops, floor and ceiling tiles.
- **Treatment**
 - No feasible alternatives are currently available to treat the ash waste.

- **Disposal**
 - Disposal to a suitably designed ash disposal facility.
- **Remediation**
 - Capping of the new facility at the end of life.

Due to the large volumes of ash that will be generated it has been concluded that a dry ash disposal facility will be required, even with the implementation of all the other alternatives.

5.2 ALTERNATIVES SPECIFIC TO THE ASH DISPOSAL FACILITY

5.2.1 Introduction

A number of alternative types are generally associated with EIAs. In terms of the EIA Regulations published in Government Notice R543 of 2 August 2010 in terms of Section 24 (5) of the National Environmental Management Act (Act No. 107 of 1998), the definition of “alternatives” in relation to a proposed activity, refers to different means of meeting the general purpose and requirements of the activity, and may include alternatives to:

1. The property on which or location where it is proposed to undertake the activity;
2. The type of activity to be undertaken;
3. The design or layout of the activity;
4. The technology to be used in the activity;
5. The operational aspects of the activity; and
6. The option of not implementing the activity.

Further, in terms of NEMA and the EIA Regulations, feasible and reasonable alternatives have to be considered within the Environmental Scoping Study, including the ‘No Go’ option. All identified, feasible and reasonable alternatives are required to be identified in terms of social, biophysical, economic and technical factors. Feasible and reasonable alternatives identified during the Scoping Phase are discussed in more detail below.

5.2.1 Location Alternatives

A detailed site screening and identification process was undertaken to identify the most feasible site areas within a maximum radius of 10 km around Kendal Power Station. This report is attached in Appendix F.

A four phased approach was used to attain the most feasible sites within the study area. This included:

1. Identification of the study area;
2. Defining the developable areas;

3. Undertaking an environmental, social and technical site screening exercise; and
4. Rating and ranking of the identified site areas according to the identified site sensitivities (Overlay analysis).

Identification of the study area

The study area was determined by identifying all farm and erf portions potentially affected within a 7 km radius from the Kendal Power Station. A maximum distance of 10 km was additionally investigated after realisation that the constraints in the study area of 7 km may not provide a feasible number of potential sites.

Defining the developable area (Negative mapping)

The next step in the process was to define the developable areas. This was done by using negative mapping in such a way as to exclude all areas within the study area that conflict with the proposed development. A draft list of “Limiting Factors” was drawn up and is shown in Table 5-1 below.

The preliminary desktop assessment of the study site from existing high-level environmental, social and cultural GIS layers, and Google Earth Imagery and 1:50000 topographical maps indicated that the following features were not detected within the study area:

- Cemeteries
- Churches
- Military Facilities
- Known Archaeological sites
- Monuments, and heritage and culturally significant areas
- Protected Areas and Parks

The following No-Go areas where no ash s may be placed were identified from the outset of the exercise:

- New Largo footprint, including a 100 m buffer;
- N12 National Road, including a 100 m buffer;
- Rail reserve across the study area, including a 50 m buffer;
- Wilge River, including a 500 m buffer; and
- High density residential areas – Wilge settlement, Phola settlement, Ogies and New Largo settlement, including a 100 m buffer.

After exclusion of the No-Go areas above, the remaining area was subjected to a negative mapping exercise. The objective of the negative mapping exercise was to identify important features (environmental, social and technical) in the landscape that should not be impacted by the proposed disposal facility. The GIS layers containing these features are shown in Table 5-1.

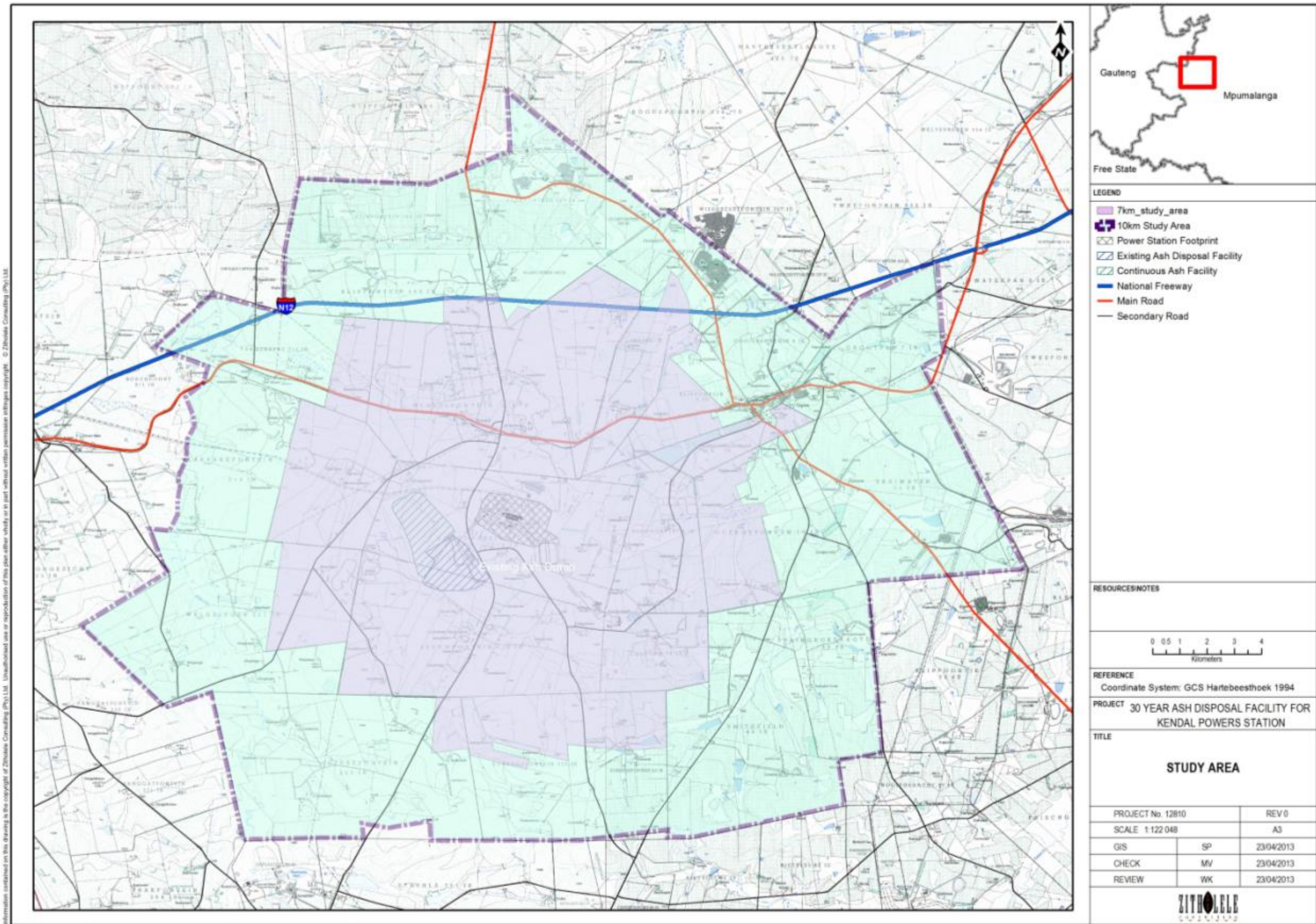


Figure 5-3: Study area for the Kendal 30 year ash disposal facility

In the first instance the feature footprint and substantial buffer for each feature were excluded from the developable area layer in the negative mapping exercise. The buffer width was informed either by legislation, for example the 500 m buffers around wetlands and rivers as stipulated by the National Water Act, or stipulated by existing guidelines and documentation for example pertaining to servitude widths for roads and transmission lines, or dictated by best practice and experience of the environmental assessment practitioner.

The philosophy in this first iteration was thus that if sufficient areas of suitable sizes could be identified, most of the sensitivities and important features in the landscape would already have been avoided. If no areas could be identified, then the buffers of selected features would be reduced and potential areas again investigated. With each iteration the buffers around the landscape feature would be reduced until an assigned minimum value for each feature is reached. For some features such as minor roads and transmission lines, it was assumed that these could be relocated if no other alternatives existed, however for rivers and wetlands it was assumed that they cannot be relocated. Four iterations were investigated before sufficient number and size developable areas were identified.

The following iterations of the negative mapping took place:

- Iteration 1 – Buffers as per Table 5-1, no suitable areas were identified;
- Iteration 2 – Farmsteads, schools, powerline and roads buffers removed, no suitable areas identified;
- Iteration 3 – Built buffers reduced to 100 m, 1 potential site, 1 combination site (2 smaller areas) were identified; and
- Iteration 4 – Wetland and river buffers reduced to 100 m, several potential areas.

Table 5-1: Areas of avoidance. Red items indicate the identified No-Go areas.

Natural Environment				
Layer	Iteration 1	Iteration 2	Iteration 3	Iteration 4
<i>Wilge River</i>	<i>500 m buffer</i>			
Rivers / Streams	500 m	500 m	500 m	100 m
Wetlands / Dams	500 m	500 m	500 m	100 m
Red Data Species	100 m	100 m	100 m	100 m
Protected areas and parks	None in study area			
Social Environment				
<i>High density residential areas</i>	<i>500 m buffer</i>			
Farmsteads	1 km	☒	☒	☒
Schools	1 km	☒	☒	☒
Cemeteries, Churches, Monuments, and heritage and culturally significant areas	Not identified in study area from high level scan			
Built Environment / Engineering Requirements				
<i>New Largo footprint</i>	<i>100 m buffer</i>			
Open Pits	100 m	100 m	☒	☒

Natural Environment				
Layer	Iteration 1	Iteration 2	Iteration 3	Iteration 4
Undermined Areas	100 m	100 m	☒	☒
Richards Bay Rail	50 m buffer			
Other Railway Lines	50 m	50 m	☒	☒
N12 National Road	100 m buffer			
Tarred Roads	100 m	☒	☒	☒
Farm Roads	100 m	☒	☒	☒
Overhead Power lines	Serv	☒	☒	☒
Gas Pipeline	Serv	☒	☒	☒
Water Pipeline	Serv	☒	☒	☒
Conveyor Belt	50 m	☒	☒	☒

In order to determine the potential footprint requirements of a potential ash disposal site, the following technical specifications were assumed:

- Ash production would continue in the range of 576 223 m³ per month;
- Total ash produced over the life of the ash disposal facility would be in the order of 256 million m³;
- The maximum design life of the facility would be 37 years;
- The facility side slopes should be 1:5.

Using the technical specifications above, a minimum and maximum facility footprint scenario was developed by the technical team. Assuming a facility height of 50 m, which has proven feasible at other dry ash disposal facilities in the region, the maximum footprint scenario would require a facility footprint of approximately 770 ha. For the minimum footprint scenario a maximum height of 100 m would require a facility footprint of approximately 520 ha. The viability of the minimum footprint scenario is however dependant of the underlying geotechnical conditions in the study area. In both these scenarios the calculated facility footprints did include 15 % additional area to allow for topography variability, and additional 50 ha to house return water dams, roads, conveyor alignment, site camp, etc.

The negative mapping exercise identified 9 potential developable areas within the study area as shown in Figure 5-4. Site area A was fatally flawed at this stage due to the insufficient size of the area.

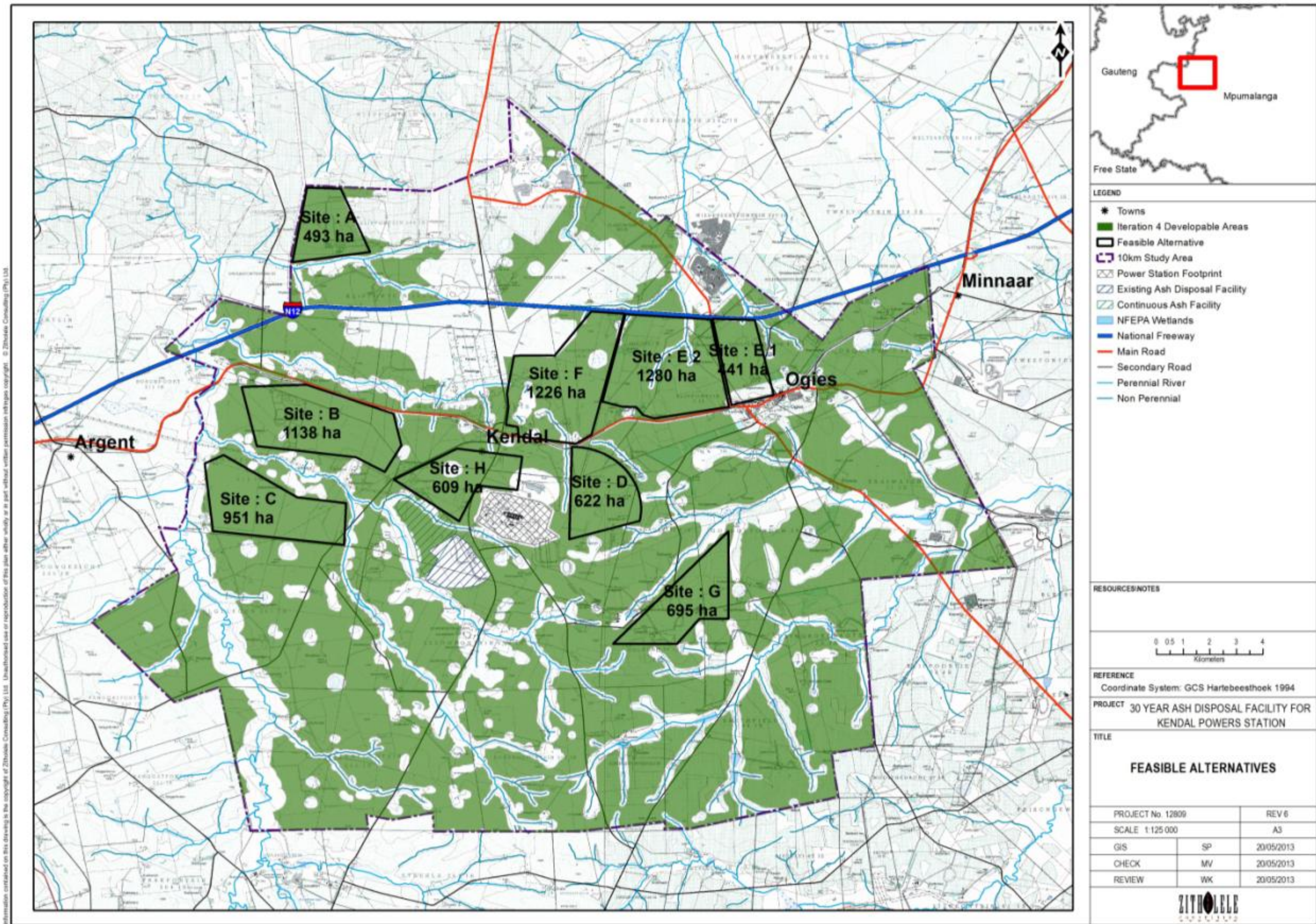


Figure 5-4: Potential feasible sites identified during the site identification process

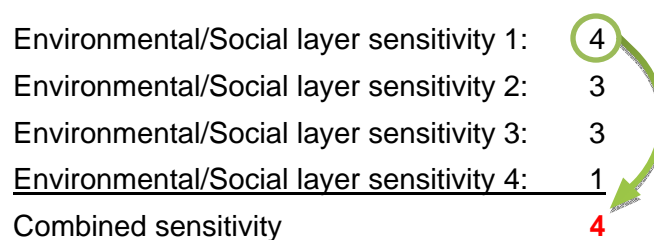
Environmental, Social and Technical Sensitivity Analysis

Each of the developable areas identified were rated according to their environmental and social sensitivity, and their technical / geotechnical suitability. Several environmental and social layers were used to calculate the environmental and social sensitivity of the proposed developable areas. These layers can be viewed in the full site identification report included in Appendix F. The sensitivity of the features in each layer was rated according to a rating scale ranging from 1 to a maximum of 5. The rating scale is provided in Figure 5-2 below.

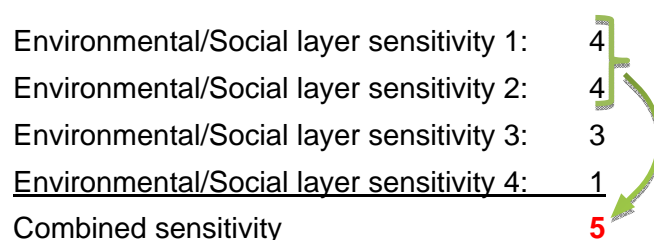
Table 5-2: Sensitivity rating scale used for rating of the site elements

Rating	Description
1	Very Low sensitivity
2	Low sensitivity
3	Moderate sensitivity
4	High sensitivity
5	Very High sensitivity

In the next step of the sensitivity analysis, the rated layers were overlaid on top of one another in a Geographical Information System package (ArcGIS 10.1). Where several components overlaid the same geographical area, the highest sensitivity rating of all of these layers was assigned to the particular area (or polygon). In instances where the highest rating was shared between 2 or more layers, the overall sensitivity rating of the area (or polygon) was bumped to the next level to ensure that the individual sensitivities in each layer translated into a cumulative higher sensitivity. This is described in a simplified manner below.



However, with 2 or more sensitivity layers with the same rating the combined rating is as follow:



The result of the sensitivity analysis includes a separate sensitivity layer for the environmental and social components. The environmental and social sensitivity layer was

subsequently “clipped” with the developable areas layers to exclude all the No-Go areas identified at the start of the exercise.

Overlay analysis

During the overlay analysis the sensitivities within the identified areas was considered. The environmental and social sensitivity layers were “clipped” with the identified areas and the highest sensitivity per site element was determined for each site element.

The ratings per site element were summarised in a table format where the un-weighted score represented the sum of all the sensitivity ratings and the weighted scores represented the sum of all the sensitivity ratings after a weighting per element had been factored into each rating.

Based on the combined ratings for the environmental, social and technical elements, and further discussion with the specialist and Eskom technical teams the following site areas was identified (in order of feasibility) as the most feasible site alternatives to be investigated further during the impact assessment phase:

1. Site area C;
2. Site area F;
3. Site area D; and
4. Site area B.

5.2.2 Operational Alternatives

Footprint optimisation and multi-stacking

Operational alternatives include the potential optimisation of the ash facility footprint through detailed engineering of the ash facility. If the geotechnical conditions at the sites allow the footprint of the proposed ash facility can be reduced by increasing the height of the facility. This strategy is however further dependant on other factors such as to topography, visual and air quality impacts. These factors will be investigated further in the EIR phase of the project where more clarity will be gained on the feasibility of footprint optimisation and multi-stacking arrangements.

5.2.3 Design Alternatives of the Ash Facility

Single facility vs. Multiple facilities

A single facility is more desirable because it ultimately reduces the footprint requirement for the entire waste stream. In addition it is more cost effective. However, multiple facilities were considered in the event that a single facility of sufficient size could not be found.

Minimum standards

The design requirements for the ash facility are in the process of being revised by government (Minimum Requirements to Waste Regulations), and the most recent design requirements (DEA's draft waste regulations, 2011) have not yet been promulgated. Appropriate and approved design standards will be utilised when designing the facility.

Footprint of the facility

It is desirable from an environmental perspective that the footprint of the facility be reduced from the outset to the smallest possible footprint and as such supports the implementation of the multi-stacking option as the preferred alternative.

Expansion of the current facility

The application for environmental authorisation for expansion of the current facility is being undertaken as a separate application to the DEA. The application currently has identified three options that would result in the increase of approximately 10, 14 and 17 years (from a benchmarked date in September 2012) in the operating capacity of the existing ash facility. It is thus more desirable to maximise the disposal of ash on the existing capacity (i.e. extension of 17 years) where there is already a resultant impact and to confine the impacts to a close proximity around Kendal Power Station, than sterilising a large footprint away from the power station with a maximum disposal option on the new disposal facility.

The feasibility of the proposed "piggybacking" options is currently being evaluated, however detailed investigation of the maximum disposal facility option including "piggybacking" Continuous ash disposal option 2C) will be further investigated in this study as an optimisation strategy to maximise the existing disposal facility's life span, thereby minimising the footprint of a second disposal facility (Kendal 30 year ash project) elsewhere within the study area identified for the Kendal 30 year ash disposal project.

5.3 THE "NO GO" PROJECT ALTERNATIVE

The No Project or "No-Go" alternative will also be assessed further in the EIA process. This alternative presents that the power station will not have an authorisation for ashing to end of

station life. This means that the station would have to stop generating electricity, and ash, since ash is waste generated from electricity generation.

Should the “No-Go” alternative be the preferred alternative, Eskom will have to shut-down the Kendal Power Station. The environmental and social impacts will be assessed and compared to the aforementioned alternatives.

6 SCOPING PROCESS

6.1 PROJECT INCEPTION PHASE

On appointment, Zitholele arranged a project meeting between Eskom and the Zitholele project team. During the inception meeting the following was discussed:

- Project Scope and Requirements;
- Project Schedule;
- Identification of key stakeholders and role players; and
- Discussion of the identification of ash disposal site.

6.2 COMPILATION, SUBMISSION AND ACKNOWLEDGEMENT OF APPLICATION FORMS

The Integrated EIA and WML application form (attached as Appendix B) for the proposed project was submitted to the DEA on 3 January 2013 and accepted on 31 January 2013. In DEA's acknowledgement of receipt an updated project schedule was requested. An updated project schedule was sent to the department on 4 April 2013, and receipt of the updated project schedule from DEA received on 19 April 2013. This correspondence is also included in Appendix B.

6.3 PRE-APPLICATION CONSULTATION WITH RELEVANT AUTHORITIES

Initial consultation with the Department of Environmental Affairs was undertaken through email correspondence. In this manner it was established that:

- This application will be considered by the Integrated Permitting System sub-directorate of the DEA; and
- An integrated EA and WML process must be undertaken.

Pre-consultation with the Department of Water Affairs (Regional) in Bronkhorstspuit, Mpumalanga was undertaken to introduce the project and to present the site identification process that was followed and subsequent sites that was identified. Feedback from the DWA include:

- The department is in agreement with the site identification process followed; and
- The department is in agreement with the four alternative site areas identified at conclusion of the site identification process.

6.4 SITE SCREENING, IDENTIFICATION AND CONSIDERATION OF ALTERNATIVES

This phase consisted of:

- The assessment of the receiving environment based on high level information, data and GIS layers;
- The identification of developable areas within the study site that avoids major environmental, social and technical sensitivities on site;
- The identification of alternative solutions to meeting the project need; and
- Identification of the most feasible site solutions.

The results of this phase have been discussed extensively in Chapter 5.

6.5 IDENTIFICATION OF STAKEHOLDERS

The identification of key stakeholders was done in collaboration with Eskom, the local municipalities and other organisations in the area. Having undertaken work previously in the area, Zitholele already have a stakeholder database that was used as a departure point for this project. The identification of stakeholders is on-going and is refined throughout the process. As the “on-the-ground” understanding of affected stakeholders improves through interaction with various stakeholders in the area the database is updated.

The stakeholders’ details are captured in an electronic database management software programme that automatically categorises every mailing to stakeholders, thus providing an on-going record of communications - an important requirement by the authorities for public participation. In addition, comments and contributions received from stakeholders are recorded, linking each comment to the name of the person who made it.

According to the NEMA EIA Regulations, a register of I&APs (Regulation 55 of GNR 543) must be kept by the public participation practitioner. Such a register has been compiled and will be updated with the details of involved I&APs throughout the process (See Appendix D).

6.6 INITIATION OF PUBLIC PARTICIPATION

The opportunity to participate in the EIA and the availability of the draft scoping report for comment was announced between 23 and 30 November 2012 as follows:

- Advertisements were placed in the following newspapers (Appendix C):

Table 6-1: Advertisements placed during the announcement phase

NEWSPAPER	DATE
Streeknuus	30 November 2012
Witbank News	30 November 2012
The Echo	30 November 2012
Springs Advertiser	29 November 2012
Citizen	28 November 2012
Beeld	28 November 2012

- Registered mail and emails to identified potentially affected stakeholders – these include adjacent and surrounding landowners. A notification letter, map of the site, description of the proposed site and a comment sheet. Please refer to Appendix D for proof of notification)
- A Background Information Document (BID) containing details of the proposed project, including a map of the project area, a registration / comment sheet and a letter of invitation to stakeholders to become involved was distributed via mail and email to all potential interested and affected stakeholders. See Appendix E.

**Figure 6-1: BID documents placed on site**

- Site notice boards were positioned at prominent localities on 23 November 2012 on all roads surrounding the site area. These notice boards were placed at conspicuous places and at various public places (Figure 6-2). See Appendix C which provides a detailed register of where the site notices were placed (photos included) and a map indicating the placement of the notices.



Kendal Power Station Ash Plant



Road Outside Leeufontein



Ogies Public Library



Emalahleni Library – Site notice board

Kriel Public Library

Corner Groen & Sprinkbok Laan Kriel

Figure 6-2: Site notice boards were put up in the area.

- Stakeholders were also invited to visit the Zitholele/Eskom websites where all documents for public review are available – <http://www.zitholele.co.za/>, www.eskom.co.za/eia.

6.7 NOTIFICATION OF LAND-OWNERS

During the announcement phase of the Kendal 30 Year Ash Disposal Facility EIA the details of land owners within a 10 km radius that could possibly be affected by the project were notified, based on contact details obtained from the deeds registry. Personalised emails and letters, to those land owners without email addresses, were sent to land owners.

6.8 COMMENTS AND RESPONSES REPORT

The issues raised in the announcement phase and draft scoping report comment period shall be captured in an Comments and Responses Report (CRR). The CRR will be updated to include additional I&AP contributions that may be received as the Scoping Phase proceeds, and as the findings of the EIA become available. The following versions of the CRR shall be compiled (every version is an update of the previous version):

- Version 1 appended to the Final Scoping Report and will include all comments received during the notification and draft scoping period;
- Version 2 appended to the Draft Environmental Impact Assessment Report; and
- Version 3 appended to the Final Environmental Impact Assessment Report.

6.9 SCOPING OF SPECIALIST STUDIES

During the Scoping Phase it is the responsibility of the EAP to determine the scope of specialist studies that are to be undertaken with input from stakeholder during the subsequent EIA phase of the project. Zitholele have compiled Terms of Reference (ToR) for identified specialist studies, based on the availability of published materials; the size and magnitude of the project; anticipated impacts associated with the project; comments

received to date, and experience with other related projects. These ToRs for specialist studies are documented in Chapter 10.

6.10 DRAFT SCOPING REPORT - OBTAINING COMMENT AND CONTRIBUTIONS

The Draft SR is available for public review from **Thursday, 6 June 2013 to Thursday, 18 July 2013**. The availability of the Draft SR for public review was announced in the following manner:

- Advertisements were placed in the following newspapers (Appendix C):

Table 6-2: Advertisements placed during the Scoping Phase

NEWSPAPER	DATE
Streeknuus	5 June 2013
Witbank News	5 June 2013
The Echo	6 June 2013
Springs Advertiser	5 June 2013
Citizen	5 June 2013
Beeld	5 June 2013

- Registered mail and emails to identified potentially affected stakeholders – these include adjacent and surrounding landowners. A notification letter, map of the site, description of the proposed site and a comment sheet. Please refer to Appendix D for proof of notification).

The following opportunities are available during the Scoping Phase for comment and contribution by registered I&APs:

- Completing and returning the registration/comment sheets on which space was provided for comment:
- Providing comments telephonically, by email or per letter to the public participation office; and
- Attending public meeting that has been widely advertised (see table below) and raise comments there.

Table 6-3: Two community public meetings have been advertised and will be held as part of the public review period of the Draft Scoping Report

INTEREST GROUP	DATE	TIME	VENUE AND ADDRESS
Phola Community	Thursday, 20 June 2013	16:00	Venue for the meetings shall be at the Phola Community Hall in Phola.
Community of Ogies, Heuwelfontein smallholdings, Kendal Power Station employees, and any other residents and land owners within the 10 km radius of the Kendal Power Station	To be announced	To be announced	To be announced

The above mentioned meetings shall be held separately but will contain and address the same information. The reason is to accommodate the needs, perceptions and availability of the different interest groups.

Issues relevant to the project will be considered and where necessary will be carried forward into the Impact Assessment phase. The minutes of the public meeting will be attached to the Final Scoping Report in the form of a Comments and Response Report.

The DSR will be updated based on comments received from all stakeholders (i.e authorities, land owners, community organisations, and registered I&APs).

This DSR was made available and distributed for comment as follows:

- Placed in public venues within the vicinity of the project area (these are listed in Table 6-4 below);
- Published on the Eskom and Zitholele websites;
- Mailed to I&APs who requested a copy of the report; and
- Copies will be made available at the stakeholder meetings.

I&APs can comment on the report in various ways, such as completing the comment sheet accompanying the report, and submitting individual comments in writing or by email.

Table 6-4: List of public places where the Draft Scoping Report is available

Contact	Location	Contact
Printed Copies		
Phola Public Library		013 645 0094
Ogies Public Library, 61 Main Street, Ogies		013 643 1150
Delmas Public Library		013 665 2425
Emalahleni Public Library – 19 OR Thambo Street		013 653 3116
Kungwini Public Library		013 932 6305
Kendal Power Station – Security Reception		013 647 6002
Electronic Copies		
Emmy Molepo	www.eskom.co.za/eia Kendal 30-year ash	011 800 4211
Patiswa Mnqokoyi	www.zitholele.co.za	011 207 2077
Patiswa Mnqokoyi	CD available on request via email from Zitholele Consulting.	Phone 011 207 2074 or send email request to patiswam@zitholele.co.za

6.11 FINAL SCOPING REPORT

Using the comments received from stakeholders the Draft SR will be updated and finalised. All comments received will be added to the CRR and attached to the Final SR as an appendix.

The Final SR once updated with additional issues raised by I&APs may contain new information. The Final SR will be submitted to the DEA for consideration and decision with regards to acceptance of the Plan of Study. The Final SR will be distributed to those I&APs who specifically request a copy, but will be available at the same public venues as the Draft Report.

7 ISSUES IDENTIFIED DURING THE SCOPING PHASE

No issues or comments have been raised till date. All comments and issues raised by key stakeholders and Interested and Affected Parties shall be included in the Final Scoping Report.