PROPOSED DEVELOPMENT OF A NEW SOLID WASTE SITE IN LUCKHOFF

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

REF No: WML/EIA/02/2018

CONSULTANTS

NSVT

ENVIRONMENTAL & SOCIAL SCIENTISTS

AUGUST 2018

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Draft Environmental Impact Report ("EIAR") in terms of the Section 24 G (1) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) ("NEMA").

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CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS	LETSEMENG

PROJECT INFORMATION

REPORT TITLE: Draft Environmental Impact Assessment Report ("EIAR")

PURPOSE OF REPORT: The objective of the EIAR is to, through a consultative process determines the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context

PROJECT TITLE: Proposed Development of a New Solid Waste Site ("SWS") in Luckhoff

CLIENT: Letsemeng Local Municipality

ENVIRONMENTAL ASSESSMENT PRACTITIONER: NSVT Consultants

REPORT COMPILATION RESPONSIBILITIES

REPORT COMPILED BY:

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EXECUTIVE SUMMARY

Dipabala and NSVT JV were appointed for the Scoping /EIA process for the new landfill site in Luckhoff, Letsemeng local Municipality, Free-State Province. Dipabala Consulting Engineers are responsible for providing professional engineering services whereas NSVT is appointed as independent assessment practitioners and are responsible for undertaking the waste management license application process in terms of NEM:WA (Act 59 of 2008) for the proposed solid waste site facility. The nature of activities requires a full Scoping and Environmental Impact Assessment to be undertaken. For the development of the proposed solid waste site, three (3) sites were identified but only one alternative had no fatal flaws pending the outcome of the specialists' studies. Therefore, the proposed site identified for the development of the solid waste site is Alternative Site 1, which is located on the Remaining Extent of the Farm Dorpsgronden van Luckhoff 577 within the jurisdiction of the municipality. The specialists' studies to be undertaken as part of the EIA process are namely Ecological Impact Assessment, Heritage Assessment and Geohydrological Investigation. The findings and recommendations from the specialists' reports will be included in the EIAR. A comprehensive public participation process was undertaken as part of the waste license application process. Methods that were used to inform identified I&APs regarding the proposed development include advertisement in The Weekly, a local newspaper, on-site notice board, posters and distribution of the background information document, which is phase 1 of the process, and comments and/or objections were received. Phase 2 of the process, was for the reviewing of the draft Scoping Report by identified I&APs, however, no comments and/or objections were received.

Phase 3 of the Public Participation Process; NSVT Consultants embarked to inform the Luckhoff community of the impending public meeting with reference to the proposed SWS development. This required NSVT/Dipabala to convene a public meeting at the Luckhoff community hall to discuss the SWS development in order to ascertain whether the people of Luckhoff would be in favour of its location and proposed property size. Subsequent to the meeting, the residents of Luckhoff were in favour of the proposed development in order to adequately manage the general waste in and around the community. Due to the geological nature of the proposed SWS, the proposed development required a vast property size in order for the development to function optimally after completion, therefore further environmental specialist investigations needed to be conducted in order to deduce their recommendations to find an environmentally suitable development footprint. Furthermore, the technical engineering designs needed to be reduced to a suitable scale, which would enable the construction activities not to encroach onto the Eskom power-lines in close proximity to the proposed development. Secondly, to avoid impeding on a seasonal drainage line natural to the sloping nature of the surrounding geomorphology, and finally the Solid Waste Site development will however affect a portion of the ridge where the proposed development will be situated. Due to the Letsemeng Local Municipality's financial constraints, relocating the proposed development would be a futile exercise. The Environmental Impact Assessment Report will be distributed to all I&APs for further comments and NSVT/Dipabala will certainly address them timeously.

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ABBREVIATIONS

DESTEA	Department of Economic, Small Business Development, Tourism and Environmental Affairs
DCE	Dipabala Consulting Engineers
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
ECA	Environmental Conservation Act of 1989
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMPr	Environmental Management Programme
FSR	Final Scoping Report
I&APs	Interested and Affected Parties
IBA	Important Bird Areas
IDP	Integrated Development Plan
LCP	Leachate Containment Pond
LM	Local Municipality
LLM	Letsemeng Local Municipality
NEMA	National Environmental Management Act of 1998 as amended
NEM:WA	National Environmental Management Waste Act of 2008 (as amended)
PPP	Public Participation Process
SAHRA	South African Heritage Resources Agency
SDF	Spatial Development Framework
SWS	Solid Waste Site
WML	Waste Management License

1. INTRODUCTION

A joint venture between Dipabala Consulting Engineers ("DCE") as well as NSVT Consultants ("NSVT") has been appointed by the Letsemeng Local Municipality ("LLM") to undertake the development of a new solid waste site ("SWS") for the Luckhoff town in the Free State. DCE and NSVT Joint Venture will provide civil and environmental management services to the municipality in order to provide expertise that would allow them to determine the most feasible location for the newly proposed solid waste facility for the Luckhoff community.

NSVT as the independent EAP, would ensure that a full scoping and environmental impact assessment ("EIA") process is followed in order to comply with the EIA Regulations, 2014 (as amended), as well as the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008). NSVT have applied for a new waste management license on behalf of the LLM for the proposed development and distributed the Draft Scoping Report ("SR") to Interested and Affected Parties ("I&APs") as mandated by GNR 326, Section 41 of the EIA Regulations, 2014 (as amended) to obtain their input that would be considered in the decision-making process.

On approval of the Final SR, the Draft EIAR will be circulated for further commenting by identified I&APs in order to inform the public of the environmental hazards that the proposed solid waste site development may produce as well as to propose mitigation and management measures as to avoid or significantly reduce potential environmental impacts to the environment. This report will address the environmental concerns with regards to the proposed solid waste site development and describe the need and desirability of the proposed activity for the residents of Luckhoff.

The specialist studies, which have been conducted to determine whether the development of the new solid waste site on the proposed site will be environmentally acceptable are as follows:

- Archaeological Impact Assessment;
- Palaeontological Impact Assessment;
- Ecological Impact Assessment and Wetland Delineation;
- Geohydrological Investigation; and
- Geotechnical Investigation.

The above mentioned specialist studies have provided mitigation and recommendations for the proposed SWS, which will be contained in the Environmental Management Programme ("EMPr") to ensure that they are adhered to during the different phases of the activity.

The application to obtain a Waste Management License ("WML") for the proposed SWS was lodged with the Department of Economic Development, Small Business, Tourism and Environmental Affairs ("DESTEA") as they are the competent authority.

2. PROJECT DETAILS

2.1. DETAILS OF THE APPLICANT, CONSULTING ENGINEERS & EAP

2.1.1. DETAILS OF APPLICANT

PROJECT APPLICANT	Letsemeng Local Municipality		
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POSTAL ADDRESS	Private Bag X3, Koffiefontein 9986		
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2.1.2. DETAILS OF THE CONSULTING ENGINEERS

PROJECT ENGINEER	Dipabala Consulting Engineers		
CONTACT PERSON	Mr. T. Motheane		
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TELEPHONE	051 430 1042	**Fax**	086 239 9133
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2.1.3. DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER

The details of the EAP are shown below and the CV is attached hereto as **Appendix 1**.

EAP	NSVT Consultants		
CONTACT PERSON	Rebolang Makwaba		
POSTAL ADDRESS	P. O. Box 42452, Heuwelsig, 9332		
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E-MAIL	rebolang@nsvt.co.za	**Cell**	079 147 0548
QUALIFICATIONS	B.A General (Geography and Environmental Management)	**Expertise/ Experience**	+1 year working in the environmental management field as an EAP. He has experience compiling in EIA, basic assessment, drafting of EMPrs for various developments within the Free State Province.
TRAINING/ CONTINUED PROFESSIONAL DEVELOPMENT	**Gondwana Environmental Solutions Training**: Conducting and Reporting an Independent EIA Process		
		Professional Affiliation	Member of the International Association for Impact Assessment.

3. PROJECT LOCATION

The proposed site for the new SWS is located on situated on the Remaining Extent of Farm Dorpsgronden van Luckhoff 577 in Letsemeng Local Municipality under Xhariep District Municipality within Free State Province. The size that was assessed for the proposed Solid Waste Site is 20 hectares; however, the development footprint being applied for is 17,7 hectares as indicated in figure 1 below.

The following co-ordinates are for the external boundary of the proposed site is shown in *Table 1* below:

Table 1: Four (4) External Boundary Co-ordinates of the Proposed Site

POINT	LATITUDE			LONGITUDE		
	DD	MM	SS	DD	MM	SS
A	S29˚	44’	56.27”	E24	47’	44.38”
B	S29˚	44’	53.65”	E24˚	48’	3.41”
C	S29˚	44’	58.43”	E24˚	48’	7.51”
D	S29˚	45’	10.60”	E24˚	47’	49.26”

The Surveyor-General 21 Digit Number of the proposed site is shown below:

F	0	1	1	0	0	0	0	0	0	0	0	0	5	7	7	0	0	0	0	0

Location of the proposed site is shown in the Google Satellite Imagery, i.e. *Figure 1* below.

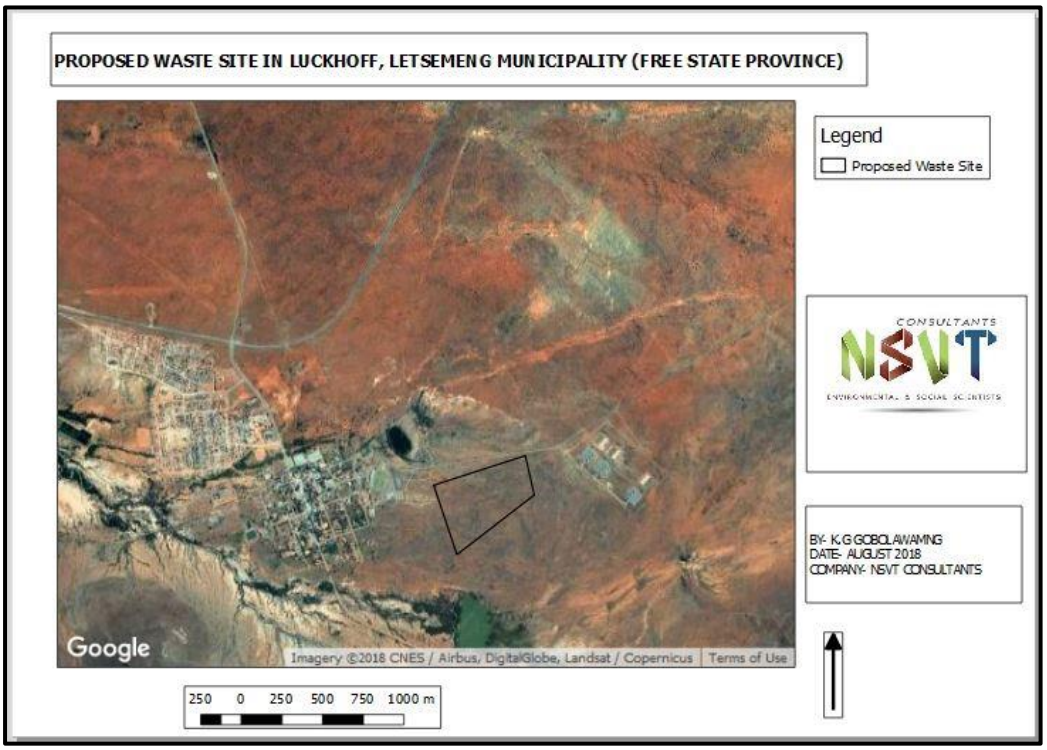

Figure 1: Google Satellite Imagery of the Proposed Site

The Locality Map of the proposed site is attached hereto as **Appendix 2**.

4. PROJECT BACKGROUND

The proposed development of the new solid waste site was of paramount importance to the LLM as well as its residents, this is primarily due to the fact that the current landfill site has come to the end of its life cycle and closure license have been obtained but the municipality is still utilizing it whilst they await an approval of the new SWS. During the site visit, the EAP observed that the existing SWS had no proper fencing to prevent windblown litter that had reached some residents' houses in close proximity of the landfill site, the general waste disposed is not properly covered with soil, therefore the windblown litter ruins the visual aesthetics of the area including that of the cemetery across the gravel road. It is not properly fenced thus unable to prevent windblown litter, the smell of the uncovered waste was unpleasant, some residents are also burning waste and due to the proximity of the landfill site to some houses, clothes on the washing lane are covered in smoke. This is evident that the conditions on the site are poor and degrading the environment, therefore a new landfill site is required.

The condition of the existing SWS is shown in *Photo 1* below.

Photo 1: Condition of the Existing SWS

5. PROJECT DESCRIPTION

The proposed activity is a listed activity in terms of the National Environmental Management: Waste Act (No 59 of 2008), as amended and the following activities are triggered.

NEM: WA GNR 921: Category B

Activity 8: Establishment of a waste facility for the disposal of general waste exceeding 25 000 tons to a land covering 20 hectares.

NEM: WA GNR 921: Category B

Activity 10: The construction of a new solid waste site as a waste management facility which will be used for handling domestic waste.

5.1. DESIGN OF THE PROPOSED SWS FACILITY

According to the Technical Report attached hereto as **Appendix 3,** the elements that were taken into consideration by the Professional Engineers during the concept site layout, *i.e.* DCE are as follows:

1. Site Area;
2. Site topography;
3. Capital Budget;
4. Likely operational experience and capacity of operator and
5. Availability of water and sewer services.

The proposed site will be accessed via off the Luckhoff internal access road, Rabie Street leading west of the town. A new access road will be constructed and the site will be fenced, a minimum of 1,8m high, to prevent unauthorised access to the site. New direction signage and information boards will be installed. The external side slopes will be graded to 1 (vertical) to 3 (horizontal) sufficient to ensure stability as well as providing a soft contour to blend easier into the surrounding environment. This grade is also adequate for grassing and erosion protection when the site is capped and rehabilitated for its end use. The SWS facility will contain one (1) individual cell with a leachate pipe network that will ultimately discharge polluted solid waste site water into leachate storage and evaporation pond, waste recycling facility, office and ablution block, a guard house with a 24 hours access control and it will be fenced-off. According to the classification size classes of the Min Req '98, the new waste facility site would be classified as Small size class: **G:C:B.**

Given the current geometry of the proposed site, the layout will be comprised of 1 cell, and the concept design is shown in *Table 2* below.

***Table 2*: Salient Design Features of the Landfill**

CELL	CELL BASE DIMENSIONS (MXM)	BASE AREA (M^2)	AIRSPACE (M^3)	LIFESPAN (YEARS)
CELL 1	160 X 160	25 600,00	51 200,0	20

The different technical components on the proposed SWS facility are discussed below.

5.1.1. SITE WATER MANAGEMENT

The 17.7 ha site generally slopes from the east to west, at an average slope of 3.3%. Stormwater will be managed in such a way that, the run-off from outside the boundaries of the landfill site is separated (from running into the site) by an earth/gravel berm north eastern boundary. All stormwater-runoff generated within the site, will be all be collected through an open-stormwater channel and retained in a retention pond south west of the site. No stormwater generated within the site will flow outside the landfill boundaries, this is a measure put in place to prevent any form of contamination to the near-by water body.

5.1.2. LEACHATE CONTAINMENT

A landfill facility has the potential to generate highly polluted wastewater, termed leachate. The landfill cell is to be constructed with lining system to protect the receiving environment, which incorporate drainage layers that capture generated leachate from within the landfill containment cell and direct it to a leachate containment pond (LCP). The size of the LCP is to be based on a 1:50 year rainfall event, whilst the catchment is the number of uncapped cells that are linked to the pond.

It is inherently difficult to predict the likely volumes that will be generated by the site over time and by inference in sizing the leachate storage facility. Each landfill is unique in terms of location, climate, mode of operation and waste characteristics (amongst other factors) and therefore the use of historic information from other landfills may not render correct generation estimates. Furthermore, there is a lack of information on leachate volumes generated by small landfills in water deficit regions given that these sites never required leachate management systems previously. In terms of the Minimum Requirements, the site falls in a water deficit area and should therefore generate little to no leachate. However, in terms of the new Norms and Standards a leachate retention system is required.

Adopting a cautionary approach to the sizing of the LCP, it is assumed that a worse case is when there is a small amount of waste in a cell, which in contaminates all stormwater falling within the cell. All run off from the cell will be diverted to the LCP with no attenuation within the waste body.

It must be noted that the LCP has been sized for the run off from the largest anticipated cell and not for all cells combined. This approach has been taken for the following reasons:

- The LCP will be disproportionality large in comparison to the landfill facility area if all cells contribute their contaminated run off;
- It will require the Letsemeng Municipality to proceed with continuous rehabilitation as this will be the only solution to limiting contaminated run off to the operating cell alone.

Therefore the facility has been designed to store a maximum of 5m^3 with a freeboard of 0.5m for a 1:50 year storm event.

5.1.2. LEACHATE COLLECTION

A leachate collection system (LCS) consisting of perforated pipes laid out in a herringbone pattern within a layer of stone, placed on top of the HDPE geomembrane protection layer will be installed. This will collect leachate from within the landfill and direct it to the adjacent leachate storage/evaporation pond. The collected leachate will be used for dust suppression or be left to evaporate, any residual waste found in the pond after evaporation will be disposed of on the landfill.

5.1.3. CONTAMINATED STORMWATER

Stormwater runoff from a waste body is termed contaminated stormwater and has the potential to exceed water quality discharge standards. Therefore any surface stormwater discharging from the waste body must either be diverted to a stormwater retention dam where it can be treated or discharged; or into the leachate system.

Given the small cell footprints and consequently low run-off volumes contaminated stormwater will be captured in the leachate system and be discharged into the leachate pond where it will be 'treated' through evaporation.

5.1.4. CLEAN STORMWATER

Clean stormwater emanating from the catchment reaches above the disposal facility will diverted around the site to minimise the potential to generate contaminated storm-water through the use of cut-off drains or diversion berms.

5.1.5. LINING SYSTEM

As the site will be accepting MSW, a Class 2 waste, the corresponding lining system is a Class B liner, as per the National Norms and Standards for Disposal of Waste to Landfill. Due to the unavailability of natural construction materials on site, geosynthetic materials have been specified in their place. The equivalency testing of these geosynthetic substitutes are to be done during the preliminary design stage.

5.1.6. MONITORING SYSTEMS

A borehole monitoring network will be installed on site to allow accurate monitoring of both the upstream and downstream subsoil water quality of the facility.

5.1.7. RECYCLING PROGRAMME

Waste minimization initiative should be encouraged in line with the NWMS (National Waste Management Strategy, 2011) e.g. waste separation at source.

5.1.8. WASTE COLLECTION AND TRANSPORT SYSTEMS

Due to the town being small with 1600 households, two (2) trucks equipped with a trailer, will allow the Municipality to provide a weekly collection for the whole town. Two trucks are recommended so that there is a back-up should there be operational problems or maintenance required on either of the trucks.

6. LEGISLATION ASSOCIATED WITH THE PROPOSED DEVELOPMENT

Legislation and guidelines applicable to the waste management license application as contemplated in the EIA process are the following:

1. Administered by the Government of South Africa
   - **Chapter 2 of the Constitution Act (Act 108 of 1996)**

Section 24: Everyone has the right: (a) to an environment that is not harmful to their health or wellbeing; and (b) 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.
Relevance: ▪ The proposed development should ensure that it does not resulting in any harm to the health and wellbeing of anyone, especially neighbouring community by prevention of any pollution or ecological degradation. ▪ The development should be ecologically sustainable taking into economic and social aspects.

2. The administering authority is the Department of Environmental Affairs
   Chapter 5 of National Environmental Management Act (Act 107 of 1998) as amended

It outlines the process that should be undertaken to obtain a Waste Management License and an Environmental Authorisation and
Relevance: ▪ An application for a WML requires the process outlined in GNR 326, Amendments of the Environmental Impact Assessment Regulations, 2014 of 07 April 2017 in terms of NEMA, 1998 (as amended) to be followed. ▪ An application to obtain an Environmental Authorisation must be lodged with DESTEA for the activity listed in GNR 326 EIA Regulations Listing Notice 1 of 2014 as amended as promulgated under NEMA, 1998 (as amended).

NEMA Principles

NEMA principles contained in Section 2 of Chapter 1 are key in the decision making process during the EIA process to ensure its objectives are met.

Some of the principles which are relevant for the development:

2. Environmental Management, must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
3. Development must be socially, environmentally and economically sustainable.
4. (a) Sustainable development requires the consideration of the following:
   (ii) Pollution of the environment must be avoided or minimised and remedied.
   (iv) Waste must be avoided or, where it cannot be avoided, consideration must be given to minimisation, reuse and recycling.
   (viii) Negative impacts on the environment and on the people's environmental rights should be anticipated and prevented or minimised and remedied.

   (i) Social, economic and environmental impacts must be considered, assessed and evaluated and decisions must be appropriate to impact assessment findings.

   (k) Decisions must be in a transparent and open manner, and access to information must be provided in accordance with the relevant laws, such as the Promotion of Access to Information, Act 2 of 2000.

   (p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effected must be paid for those responsible for harming the environment.

Relevance:

- The proposed development should be based on the principles outlined by NEMA so as to ensure it does not result in any adverse impact on the receiving environment because they will be used by the competent authority, i.e. DESTEA during the decision making.

- **National Environmental Management: Biodiversity Act (Act 10 of 2004) as amended**

It relates to the management and conservation of biodiversity, the protection of ecosystems and species, the sustainable use of biological resources, and the fair and equitable sharing of biological resources.

Relevance:

- The proposed development should ensure that no threatened species are damaged or destroyed, by determining if there are any endangered, threatened or protected species and assessing impacts thereto. Hence an ecological impact assessment was conducted on the proposed site.

- **National Environmental Management: Waste Act (Act 59 of 2008)**

It is set out to protect the health and environment by providing reasonable measures for the prevention or pollution and ecological degradation and for securing ecologically sustainable development.

It provides norms and standards for regulating the management of waste by all spheres of government to provide for specific waste management measures.

Relevance:

- An application to obtain a WML for the proposed SWS is lodged with DESTEA as the activity triggers listed waste management activities that have or are likely to have a detrimental effect on the environment.
- The developer and applicant should ensure that Waste Management Practices are adopted to prevent any pollution and ecological degradation from construction to the operation phase as a result of improper or poor handling, storage and disposal of waste.
- Reuse, Recycle and Recover waste should be adopted as part of the development.

3. The administering authority is the Department of Water Affairs and Sanitation ("DWS"):

- **National Water Act (Act No. 36 of 1998)**

It is set out for protection of the quality of water resources to ensure sustainability of the nation's water resource in the interest of all water users.

It makes provision for addressing both pollution prevention and remediation.

It protects aquatic and associated ecosystems.

It ensures that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner.

Relevance:

- A water use license will be required for impeding or diverting and alteration of the characteristics of seasonal drainage lines on the proposed site.
- Although a water use license is not required for the operation of the SWS, the operation of the SWS should not result in pollution of water resources. Therefore, measures to prevent contamination should be included in the Operation and Maintenance manual of the facility.
- A borehole for monitoring groundwater quality will be established as part of the development.
- A stormwater management plan must be approved by DWS prior to construction to ensure that contaminated water from the site does not pollute water resources in the vicinity of the site.
- The draft EIAR will be sent to DWS for comments.

- **Water Services Act (Act No. 108 of 1997)**

It's main objectives it to provide for the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and a sanitation facility that will not compromise human dignity.

Relevance:

- The development should have potable water and adequate sanitation for the workforce on site during construction and operation.

4 The administering authority is South African Heritage Resource Agency (SAHRA)

- **National Heritage Resource Act (Act 25 of 1999)**

It stipulates that:

1. The responsible authority should be notified if a developer is to undertake an activity that may have an impact on the heritage resources of an area and stipulates that an impact assessment report may be required, compiled by approved and qualified specialists.
2. No person may without a permit issued by the responsible heritage resources authority, destroy damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site.
3. No person may without a permit issued by the SAHRA or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

Relevance:

- An Archaeological Impact Assessment ("AIA") and Palaeontological Impact Assessment ("PIA") were undertaken as part of the WML application process for the proposed development because the proposed site is more than 5000m^2 to ensure no archaeological or palaeontological or historical or cultural artefacts are destroyed, damaged, altered or disturbed as a result of the proposed development.
- The identified Archaeological artefacts should be protected to a greater extent.
- The Draft EIAR will be sent to SAHRA as a commenting Authority in terms of Section 38 of NHRA.

5 The administering authority is the Department of Agriculture, Forestry and Fisheries

- **Conservation of Agricultural Resources Act (Act 43 of 1983) and CARA Regulations of 1984**

It relates to:

1. Control and management of erosion, weeds and invasive species amongst other things.
2. Prohibits the removal of vegetation in a watercourse in order to prevent erosion.
3. Promotes adoption of soil conservation measures.
4. Control measures for combating declared weeds and invader plants.

Relevance:

- The proposed development should adopt erosion control measures.
- Measures should be in place to control weed infestation during the construction of the facility and operational phase.

6 The administering authority is LLM-**Municipal By-laws**

Some activities would be subjected to the requirements of municipal by-laws and special condition, e.g. noise control, waste removal, etc. which should be adhered to.

7. Norms and Standards

- Draft National Standard for Disposal of Waste to Landfill (GN 432 of 2011)
- Draft Standard for Assessment of Waste for Landfill (GN 433 of 2011)
- Draft Waste Classification and Management Regulations (GN 435 of 2011)

8. Guidelines

Other guidelines and documentation although not legally binding has been considered in the drafting of EIAR, which includes the:

- Guidelines made available by the Department of Environmental Affairs in terms of the EIA Regulations:
  - Guideline 3: General guide to the EIA Regulations
  - Guideline 4: Public Participation
  - Guideline 5: Assessment of alternatives and impacts

- Department of Environmental Affairs & Development Planning. EIA Guideline and Information Series Guideline on Needs and Desirability

7. MOTIVATION FOR NEED AND DESIRABILITY OF THE PROPOSED PROJECT

A closure license, (WML/BAR/22/2014) was issued for the SWS in Luckhoff, thus a new site should be identified for the establishment of the new facility. However, the municipality is still using this site although it doesn't have enough soil to cover waste after disposal. To enable closure of this landfill site, it needs to be rehabilitated to ensure the conditions of the closure certificate are met and this can only be done if the municipality obtains a waste management license for the new landfill site and this indicates that there is a need for the proposed SWS in Luckhoff. '

As pointed out in the 2016/2017 IDP, there is a need for a new landfill site and waste removal has been prioritized as one of the services identified for service provision in planning by the municipality's Technical Directorate and Community Services Directorate. In addition to this, a new landfill site was identified as one of the projects to be undertaken for the 2017/2018 financial year, with phase 1 being compliant with NEM:WA and Phase 2, the actual construction of the facility. Most of the households in Luckhoff are serviced by the municipality once a week for refuse removal, therefore if the plans for a new landfill site aren't realized, this could affect this service.

The community would resort to establishment of illegal dumping site or the municipality will continue to dispose waste at the existing landfill site and this could result in worsening the visual impact due to windblown litter on the neighbouring areas, e.g. cemetery thus creating nuisance to the residents. The identified site is the best practicable environmental option as the site is easily accessible from waste collection areas and it can be developed with least damage to the environment and with limited residual impacts.

Should this application be approved, then the municipality is able to implement one of its identified job creation strategies, i.e. recycling and waste management because the new landfill site will have an operation manual, which should be followed to ensure that the facility operates optimally ensuring a clean and healthy environment. The establishment of the SWS on the identified site will not compromise the integrity of the municipality's IDP. During the Public Participation Process ("PPP") no objections were received for the proposed site.

8. MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT

The preferred development footprint of the proposed SWS was planned in a way that the environmental impacts are avoided and where not possible, reduced significantly, and this was done by considering environmental constraints based on the input from specialists and technical aspects. Portion of the eastern section of the proposed site had to be excluded from the initial footprint as stone tool knapping site was identified, which should be preserved, therefore the development was extended westerly. The existing seasonal drainage line on the north of the proposed site and part of the rocky ridge, which is a unique habitat attributes had to be excluded from development footprint. From the geotechnical investigation, it's indicated that no groundwater seepage was observed during excavations to the depth of 3 metres and there were no groundwater users within 900m from the cell and 400m from the boundary of the fence, which will be used for landfilling purposes. The proposed site is underlain by dolerites, which have a low permeability, thus will minimize groundwater contamination. There is no underground infrastructure on the proposed site to influence the development footprint but the Eskom servitude had to be considered, to ensure an adequate buffer zone is maintained between the servitude and the fence boundary of the proposed facility. The impacts, which couldn't be avoided, mitigation and management measures were outlined in Section 10.2 below.

9. ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOLLOWED

9.1. DEVELOPMENT FOOTPRINT ALTERNATIVES

The initial development footprint, impeded on the seasonal drainage line, encroached on to the site with a higher concentration of stone knapping tool area, total destruction of the rocky ridge as well as being close proximity to the Eskom servitude. Given that there would be negative impact on the receiving environment, thus the development footprint had to be shifted further west and so that most of the impacts could be avoided, where possible or reduced significantly. The initial development footprint indicating the aspects that would have been impacted on is attached hereto as **Appendix 4**.

Therefore, technical engineering drawings for the facility had to be re-designed in a manner that takes into consideration the environmental sensitivity of the site and its immediate surroundings and the outcome of the PPP. Therefore the small, first order ephemeral drainage line has to be excluded although a culvert will be placed at the access to ensure flow of water is not impeded, section of the rocky ridge and the portion of the stone knapping site has been avoided.

No alternative development footprint was considered further for the proposed SWS and the proposed development footprint is attached hereto as **Appendix 5**. Given the time and financial constraints, a new site could not be investigated; therefore we had to focus on minimizing the environmental impacts on the proposed site.

9.2. DETAILS OF PUBLIC PARTICIPATION PROCESS

A comprehensive public participation process was conducted to ensure that all identified I&APs were informed of the proposed development and to ensure that everyone had the opportunity to raise their concerns and/ comments. The proposed SWS development was brought to the attention of the public and relevant government departments by the following means:

- An advertisement was placed in The Weekly newspaper for the 17th-23rd issue of the newspaper informing the public of the proposed SWS project.
- On site Notice
- Posters were placed on notice boards at:
  1. Municipal Offices/Library;
  2. Domino Supermarket; and
  3. GWK Limited
- The Background Information Document was sent to:
  1. Letsemeng Local Municipality; and
  2. Councillor Nqelani of Ward 1, Luckhoff and surrounding farms
- For review, the draft SR was sent to:
  1. DWS;
  2. LLM to place at the Library; and
  3. Eskom Free State Operating Unit
- Public Meeting was held with the Luckhoff community on the 21st of June 2018.
- For review, the draft EIAR was sent to:
  1. DWS;
  2. LLM to place at the Library;
  3. Eskom Free State Operating Unit
  4. Eskom Transmission Unit and
  5. SAHRA

No objections were received from the PPP that was undertaken and records of PPP are attached hereto as **Appendix 6.**

The I&APs database that was maintained during the PPP is shown in *Table 3* below.

Table 3: Interested and Affected Parties Database

INITIAL	SURNAME	AUTHORITY/ ORGANISATION/ DEPARTMENT	CONTACT DETAILS		
			PHYSICAL ADDRESS	TEL. NO./ CELL NO.	E-MAIL
X.	Nqelani	Ward Councillor	No.55 Relebohile Luckhoff, 9982	079 030 8596	Xalisile.Nqelani@gmail.com
L.	Manwele	Municipal Official	No. 07, Groot Trek St. Koffiefontein, 9986	079 458 6263	lmanwele@letsemeng.gov.za
G.	J.V Noordwyk	DWS	Bloem Plaza 2nd Floor, c/o Charlotte Maxeke & East Burger Streets Bloemfontein, 9301	082 804 8605	JansevanN@DWS.gov.za
M.	Moeng	Eskom FSOU	Environmental Management Eskom Land Development and Environment FSOU Distribution 120 Henry Street Eskom Centre 1st Floor	051 404 2287	Moengmk@eskom.co.za
J.	Burger	Eskom FSOU	Food Lovers Market Corner, Muller St, Langenhoven Park, Bloemfontein, 9301	051 404 2439 082 729 5727	BurgerJe@eskom.co.za
E.	Lennox	Eskom	No. 1 Maxwell Dr, Sunninghill, Johannesburg, 2157	011 800 2780 Or 082 457 3912	LennoxEC@eskom.co.za
		SAHRA	To be submitted on SAHRIS		

9.2.1. SUMMARY OF ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of comments received from I&APs are tabulated in *Table 4*.

Table 4: Summary of Issues raised by I&APs

AUTHORITY/ STAKEHOLDERS/ COMMUNITY MEMBER	ISSUE/COMMENTS	INCOPORATION OF THE COMMENT
BACKGROUND INFORMATION DOCUMENT		
No objection and/or comments were received		
ON SITE NOTICE AND POSTERS		
No objections and/or comments were received		
REVIEW OF THE DRAFT SCOPING REPORT		
Department of Water and Sanitation	• It is recommended that a Geohydrological report be included as a supporting document in order to provide adequate information regarding the upstream and downstream gradient of the boreholes and the groundwater table. This will enable the department to provide further comments if the groundwater quality or any water resource are affected.	• Geohydrological report attached to the draft EIAR
	• In case where a water resource will be significantly affected, a license application must be considered in terms of Section21(g) of the National Water Act (Act No. 36 of 1998), which states; (*g*) disposing of waste in a manner which may detrimentally impact on water resource.	• Waste will not be disposed into a water resource
	• DWS supports the Borehole Monitoring System however take note that monitoring must be done on a monthly basis using SANS 241;2016. The water quality data must be submitted to the DWS monthly.	• Comment noted and has been captured as a condition to the issuing of the WML
	• Ensure that hazardous material are separated and stored in a	• No petroleum storage tanks will be

	secure area to contain and prevent any spillages or any kind of pollution	kept on site
	• DWS supports the recycling programme	• Comment noted
Eskom FSOU	• The utility suggests Eskom shall at all times have unobstructed access to its servitudes and the applicant must obtain the necessary approvals for construction from the Letsemeng Local Municipality	• The facility has been designed in a way that Eskom will have access to the servitude and LLM is the applicant
	• All environmental legislation must be adhered to and no drilling shall occur within 11 metres from any servitudes.	• Environmental legislation will be adhered to and an 11m metres buffer has been kept between the servitude and the boundary fence. • Comment has been captured as a condition to the issuing of WML.
	• If Eskom FSOU incurs any costs from the construction of the SWS due to non-compliance of the environmental legislation, the incurred costs will be charged to the applicant.	• Comment noted but no costs will be incurred as the application does comply with environmental legislation.
	• No explosive devices will be used within 500 metres of the Eskom servitudes without prior permission from Eskom.	• Should there be a need to use explosives, then permission will be obtained from Eskom and comment is contained as a condition to the issuing of WML.
	• Any changes to ground level in the vicinity of the Eskom servitudes must be rehabilitated to its original state as to prevent soil erosion from occurring.	• There will be no earthmoving activities within 11m of the servitude, however, should it be necessary permission will be obtained.
	• No mechanical equipment such as mechanical excavators or high lifting machinery in the vicinity of the servitudes without prior permission from Eskom FSOU.	• Permission will be obtained should there be any mechanical equipment within 11m of the servitude.
	• No work shall commence unless Eskom has received applicant's written acceptance of the conditions stipulated in the letter.	• A formal letter will be written by LLM to Eskom 14 days prior to commencement of construction phase.

PUBLIC MEETING		
• Most of the issues were regarding the existing landfill site, which included dust generation, burning of waste and illegal dumping. • A 24 hours control access was requested to be included in the design. • A balling machine was requested to ensure sorting and packaging is done prior to collection as part of the recycling programme. • No objections were raised for the proposed development.		
REVIEW OF THE DRAFT EIAR		
Comments to be incorporated in the final EIAR after the reviewing of the draft EIAR		

9.3. ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE PROPOSED DEVELOPMENT

A comprehensive survey of the study area was carried out including studies by specialists to determine the environmental baseline data and the findings are detailed below.

9.3.1. CLIMATE

Luckhoff normally receives about 236mm of rain per year, with most rainfall occurring mainly during autumn. It receives the lowest rainfall (0mm) in July and the highest (51mm) in March. The average midday temperatures for Luckhoff range from 16.4^{0}C in June to 31^{0}C in January. The area is the coldest during July when the mercury drops to 0.3^{0}C on average during the night. In the Geohydrological Report, it's indicated that the prominent wind direction for January is from the N and the minor wind direction is from the NE and NW. In April, it's from N and the minor wind direction is from the NE and NW, in July, it's from the N and minor wind direction is from the NE and NW, in October it's from N and minor is from SE and NE and the dominant wind direction is from the N and the minor depends on the time of the year.

9.3.2. TOPOGRAPHY

The Luckhoff area has bottomlands flats forming a matrix of large landscape interrupted by dolerites, koppies and ring dykes. The proposed site is sloping south-westerly and has a linear rocky ridge, which transverses the eastern and southern portion.

9.3.3. GEOLOGY AND SOILS

The alternating layers of mudstone and sandstone mostly of the Permian Adelaide Subgroup (Beaufort Group, Karoo Supergroup). Part of the Luckhoff area is covered with soils with diagnostic pedocutanic and prismacutanic (dark clayey) B-horizons and belongs to soil forms such as Estcourt, Rensburg and Oakleaf. In some areas, especially towards the more arid west, patches of calcrete on the soil surface are notable- here the soil forms such as Kimberly and Plooysburg prevail (dwarf karroid shrubs usually concentrate on these areas of limestone rich patches). The entire area has been classified as Da or Db land types. (Mucina & Rutherford, 2006)

9.3.3.1. SITE-SPECIFIC GEOLOGY

The project site is situated on the Tierberg Formation of Adelaide Subgroup of the Ecca Group that falls under Karoo Supergroup and rocks of this formation were formed during Permian period. From the Geotechnical Investigation undertaken, doleritic gravel was observed as the site is underlain by dolerite. During excavation, refusal was encountered in three of the four test pits and no groundwater was encountered. The surface geology also consists of Quartenary Deposits and dolerite sills per findings of the Geotechnical Report. The soil profile of the site shows that thick red to brown silty is dominant at 300 mm to 700 mm and this is underlain by greyish white, brown to

grey sugary gravel. Further investigation at the depth of 700mm - 2100mm brown silty sand is underlain by yellowish brown silty sand.

9.3.4. GROUND AND SURFACE WATER

According to the findings of the Geohydrological Investigation, the study area is located in Drainage Area D, Quartenary Sub-Catchment D33C. During the site survey, no groundwater users were identified within a 1km radius of the proposed site, but 3 boreholes were identified and the nearest is located approximately 900m west of the proposed site. However, no samples were taken as there was no access. The assessment area constitutes part of the upper commencement portion of a small, localised water catchment area which, drains towards a watercourse and artificially built earth dams situated to the S-W and N-W respectively. Two (2) prominent downstream waterbodies were identified within close proximity of the proposed site. Surface water drains in a north-westerly and southerly direction away from the ridge, which act as a surface drainage separation within the proposed site.

9.3.5. FAUNA AND FLORA

9.3.5.1. GENERAL FAUNA DESCRIPTION

Luckhoff is a town with a population that largely depends on agriculture therefore there is a likelihood of identifying livestock within the region, hence there is evidence of the proposed site being used for grazing, however, the site is not considered a formal grazing area based on the outcome of the PPP. Due to the area being undeveloped, the potential habitat for fauna is intact and animals, inclusive of reptiles, amphibians, birdlife and small mammals. However, except for burrows and droppings, no animals were observed during the site inspection.

9.3.5.1.1. SITE SPECIFIC FAUNA DESCRIPTION

From the Ecological Investigation conducted, the vegetation of the study area is utilised by various small antelope species, burrowing mammals as numerous reptiles, such as lizards, snakes and tortoises for foraging habitat. It's indicated that the assessment area doesn't fall within any important Bird Areas ("ÏBA") as per the latest IBA map and no unique bird habitats were observed either. No unique or specialised bird habitats were observed either.

9.3.5.2. GENERAL FLORA DESCRIPTION

According to (Mucina & Rutherford 2006), the area is characterized by Shrubland dominated by dwarf Karoo shrubs. The preferred site falls within the Upper Karoo vegetation type (NKu 3), which is classified as Least Threatened because of it's braod distribution (Mucina & Rutherford, 2006).

9.3.5.2.1. Site Specific Flora Description

From the Ecological Investigation conducted, the site falls within an Ecological Support Area 1 in accordance with the Free State Provincial Spatial Biodiversity Plan, 2014. It's characterised by open shrubland dominated by dwarf karoo shrubs with a sparse grass layer. Woody component is virtually completely absent with the

exception of sporadic individuals of the small shrub species. A group of Provincially protected species of *Aloe broomii* and *Aloe claviflora* were found. No Red Data Listed, Nationally or protected or any species of conservation significance were found to be present within the assessment area. The shrub, forbs and grass species diversity of the rocky ridge within the proposed site is similar to that of the open shrubland, however, the grassland is however even more sparser and the small shrub species *Searsia ciliata* is significantly more prominent while a number a number of individuals of the woody shrub species *Diospyros lycioides* and *Euclea undulate* are also present throughout the ridge area. Two (2) individuals' shrubs of the woody species *Ziziphus mucronata* as well as a single individual of the provincially protected small shrub species *Euphorbia burmanni* were also found to be present and the dwarf species *Thesium hystrix* is present although absent in the open shrubland. The Present Ecological State of the study area is classified as Class A as it is unmodified, natural and pristine.

9.3.5. LAND USE

The proposed site is vacant and undeveloped which is accessible via a dirt road with a gate, which branches from Rabie Street. There is evidence of grazing activity due to the livestock dung and hooves print. The proposed site is located near an Eskom substation, located to the eastern side with overhead (2) powerlines running in a south-western direction. A gravel road divides the proposed site on the southern side and an undeveloped and vacant land on the northern site. There is an old quarry and dilapidated buildings on the western side. The nearest houses are within 400m to the east of the boundary fence of the proposed site.

9.3.6. SOCIO-ECONOMIC STRUCTURE OF THE AREA

The area of jurisdiction of the LL is situated in the Xhariep District Municipality region and it covers an area of 10 180 71 km², it comprises of Koffiefontein which constitutes the Head Office of the municipality, Jacobsdal, Petrusburg, Luckhoff, Oppermansgronde and surrounding farm areas. According to the IDP of 2010-2011, an estimated 9510 people are formally educated and 27563 needs to be trained to be brought into mainstream development and economic growth. These estimated numbers of people rely on informal trading, seasonal work and social grants. LLM faces challenges of unemployment, poverty, shortage of skilled workers and reduction of agriculture sector dependency and it is dominated by the Agricultural Sector, Mining, Quarrying and community, social and personal services. The projected population of Luckhoff as contained in the Technical Report is 8800 and these people rely mostly on agricultural and social sector for a living. There are no industrial site, manufacturing and mining activities nearby. Given the above, the municipality aims to develop and enhance infrastructure for economic growth and ensure safe environment for all and this in turn will alleviate poverty in its area of jurisdiction.

9.3.7. CULTURAL, HISTORICAL AND ARCHAEOLOGICAL ASPECTS

From the Archaeological Investigation conducted, it was observed that the Archaeological footprint in the Luckhoff is primarily represented by Early, Middle and

Later Stone Age open sites and surface occurrences and rock engravings. Stone Age archaeological sites in the region are generally associated with river courses and areas where dolerite outcrop occur especially in the vicinity of Goemansberg and Joostenberg. Stone tool knapping sites are commonly found near dolerite-shale contact zones. In addition, rock engravings on dolerite are fairly common in the region, with recordings made on several farms between Koffiefontein and Luckhoff. The study area has no evidence of prehistoric settlements structures, rock engravings, graves or historically significant buildings older than 60 years within the boundary of the study area. However, the lithic remains of an early Middle Stone Age stone tool Knapping site are widely distributed as a surface lag deposit on the landscape. From the Palaeontological Investigation, it was observed that the site is underlain by Paleontologically insignificant dolerite, buffered by Aeolian sand and calcareous soil veneer and no fossils were recovered and thus a low-low palaeontological sensitivity was allocated.

9.4. METHODOLOGY TO BE ADOPTED IN THE ASSESSMENT OF IDENTIFIED IMPACTS

When undertaking an impact assessment, a description and assessment of the significance of any environmental impacts, including;

(i) Cumulative impacts, that may occur as a result of the undertaking of the activity during project life cycle;
(ii) Nature of the impact;
(iii) Extent and Duration of impact;
(iv) The probability of Impact occurring
(v) The degree to which the impact can be reversed;
(vi) The degree to which the impact may cause irreplaceable loss of resources; and
(vii) The degree to which the impact can be mitigated; should be considered

The methodology for determining the impact risk as well as the description is provided below:

1) Cumulative Impacts

Cumulative impacts can simply be defined as the total impact that a series of developments, either present, past or future, will have on the environment within a specific region over a period

The spatial scale can be local, regional or global, whilst the frequency or temporal scale includes past, present and future impacts on a specific environment or region, therefore the potential cumulative impacts on the entire receiving environment are addressed for all the project phases and the mitigation measures implemented before and after.

2) Nature of the Impact

A description of what causes the effect, what will be affected and how it will be affected

3) Extent of Impacts

Extent indicates whether the impact will be local (limited to the immediate area or site of development), regional, national or international.

A score of between 1 and 5 is assigned. (With a score of 1 being low and a score of 5 being high) as shown in *Table 5* below.

Table 5: Extent of Impacts

VALUE	RATING (EXPOSURE)	DESCRIPTION
5	Global/National	The effect of the impact will occur on a national/ and or global scale
4	Regional/Provincial	The effect will occur on the entire province or region
3	Local	The effect will extend as far as the development site area including municipal area.
2	Limited	The effect will be limited to the site and its immediate surroundings
1	Very limited	The effect will be limited to the specific isolated parts of the site

4) Probability of Impact occurring

The probability of an impact refers to the likelihood of an impact occurring. Probability is estimated on a scale, and a score of 1-5 is assigned as shown in *Table 6* below.

Table 6: Probability of Impact Occuring

RATING	DESCRIPTION
1	Very improbable (probably will not happen)
2	Improbable (some possibility, but low likelihood)
3	Probable (distinct possibility)
4	Highly Probable (most likely)
5	Definite (impact will occur regardless of any prevention measure)

5) Duration of impacts and degree to which impacts can be reversed

Duration refers to the actual impact timeframe. The reversibility of impacts is directly linked to the duration of the impacts. A factor is awarded in accordance with the following:

- Immediate: 0- <1 years- Factor 1
- Short term: 1 to 5 years - Factor 2
- Medium term: 5 to 15 years - Factor 3
- Long term: impact will only cease after the operational life of the activity, either because of natural process or by human intervention - Factor 4.
- Permanent: mitigation, either by natural process or by human intervention, will not occur in such a way or in such a time span that the impact can be considered transient - Factor 5.

Table 7 below indicates the duration of impacts and the degree to which the impacts can be reversed.

Table 7: Duration of Impacts and Degree to which Impacts can be Reversed

VALUE/FACTOR	DESCRIPTION	REVERSIBILITY
1	Immediate	Immediately reversible
2	Short-term	Quickly reversible
3	Medium term	Reversible over time
4	Long term	Reversible over the long term
5	Permanent	Irreversible/ No mitigation measures will reduce the impact after implementation

1) Degree to which the impact may cause irreplaceable loss of resources (Magnitude)

The magnitude of the impact refers to the importance of the impact in relation to the significance of the development.

The magnitude is quantified on a scale from 1-10, where 1 is small and 10 is very high as shown in *Table 8* below.

Table 8: Degree to which the Impact may cause Irreplaceable Loss of Resources

VALUE	DESCRIPTION
1	Small and will have no effect on the environment
2	Minor and will result in an impact on processes
4	Low and will cause a slight impact on processes
6	Moderate and will result in processes continuing but in a modified way
8	High (processes are altered to the extent that they temporarily cease)
10	Very high (results in complete destruction of patterns and permanent cessation of processes)

2) The significance which is determined through a synthesis of the characteristics described above (refer to formula below) and can be assessed as low, medium or high.

The **significance weightings** for each potential impact are shown in *Table 9* below:

Table 9: Significance Weightings

VALUE	DESCRIPTION
<30 points	Low (the impact would not have a direct influence on the decision to develop in the area
30-60 points	Medium (the impact could influence the decision to develop in the area unless it is effectively mitigated)
>60 points	High (the impact must have an influence on the decision process to develop in the area)

The significance is determined by combining the criteria in the following formula:

S= (E+D+M) P; where

S= Significance weighting
E= Extent
D= Duration
M= Magnitude
P= Probability

DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

For the purpose of determining the degree in which the identified impacts during the scoping phase, associated with the proposed development of a SWS can be avoided, managed or mitigated are indicated below.

1. **Can it be avoided, managed or mitigated-**Are there ways in which the impact can be avoided or minimised to limit costs and damage to the environment, and ways in which positive impacts can be enhanced to ensure maximum benefit. (Yes/No)

9.5. IDENTIFIED ENVIRONMENTAL IMPACTS

The environmental impacts that were identified during the scoping processed are assed below using the methodology outlined in Section 9.4 above.

Environmental Impact:	**Geology and Soils**
Nature of impact	Loss of topsoil during the construction period from movement of construction vehicles and operation from earthmoving activities, which could result in soil erosion.
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over long term
Extent of Impact	Localized (3)
Probability of Impact	Definite (5)
Consequence (Magnitude)	High (8)
Significance prior to Mitigation	High (75)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	**Economic Impact**
Nature of impact	Creation of job opportunities for local communities for the lifetime of the project activity.
Duration of Impact	Long term (4)
Degree of Reversibility	When the project ceases as it's a positive impact
Extent of Impact	Localized (3)
Probability of Impact	Definite (5)
Consequence (Magnitude)	Very High (10)
Significance prior to Mitigation	High (85)
Status (Positive/Negative)	Positive
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	Social Impacts
Nature of impact	Noise created by the construction activities.
Duration of Impact	Immediate (1)
Degree of Reversibility	Immediately Reversible
Extent of Impact	Limited (2)
Probability of Impact	Definite (5)
Consequence (Magnitude)	Low (4)
Significance prior to Mitigation	Medium (35)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	Social Impacts
Nature of impact	Excessive generation of dust during construction.
Duration of Impact	Immediate (1)
Degree of Reversibility	Immediately Reversible
Extent of Impact	Limited (1)
Probability of Impact	Definite (3)
Consequence (Magnitude)	Low (4)
Significance prior to Mitigation	Low (18)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	Cultural, Historic and Archaeological impact
Nature of impact	Potential damage or destruction of undiscovered heritage sites during construction.
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over the long term
Extent of Impact	Localized (3)
Probability of Impact	Highly likely (4)
Consequence (Magnitude)	High (8)
Significance prior to Mitigation	High (75)
Status (Positive/Negative)	Negative
Degree to which the impact can be reversed	High

Environmental Impact:	**Fauna**
Nature of impact	Potential destruction or loss of sensitive habitat and irreversible loss of habitat during construction.
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over time
Extent of Impact	Localized (3)
Probability of Impact	Highly likely (4)
Consequence (Magnitude)	High (8)
Significance prior to Mitigation	Medium (60)
Status (Positive/Negative)	Negative
Degree to which the impact may cause irreplaceable loss of resources	High
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	**Flora**
Nature of impact	Potential destruction or loss of vegetation including threatened or protected species during construction.
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over time
Extent of Impact	Limited (2)
Probability of Impact	Highly Likely (4)
Consequence (Magnitude)	High (8)
Significance prior to Mitigation	Medium (56)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	**Surface Water Pollution**
Nature of impact	Potential pollution of surface water resources during operation
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over time
Extent of Impact	Localized (3)
Probability of Impact	Definite (5)
Consequence (Magnitude)	Highly likely (8)
Significance prior to Mitigation	High (75)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

Environmental Impact:	**Groundwater Pollution**
Nature of impact	Potential pollution of the groundwater during operation
Duration of Impact	Long term (4)
Degree of Reversibility	Reversible over time
Extent of Impact	Localized (3)
Probability of Impact	Definite (5)
Consequence (Magnitude)	Highly likely (8)
Significance prior to Mitigation	High (75)
Status (Positive/Negative)	Negative
Can impacts be avoided, managed or mitigated?	Yes

9.6. SUMMARY OF POSITIVE AND NEGATIVE IMPACTS AND RISKS OF THE PROPOSED ACTIVITY

Positive and negative aspects that the proposed development will have on the environment and possible management and mitigation measures to reduce or avoid the impacts are shown in *Table 10* below.

Positive impacts that the proposed development would have on the social and economic aspects are listed below, however, they are not assessed using the significance methodology:

- Improvement in waste management in the municipal area.
- Short-term employment of local the community during the construction phase.
- Job creation opportunities from recycling and security services during operation
- Improvement in the health and wellbeing of residents living near the existing SWS as it will be rehabilitated one the new facility is operational.
- Improvement in the overall cleanliness of the town as the existing SWS will be rehabilitated and illegal dumping curbed.

Table 10: Negative Impacts due to the Proposed Development on Environmental Attributes

ASPECT	IMPACTS	EFFECT ON THE ENVIRONMENTAL ATTRIBUTES
Geology and Soils	Loss of topsoil during the construction period from vegetation clearance, movement of construction vehicles and earthmoving activities and operation from operation of the waste facility, which could result in soil erosion	Loss of topsoil will result on the exposure of bare ground, thus leaving it exposed to harsh action of the wind and water and this in turn will affect the soil's ability to regulate water flow. The impact will affect the development footprint and the surrounding areas, especially watercourses in the vicinity as the surface water run-off will be increased.
Noise	Increased noise levels during the construction phase due to noise produced by construction machinery and activities.	There are no sensitive noise receptors within 1 km radius. Therefore, there are no activities that would be affected by the increased noise during construction except for the workforce.
Dust generation during construction	Excessive generation of dust during construction phase due to the use of heavy construction	The generation of dust could pose threat to the public health, however due to the location of the proposed SWS,

causing nuisance to the neighbouring land users	equipment and machinery during the vegetation clearing and transportation of building material causing nuisance to the surrounding land users and decrease in the air quality.	sensitive receptors are located more than 1 km from the site except for the workforce, who will be on site for the duration of the construction phase.
Palaeontological, Cultural, Historical or Archaeological	Potential damage or destruction to discovered heritage artefacts in the area.	This will affect the preservation of heritage artefacts in the Luckhoff area.
Fauna	Potential destruction or loss of sensitive habitat and irreversible loss of habitat during construction.	The potential destruction of sensitive habitat could result in fragmentation of once continuous habitat, leading to alteration or loss of sensitive habitat and the reduction in the local faunal biodiversity. Most of the faunal species will migrate to the neighbouring areas due to the disturbance whilst few could be subjected to mortality during construction.
Flora	Potential destruction or loss of vegetation including threatened or protected species during construction.	Biological plant communities occurring on the proposed site that could be affected by the vegetation clearance and prior to earthmoving activities the construction phase. This could result in reduction in the local plant biodiversity and loss of protected biota. Loss of indigenous vegetation could increase the potential of establishment of weeds and alien species in the study area, which could disperse to the neighbouring area.
Surface Water Pollution	Potential contamination of surface water runoff during operation phase.	Surface water runoff from the landfill site especially during the rainy season, polluting the watercourses in the vicinity, thus reducing the water quality thus rendering the water unfit to sustain humans, animals and water life.
Groundwater	Potential contamination of groundwater resources due to the wastewater that the solid waste facility will produce during operation.	Surface water from the waste site infiltrating the groundwater resources reducing the quality of the water and affecting the neighbouring groundwater users.

9.7. SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF SPECIALISTS

Specialists' studies that were undertaken as part of the EIA are as follows:

- Archaeological Impact Assessment – Paleo Field Services: Dr. Lloyd Rossouw
- Palaeontological Impact Assessment – Banzai Environmental: Elize Butler
- Ecological Impact Assessment – EcoFocus Consulting: Rikus Lamprecht
- Geohydrological Impact Assessment – GHT Consulting Services: Dirk Moolman & Louis Van Niekerk
- Geotechnical Impact Assessment – Geotechnical Engineering Laboratory: J.M. Tsoeu

The specialists' reports are attached hereto as **Appendix 7** and the findings and recommendations from specialist's studies undertaken including their incorporation in the assessment report are summarised in *Table 11* below

Table 11: Findings and Recommendations of Specialist Studies

SPECIALIST STUDY	FINDINGS	RECOMMENDATIONS
Archaeological Assessment	• Dolerite in the form of dykes and sills is common in the area but they are not palaeontologically significant. • There is no evidence for the accumulation and preservation of intact fossil material within the Quartenary sediments and the likelihood of finding fossil vertebrate fauna within the geologically recent superficial deposits at the site are considered very low. • There is no evidence of pre-historic settlement structure, rock engravings, graves or historically significant buildings older than 60 years within the boundary of the study area. • The lithinic remains of an early Middle Stone Age Stone Tool Knapping site are widely distributed as a surface scatter lag deposit on	• The development of the SWS can proceed provided: ○ The eastern boundary of the development footprint be shifted 70 metres due west of its current position, thereafter at least 2500m^2 is protected by a durable and clearly visible fence before the start of the development under supervision of a qualified heritage specialist, accompanied by appropriate information displays. ○ A Phase 2 AIA must be undertaken prior to construction and all diagnostic, residual surface stone tool artefacts located immediately outside the knapping siite's western and southern perimeter should be mapped, recorded and relocated to the latter area.

	the landscape. • A site rating of Local Significance is assigned to the study area due to the concentration of stone tool knapping. • There is also evidence for the accumulation and preservation of intact fossil material within the topsoil and the likelihood of finding fossil vertebrate fauna within the geologically recent superficial deposits at the site are considered very low.	
Palaeontological Assessment	• The planned new waste site is entirely underlain by Early to Middle Permian sedimentary rocks of the Karoo Supergroup, Ecca Group and Tierberg Formation as well as Quartenary Sediments. • The Tierberg formation has a moderate palaeontological sensitivity. • Recent Quaternary Alluvium deposits are present in the study area. • No fossilerous outcrops were found and for this reason a low palaeontological sensitivity is allocated to the development footprint. • The likelihood of fossil heritage to occur is considered to be of low-medium significance.	• The development of the SWS is deemed appropriate and feasible as it will not lead to detrimental impacts on the palaeontological resources of the area. • No further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. • In the event that fossil remains are discovered during any phase of construction, either on the surface or unearthed by fresh excavations, the ECO in charge of these developments ought to be alerted immediately. These discoveries ought to be protected and the ECO must report to SAHRA so that appropriate mitigation (*e.g.* recording, collection) can be carry out by a professional paleontologist.
Ecological Assessment	**Flora** • The study area falls within NkU3, which is classified as Least Threatened and consists of a flat to slightly sloping shrubland, dominated	• The proposed site is viewed as the least ecologically intrusive potential footprint area, which can be authorized for development. • An final ecological walkthrough must be conducted

	by dwarf karoo shrubs and sparse grasses. • The study area falls within an Ecological Support Area 1 in accordance with the Free State Provincial Spatial Biodiversity Plan, 2014. • Woody component is virtually completely absent except for sporadic individuals of the small shrub species. • The broader surrounding landscape is relatively homogenous and in a natural state. • Individuals of *Aloe broomii* species and *Aloe claviflora* were found to be sporadically present within the southern and western portion of the assessment area. • Two individuals' shrubs of the woody species *Ziziphus mucronata* and a single individual of the provincially protected small shrub species *Euphorbia burmanni* were found to be present on the ridge. • No Red Data Listed, nationally protected or any species of conservation significance were found to be present within the assessment area. • The ridge has shrubs, forbs and grass species likes the open shrubland although the grasses are sparser. Provincially protected small shrub species *Euphorbia burmannii* is found on the ridge. • Although the ridge is not considered conservationally significant, it possesses	to confirm the location of all individuals of these species on site and that they subsequently be removed prior to the commencement of the construction phase and adequately relocated to a suitable similar open area. • A representative portion of the rocky ridge should be adequately buffered out of the proposed development footprint area if practicable possible.

	locally unique habitat attributes due to its rockiness and is reasonably expected to be utilised by various specialised reptile species. **Fauna** • Open shrubland is utilised by various smaller antelopes species, burrowing mammals as well as numerous reptiles such as lizards, snakes and tortoises for foraging/persistence. **Birds** • The assessment area doesn't fall within any important Bird Areas as per the latest IBA map obtained from the Birdlife SA Website. • No unique or specialised bird habitats were observed. • The Present Ecological State is classified as Class A as it is unmodified, natural and pristine. • The vegetation type is classified as Least Threatened although is situated within an area classified as an Ecological Support Area in accordance with the FS Provincial Spatial • The surrounding natural landscape is vast and relatively homogenous. • The Ecological Importance and Sensitivity is therefore merely classified as Class C as it is ecologically important and sensitive on a local scale mainly due to the presence of the rocky ridge and subsequent small, localised catchment area. • Biodiversity of the study area is still relatively	

	found everywhere within the broader area. • The rocky ridge possesses locally unique habitat attributes. • The Present Ecological State is classified as Class A as it is unmodified, natural and pristine. **Surface Water:** • There is a small, localised water catchment area which drains towards two watercourses and artificially built earth dams situated approximately 210m to the S-W and 200m to the N-W. • Small, first order ephemeral drainage lines, also originate directly adjacent North of the assessment area, which drain to the north of the ridge towards the artificially built earth dam and subsequent watercourse. However, they do not contribute significant surface water runoff to the dam situated to the N-W and they are located outside the study area, therefore will not be significantly impacted upon or their flow impeded. • The transformation of the proposed development footprint area should therefore not make a significant difference in surface water drainage towards the relevant watercourses and artificially built earth dams. • The Ecological Importance and Sensitivity is therefore classified as Class C moderate as it is ecologically important and sensitive on local	

	scale mainly due to the presence of the ridge, localised water catchment area as well as the presence of provincially protected species • The assessment area is therefore not necessarily viewed as being of high conservational significance for habitat preservation or ecological functionality persistence in support of the surrounding ecosystem, broader vegetation type or local water catchment.	
Geohydrological Assessment	• Study area is located in Drainage D, Quartenary Sub-Catchment D33C. • Two downstream waterbodies and drainage is primarily into a southwestern and western direction, and this drainage contribute to the two waterbodies. • Dolerite outcrops can be viewed in the area. • The groundwater depth is approximately 10 – 20 mbgl. • The aquifer is classified as a minor aquifer with a mean annual recharge between 15 – 25 mm/a and average of 20mm/a. • Dolerite of the area consists of intrusive sills. • There is a presence of the underlying dolerite sills from S to NW, from SW to NE and E to W. • Only 3 boreholes were found within the town area. However, no sampling could be done as there was no access. • Luckhoff area is mainly dependent on the	• Two monitoring boreholes up and downstream of the proposed site must be implemented, which will form part of the monitoring network and sampling to give an indication of the water quality of the local aquifer and future sampling will give an indication if the waste site has an impact on the groundwater quality. • Water level data of the said boreholes should be measured to determine aquifer vulnerability of the area. • Therefore, the monitoring boreholes will act as an early detection system and determine the yield of the local aquifer, water level depth and the local geology.

	surface water from the canal system from Vanderkloof dam	
Geotechnical Assessment	• Site slope is approximately 1%. • No water pipelines, ponds and telephone cables available on site. • Dolerite gravel was observed in some of the test pits. • No groundwater encountered. • Proposed facility is situated on a Doleritic intrusion and the partly sand material coming from this intrusion is porous and this property makes it easy for the water or leachate to flow. • Excavation can be classified as intermediate as per SABS 1200D-1988. • Gravel materials from the site possess low potential heave. • Soils found on the site have low degree of permeability.	• During construction, the gravel will have to be compacted to at least 95% of Mod AASHTO test result in order to reduce porosity. • Drainage of the leachate coming from the SWS will be provided.

9.8. MOTIVATION FOR NOT CONSIDERING ALTERNATIVE SITE

During the scoping phase, three alternatives indicated were considered for the new proposed SWS development, whereby an alternative with minimal impact on the environment, or that would enhance project benefit, would be the preferred one. The fatal flaws were based on the ones in the Minimum Requirement for Waste Disposal by Landfill, DWS 1998. The two sites, i.e. 2 and 3 were eliminated from being investigated further during the assessment phase as they were flawed as shown in *Table 12* below and the location of the sites are shown in *Figure 2* below.

Table 12: Alternative Sites identified for the Proposed SWS Development

FATAL FLAW	SITE 1	SITE 2	SITE 3
Areas below 1 in 50 year flood line	Not undertaken		
Areas near to important waterbodies, rivers and streams	✓	✓	✓
Catchment areas for water sources	X	✓	✓
Geologically unstable areas	X	X	X
Areas characterized by shallow bedrock with little soil cover	X	✓	✓
Sensitive Archaeological, Ecological and/or Historical areas	✓ (Stone tool knapping)	No studies undertaken, only desktop	
Areas of groundwater recharge or important aquifers	X	X	X
Areas with flat gradients	X	✓	✓
Areas with steep gradients	X	X	X
Areas were land use is not in agreement with landfilling	X	X	X
Areas with no adequate buffer zones	X	✓	✓
Areas upwind of residential areas	X	X	X
Areas which cannot be rezoned for landfilling	X	✓	✓
Areas which servitude exist	X	✓	✓
Areas which a development of a landfill can be done at a very high cost	(No economic assessment study done)		
Near to an airfield	X	X	X

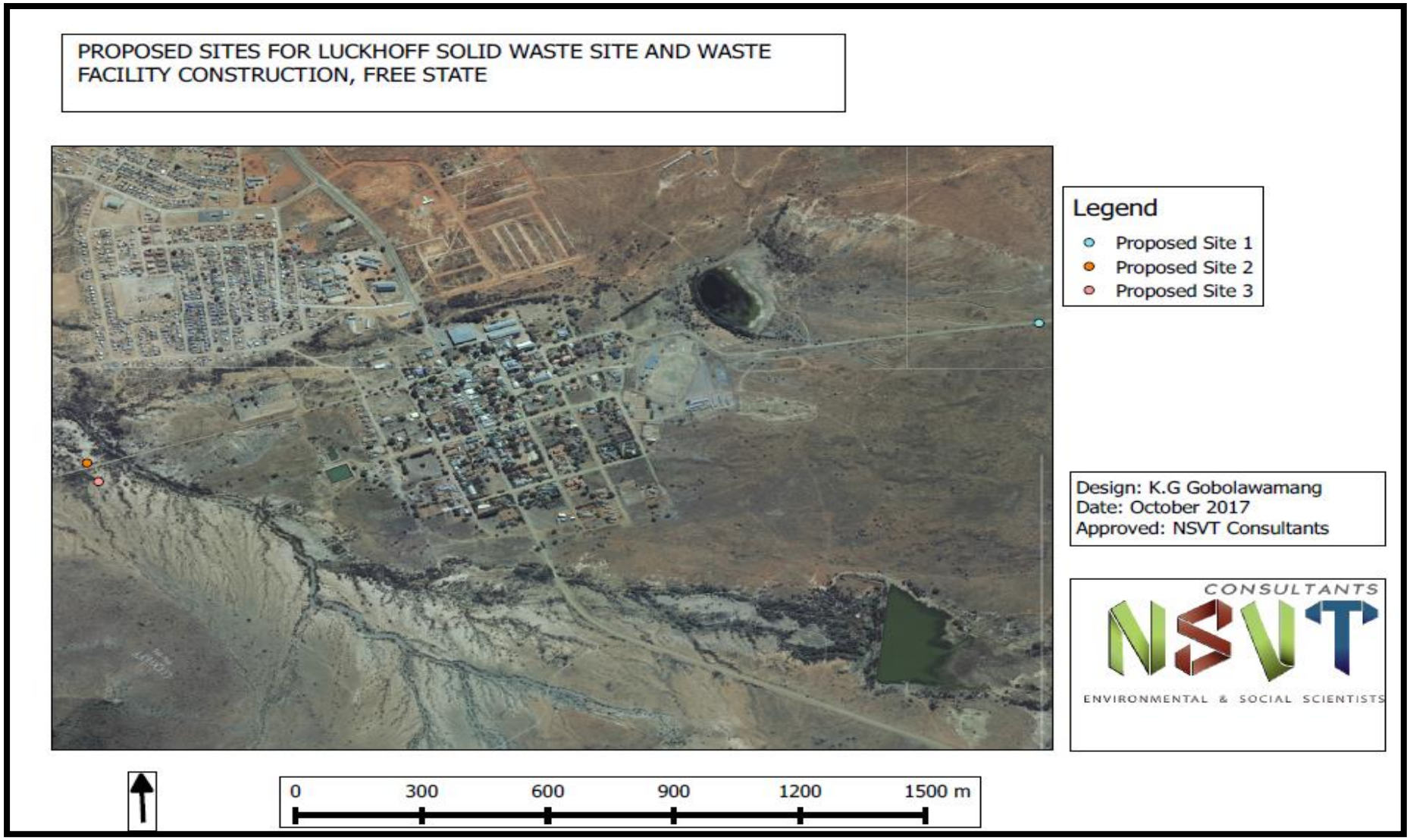

Figure 2: Locality Map showing 3 identified Alternative Sites for the Proposed Development of a SWS

No-go alternative: If the proposed licensing and new development of the SWS cannot take place, the municipality will be in contravention of several NEM:WA and other environmental Acts as they will continue to use the existing landfill site, which has been granted a closure certificate instead of it being rehabilitated as per conditions outlined in the certificate. The existing site doesn't have adequate cover for the waste and after every waste disposal, there is windblown litter on the site and surrounding areas, e.g. cemetery thus affecting aesthetics. There will also be no legal site available to dispose the waste produced by the residents and businesses in Luckhoff and this could result in establishment of illegal dumping sites. Given the abovementioned, the municipality won't be able to meet its strategic objectives of improving access to services, i.e. waste removal and ensuring proper operations and maintenance of their infrastructure, i.e. solid waste as they won't be having any. It is therefore not a desirable alternative as the option of not applying for a waste license, this will be detrimental to the environment.

9.9. CONCLUDING STATEMENT

Based on the findings documented in this report, the proposed Luckhoff Landfill Site will assist in meeting current and future demands for an environmentally sound waste management solution in the municipality. An EMPr has been drafted to ensure the site is operated in an environmentally sound manner across its entire construction life cycle. The assessment of the issues identified in the FSR and considered in greater detail in the EIAR with its related specialists' studies, indicated that the significance of potential impacts associated with the proposed development can be reduced to a "low" or "medium" significance, if the recommended mitigation and monitoring measures are adhered to accordingly. The EAP is of the opinion that the development of a SWS on the proposed site, should be authorised. Conditions of the WML should include the recommendations of specialists and the appointment of an independent Environmental Control Officer to monitor compliance with the Site-Specific EMPr during construction phase.

10. PROCESSES UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS THE ACTIVITY AND RELATED INFRASTRUCTURE WILL IMPOSE ON THE PREFFERED LOCATION THROUGH THE LIFE OF THE ACTIVITY

10.1. DESCRIPTION OF ENVIRONMENTAL ISSUES THAT WERE IDENTIFIED DURING THE EIA PROCESS

All the environmental concerns that were identified during the environmental impact assessment process are listed below:

1. **Geology and Soils**
   Loss of topsoil during construction.

   Loss of topsoil during operational phase.

2. **Economic Aspects of the Area**
   Job creation and potential employment of local communities.

3. ***Social Impacts (nuisance)***
   Noise created by the construction activities.

   Excessive generation of dust during construction.

4. **Cultural, Historical and Archaeological aspects**
   Potential damage or destruction of undiscovered heritage sites in the area during construction.

5. **Fauna & Flora**
   Potential destruction or loss of sensitive habitat and irreversible loss of habitat during construction.

   Potential destruction or loss of vegetation including threatened or protected species during construction.

6. **Surface Water Pollution**
   Potential contamination of surface water runoff

7. **Ground water Pollution**
   Potential pollution of the groundwater during operation.

10.2. AN ASSESSMENT OF THE SIGNIFICANCE OF EACH IMPACT AND AN INDICATION OF THE EXTENT TO WHICH THE IMPACT COULD BE AVOIDED OR ADDRESSED BY THE ADOPTION OF MITIGATION MEASURES

The Identified environmental Impacts have been assessed using the Significance Methodology outlined in Section 9.4 above, therefore the impacts are assessed with and without adoption of mitigation measures, taking into consideration the extent, duration, reversibility, probability and magnitude. It is evident that the significance before mitigation ranged between medium and high and after adoption of mitigation and management measures, they ranged between low and moderate:

ASSESSMENT OF IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

ASPECT: GEOLOGY and SOIL		
NATURE OF IMPACT: Loss of topsoil during the construction period from movement of construction vehicles and operation from earthmoving activities, which could result in soil erosion.		
	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Immediate (1)
Degree of Reversibility	Medium	Medium
Extent of Impact	Localized (3)	Limited (2)
Probability of Impact	Definite (5)	Highly likely (2)
Magnitude	High (8)	Low (2)
Significance	High (75)	Low (10)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated	Yes	
Mitigation: ◊ Although there is no mitigation required, the proposed Leachate containment structures would need to have stable foundations, therefore the contractor should avoid, if any exist, dolerite rock formation beneath the foundations of the proposed structures within the development footprint of the SWS. ◊ It is recommended that an adequate Storm water and Erosion Management Plan must be implemented for the entire assessment area during the construction phase. This must be done in order to sufficiently manage storm water runoff and clean/dirty water		

separation in order to prevent any significant erosion from occurring. ◊ Areas within and immediately surrounding the assessment area must be adequately rehabilitated to prevent significant erosion.
Cumulative impacts: No
Residual Impacts: No residual impacts are expected
Discussion: The material occurring on this site should not be susceptible to the likelihood of sinkholes forming, due to dolerite rock formations, is remote and there was no indication of the presence of unstable natural slopes was found during the field investigation, therefore there is no risk of collapsing of top structures due to unstable soil.

ASPECT: ECONOMIC IMPACT		
NATURE OF IMPACT: Creation of job opportunities for local communities for the lifetime of the project activity.		
	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Long term (4)
Degree of Reversibility	Low	Low
Extent of Impact	Localized (3)	Localized (3)
Probability of Impact	Definite (5)	Definite (5)
Magnitude	Very High (10)	Very High (10)
Significance	High (85)	High (85)
Status (Positive or Negative)	Positive	Positive
Can impact be avoided, managed or mitigated	Yes	
Mitigation: ◊ There are no mitigating factors with reference to the improvement of waste management in the Luckhoff community.		
Cumulative impacts: Less plastic waste will occur due to the recycling aspect of the Solid Waste Site.		
Residual Impacts:		

No residual impacts are expected

Discussion:
A waste management collection system should be in place in order to keep the new SWS functioning optimally.

ASPECT: NOISE POLLUTION

NATURE OF IMPACT: Increased noise levels during the construction phase due to noise generated by construction machinery and vehicles causing nuisance to the neighbouring land users and/or users.

	Without Mitigation	**With Mitigation**
Duration of Impact	Immediately (1)	Immediately (1)
Degree of Reversibility	Low	Low
Extent of Impact	Limited (2)	Very limited (1)
Probability of Impact	Definite (5)	likely (3)
Magnitude	Low (4)	Minor (2)
Significance	Medium (35)	Low (12)
Status (Positive or Negative)	Negative	Positive
Can impacts be mitigated?	Yes	

Mitigation:

- ◊ All vehicles and equipment used on site must conform to the noise regulations standard.
- ◊ Construction should be limited to normal working days and office hours from 08h00 to 17h00. Should there be any deviation, then the surrounding community should be informed.
- ◊ Ensure that employees and staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.
- ◊ Limit working hours of noisy equipment to daylight hours
- ◊ Fit silencers to construction equipment and vehicles.
- ◊ All operators of heavy construction equipment must wear earplugs and mufflers should be used.

Cumulative impacts:
None expected

Residual Impacts:
Minimal noise is still expected from the vehicles and the equipment to be used on site during construction activities.

Discussion:
Contractor and workforce should be considerate of the neighbouring community, noise levels during construction and operation should be within the acceptable limits so that it does not cause any hearing impairment to the surrounding land users or owners. Construction should

be limited to normal working days and should there be a need to work after hours, the community should be informed. Operation of heavy machinery after hours should be prohibited and no blasting is allowed without necessary permit.

ASPECT: AIR QUALITY

NATURE OF IMPACT: Excessive generation of dust during construction phase due to the use of heavy construction equipment and machinery during the clearing and transportation of building material causing nuisance to the surrounding land users.

	Without Mitigation	**With Mitigation**
Duration of Impact	Immediately (1)	Immediate (1)
Degree of Reversibility	Medium	Medium
Extent of Impact	Very Limited (1)	Very Limited (1)
Probability of Impact	Probable (3)	Probable (3)
Magnitude	Low (4)	Small (1)
Significance	Low (18)	Low (9)
Status (Positive or Negative)	Negative	Positive
Can impact be avoided, managed or mitigated	Yes	

Mitigation:

- ◊ Occasional wetting of access roads, hauling roads and construction site should be done by using a water tank.
- ◊ Speed limit of 20km/h should be adhered to and 40km/h on the access road.
- ◊ Water should be obtained from the Letsemeng Local Municipality, if water is abstracted from the neighbouring watercourse, Water Use License application should be lodged with DWS before commencement of water use.
- ◊ It is recommended that areas within and immediately surrounding the proposed project footprints must be adequately rehabilitated to prevent significant dust emissions.

Cumulative impacts:
None expected

Residual Impacts:
Dust generation will cease immediately when construction is completed. However, during operation, minimal dust generation is still expected.

Discussion
Dust generation is expected during construction of SWS, however, should the outlined mitigation measures be implemented, the surrounding

land users won't be affected. Contractor should inform DWS of the source of water that could be used during construction phase.

ASPECT: PALAEONTOLOGICAL, CULTURAL, HISTORICAL OR ARCHAEOLOGICAL ARTEFACTS		
NATURE OF IMPACT: Potential damage or destruction to undiscovered heritage sites in the area during construction		
	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Long term (4)
Degree of Reversibility	High	Medium
Extent of Impact	Localized (3)	Very limited (1)
Probability of Impact	Highly likely (4)	Probable (3)
Magnitude	High (8)	Low (4)
Significance	High (75)	Low (27)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated	Yes	

Mitigation:

Palaeontology

Should fossil remains be discovered during any phase of construction, either on the surface or exposed by fresh excavations, the ECO responsible for this development should be alerted. Such discoveries ought to be protected and the ECO alert SAHRA so that appropriate mitigation can be taken by a professional palaeontologist and the specialists would require a collection permit.

Archaeology

- ◊ Should any incidental archaeological or cultural resources, as defined and protected by NHRA, 1999, be encountered during development, incidental finds during the construction phase should be followed.
- ◊ Mechanical tools should be used for vegetation clearance and the land surveyor should peg the development footprint and cordon off the unique stone tool Knapping site, which is worth conserving.

Mitigation:

- ◊ It is recommended that the stone tool knapping site identified during the survey is avoided and that a representational area of the site, covering at least 2500 square metres, is protected by a durable and clearly visible fence.
- ◊ A fence is to be erected at the cost of the developer, before the start of the development and under supervision of a qualified

heritage specialist, accompanied by appropriate information displays. ◊ Residual surface stone tool artefacts, located immediately outside the knapping site's western and southern perimeter are mapped, recorded and relocated to the latter area.
Cumulative impacts: None
Residual Impacts: No residual impacts are expected
Discussion: Archaeological or cultural heritage resources were identified during the site specific assessment by the specialist, should the contractors make any further archaeological, geological, or newly uncovered Palaeontological artefacts, they must be reported to the ECO/resident engineer who in turn must protect it then report it to SAHRA within 24 hours. Heritage protocol for incidental finds should be followed once Archaeologically significant or culturally important resources are discovered. Construction work must not proceed if it will cause damage to such findings. Unauthorized persons may not remove artefacts of cultural or historical importance from the site. As outline in the Archaeological Impact Assessment report, a stone tool knapping area was discovered during the specialist investigation, however this will not hinder development because the proposed solid waste site will be moved 130 metres due West of its original location.

ASPECT: FAUNA		
NATURE OF IMPACT: Potential destruction of sensitive habitat and irreversible loss of natural habitat for fauna during construction.		
	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Immediate (1)
Degree of Reversibility	High	Medium
Extent of Impact	Localized (3)	Limited (2)
Probability of Impact	Highly likely (4)	Probable (3)
Magnitude	High (8)	Low (4)
Significance	Medium (60)	Low (21)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated	Yes	

Mitigation:

- ◊ Prior to commencement of construction, before vegetation clearance, a land surveyor should identify the developable area so that the construction activities and movement of machinery are confined to the development footprint area.
- ◊ Shortest and least environmentally sensitive routes should be selected, and steep slopes and valleys should be avoided.
- ◊ Encroachment of construction activities on environmentally sensitive vegetation should not be allowed, therefore contractor should be provided with the sensitivity map prior to construction.
- ◊ Due to the disturbance to be cause by the construction activities, the small burrowing animals are expected to relocate to the surrounding vast undeveloped areas, therefore disturbance should be minimized.
- ◊ It is recommended that a representative portion of the rocky ridge should be adequately buffered out of the proposed development footprint area.

Cumulative impacts:
None

Residual Impacts:
No residual impacts are expected

Discussion:
The development would impact on the habitat of the small mammals, but these could be mitigated if the undevelopable areas are considered natural corridors to ensure relocation of species, especially small burrowing species. Therefore, the contractor should be instructed to stay away from sensitive areas.

ASPECT: FLORA

NATURE OF IMPACT: Potential destruction of Red Data species and irreversible loss of natural habitat for flora during construction.

	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Short-term (2)
Degree of Reversibility	High	Medium
Extent of Impact	Limited (2)	Limited (2)
Probability of Impact	Highly Likely (4)	Probable (3)
Magnitude	High (8)	Low (4)

Significance	Medium (56)	Low (24)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated	Yes	

Mitigation:

- ◊ Environmental Compliance Officer must be appointed prior to commencement of construction and he/she should ensure that all construction activities are confined to the development footprint and no sensitive sites are disturbed.
- ◊ Prior to construction, Red Data Listed Species within the site-specific development footprint were not discovered, therefore construction may commence on alternative 1.
- ◊ Mechanical tools should be used for vegetation clearance and the land surveyor should peg the development footprint and cordon off the proposed site from the public.
- ◊ All construction equipment and vehicles should be cleaned before entering the site to reduce the chance of spreading weeds and alien species.
- ◊ Areas that were disturbed by the construction activities and roads, which would not be required should be scarified, graded and re-vegetated.
- ◊ It is recommended that a representative portion of the rocky ridge should be adequately buffered out of the proposed development footprint area.
- ◊ The project construction footprint must be kept as small as practically possible to reduce the actual surface impact on vegetation and no unnecessary/unauthorised footprint expansion into the surrounding areas may take place.
- ◊ No site construction camp may be established in any natural surrounding areas outside the proposed development area. Site camps only to be established within the proposed development footprint.
- ◊ Adequately fence off the construction area and ensure that no construction activities, machines or equipment operate or impact outside the fenced off area.
- ◊ Existing roads and farm tracks in close proximity to the proposed project area must be used during construction. No new roads or tracks to be constructed or implemented through any of the surrounding natural areas.

Cumulative impacts:
None

Residual Impacts:
No residual impacts are expected.

Discussion:

The proposed site has been deemed an area that is not environmentally sensitive with reference to the Ecological specialist report, the development footprint does not fall within any important Bird Areas (IBA) as well as no unique or specialized bird habitats were observed either. The relevant vegetation type is merely classified as least threatened and although the assessment area is situated within an area classified as an Ecological Support Area one (ESA 1) in accordance with the free State Provincial Spatial biodiversity Plan, 2014, the surrounding natural landscape is vast and relatively homogenous.

ASPECT: SURFACE WATER

NATURE OF IMPACT: Potential contamination of surface water resources due to the operation of the SWS.

	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Immediate (1)
Degree of Reversibility	High	Low
Extent of Impact	Localized (3)	Limited (2)
Probability of Impact	Definite (5)	Probable (3)
Magnitude	Highly likely (8)	Medium (2)
Significance	High (75)	Low (15)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated?	Yes	

Mitigation:

- ◊ Properly lined and level solid waste site to protect surface water resources from wastewater generated during the operation of the facility.
- ◊ It is recommended that storm water collected from the footprint surface area must be managed and channelled through an integrated storm water system.
- ◊ Adequate management of storm water runoff quality, quantities and flow speed from the proposed development area during the construction phase will play an integral role in preservation of the catchment area's integrity.
- ◊ Surface water runoff approaching the proposed project footprint area from topographically higher areas must be diverted around the footprint by a berm.
- ◊ Areas within and immediately surrounding the assessment area must be adequately rehabilitated to prevent significant contamination through erosion.

Cumulative impacts: None expected
Residual Impacts: None will be expected if all migration measures and recommendations are adhered to during the construction phase.
Discussion: The drainage lines along the gravel road will not be disturbed due to the reduced scale (17.7 hectares) of the proposed SWS. However, a culvert will be constructed through the natural drainage line as indicated in the Final Development footprint (**Appendix 5)** of which may trigger a General Authorisation Application for the LLM.

ASPECT: GROUNDWATER		
NATURE OF IMPACT: Potential contamination of groundwater resources due to the operation of the SWS.		
	Without Mitigation	**With Mitigation**
Duration of Impact	Long term (4)	Immediate (1)
Degree of Reversibility	Medium	Low
Extent of Impact	Localized (3)	Limited (2)
Probability of Impact	Definite (5)	Probable (3)
Magnitude	Highly likely (8)	Medium (2)
Significance	High (75)	Low (15)
Status (Positive or Negative)	Negative	Negative
Can impact be avoided, managed or mitigated?	Yes	
Mitigation: ◊ Properly lined solid waste site to protect groundwater resources will be used to service the proposed facility. ◊ Boreholes already established in the region will serve as a means to assess the quality of ground water of the LLM.		
Cumulative impacts: None expected		
Residual Impacts: No		
Discussion: No groundwater users were identified near the proposed SWS.		

11. ENVIRONMENTAL IMPACT STATEMENT

11.1. SUMMARY OF KEY FINDINGS

The report contains assessments of the potential impacts and provided mitigation measures to ensure that the impact on the receiving environment is minimal and/or avoided. The key findings of the EIA are as follows:

1. The proposed site belongs to the LLM, which is the applicant.
2. The proposed site is vacant and undeveloped.
3. In the vicinity of the site, there is an Eskom transmission, overhead powerlines and an old quarry.
4. The site is accessible from Rabie street on the existing gravel road and there is minimal traffic activity on the road, thus there are no negative impact on traffic flow.
5. There are no underground infrastructures to be impacted by the proposed development.
6. Groundwater users are within town and the use is for domestic. The boreholes are located within 500m.
7. There are no wetlands located within the proposed site or within 1 km radius.
8. The seasonal drainage lines running on the northern side of the proposed site are outside the development footprint
9. There is another dam located on the south-western side of the proposed site.
10. The proposed site falls within Northern Upper Karoo vegetation type (NkU3), which is classified as Less Threatened and it falls within the Ecological Support Area 1. No Red Data Listed, Nationally Protected or any species of conservation significance were found. Provincially protected species were found. The Present Ecological State is classified as Class A as it is unmodified, natural and pristine and the Ecological Importance and Sensitivity is classified as Class C (Moderate) but the biodiversity is however, still relatively ubiquitous within the broader area. Therefore, the proposed site is not necessarily viewed as being of high conservational significance for habitat preservation or ecological functionality persistence in support of the surrounding ecosystem and broader vegetation type.
11. Portion of the rocky ridge will be affected by the proposed development, but it doesn't have any conservation value except for two species of *Ziziphus mucronata* species, which is protected provincially.
12. No Palaeontological artefacts will be impacted by the proposed development.
13. Archaeological artefacts, which are Stone tool knapping scattered on the proposed site could be impacted but due to the mitigation measures, the section with a concentrated tools would be preserved.
14. No objections were received during the public participation process regarding the proposed development or the site.
15. There are no agricultural activities present on the proposed site that may be affected negatively by the SWS development, as well as socio-economic aspects, instead there will be a positive impact such as job creation during the construction phase and operation of the SWS.

16. If a no-go alternative is considered, the existing landfill site will continue to be used by the municipality and this will have an adverse impact on the environment and the health and wellbeing of the community. The residents have also emphasized the need for the site to be rehabilitated as it is negatively affecting on their livelihood.

After the assessment of identified impacts with regard to the preferred site, with adoption of the mitigation measures outlined, the significance was low-medium. Therefore, this will ensure that the proposed activity does not result in total loss of natural resources and adverse impacts on the receiving environment. Adherence to the draft EMPr will also ensure that impacts occurring due to the development will be reduced to a greater extent.

11.2. MAP INDICATING SENSITIVE AREAS TO BE AVOIDED

Sensitivity mapping was undertaken to reflect the site suitable and unsuitable (no-go) development footprint, and it was used to guide the planning of the preferred location. This was done with the input obtained from undertaking the field survey of the area to determine elements that would influence the development footprint, specialists' input and comments obtained during the public participation process. The Sensitivity Map is attached hereto as **Appendix 8**.

11.3. SUMMARY OF THE POSITIVE AND NEGATIVE IMPACTS AND THE RISKS OF THE PROPOSED ACTIVITY

The identified negative impacts are: Nuisance pollution i.e. dust and noise generation; Improper handling, storage and disposal of waste; Impact on biophysical aspects, i.e. change in drainage patterns, surface water, ground water, fauna and flora. From the assessment, these impacts identified will be avoided where possible and where impacts are unavoidable, they will be reduced by the outlined mitigation and management measures. For impacts which have potential residual risks, i.e. groundwater and surface water pollution, monitoring has been recommended to be undertaken during operation of the facility, thus the residual risk will be limited. Furthermore, the proposed site will include a Leachate containment facility to hold and evaporate waste water from the SWS, thus providing adequate protection for water resources to remain uncontaminated. A positive residual impact with regards to the socio-economic aspects of Luckhoff will result in the residents receiving employment during and after construction of the waste facility and boosting the local economy.

The proposed development will have positive impact on the social and economic aspects of the Luckhoff area. During construction, there will be short-term and long-term employment opportunities, whereby recruitment of labour will be from the local community. The municipal infrastructure enabling the municipality to handle their waste management efficiently, which will result in improved cleanliness of the town. The quality of life for residents near the existing will also improve as the existing SWS will be relocated to the proposed site and then the area rehabilitated. The positive impacts listed above do not have any residual risks.

Given the above, it is evident that the positive impacts identified will outweigh the negative impacts and with the adoption of mitigation and management measures, the latter will have minimal impact on the environment.

12. PROPOSED IMPACT MANAGEMENT OBJECTIVES, AND OUTCOMES FOR THE DEVELOPMENT FOR INCLUSION IN THE EMPR AND CONDITIONS IN THE WML

Based on the assessment and input from the specialists, the impact management objectives and outcomes for the proposed development are indicated in *Table 13* below and will be included in the EMPr.

Table 13: Proposed Impact Objectives and Management Outcome

ASPECT	IMPACT OBJECTIVE	IMPACT MANAGEMENT OUTCOME
Air quality	To ensure that there is no excessive generation of dust during construction phase.	Dust suppression measures should be implemented, such as wetting the routes identified to be used for the duration of construction activities.
Palaeontological, Cultural, Historical or Archaeological	To ensure that there is no potential damage or destruction to the undiscovered heritage site or artefacts in the proposed site during construction.	Awareness training for possible artefacts that could be unearthed. Quarantine the stone tool knapping area identified by the Heritage impact assessment from all construction activities.
Fauna	To ensure that there is no destruction of sensitive habitat including loss of natural habitat for fauna	Ecological corridors should remain undisturbed, Biodiversity Monitoring post construction.
Flora	To prevent destruction of Red Data species occurring on the proposed site. To minimize loss of natural habitat on the proposed site.	Ecological specialist should be appointed before commencement of construction phase to undertake search and rescue of Red Data and protected and/or threatened Species. Should there be any Red Data species that could be affected, then an Ecological Management Plan should be compiled. Sensitive areas should be cordoned off/demarcated to prevent unnecessary habitat destruction and construction limited to development footprint. Method statement for vegetation clearing should be provided by the contractor for approval by the RE and ECO.

		Biodiversity Monitoring should commence post construction
Geology	To prevent collapsing of top structures. To prevent flooding incidents	Any change in ground level will be rehabilitated to its original state in order to prevent any flooding around the proposed location of the SWS. A leachate containment structure will be erected to store and evaporate wastewater as well as stormwater that may occur during the lifecycle of the proposed SWS development.
Soil erosion	To avoid changes to the natural drainage patterns.	Monitoring of stormwater outlets yearly prior to rainy season.
Noise	To ensure that noise levels are kept to a minimum during construction.	Complaints register should be kept on-site
Groundwater	Prevent contamination of groundwater due to the waste water produced by the SWS, i.e. properly lined waste facility.	Leachate containments should be in good working conditions to evaporate all the waste water from the SWS.

13. ASPECTS WHICH ARE CONDITIONAL TO THE FINDINGS OF THE ASSESSMENT BY EAP OR SPECIALISTS

The following aspects are conditional for the proposed development is the following:

1. Before site preparation, an Archaeologist must be appointed prior to commencement of the construction phase, to undertake a Phase 2 AIA so that all diagnostic, residual surface stone tool artefacts outside the knapping site are mapped, recorded and relocated to the fenced off area.
2. Before the commencement of the development the LLM must obtain a Permit to remove Provincially protected species from the relevant Department
3. A Water Use Licence (General Authorisation) to be obtained from the DWS for diverting and impeding in the seasonal water drainage line.
4. Prior to construction, a land surveyor should be appointed to demarcate no-go areas and ensure construction is limited to the development footprint.
5. A comprehensive storm water management plan must be compiled and sent to DWS for input before the commencement of construction.
6. Groundwater quality monitoring at the preferred site should be undertaken prior to construction.
7. No encroachments will be permitted in respect of Eskom servitudes in the area and any work within the servitude, permission must be obtained from Eskom in writing.

14. ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

Assumptions:

1. The scope is limited to assessing the potential impacts associated with the proposed development; therefore, the effect on the surrounding environment is based on the current land use or lack thereof.
2. All information provided by NSVT Consultants involved is deemed valid and correct at the time it was provided.
3. Since during the public participation process, no indigenous local knowledge came forth regarding the proposed site, it is assumed that there are no sensitive cultural sites on the proposed site.
4. One must always assume that there are Palaeontological/Archaeological Heritage within any development site prior to development.
5. During construction, the contractor will appoint a Designated Environmental Control Officer or Environmental Site Agent for the duration of the construction phase to ensure adherence to the conditions of the WML and EMPr.
6. No borrow pits will be opened to source material for construction and during operation as this didn't form part of the scope.

Limitations/Gaps in Knowledge:

1. No data is available for future planned use of the adjacent and undeveloped land.
2. Not many scientific researches have been undertaken in the area.
3. Environmental implications of the proposed development are unknown.
4. The accurateness of the Palaeontological desktop impact assessment is reduced by old fossil databases that don't always include relevant locality or geological formation.

15. REASONED OPINION FOR THE ACTIVITY TO BE AUTHORISED

The EAP hereby recommends that the activity should be authorised because of the following:

a. Sensitivity of the site has been incorporated during the planning of the layout to ensure that the development footprint is limited to less sensitive area;
b. The identified negative impacts can be curbed to a greater extent with the adoption of the mitigation and management measures.
c. There are proposed monitoring measures that should be adopted to ensure that the proposed development would not have residual impacts on the receiving environment.
d. No objections were received from the PPP conducted.
e. The compiled EMPr will form part of the contractual obligation between the contractor and the applicant, i.e. LLM.

The following are the conditions to the reasoned opinion:

a. Environmental Compliance Officer will be appointed prior to preparation of the site before construction.
b. Engineering blueprints of the buildings to be constructed on site must be in place to ascertain whether the development will be suitable for the proposed site.
c. If material for construction will not be obtained from commercial sources, then a mining permit and Environmental Authorisation should be obtained from DMR.
d. Post-construction officials from DWS and DESTEA should do a site inspection to ensure compliance to the WML conditions and EMPr or an audit should be undertaken by an independent EAP.
e. Groundwater monitoring should be done monthly for the first 12 months, thereafter a 6 months cycle will apply.

16. THE PERIOD FOR WHICH THE WML IS REQUIRED, THE DATE TO WHICH THE ACTIVITY WILL BE CONCLUDED AND THE POST CONSTRUCTION MONITORING REQUIREMENTS

The WML will be used for the lifecycle of the proposed development, and the envisaged lifespan is 20 years excluding the construction phase, which could be 1

year. The post construction monitoring measure proposed are Groundwater Monitoring.

17. AFFIRMATION BY THE EAP

I, Rebolang Makwaba., hereby affirm the following:

1. The information provided in this report is correct, should there be any changes that come to light after reviewing of the available literature, and then the information will be amended accordingly.
2. All issues received from identified Interested and Affected Parties including stakeholders have been included in the report.
3. Information provided by the EAP to the interested and affected and responses made by the EAP to comments or inputs made by I&APs is incorporated in the draft Scoping Report.

17.1. AFFIRMATION BY EAP IN RELATION TO THE LEVEL OF AGREEMENT BETWEEN THE EAP AND INTERESTED AND AFFECTED PARTIES

I, Rebolang Makwaba., hereby affirm that I&APS have been informed of the establishment of timeframes within the full Scoping and EIA Process for the proposed development. To ensure that they are afforded enough time to obtain and review documents, as well as understand the issues and provide meaningful comments on the document and input to the proposed development that could assist in decision making.

18. DETAILS OF FINANCIAL PROVISION FOR REHABILITATION CLOSURE

The determination of financial provision for rehabilitation closure did not form part of the EIA process. However, a WML should be obtained for closure of the facility.

19. AN INDICATION TO ANY DEVIATION FROM THE APPROVED SCOPING REPORT, INCLUDING THE PLAN OF STUDY

There are no deviations from the approved scoping report including the plan of study.

20. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

The EMPr identifies possible impacts of the project on the environment and the mitigation thereof. It gives guidelines to the responsible person(s) to follow appropriate contingency plans in the case of various possible impacts, thus the copy of the EMPr

should be form part of the contractual agreement to ensure that the contractor adhere to it. The EMPr is attached hereto as **Appendix 9**.

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APPENDIX 1

CURRICULUM VITEA OF EAP

APPENDIX 2

LOCALITY MAP

APPENDIX 3

TECHNICAL REPORT

APPENDIX 4

INITIAL DEVELOPMENT FOOTPRINT

APPENDIX 5

FINAL DEVELOPMENT FOOTPRINT

APPENDIX 6

RECORDS OF PUBLIC PARTICIPATION

Poster Placed in Luckhoff

NOTICE OF PUBLIC PARTICIPATION PROCESS

Notice is hereby given in terms of National Environmental Waste Management Act, 2008 (Act 59 of 2008) of the intent to apply for a Waste Management License for the development of a new Solid Waste Site. The licensing of the proposed waste site requires an application subject to a Scoping and Environmental Impact Assessment Process (EIA).

The public participation process will be managed according to Section (41), (42), (43) and (44) of the Environmental Impact Assessment Regulations, 2014 (as amended) on the 07 April 2017.

The activity to be undertaken is regulated under the National Environmental Waste Management Act, 2008 (Act 59 of 2008);

1. **Category B(8): The disposal of general waste to land covering an area in excess of 200m metre squared and with a total capacity exceeding 25000 tons.**
2. **Category A(2): A dedicated recycling area in excess of 1000m2 will be allocated for sorting, shredding, grinding, crushing, screening or bailing of general waste and this will form part of the operations of the facility.**

Table 1: Project Description

Applicant	*Property Name*	*Project Name*	*Proposed Site Alternatives*
LETSEMENG LOCAL MUNICIPALITY	DIE DORPSGRONDEN VAN LUCKHOFF	LUCKHOFF SOLID WASTE SITE LICENSE APPLICATION	1. S29°44.839' E24°48.095' 2. S29°45.083' E24°46.691' 3. S29°45.116' E24°46.708'

In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the contact person given above within 30 days of publication of this advertisement.

For further enquiries contact:

The Environmental Assessment Practitioners responsible are **NSVT Consultants**, P.O Box 42452, Heuwelsig, 9332, and the contact person: **Mr Rebolang Makwaba** at (Tel) (051) 430 1041/2, (Fax) (086) 5497674, email: rebolang@nsvt.co.za.

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

POSTER PLACED AT THE MUNICIPAL OFFICES/LIBRARY

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CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ON SITE NOTICE

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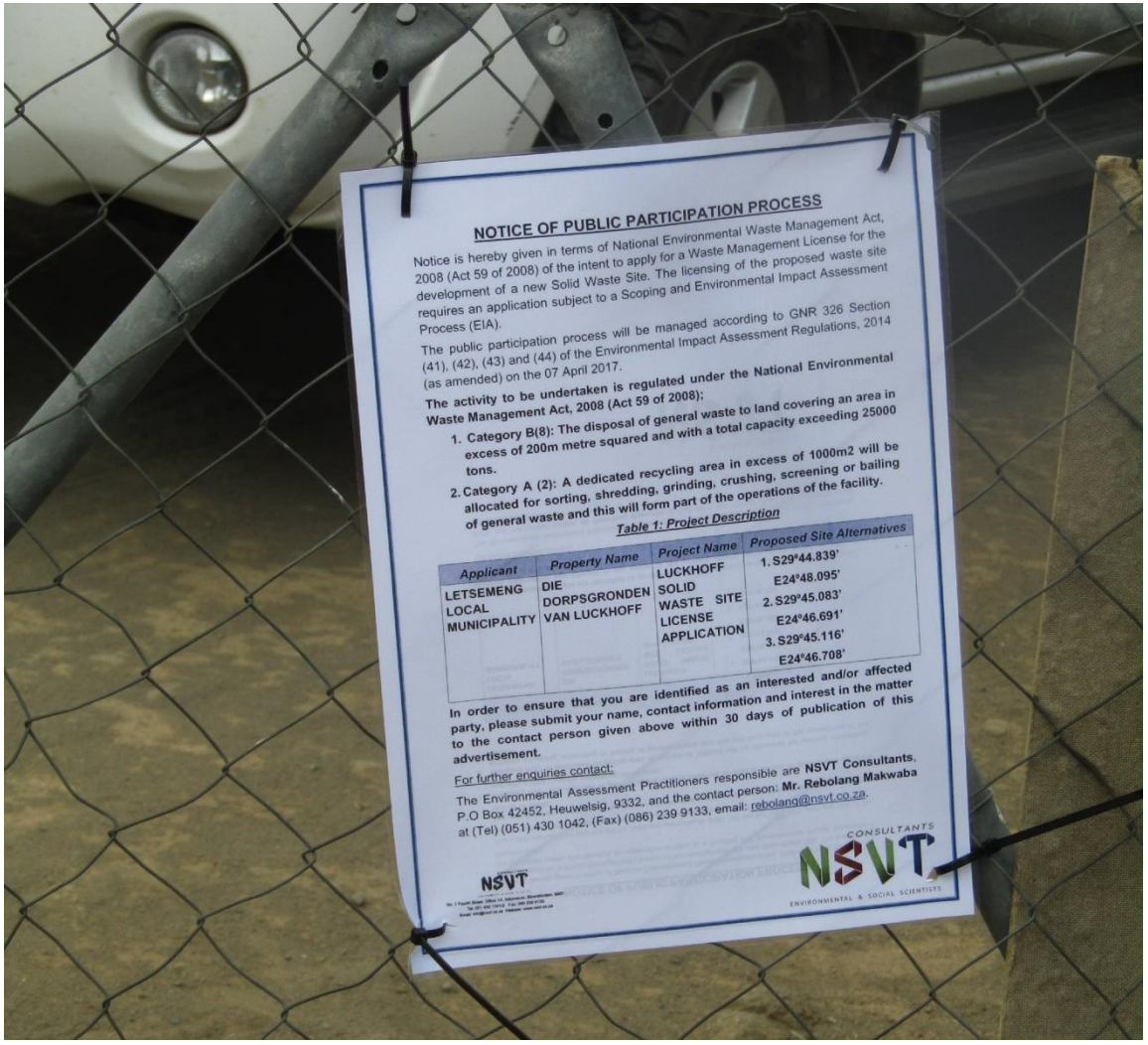

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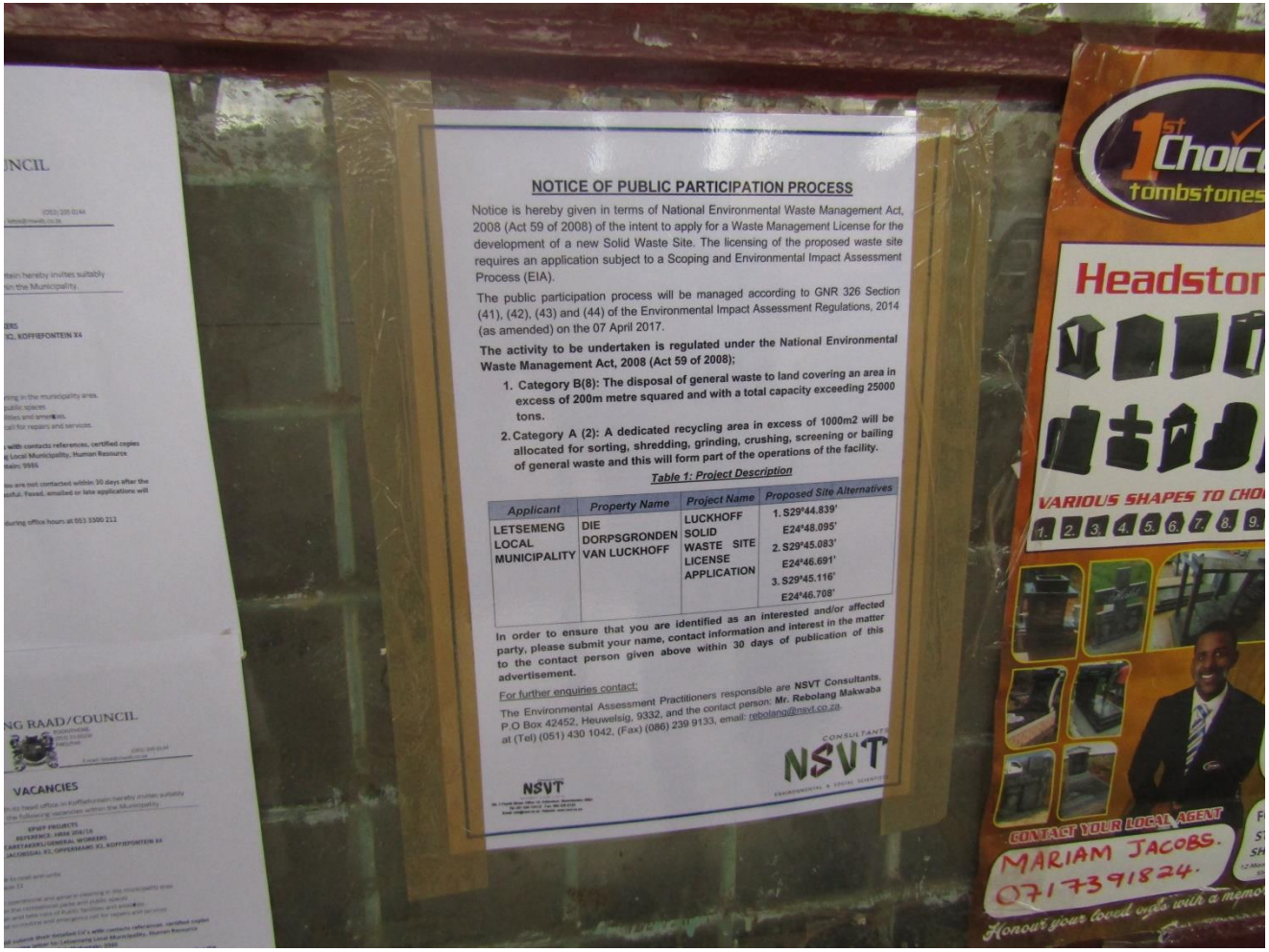

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CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

waiting times

COPY OF THE BACKGROUND INFORMATION DOCUMENT

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

BACKGROUND INFORMATION DOCUMENT FOR PROPOSED SOLID WASTE SITE FOR LETSEMENG LOCAL MUNICIPALITY.

DEVELOPMENT OF A SOLID WASTE FACILITY AS WELL AS PUBLIC PARTICIPATION PROCESS FOR SCOPING AND EIA PROCESS

PURPOSE OF THIS DOCUMENT

This document's purpose is to provide background information to the project, and obtain comments and contributions from Interested and Affected Parties (I&APs) and stakeholders with regard to the environmental impacts they perceive to occur as a result of the proposed Solid Waste Site facility. This can be done by means of the attached comments sheet, direct contact with the people listed below or input at the public meeting.

I&APs and stakeholders will have an opportunity to contribute issues of concern and suggestions for enhanced benefits. In addition, they will be able to verify that their contributions have been considered and to comment on the findings of the specialist assessments.

If you intend to register as in I&AP please forward the attached registration sheet to NSVT Consultants before 30 days laps.

Return Address for Comments & Registration:
Rebolang Makwaba
NSVT Consultants
PO Box 42452; Heuwelsig; 9332
(c) 071 545 4241
(t): 051 430 1041/2
(f): 086 239 9133
Email:
rebolang@nsvt.co.za

ONLY REGISTERED I&AP'S WILL RECEIVE FURTHER INFORMATION ON THE PROJECT

BACKGROUND

The Letsemeng Local Municipality intends to appoint a professional service provider with relevant experience for a Scoping and Environmental Impact Assessment (EIA) study in order to determine a location suitable for a new Solid Waste Facility for the Luckhof community. Dipala Consulting Engineers has entered into a joint venture agreement with NSVT Environmental Consultants and Social Scientists to assist with various specialties required for the project

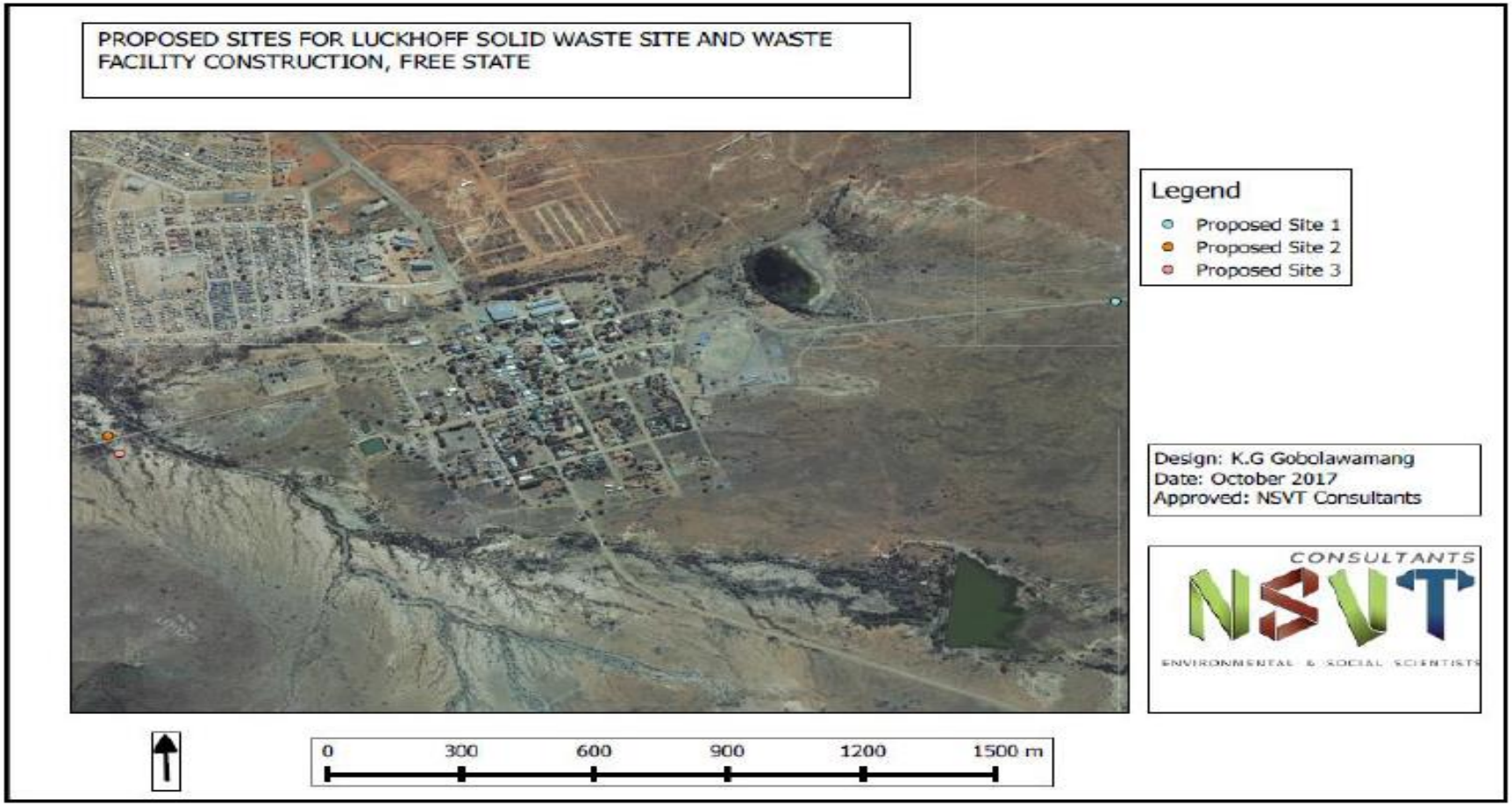
As part of the Scoping and EIA process, the following specialist studies will be undertaken: Geotechnical, Geohydrological, Paleontological, Heritage and Ecological studies concerning the proposed sites under investigation.

ONLY REGISTERED I&AP'S WILL RECEIVE FURTHER INFORMATION ON THE PROJECT

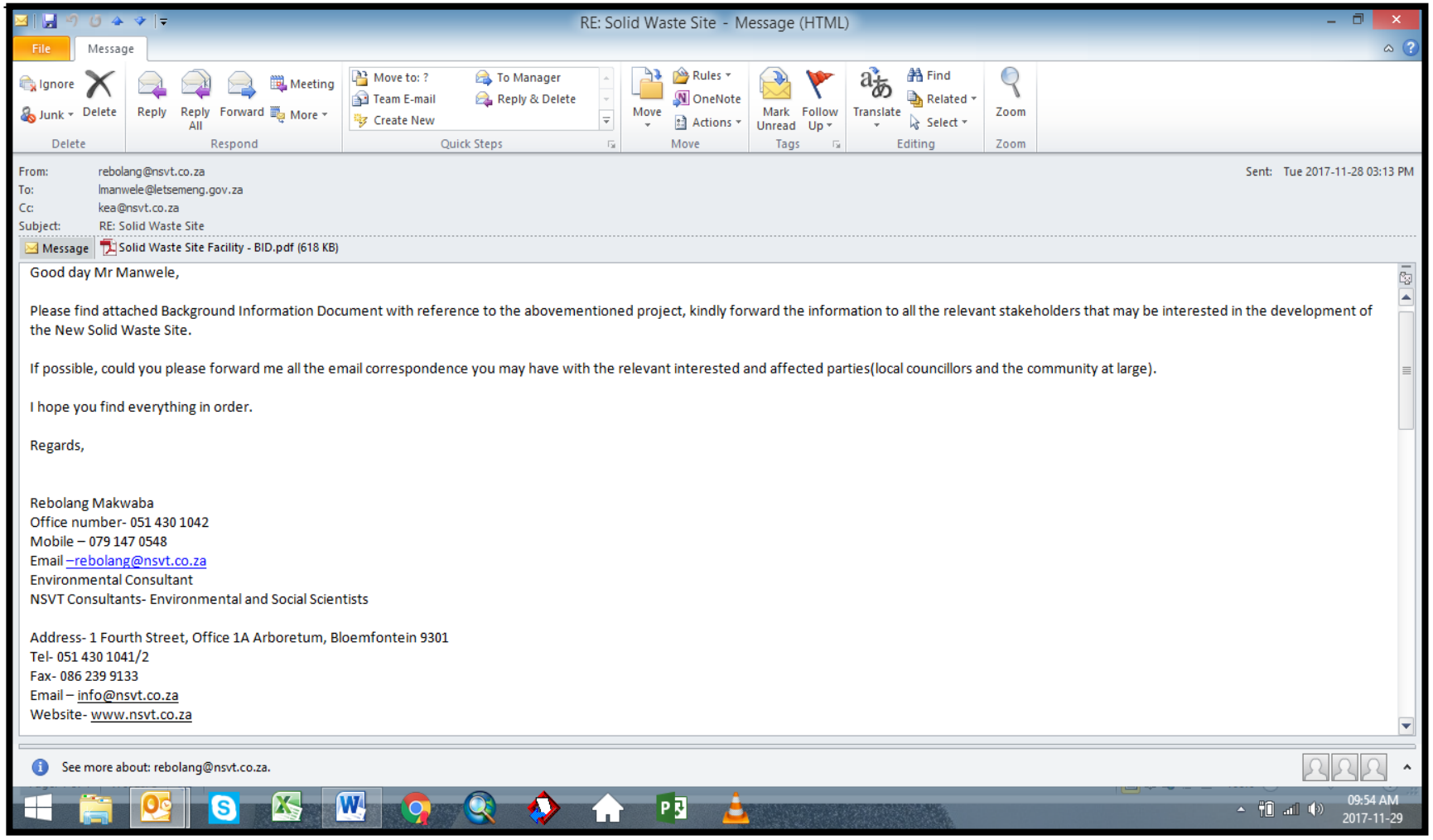
Letsemeng Local Municipality Proposed Solid Waste Site development			
REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES			
DATE			
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER	
CELL PHONE NUMBER		E-MAIL ADDRESS	
PLEASE IDENTIFY YOUR INTEREST IN THE PROJECT:			
PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE:			
No:	Yes:	Number of attendees:	
Please return completed forms prior to 30 days lapsing:			

Rebolang Makwaba ***or Keagalaletsa Gobolawamang***
NSVT Consultants
P.O. Box 42452, Heuwelsig, 9332
(t) 051 430 1042 or **(c)** 079 147 0548
(f) 086 239 9133
Email: rebolang@nsvt.co.za or kea@nsvt.co.za

FIGURE 1: MAP DEPICTING PROPOSED SOLID WASTE SITES



Correspondence with Local Authority



RE: Solid Waste Site - Message (HTML)

File | Message

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Delete | Respond | Quick Steps | Move | Tags | Editing | Zoom

From: rebolang@nsvt.co.za
To: lmanwele@letsemeng.gov.za
Cc: kea@nsvt.co.za
Subject: RE: Solid Waste Site
Sent: Tue 2017-11-28 03:13 PM

Message | Solid Waste Site Facility - BID.pdf (618 KB)

Good day Mr Manwele,

Please find attached Background Information Document with reference to the abovementioned project, kindly forward the information to all the relevant stakeholders that may be interested in the development of the New Solid Waste Site.

If possible, could you please forward me all the email correspondence you may have with the relevant interested and affected parties(local councillors and the community at large).

I hope you find everything in order.

Regards,

Rebolang Makwaba
Office number- 051 430 1042
Mobile – 079 147 0548
Email –rebolang@nsvt.co.za
Environmental Consultant
NSVT Consultants- Environmental and Social Scientists

Address- 1 Fourth Street, Office 1A Arboretum, Bloemfontein 9301
Tel- 051 430 1041/2
Fax- 086 239 9133
Email – info@nsvt.co.za
Website- www.nsvt.co.za

See more about: rebolang@nsvt.co.za.

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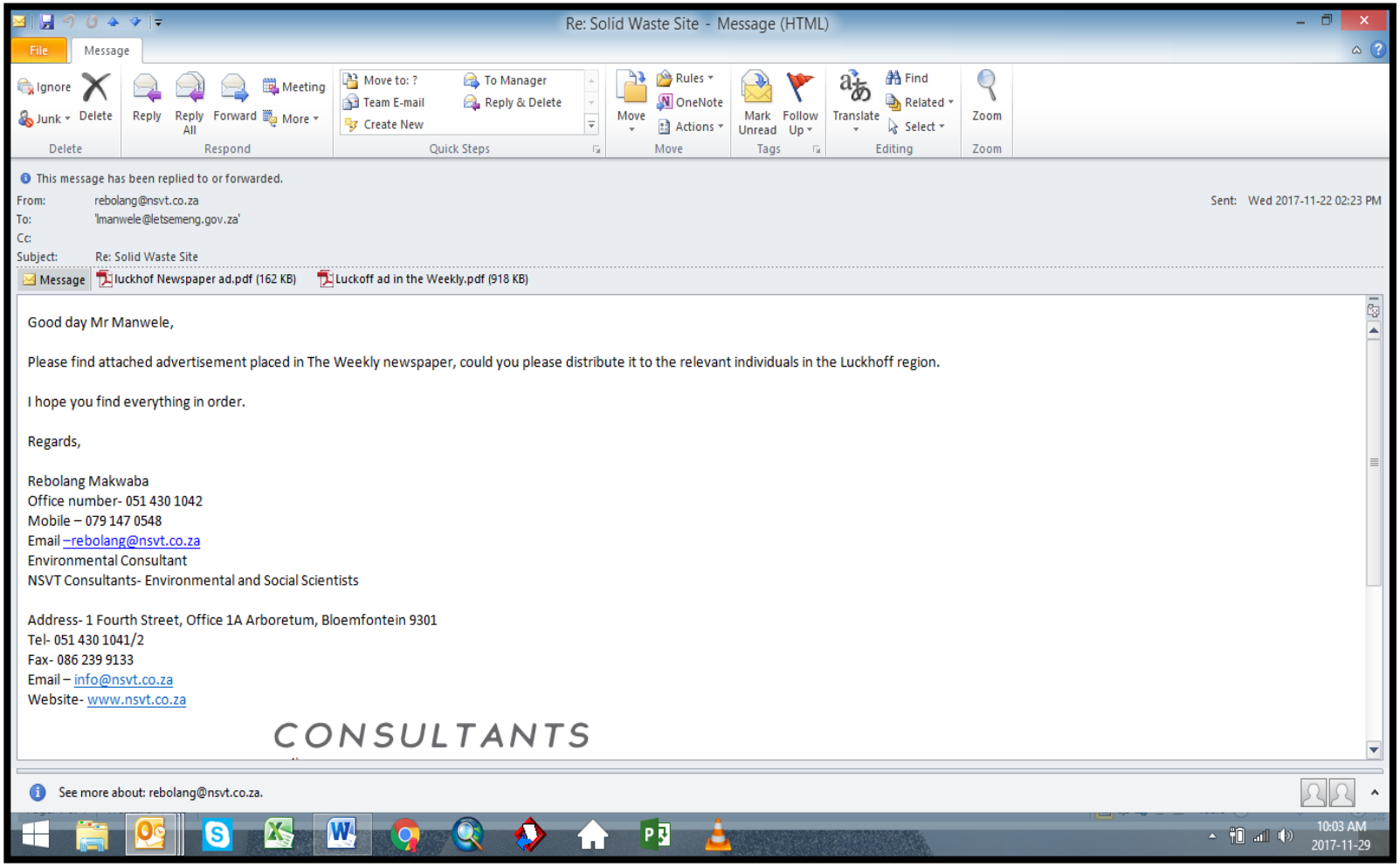
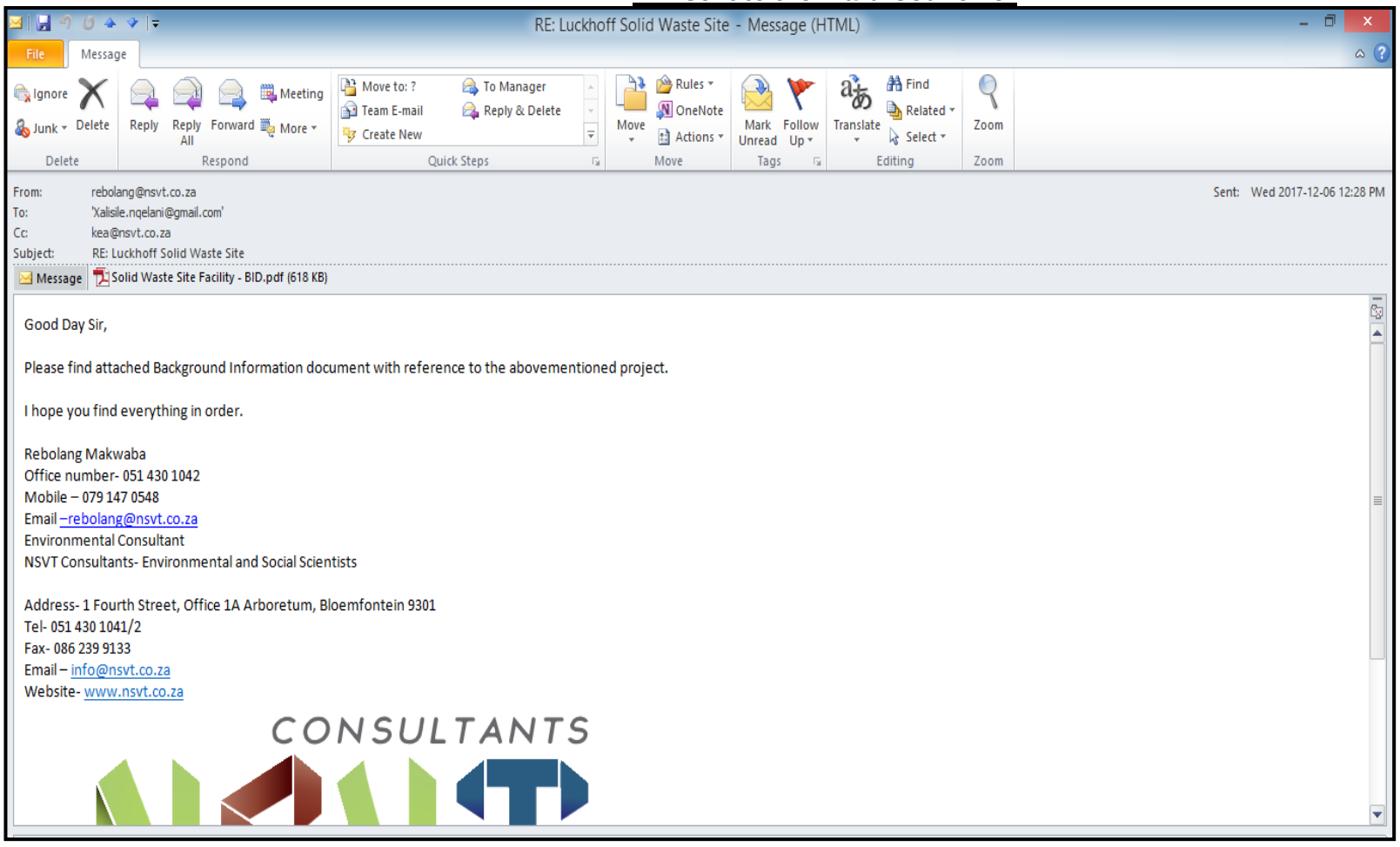


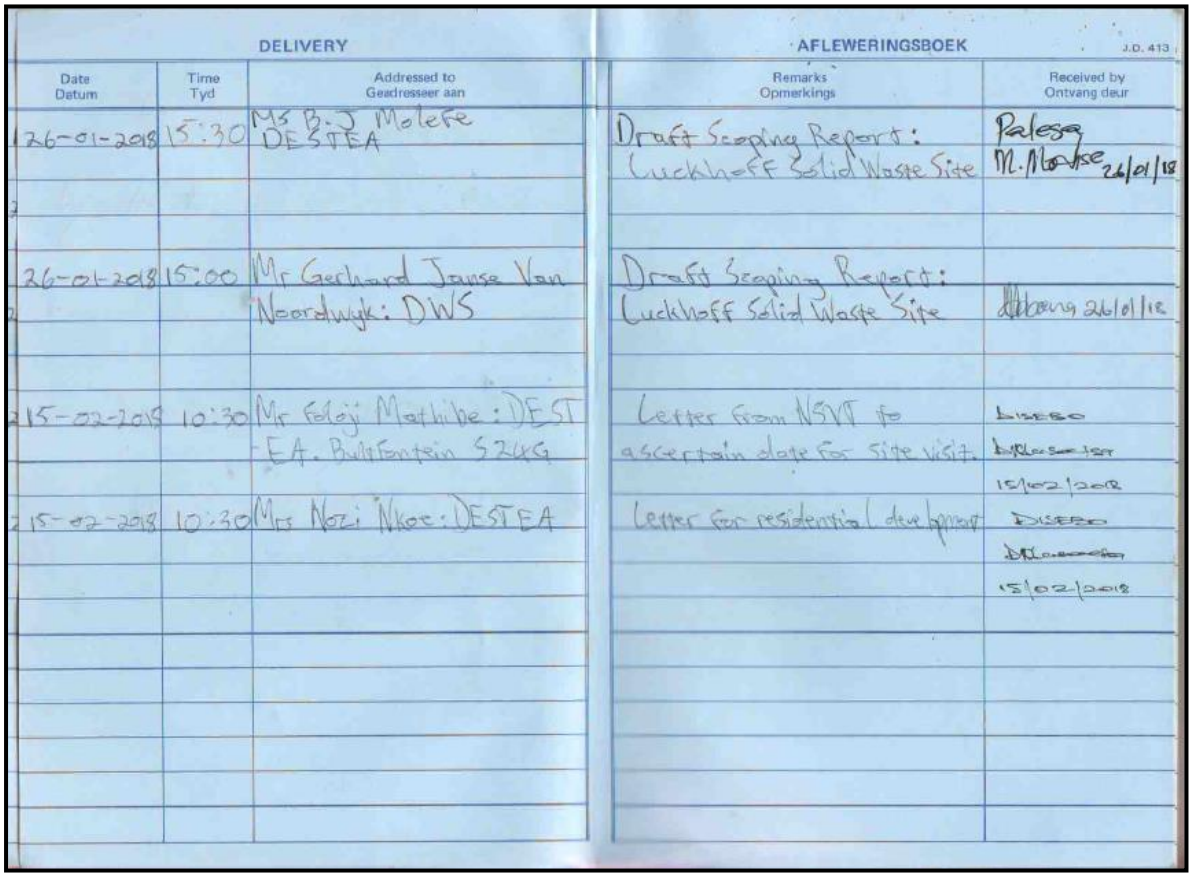
Attachment is the Newspaper Advertisement that was placed in the Weekly.

BID sent to the Ward Councillor



Attachment: Background information for the proposed Luckhoff SWS

Proof of submission to the Department of Water and Sanitation as well as the Department of Economic, Small Business Development, Tourism and Environmental Affairs on the 26th Jan 2018.



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Date Datum	Time Tyd	Addressed to Geadresseer aan	Remarks Opmerkings	Received by Ontvang deur
26-01-2018	15:30	Ms B.J Molefe DEA&DP	Draft Scoping Report: Luckhoff Solid Waste Site	Palesa M. Mokoke 26/01/18
26-01-2018	15:00	Mr Gerhard Jansa Van Noordwyk: DWS	Draft Scoping Report: Luckhoff Solid Waste Site	[illegible] 26/01/18
15-02-2018	10:30	Mr Foloj Mathibe: DEA&DP Bultfontein 9246	Letter from NSVT to ascertain date for site visit.	[illegible] 15/02/2018
15-02-2018	10:30	Mrs Nozi Nkoe: DEA&DP	Letter for residential development	[illegible] 15/02/2018

Comments from the Department of Water and Sanitation received on the 06-03-2018 with reference to the review of the Scoping Report.

water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Enquiries: Mokoena L.M
Contact No: 051 405 9000
Reference No: 16/2/7/D330/D5

Attention: Mr R Makwaba

NSVT Consultants
P.O Box 42452
Heuwelsig
9332

Dear Sir/ Madam

A DRAFT BASIC ASSESSMENT REPORT FOR A DEVELOPMENT OF A NEW SOLID WASTE SITE IN LUCKHOFF: FREESTATE PROVINCE

The Department of Water and Sanitation: Free State Region acknowledge the above mentioned project and has no objection towards it; however take note of the following comments:

- It is recommended that a Geohydrological Report be included as a supporting document in order to provide adequate information regarding the upstream and downstream gradient of the boreholes and the groundwater table. This will enable the Department to provide further comments if groundwater quality or any water resource are affected.

  In a case where a water resource will be significantly affected, a license application must be considered in terms of Section 21 (g) of the National Water Act (Act No. 36 of 1998), which states that;

  (g) disposing of waste in a manner which may detrimentally impact on a water resource;

- DWS supports the Borehole Monitoring System however take note that monitoring must be done on monthly basis using SANS 241; 2016. The water quality data must be submitted to the DWS on monthly basis.
- Ensure that Hazardous materials are separated and stored in a secured area to contain and prevent any spillages or any kind of pollution.
- DWS supports the Recycling Programme.

A DRAFT BASIC ASSESSMENT REPORT FOR A DEVELOPMENT OF A NEW SOLID WASTE SITE IN LUCKHOFF: FREESTATE PROVINCE

Yours sincerely

Dr T Ntili
PROVINCIAL HEAD: FREE STATE
DATE:

COMMENTS FROM DWS

Comments from the Eskom Free-State Operating Unit received on the 17-04-2018 with reference to the review of the Scoping Report.

Eskom

NSVT
P O Box 42452
Heuwelsig
9332

Date: 17 April 2018
Enquiries: R. de Bruin
Tel: 051-404 2467
E-mail: dbruiner@eskom.co.za

Attention: Lorato Tigedi

Your Ref: New Solid Waste Site - Luckhoff
Our Ref: LSB Amendment of gen plan 1080_201NSVT Luckhoff

Dear Sir / Madam

PROPOSED DEVELOPMET OF A NEW SOLID WASTE SITE IN LUCKHOFF

Your letter dated 26 January 2018 regarding above mentioned project hereby refers. Eskom Distribution (Dx) will raise no objection to the proposed works, however please adhere to Eskom's conditions at all times and treat Eskom's powerlines as live at all times. As per the attached sketch, there are powerlines that are very close to the proposed site and we would appreciate if you could honour our rights accordingly.

The lines affected are :

- Canal Luckhoff 22kV
- 2 x Hydra – Perseus 400kV
- Beta Hydra 400kV

Please find Eskom's conditions which must always be respected when working near or closer to our services:

1. Eskom Dx shall at all times retain unobstructed access to and egress from its servitudes.
2. Eskom Dx's consent does not relieve the applicant from obtaining the necessary statutory, land owner or municipal approvals.
3. The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom Dx as a result of non-compliance will be charged to the applicant.
4. No drilling shall take place within 11 metres from any Eskom Dx power line structure,
5. All work within Eskom Dx's servitude areas shall comply with the relevant Eskom earthing standards in force at the time.
6. If Eskom Dx has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the applicant's activities or because of the presence of his

Free State Operating Unit
Land Development
120 Henry Street Bloemfontein
P.O. Box 356 Bloemfontein 9300 SA
Tel +27 51 404 2013 Fax +27 51 404 2972 www.eskom.co.za

Eskom Holdings SOC Limited Reg No 2002/015527/06

equipment or installation within the servitude area, the applicant shall pay such costs to Eskom Dx on demand.

7. The use of explosives of any type within 500metres of Eskom Dx's services shall only occur with Eskom Dx's prior written permission. If such permission is granted the applicant must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. If blasting becomes necessary, application in this regard should be made separately.

8. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom Dx's requirements.

9. Eskom Dx shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the applicant, his/her agent, contractors, employees, successors in title, and assigns. The applicant indemnifies Eskom Dx against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom Dx's services or apparatus or otherwise. Eskom Dx will not be held responsible for damage to the applicant's equipment.

10. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom Dx's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the applicant must give at least seven working days prior notice of the commencement of work. **This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Technical Service Centre.**

11. No work shall commence unless Eskom Dx has received the applicant's written acceptance of the conditions specified in the letter of consent and/or permit.

12. Eskom Dx's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with. Note: Where an electrical outage is required, at least fourteen work days are required to arrange same.

13. Under no circumstances shall rubble, earth or other material be dumped within the servitude area. The applicant shall maintain the area concerned to Eskom Dx's satisfaction. The applicant shall be liable to Eskom Dx for the cost of any remedial action which has to be carried out by Eskom Dx.

14. The clearances between Eskom Dx's live electrical equipment and the proposed construction work shall be observed as stipulated by *Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).*

15. Eskom shall be regarded electrically live and therefore dangerous at all times.

16. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as additional safety precaution, Eskom Dx will not approve the erection of houses or structures occupied or frequented by human beings under the power lines or within the servitude area.

17. Eskom Dx may stipulate any additional requirements to illuminate any possible exposure to Customers or Public to coming into contact or be exposed to any dangers to Eskom plant.

18. It is required of the applicant to familiarise him/herself with all safety hazards related to Electrical plant.

Should the applicant or his/her contractor damage any of Eskom's services during execution of any work whatsoever, the incident must be reported to Eskom's Technical service centre, **Christopher Banda @ 053-591 9403 or 083 754 8464** immediately. The same person must be contacted **before** commencement of the project as well.

For the re-location of any Eskom's services, our customer service centre should be contacted on **051-404 2211**.

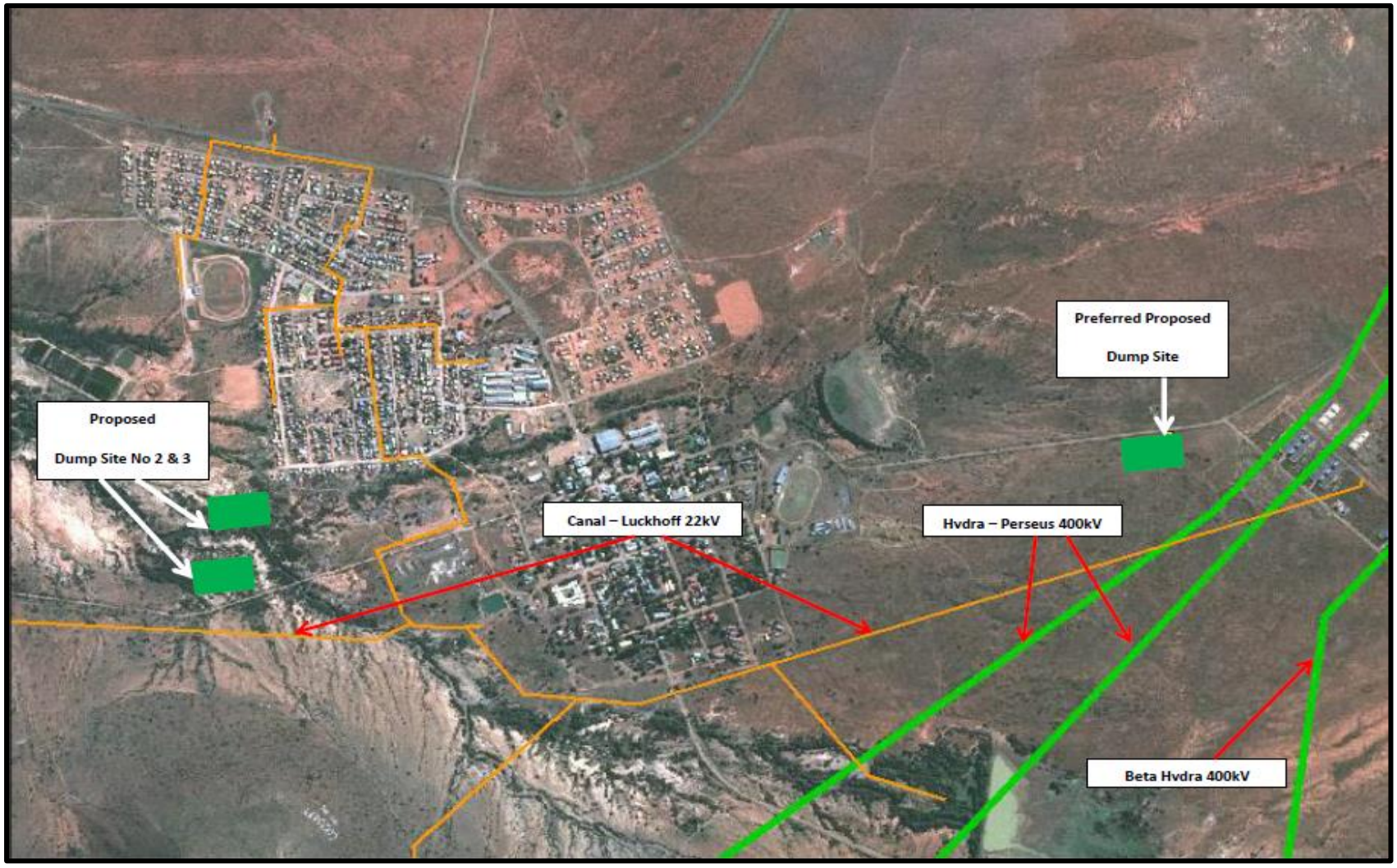
The above conditions should be accepted in writing before any work within Eskom Services commences and the Technical service centre must be informed of the future activities..

For any further information please contact the writer at the above mentioned telephone number.

Yours sincerely

R de Bruin
For Land Development Manager

COMMENTS FROM ESKOM FSOU



ESKOM FSOU MAP

MINUTES OF THE PUBLIC MEETING

PROPOSED LUCKHOFF SOLID WASTE SITE WASTE MANAGEMENT LICENSE APPLICATION MINUTES OF THE PUBLIC MEETING

WHEN:	21st June 2018
WHERE:	Luckhoff Community Hall
TIME:	16h30
MINUTES PREPARED BY:	Lorato Tigedi

1. **OPENING AND WELCOMING** by Councillor Nqelani of Ward 1, which includes Luckhoff and the surrounding farms and opening prayer by a community member. The councillor pointed out his disappointment to the turn up of the meeting and indicated that it could be because it was not about housing and/or job creation. However, it is imperative for the community to attend all the meetings so that they stay abreast with the developments taking place in their area. He also noted that probably the others could not attend the meeting due to other priorities.

2. **INTRODUCTION** by Councillor Nqelani, Mr. Mokopane (Community Development Worker, Ward Committee Members, i.e. Mr. Kolobe and Ms. Selma and the Project Team
Project Team was introduced as follows:
   1. Lorato Tigedi-Dipabala NSVT JV-Environmental Assessment Practitioner
   2. Tokelo Motheane-Dipabala NSVT JV-Consulting Engineers
   3. Dr. Mvuma-Department of Cooperate Governance and Traditional Affairs
   4. Timothy Ngwenya-Dipabala NSVT JV Consulting Engineers
   5. Afrikaans Translator- Elizabeth Ranthimo (Dipabala NSVT JV)

3. **CIRCULATION OF ATTENDANCE REGISTER** attached as **Annexure 1**.
4. **ADOPTION OF THE AGENDA by the attendees attached hereto as Annexure 2.**
5. **APOLOGIES**: None
6. **PRESENTATION** by Lorato Tigedi and *Presentation is attached hereto as* **Annexure 3.**
During presentation regarding the project, the following information was presented:
   6.1. The purpose of the consultation with the community and other stakeholders.
   6.2. Details of the applicant, project team and the competent authority handling the environmental impact assessment application.
   6.3. Project background, including the need of the project.
   6.4. Project description including proposed site (map was placed on the wall to indicate the location) and findings and recommendations of the specialists' studies.
   6.5. Outlined the Environmental Impact Assessment Process.

Tel. No. 051 430 1041 email: lorato@nsvt.co.za Fax. No. 086 239 9133

6.6. Indicated the status of the application process including that the meeting was a third phase of public participation process

6.7. Thereafter the presentation was translated in Afrikaans by Ms. Ranthimo and also indicated that illegal dumping site should be attended to and it is not only the responsibility of the municipality to address waste collection of collect from people's yards but they only collect refuse in black bags outside the yards. She pleaded with the community to assist the municipality by keeping their surroundings clean and free of litter.

7. PRESENTATION by Dr. Mvuma from CoGTA

Dr. Mvuma indicated that he was assigned to the Free State Province to identify areas where jobs could be created and Luckhoff was identified as one of the areas that could benefit from the intervention. He mentioned that the project is funded by CoGTA to assist the municipality in addressing their need for a new landfill site. In addition to the presentation by Ms. Tigedi, he pointed out that during construction phase, labour intensive methods will be adopted. He pointed out that the solid waste site has been designed in a way that there will be permanent job creation not only from the operational side, e.g. recycling facility that has been included in the design and further added that they are in consultation with recycling companies to inform them of recycled material that could be obtained from Luckhoff once the project is operational. He pointed out that 30 to 35 jobs will be created from the project. This will be able to address the unemployment rate that the councillor has indicated that it is at 28%, i.e. higher that the rate of the country. Before commencement of the project, the councillor will be informed and recruitment will be done through his office.

8. Councillor Nqelani thanked CoGTA for assisting the municipality. He also thanked for the Afrikaans translation as it was the main language of communication in the area. He indicated that the location of the existing landfill site is not suitable as it's affecting the wellbeing of the community, e.g. other people will burn waste on the day that others are washing their clothes, and this results in their clothes being covered in smoke, therefore the location is suitable as it is located further from the community as has considered how the town is developing. He was also happy that the project has been designed in a way that the unemployment rate will be reduced. He opened the floor for questions and requested that questions and/or comments should be in relation to the proposed project.

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9. Questions and Answers

Name	Questions/Comments	Response
Ms. Nhlaba	Why is Ms. Ranthimo saying it is not the municipality's responsibility to collect waste.	Councillor indicated that collection from yards is not the municipality's responsibility but refuse collection from the streets on the schedule dates is, whereby the waste in refuse bags is taken outside the yards. Collection of waste from illegal dumping site doesn't form part of refuse collection therefore it is the community's responsibility from dumping on site that are not used for refuse disposal.
	I am not happy with people burning waste leaving our clothes covered in smoke	Councillor requested the community should be considerate so that everyone is happy.
Mr. Tambuza	Refuse is not taken to the dumping site anymore, kids throw it outside my yard and if they continue, I will beat them up.	Councillor advised Mr. Tambuza to rather talk with the kids' parents or report it to the municipality as it is a criminal offence to hit a child and he might end up in jail. He asked the community to stop taking other people's health for granted as it is wrong to dump your waste in another person's yard. The municipality will ensure that waste is collected and if a tractor is broken then they are able to device other means of collection.
MmaMokotell	Can the municipality dump waste in front of my house?	Councillor indicated that is not allowed and if such happens that it must be reported.
Fish	I support the project and thank the municipality for it.	Comment noted

	Will there be 24 hours access control at the new site?	Mr. Motheane indicated that the new landfill site will be fence off with lockable gate and a 24 hours access control and a guard house with a security guard. It will have operating hours.
Mr. Louw	You are talking about recycling facility, but what about sorting and packaging? Will there be balling machine, so that the trucks can come and collect from the recyclers?	Dr. Mvuma pointed out that there will be a balling machine and there are other stakeholders involved in this project, e.g. Department of Economic Development, Small Business, Tourism and Environmental Affairs.
	Will they recyclers be able to make a living?	Dr. Mvuma agreed and further added that the rate will be discussed to ensure that it is a competitive price.
Councillor Nqelani	He highlighted that in Luckhoff, recruitment is responsibility of the ward committee, therefore the same process will be followed for this project.	Comment Noted
	Are there any objections to the proposed development	No objections were raised.

Tel. No. 051 430 1041 email: lorato@nsvt.co.za Fax. No. 086 239 9133

10. Way Forward

Ms. Tigedi summarised questions and comments made as follows:

1. Luckhoff community do not object to the establishment of the landfill site on the proposed site.
2. There should be a 24 hours access control in instances when people want to dump their own waste, e.g. builder's rubble.
3. Copy of the locality map will be left at the hall for people who weren't able to attend today's meeting.

She further pointed out if there is anyone interested in receiving the report, they should contact NSVT within 5 days after the meeting before the report is sent out for review.

Photograph taken during the meeting are attached hereto as **Annexure 4**.

11. **Conclusion** - Councillor Nqelani made announcements about matters not related to the project then thanked everyone for attending the meeting and finally meeting was closed in prayer by a community member.

12. **Meeting adjourned at 18h30**

ANNEXURE 1

ATTENDANCE REGISTER

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2017
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Stephanus Louw	c Member	362 Rebohile	x	S.L
Jabon Namoga	c Member	13 Teisesville	x	J.N
adam kraai	c Member	93 Teisesville	x	A.K
Marie	Member	255 Rebohile	x	
Elisabet	Member	235 Rebohile	x	
Andre Konstabel	Member	74 Teisesville		
Leon De Cries	C Member	593 Teisesville	0664742605	
Calvin Kai Brown	C. Member	173 Teisesvile	062 672 8095	
Elonitia	CM	288 Teisesvile	074 800 7852	
Suzanne	CM	358 Teisesvil	0730120010	

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21 June 2018
AT Luckhoff

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
[illegible]	CM MEMBER		0826335677	
[illegible]	CM MEMBER		0826358	
[illegible]	Ward Committee Member	193 Relebohile	084 686 1579	
ELMA SAM	WARD COMMITTEE MEMBER	167 RELEBOHILE	0732859806	E. SAM
[illegible]	C member	191 Relebohile	0733923172	
[illegible]	C membe	193 Relebohile	0630600208	
[illegible]	—	234 Relebohile	0613352354	
[illegible]		57 Jakaprop	0796118573	
[illegible]	CM	5 Jakaprop	0765789972	

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2018
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
TOKELO MOTHEANE	PIPAGALA CONSULTING ENGINEERS	N/A	051 430 0249 071 163 2116	[illegible]
GODFREY MVUMA	MISA TC	N/A	0610490466	[illegible]
Timothy Ngwagama	Dipabala Consulting Engineers	N/A	051 552 4539	[illegible]
Sylvia Jantjies	.		081 697 2227	[illegible]
AAMOSTNANA			0846066745	[illegible]
Nawal Ngara	—		0726669452	[illegible]
Gerard Glaar	—		—	G. Glaan
Yolandé Greeff	—		0761481573	Y. Greeff
Mieta Vozana	—		—	M. Vozana
Priscilla BAGOG	C member	16 Roosboom st	0737992814	[illegible]

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2018
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Aletina Hlatlha	Cm	318 Ieabkie	—	[signature]
Wilson [illegible]	CM	26 Relebohile	078 138 6712	[signature]
Petrus Mela	CM	272 Kosmos	0742553[illegible]5	[signature]
Gerida Visser	CM	32 Katjiepiering	0742073316[illegible]	[signature]
Zelda Mosoes	CM	11 Katjiepiering	0797156692	Z. Mosoes
Justine Apie	CM	43 Katjiepiering	—	
Selomé Greeff	CM	31 Katjiepiering	0735324217	[signature]
[illegible]	CM	132 Kosmos[illegible]	0795324934	[signature]
Martha Zaokane	CM	365 Gousblom	0630323016	m. zaokane
Isaac Mokhahle	CLO	436 [illegible]	078 269 3857	[signature]

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2019
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Kotie Motshabane	Cm	~~[illegible]~~ [illegible]	0795822157	[illegible]
Diketseng Jacobs	Cm	90 Relebohile	0734665094	[illegible]
Cornelius Louw	Cm	103 Relebohile	0721758989	C.Louw
Sam Mphale	Cm	126 Relebohile	073 116 2732	[illegible]
Venessa Syster	Cm	352 Rooskoom	053 649 1191	Syster
Jan Tambuzer	Cm	250 Relebohile 2	—	J T
Khotiso Ngalo	Cm	118 Relebohile	0620477538	K F Ngalo
Maboa Rago	Cm	250 Relebohile 2	—	+
Marry Sebeba	Cm	314 Relebohile 2	—	SM.

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2018
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Bohandlo Tsibane	Community Member	261 [illegible] str	0787761722	[signature]
Edward Groff		713 Goodhope str		[signature]
Stowet Louw	DHEI	158 Relebohile	0622855307	[signature]
X Maetlubu	.	138 Relebohile		Maetlubu
[illegible]	Letsemeng Local Municipality	51 [illegible]	0795451114	[signature]
Anna Tshaune	Community Member	420 Sonneblom		Anna tsoute
[illegible]		[illegible] 420	0827755460	[signature]
Lorato Tigedi	Kgabala NSVT JV	Bloemfontein	082 784 8259	[signature]

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2018
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Lungelwa	NoNG	321 Proudfoot	0839471810	L. GXG
GERRIE FISH	—	—	081 892 0201	
Tshotsho Tolbane	Community Member	93 Relebohile	0622370802	
[illegible]	—	410 Senekal	0782049660	
[illegible]	Community Member	194 Protea	071 526 2198	
Mieke Bogce	Community member	250 Relebohile	—	
Jan Dambuza	Community member	250 Relebohile	—	
Pelle Masile	CM	60 Katjiepiering	0765526065	
	CM	60 Katjiepiering	0796701749	
[illegible]	Community Member	5 Relebohile	—	

CONSULTANTS NSVT ENVIRONMENTAL & SOCIAL SCIENTISTS

ATTENDANCE REGISTER

FOR

MEETING HELD ON THE 21st June 2018
AT Luckhoff Community Hall

PROJECT: Luckhoff SWS

NAME	AUTHORITY (A)/ DEPARTMENT (D)/ ORGANISATION (O)/ COMMUNITY MEMBER (CM)	FARM NAME /HOUSE NUMBER	TEL. & FAX NO. EMAIL	SIGNATURE
Maki Ramathimo	NSVT / Associate	0828161146 / 0717058926	makizinga@live.com	
Molefi Motopane	DEPT. OF THE PREMIER C. DW	076-201-7113 / 07820-90-570	molefi.motopane@vodamail.co.za	
Xolisile Mgelwni	Ward Cllr	0790308596	—	

ANNEXURE 2

AGENDA

DATE: 21st June 2018
TIME: 16h00
VENUE: Luckhoff Community Hall

AGENDA

PUBLIC MEETING

FOR THE

PROPOSED DEVELOPMENT OF A LANDFILL SITE-LUCKHOFF, LETSEMENG LOCAL MUNICIPALITY

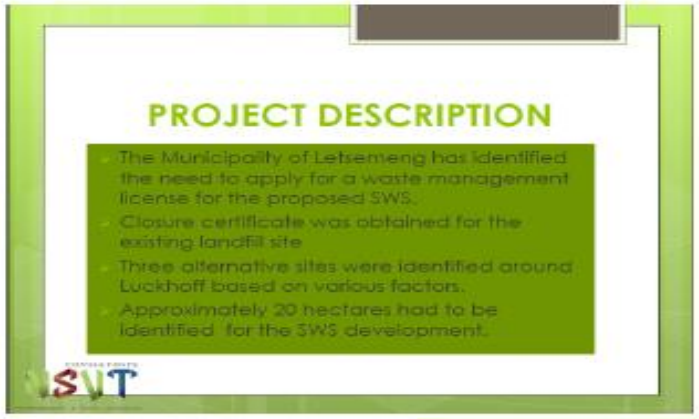
1. Opening and Welcoming
2. Introductions
3. Purpose of Meeting
4. Project Overview and Background by NSVT Consultants
5. Environmental Impact Assessment Process and Public Participation Process
6. Questions and Answers
7. Way Forward
8. Closure

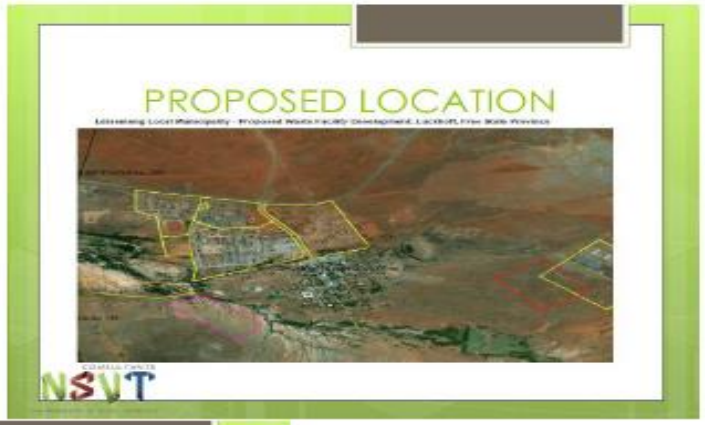
NSVT CONSULTANTS 051 486 1041/2 Info@nsvt.co.za

ANNEXURE 3

COPY OF SLIDES PRESENTATION


PROPOSED DEVELOPMENT OF A NEW SOLID WASTE SITE IN LUCKHOFF, LETSEMENT LOCAL MUNICIPALITY
PUBLIC PARTICIPATION PROCESS-PUBLIC MEETING
INTRODUCTION
Dipabala NSVT Joint Venture was appointed by Letsemeng Local Municipality to undertake the Scoping/EIA process and engineering designs for the proposed landfill site in Luckhoff.
NSVT is responsible for undertaking the Environmental Impact Assessment Process to obtain a Waste Management License ito NEMWA, 59 of 2008
Dipabala is responsible for the design drawings of the facility
PURPOSE OF CONSULTATION
To introduce the project to the potential Interested and Affected Parties (I&APs)
To provide an opportunity for I&APs to obtain information about the proposed project
To inform the I&APs of the findings of the assessment.
To provide an opportunity for the I&APs to comment, raise issues relevant to the proposed project.


PROJECT DESCRIPTION
The Municipality of Letsemeng has identified the need to apply for a waste management license for the proposed SWS.
Closure certificate was obtained for the existing landfill site
Three alternative sites were identified around Luckhoff based on various factors.
Approximately 20 hectares had to be identified for the SWS development.
NSVT


PROPOSED LOCATION
NSVT


PROPOSED SITE
Situated between Eskom substation and old Quarry
500m from the residential area
Accessible via Rabie Street
The new SWS will be lined to avoid any groundwater contamination.
The new SWS will house a recycling building to reduce litter produced by the community.
NSVT

IDENTIFIED ISSUES & SPECIALIST STUDIES

SPECIALISTS' STUDIES
- Ecological Specialist Study.
- Archaeological Impact Assessment.
- Palaeontological Impact Assessment.
- Geohydrological Investigation.
- Geotechnical Investigation.

Environmental Issues
- Groundwater
- Surface Water
- Heritage (Archaeological and Palaeontological Artefacts)
- Fauna and Flora (Protected and/or Red Data Species)
- Agriculture
- Residential area

EIA AND PUBLIC PARTICIPATION PROCESS

EIA PROCESS (256/ 306 days)
- Application submitted to DESTEA
- Specialists studies
- Draft and Final Scoping Report
- Draft and Final Environmental Impact Assessment Report
- Obtain Waste Management License

PUBLIC PARTICIPATION PROCESS
- Different phases
- Phase 1: Notification
- Phase 2: Public Meeting
- Phase 3: Review of the Draft reports
- Notification of the outcome of the application process
- Compilation of Comments and Responses Report

QUESTIONS

Contacts: 051 430 1041/2

info@nsvt.co.za

lorato@nsvt.co.za

ANNEXURE 4

PHOTOGRAPHS TAKEN DURING THE MEETING

APPENDIX 7

SPECIALISTS REPORTS

APPENDIX 8

SENSITIVITY MAP

APPENDIX 9

ENVIRONMENTAL MAMAGEMENT PROGRAMME