



2022



DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME
FOR
AN APPLICATION FOR A WASTE MANAGEMENT LICENSE IN TERMS OF SECTION 49(1)(A) OF THE
NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008): FOR THE
PROPOSED ACTIVITIES AT A SITE LOCATED AT 30 FRANSEN STREET, CHAMDOR, MOGALE CITY LOCAL
MUNICIPALITY, WEST RAND DISTRICT MUNICIPALITY, GAUTENG PROVINCE.

GDARDE Reference Number:
002/23-24/W0016

Project Number:
DTS-P-23118

Report Number:
NEO-WA-02-104-23-00



Report:	Environmental Management Programme
Project Title:	Application for a Waste Management License in terms of Section 49(1)(a) of the National Environmental Management: Waste Act, 2008 (Act no. 59 of 2008): for the proposed activities at a site located at 30 Fransen Street, Chamdor, Mogale City Local Municipality, West Rand District Municipality, Gauteng Province.
Location:	30 Fransen Street, Chamdor, Mogale City Local Municipality, West Rand District Municipality, Gauteng Province.
Client Name:	Neoserve (Pty) Ltd
Environmental Edge Project Number:	DTS-P-23118
Report Reference Number:	NEO-WA-02-104-23-00
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Declaration of Interest:

Environmental Edge, or any of its representatives (we) hereby declare:

1. we have no vested interest (present or prospective) in the project that is the subject of this report as well as its attachments. We have no personal interest with respect to the parties involved in this project.
2. we have no bias with regard to this project or towards the various stakeholders involved in this project.
3. we have not received, nor have we been offered, any significant form of inappropriate reward for compiling this report.

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LIST OF ABBREVIATIONS



AEL	Atmospheric Emissions License
AQIA	Air Quality Impact Assessment
BA	Basic Assessment
DFFE	Department of Forestry, Fisheries and the Environment
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioner Association South Africa
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ERP	Emergency Response Procedure/Plan
GHG	Greenhouse Gas
GN	Government Notice
LPG	Liquified Petroleum Gas
MSDS	Material Safety Data Sheet
NEM:AQA	National Environmental Management: Air Quality Act
NEM:WA	National Environmental Management: Waste Act
NEMA	National Environmental Management Act
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
SACNASP	South African Council of Natural Scientists
SANS	South African National Standards
SANRAL	South African National Roads Agency SOC Limited
SAPS	South African Police Service
SOP	Standard Operating Procedure
SWMP	Storm Water Management Plan
WML	Waste Management Licence

1. INTRODUCTION



Appointment
Background
Purpose

Neoserve (Pty) Ltd (hereafter referred to as “Neoserve”), the applicant, have appointed Environmental Edge (Pty) Ltd (hereafter referred to as “Environmental Edge”) as independent Environmental Assessment Practitioner (EAP) to prepare, undertake, and lodge, on their behalf, a Waste Management License Application in terms of Section 49(1)(a) of the National Environmental Management: Waste Act, 2008 (Act no. 59 of 2008) (NEM:WA), for their proposed tyre pyrolysis plant and related activities, with the Gauteng Department of Agriculture, Rural Development and Environment (GDARDE). These activities are planned to take place at 30 Fransen Street, Chamdor, Mogale City Local Municipality, West Rand District Municipality, Gauteng Province.

In terms of the list of waste management activities that have, or are likely to have, a detrimental effect on the environment, published under NEM:WA in GN R.921 as amended, the proposed activities trigger Category A (3), Activities (5), (6), (7), and (12):

5. *The recovery of waste including the refining, utilisation, or co- processing of waste in excess of 10 tons but less than 100 tons of general waste per day or in excess of 500kg but less than 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.*
6. *The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons.*
7. *The treatment of hazardous waste using any form of treatment at a facility that has the capacity to process in excess of 500kg but less than 1 ton per day excluding the treatment of effluent, wastewater or sewage.*
12. *The construction of a facility for a waste management activity listed in Category A of this Schedule (not in isolation to associated waste management activity).*

In addition, the proposed activities would also trigger sub-category 4.21 of Category 4 (Metallurgical Industry) and sub-category 8.1 of Category 8 (Thermal Treatment of Hazardous and General Waste) in terms of Section 21 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA).

- 4.21 *Metal Recovery* – The recovery of metal from any form of scrap material by the application of heat. All installations.
- 8.1. *Thermal Treatment of Hazardous and General Waste* – Facilities where general and hazardous waste are treated by the application of heat. All installations treating 10 kg per day of waste.

As such, the development requires both a Waste Management License (WML) in terms of NEM:WA and an Atmospheric Emissions License (AEL) in terms of NEM:AQA. The AEL application shall be submitted to the West Rand District Municipality in terms of Section 41(1) (a) of NEM:AQA.

1.1. Project applicant

Neoserve (Pty) Ltd
2023/755315/07

30 Fransen Street, Chamdor,
Krugersdorp,
Gauteng Province
E. Troym@dtssa.co.za

Responsible Person: Troy Marais

1.2. Environmental Assessment Practitioners



Mr Cyril Kamogelo Legong

Reg. Candidate EAP: EAPASA Reg. 2021/3159

Can. Sci. Nat: SACNASP Reg. 125866

B.Sc. (Hons) Environmental and Resource Studies (Univ. of Limpopo)

C. Kamogelo Legong is a Registered Candidate EAP (Reg. 2021/3159) with the Environmental Assessment Practitioners Association of South Africa (EAPASA) and is also a Candidate Natural Scientist (Reg. 122081) with the South African Council of Natural Scientists (SACNASP).

He is an Environmental Assessment Practitioner at Environmental Edge and has experience in the environmental management field. Furthermore, he has been involved in various projects concerning Environmental Impact Assessment, Basic Assessments, Atmospheric Emissions License applications and audits, Section 24G Application as well as Reporting, Environmental Management Programmes, Waste Management Plans as well as reviewing of various Environmental Impact Assessments and Basic Assessments. He also has extensive experience in Environmental auditing as well as reporting, and he has participated in various environmental training programmes.

Mr Sindiso Lubisi

Reg. EAP: EAPASA Reg. 2020/1401

Pr.Sci.Nat: SACNASP Reg. 122081

B.Sc. (Hons) Environmental Science (Univ. of Pretoria)

Sindiso Lubisi is a Registered EAP (Reg. 2020/1401) with the Environmental Assessment Practitioners Association of South Africa (EAPASA) and is also a Professional Natural Scientist (Reg. 122081) with the South African Council of Natural Scientists (SACNASP).

He is a Senior Environmental Assessment Practitioner (EAP) at Environmental Edge with vast experience in the environmental assessment and management field. His experience spans across various projects including; Environmental Impact Assessments, Basic Assessments, Atmospheric Emissions Licences applications and audits, Environmental Authorisation implementation programmes, Section 22A Applications and Reporting, Section 24G Applications as well as Reporting, Waste Management Licences applications and audits, Environmental Management Programmes, Waste Management Plans, Environmental Authorisation Compliance Audits, Environmental and Social Management Systems development and implementation, and offering Environmental Management Training.



Abouts and whereabouts of project.

2. PROJECT DESCRIPTION

2.1. Project Background

The facility at the proposed address, 30 Fransen Street, Chamdor, Mogale City Local Municipality, West Rand District Municipality, has been used for injection rubber moulding activities. Neoserve has now acquired rights to the facility with the intention of undertaking the proposed tyre pyrolysis activities.

By triggering activities listed in terms of NEM:WA, the proposed development must obtain a WML through a BA process from the GDARDE. As such, any work related to the commissioning and preparation of the facility for the proposed activities have not commenced, pending the necessary approvals / authorisations.

2.2. Triggered Listed Activities

Table 2-1 below outlines the corresponding applicable listed activities triggered by Neoserve in terms of Government Notice R921 of the National Environmental Management Waste Act (No. 59 of 2008, as amended).

Table 2-1. Listed Activities triggered by the activity at Neoserve.

No.	Activities listed in terms of Government Notice R921 of the National Environmental Management Waste Act (No. 59 of 2008, as amended)	Activity details
1	Category A: Activity 3(5) The recovery of waste including the refining, utilisation, or co-processing of waste in excess of 10 tons but less than 100 tons of general waste per day or in excess of 500kg but less than 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.	The proposed development is set to process waste tyres at capacities in excess of the thresholds. Coordinates: Latitude: 26° 09' 12.35"S Longitude: 27° 48' 11.92"E
2	Category A: Activity 3(6) The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons.	
3	Category A: Activity 3(7) The treatment of hazardous waste using any form of treatment at a facility that has the capacity to process in excess of 500kg but less than 1 ton per day excluding the treatment of effluent, wastewater or sewage.	
4	Category A: Activity 3(12) The construction of a facility for a waste management activity listed in Category A of this Schedule (not in isolation to associated waste management activity).	

In addition, Neoserve' **proposed activities** trigger sub-category 4.21 of Category 4 (Metallurgical Industry) and sub-category 8.1 of Category 8 (Thermal Treatment of Hazardous and General Waste) in terms of Section 21 of the NEM:AQA and require an AEL to operate. An AEL Application will be lodged with the West Rand District Municipality once the WML is approved and issued by the GDARDE for the proposed development. Table 2-2 below describes the NEM:AQA activity.

Table 2-2: Listed activity triggered by Neoserve in terms of section 21 of NEM:AQA.

Category	Sub-category	Name of Listed Activity	Description	NOTES (REASONS)
4	4.21	Metal Recovery	The recovery of metal from any form of scrap material by the application of heat.	Proposed activities will include the recovery of metal wires embedded inside waste tyres.
8	8.1	Thermal Treatment of Hazardous and General Waste	Facilities where general and hazardous waste are treated by the application of heat. All installations treating 10 kg per day of waste.	Proposed development aims to include the processing of waste tyres. This will require an Atmospheric Emissions License in terms of Section 21 of NEM:AQA.

2.3. Site Description and Locality

The site is situated within an already built-up industrial area **and is zoned "Industrial 2"** in terms of the Mogale City Land Use Scheme. The facility is immediately surrounded by industrial establishments located within 780 m radius from the site.



Figure 2-1: Neoserve' **Locality Map**

The immediate surrounding area is already characterized by industrial activities undertaken by various companies including Oryx Energies Krugersdorp (oil & gas products and services), Waterproofing Solutions, Princess Precast Walls Designer (fence wall installation service company), Totalgaz Chamdor Depot (gas storing facility), Weco (Pty) Ltd (drilling parts manufacturer), Malvilox (roof and building material manufacturer), Truco Rubber Krugersdorp (rubber manufacturer), TruSeal Security Seals (seal manufacturer), Kgonang Engineering (Pty) Ltd (Machining manufacturer), Meintjies Fencing (Pty) Ltd (fence manufacturer), Tylpro Adhesives, Foam Junxion (bedding Store), Avima, Flow system Manufacturers (Pty) Ltd, K-Fab, Crescent Engineering-Filter Cages, Waxpak Food Service Packaging, Autoliv Southern Africa (Pty) Ltd, Pabar (Pty) Ltd, Trojan Trailers Cc, Select Veneering Cc, Ewest Manufacturing (Pty) Ltd, Aussies Precast Walling (building Material store), Maningi Metals Krugersdorp, Xox Bolt & Nut, Moba SA (Pty) Ltd, Steloy Casting Chamdor, Techroq Engineering, Stainless Special Products Cc, Gridning Techniques (Pty), Milling Spares and services (Pty) Ltd etc.

The presence of these companies has completely changed the character of the area. Figure 2-2 below shows surrounding area within 780 m radius from Neoserve.



Figure 2-2: Neoserve' Surrounding Area (780m Radius) Map. Shows industrial activities surrounding the site.

The closest residential areas include Kagiso which is located about 780m west of the Neoserve site, and Witpoortjie which is located approximately 1.4km east of the Neoserve Site. The two residential areas consists a number of schools which are within a 5km radius of the proposed facility which includes, Kagso Senior Secondary (1.15km east), Tsholetsega Public School (1.22km northwest), Mofundi/John Martin School (1.25km north), Thembile Primary school (1.63km west), Khaselihle Primary School (1.3km west), Entuthukweni Primary School (1.35km west), Madiba Comprehensive School (1.37km west), Sandile Primary School (1.92km west), Laerskool Culembeek Primary School, Hoërskool Bastion, Little Stars Pre-Primary School, Laerskool Roodebeek, Princess Primary School among others.

Neoserve' site is situated at approximately 3.76 km west of the R24 Regional Road which can be accessed through the Chamdor main Road from the site.

Table 2-3 and Table 2-4 below shows the cadastre information of the site. Table 2-5 and Table 2-6 show the approximate corner points, and the centre point coordinates of the site, respectively.

Table 2-3: Cadastre Information.

ERF	256
Portion Number	1
Farm Name	CHAMDOR

Table 2-4: SG Digit codes.

SG Digit Codes	T0IQ00560000025600001
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Table 2-5: Approximate corner points of Neoserve' facility.

Corner	Latitude	Longitude
Corner 1	26° 9' 13.44"S	27° 48' 13.28"E
Corner 2	26° 9' 13.44"S	27° 48' 11.63"E
Corner 3	26° 9' 11.47"S	27° 48' 10.52"E
Corner 4	26° 9' 10.87"S	27° 48' 11.83"E
Corner 5	26° 9' 12.60"S	27° 48' 12.82"E
Corner 6	26° 9' 12.62"S	27° 48' 13.05"E

Table 2-6: Centre Point coordinates of Neoserve' facility.

Point	Latitude (S)	Longitude (E)
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Current infrastructure at the Neoserve' **site consists of 2** building structures which are vacant. Current plans are to utilize both of the buildings for the proposed activities. Existing office spaces and ablutions shall also be used as they are.

No significant changes to the current main building structures are planned to take place. Only the commissioning and installation of equipment such as the burning room, pyrolysis reactor, oil tanks, gas separator, vertical condensers, cooling tower, an extra gas burning room, carbon black discharging system, smoke scrubber system, and some stairs and platform, shall be added.

The facility is fully paved with good ground integrity.



Impacts evaluation and mitigation.

3. IMPACT ASSESSMENT

The environmental impact statement provides an account of the key findings of the impact assessment process. Referring to the significance rating summary in the table below, it is evident that although the development imparts negative impacts, most of them are of low significance before and post-mitigation.

All environmental impacts were found to have low significance to their respective aspects. The proposed project has a significant need and desirability as it provides mitigations against the increasing number of recorded waste tyres and its associated challenges in the country.

Additionally, the proposed development and its existence will significantly influence the country's tyre pyrolysis market in addition to having favourable socio-economic effects through the creation of jobs and contributions to the **WRDM's overall GDP**.

Table 3-1: Summary of Environmental Impact Significance Ratings.

Assessed Impact	Rating before Mitigation	Rating Post-Mitigation
Air quality (Operation)	Negative Low Impact	Negative Low Impact
Socio-economic (Operation)	Positive Medium Impact	N/A
Solid waste (Construction/ Commissioning & Operation)	Negative Low Impact	Negative Low Impact
Resource usage (Construction/ Commissioning & Operation)	Negative Low Impact	Negative Low Impact
Fire Hazard (Construction/ Commissioning)	Negative Medium Impact	Negative Low Impact
Fire Hazard (Operation)	Negative Low Impact	Negative Low Impact



Objectives

4. OBJECTIVE OF THIS EMPr

This EMPr is to inform all relevant parties and all other staff employed by the Neoserve (Pty) Ltd at the site as to their duties in the fulfilment of the legal requirements for the operation and maintenance of the facility with reference to the prevention and mitigation of anticipated potential environmental impacts.

All parties must note that obligations imposed by the EMPr becomes legally binding once the Waste Management Licence is granted by the relevant environmental permitting authority.

The objectives of this EMPr are to:

- Ensure compliance with provincial, national and/or international regulatory authority stipulations and guidelines;
- Ensure that there is sufficient allocation of resources on the project budget so that the scale of EMPr-related activities is consistent with the significance of project impacts;
- Verify environmental performance through information on impacts as they occur;
- Respond to unforeseen events;
- Provide feedback for continual improvement in environmental performance;
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels;

- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project/development;
- Identify measures that could optimize beneficial impacts;
- Create management structures that addresses the concerns and complaints of I&APs with regards to the project/development;
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity;
- Ensure that safety recommendations are complied with; and
- Specify time periods, where appropriate, within which the measures contemplated in the final EMPr must be implemented.

This EMPr seeks to highlight the following:

- Avoid impacts as a result of not performing certain actions;
- Minimise impacts by limiting aspects of an action;
- Rectify impacts through rehabilitation, restoration, etc of the affected environment;
- Compensate for impacts by providing substitute resources or environments;
- Minimise impacts by optimising processes, structural elements and other design features;
- Provide on-going monitoring and management of environmental impacts of a development and documenting of any transgressions /good performances; and
- The EMPr is a binding document that all parties involved in the project must be made aware of.

5. DEVELOPMENT PHASES

5.1. Pre-Construction Phase (Planning)

The applicant is proposing tyre pyrolysis plant activities and therefore, require a Waste Management Licence. As such, commissioning activities will be undertaken to accommodate the activities proposed by the applicant. It is, therefore, important that all plans must consider the environment and accommodate any potential mitigations required to be in place prior to commencement.

5.2. Construction/Commissioning Phase

During the proposed commissioning, it is empirical that measures to remedy the potential environmental impacts associated with the commissioning activities and subsequent operational activities be considered to reduce the potential impacts on the receiving environment. However, given that the site was acquired with a building structure in phase the impacts of this phase are expected to be very minimal.

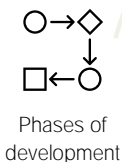
5.3. Operational Phase

The environmental impacts associated with the operational phase of the project mainly occur over time. Appropriate and successful implementation of the mitigation measures as detailed in this EMPr will minimise the potential of the impacts occurring as well as their severity. Furthermore, presenting remedial measures should such impacts occur.

Section 7.1 of this report below provides a comprehensive description of all the recommended measures identified as effective mitigations for the identified significant environmental impacts. monthly environmental audits should be conducted to ensure that any environmental issues are detected and or identified earlier and remedied as quick as possible.

5.4. Decommissioning

Impacts that occur throughout this phase are mainly those associated with site closure activities. During the decommissioning phase all structures, equipment and associated infrastructure must be demolished and removed from the site. In addition to this, the site must be remedied and rehabilitated to an acceptable level if required. Furthermore, all revegetation that may be undertaken on site must be in unison with the ecology



of the surrounding area. Should soil or groundwater contamination be suspected, an independent geohydrologist must be commissioned to conduct a contamination assessment at the site and any other water bodies that may have a link to the contaminated area depending on the level of contamination.



6. RESPONSIBLE ENTITIES

The Applicant must ensure that all its employees, agents, contractors, subcontractors and or any entity or person conducting any type of work onsite and or on behalf of the applicant are familiar with the requirements of this EMPr and conditions stipulated in the associated EIA Impact report as well as the Waste Management Licence conditions and any other conditions of any report that forms part of this application. Neoserve should implement a management system to review and ensure compliance to the requirements included in these documents.

Furthermore, Neoserve should appoint relevant people to monitor the site and submit regular reports regarding the environmental compliance of the facility. Additionally, monitoring reports should be sent to the relevant authorities as per the requirements of the environmental documents and authorisation.

The site shall comply with the emergency preparedness and accident-reporting requirements, as required by the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), the National Water Act, 1998 (Act No 36 of 1998), the National Environmental Management: Waste Act 59, 2008 (NEM: WA), NEMA, NEM:AQA, as amended and/or any other relevant legislation including the Covid-19 regulations and the West Rand District Municipality by-laws.

6.1. Applicant

Neoserve will be responsible for the appointment of the various Contractors, as well as the services of an Environmental Control Officer (ECO) to manage the operational and decommissioning phase of the project. Neoserve must ensure that all mitigation measures presented in this EMPr are implemented on site, together with the required forms of monitoring. Neoserve will, in terms of the National Environmental Management Act, be responsible for all possible contamination on site, its investigation, as well as subsequent remediation, including the reporting of hazardous substance spillages and/or related incidents to the relevant authorities. Neoserve should further note that, it bears all responsibilities of non-compliance to the relevant requirements and or legislations.

6.2. Site Operator/Manager

The Site Operator/Manager acts as a representative for Neoserve and will be responsible for the efficient management of the facility. This would include the implementation of the EMPr where relevant. The Site Operator/Manager will also be required to communicate any incidents, problems or concerns to Neoserve Management.

6.3. Environmental Control Officer (ECO)

The ECO will act as an independent external auditor responsible for ensuring compliance with the contents of the EMPr, liaison with Contractors and Neoserve, as well as the Relevant Authority where required. The ECO must also be responsible for the compilation of environmental audit reports as and when required by the Relevant Authority.

6.4. Contractor(s)

The Contractor(s), as required, will receive the work order for the relevant activities needed during the Commissioning, Operation and Decommissioning Phases from the Applicant. The Contractor(s) is/are required to comply with the relevant sections of the EMPr together with the assistance and input of the appointed ECO.

6.5. Emergency Preparedness

Emergency procedures must be compiled and adhered to, to ensure that there will be an appropriate response to unexpected or accidental actions or incidents that will cause environmental impacts, throughout the operational and decommission phases. Such unexpected or accidental actions or incidents include, inter alia:

- Accidental discharges to water and land;
- Accidental exposure of employees to hazardous substances;
- Accidental fires;
- Accidental spillage of hazardous substances;
- Accidental toxic emissions into the air; and
- Specific environmental and ecosystem effects from accidental releases or incidents.



7. ENVIRONMENTAL MANAGEMENT PROGRAMME

This EMPr was compiled in terms of Section 24N of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended. The methodology employed was that of the Significance Assessment Methodology, which highlights impacts requiring mitigation in order to reduce the probable negative impacts upon the receiving environment.

Impacts identified are based upon previous consultant experience with similar development design, activity processes and the nature of the receiving environment. Impacts were further considered in terms of what could possibly be released to the environment during normal facility construction, operation as well as decommissioning and whether these could be prevented or minimised through successful mitigation.

The following recommendations are classified for; Commissioning, Operational and Decommissioning Phases. Where any operational and continuous non-compliance is determined during the earlier phases (as listed above) of the project, it must be upheld throughout the succeeding phases until such requirements are complied with.



7.1. Construction Phase (Commissioning) – Recommendations

Potential Impacts	Objectives	Mitigation intended	Monitoring		Responsible Person
Noise Generation	To minimise noise impacts and nuisances associated with the commissioning of the facility.	<ul style="list-style-type: none"> Commissioning activities must only be undertaken during normal working hours as approved by the relevant national, provincial or local authorities. All necessary applicable measures must be undertaken to reduce noise levels on site during the commissioning activities. All unnecessary noises such as hooting and shouting must be prohibited. Any contractor vehicles to be on site must be well maintained to avoid the generation of loud noises that may be a nuisance. A complaints registers must be kept on site to record any complaints from interested and affected parties. Should any complaints be lodged such complaints must be recorded, investigated and the outcome of the investigation recorded. Furthermore, remedial actions must be undertaken. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Daily 	<ul style="list-style-type: none"> Contractor(s), ECO
			<ul style="list-style-type: none"> Auditory monitoring Complaints register 	<ul style="list-style-type: none"> Daily 	<ul style="list-style-type: none"> Contractor(s), ECO



Solid Waste Generation	<p>To ensure appropriate management of waste.</p>	<ul style="list-style-type: none"> Any waste generated during the phase must be stored appropriately to be disposed of at an appropriately registered waste disposal facility, by an appropriately register waste collector. Appropriately labelled waste receptacles should be available throughout the site; For by-products from the pyrolysis process including char, Carbon Black, fibres, pyrolysis oil and/or steel which cannot be re-used or processed further at the site – the possibility of selling them to a third-party recycler, or processor must be explored as priority option. Where any cannot be sold, it must therefore, be disposed accordingly at a licensed landfill site. Non-hazardous solid waste generated from the normal operation of the site should be disposed of in the correct manner at a registered general waste disposal site. Such waste can be collected by the Municipality as part of its regular service or removed by a reputable contractor; Recycling of general waste should be encouraged with the use of appropriately labelled recycling receptacles according to waste types in terms of Section 26 of the NEM: WA; Solid waste deemed to be contaminated and non-recyclable must be stored and handled in accordance with appropriate regulations. Any removed waste should be transported to an appropriate hazardous waste disposal facility; All material used for the mopping up of surface spillages should be stored in a container labelled “used material” and removed on a regular basis an approved hazardous waste disposal contractor. 	<ul style="list-style-type: none"> Disposal manifests must be kept as proof of correct disposal. 	<ul style="list-style-type: none"> Once off 	<ul style="list-style-type: none"> Neoserve Contractor(s), ECO
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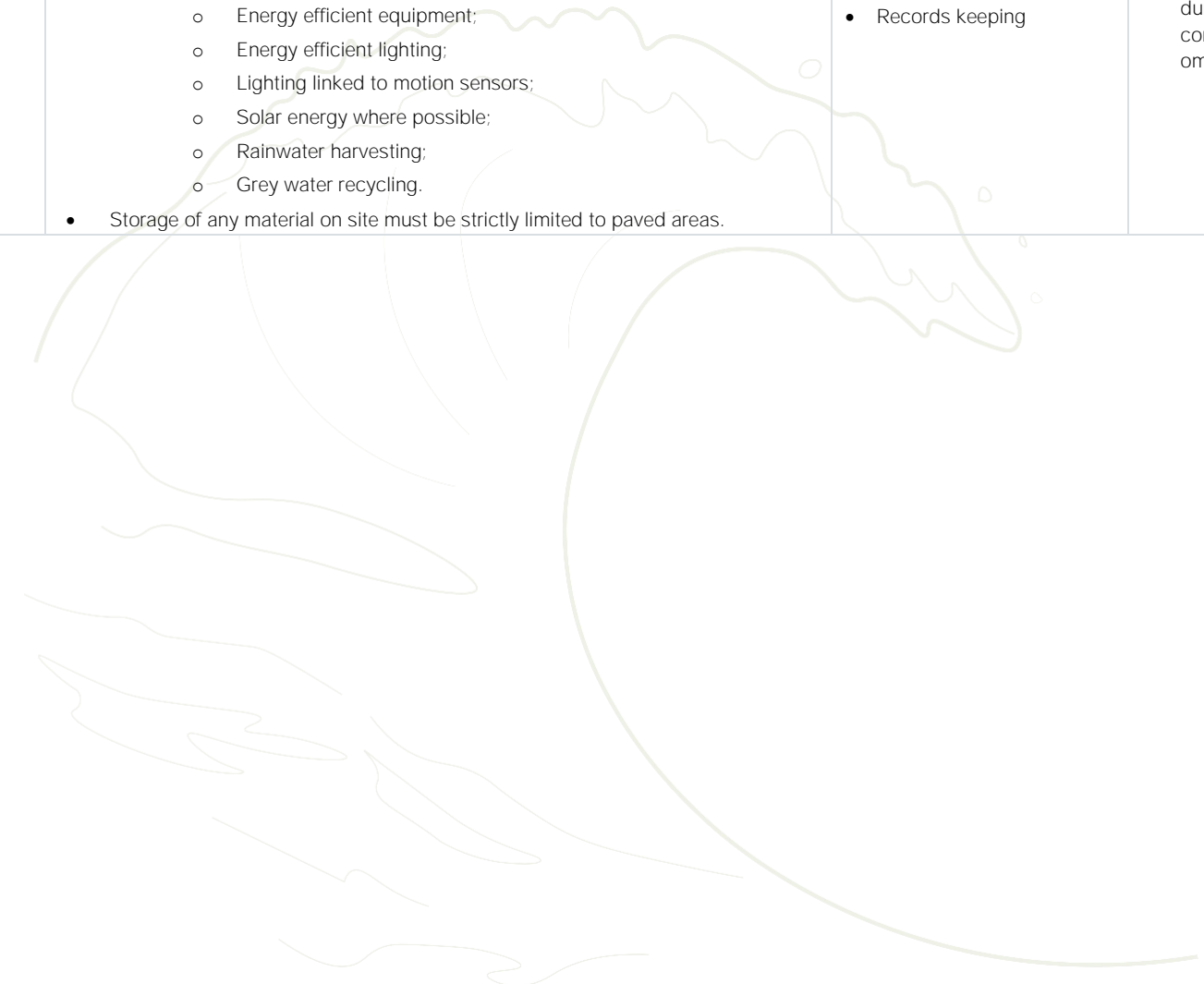
Fire and Explosion	<p>To minimise the risk of fires and explosions.</p>	<ul style="list-style-type: none"> • Firefighting equipment must be made available on site during the commissioning of the facility. Personnel on site must have appropriate training to use firefighting equipment. • No open fires are allowed during the commissioning activities • All equipment associated with the storage of dangerous goods must be well maintained as required using approved contractors; • Neoserve must ensure that sufficient training is presented to the operators of the facility and personnel utilising the chemicals and/or gas. Training must include general site operation, spill response and emergency procedures and site safety; • In case of an incident the Neoserve Emergency Response Procedure must be followed; • Safety signage must be systematically placed around the site. These include, “no naked flames; no smoking; safety clothing”; • The fire department must immediately be informed of any fires that occur on site; • The facility must ensure that a spill kit is available on site and must be used to timely clean any spillages which may occur. 	<ul style="list-style-type: none"> • Visual monitoring 	<ul style="list-style-type: none"> • Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> • Contractor(s), ECO
Air Pollution	<p>To minimise the impacts on the air quality from the site activities.</p>	<ul style="list-style-type: none"> • Any blowable material that is transported to or from site must be covered at all times to prevent them from being blown away. • Construction Vehicles must be well maintained to limit the exhaust emission. Vehicles that emit dark smoke should not be allowed to operate on site. • A complaints register to record any complaints from interested and affected parties must be kept on site. Should any complaint be lodged, such a complaint must be recoded, investigated and mitigation measure must be undertaken to remedy the situation. • Minimize the surface area of exposed soil and fine construction materials to wind erosion. • Ensure implementation of mitigation measures for fume and smoke emissions; including but not limited to the following: <ul style="list-style-type: none"> ○ Prohibit any fires; and ○ Prohibit burning of wastes/refuse. • Make use of cloth or brush barrier fences (where appropriate); • Cover dumps with plastic sheeting (except for topsoil stockpiles); • Prohibit the use groundwater and water from wetlands for dust suppression; and 	<ul style="list-style-type: none"> • Visual monitoring 	<ul style="list-style-type: none"> • Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> • Contractor(s), ECO



Surface Water Contamination and Water Wastage	<p>To prevent surface water pollution within the surrounding areas.</p>	<ul style="list-style-type: none"> Any cement, chemical and/or concrete mixing must be undertaken on paved and banded areas to prevent run-off. Water must be used sparingly during the commissioning activities. Wastage of water is strictly prohibited. Contractor laydown areas and material storage facilities must be placed within the study area; All vehicle re-fuelling is to take place on a sealed surface within the study area; All development footprint areas to remain as small as possible and vegetation clearing to be limited to what is absolutely essential; Retain as much indigenous vegetation as possible; Excavated materials should not be contaminated, and it should be ensured that the minimum surface area is taken up, however, the stockpiles may not exceed 2m in height; All exposed soils and temporary stockpiles must be protected for the duration of the construction phase in order to prevent erosion; and Immediate revegetation of all stockpiles which are to remain on site post-construction. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Visual Impact	<p>To minimise the visual impacts on the neighbouring establishments and or residents.</p>	<ul style="list-style-type: none"> Waste must be stored within appropriate containers/skips to prevent any visual impacts. Waste must not be stored on or near the adjacent properties. Waste must not be kept on site for long periods, it must be removed from site regularly by a registered waste collector to be disposed at a registered waste disposal facility. Where possible visual impacts will be screened from non-construction personnel. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Traffic Congestion and Safety	<p>To minimise traffic congestions around the site</p>	<ul style="list-style-type: none"> Vehicles must not be allowed to obstruct traffic, dedicated flagmen should be appointed to ensure that there are no traffic congestions caused by the site activities. No vehicle must be allowed to park on the road 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Safety and Security Threats	<p>To ensure that all activities are undertaken in a safe manner.</p>	<ul style="list-style-type: none"> All commissioning activities on site must be as per the Occupational Health and Safety Act requirements. Vehicles must be operated by appropriately licensed individuals. Contact details of the emergency services must be strategically displayed around the site. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during construction/c ommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO



Resource Usage		<ul style="list-style-type: none">• Neoserve should consider implementing the following at their site;<ul style="list-style-type: none">○ Energy efficient equipment;○ Energy efficient lighting;○ Lighting linked to motion sensors;○ Solar energy where possible;○ Rainwater harvesting;○ Grey water recycling.• Storage of any material on site must be strictly limited to paved areas.	<ul style="list-style-type: none">• Visual Monitoring• Records keeping	<ul style="list-style-type: none">• On going during construction/ommissioning	<ul style="list-style-type: none">• Contractor(s), ECO
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7.2. Operational Phase – Recommendations

POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
Surface Water Contamination and Effluent	<ul style="list-style-type: none"> To ensure that accidental spillages are avoided. To ensure that accidental spillages are addressed sufficiently and prevented from entering the receiving environment. To ensure that effluent is managed in accordance with relevant procedures and municipal requirements. 	<ul style="list-style-type: none"> Clean and dirty water management must take place in order to prevent contaminated runoff from the facility into the storm water drainage and/or nearby wetlands. General office waste must be separated from Plant process waste and or hazardous waste on site. Suitable waste disposal facilities onsite should be provided. These facilities should be covered to avoid contact with rainwater. Ensure that sufficient training is presented to the operator of the facility. Training is to include general facility operation, chemical handling, spill response, emergency procedures and site safety as well as environmental compliance requirements. A spill response kit composed of absorbent fibres and associated waste containers must be made available on site. All material used for mopping up of surface spillages must be removed on a regular basis by an approved hazardous waste disposal contractor, to a registered hazardous waste disposal site. Chemicals and hazardous material must be stored appropriately including the use of bund walls that conform to SANS standards. Concrete containment slabs should be constructed in areas of chemical dispersing and storage. No chemicals should be dispersed over bare soils. All spillages must be cleaned as and when they occur. The Material Safety Data Sheets (MSDS) for any and all chemicals stored on site must be kept on site at all times and updated regularly. Water used during housekeeping activities should be kept to a minimum. 	<ul style="list-style-type: none"> Records should be kept in terms of spillages (volumes, date, reason, etc) on site and the methods in which they were addressed. 	<ul style="list-style-type: none"> Ongoing during operation. 	<ul style="list-style-type: none"> Neoserve Manager
			<ul style="list-style-type: none"> Correspondence regarding problems on site. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Neoserve Manager
			<ul style="list-style-type: none"> Records should be kept in terms of staff training (both initial and refresher). 	<ul style="list-style-type: none"> Ongoing during operation 	<ul style="list-style-type: none"> Neoserve Manager
			<ul style="list-style-type: none"> Maintenance records on site infrastructure should be kept. 	<ul style="list-style-type: none"> Ongoing during operation 	<ul style="list-style-type: none"> Neoserve Manager
			<ul style="list-style-type: none"> Wastewater disposal certificates must be kept available. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Neoserve Manager, Neoserve Contractors
			<ul style="list-style-type: none"> Visual monitoring. 	<ul style="list-style-type: none"> Ongoing during operation 	<ul style="list-style-type: none"> Neoserve Manager



POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
Solid Waste Generation & Storage	<ul style="list-style-type: none"> To ensure that all waste (general and hazardous) generated during this phase is stored and disposed of in the correct manner. 	<ul style="list-style-type: none"> Appropriately labelled waste receptacles should be made available throughout the site for all waste that will not be used in the pyrolysis processes. Recycling of general waste should be encouraged with the use of appropriately labelled recycling receptacles according to waste types in terms of Section 26 of the NEM: WA, for waste that will not be used in the pyrolysis process. Solid waste deemed to be contaminated and non-recyclables must be stored and handled in accordance with appropriate regulations and removed to an appropriate hazardous waste disposal facility. All material used for mopping up of surface spillages should be stored in a container labelled "used material" and removed on a regular basis by an approved hazardous waste disposal contractor. In terms of Section 11 of Part 2 of the Norms and Standards of the storage of waste specified in GN No. 926 of 29 November 2013 as promulgated in terms of the National Environmental Management: Waste Act, (No. 59 of 2008) (NEM: WA), a hazardous waste container resting on the ground must be underlain by barriers, which will not deteriorate with the permeable rate of the waste stored. Bottoms of the container in contact with soil are subject to corrosion. Therefore, all containers must be protected from external corrosion either by ensuring that used containers are made of corrosion resistant materials or the containers have a cathodic protection system. Waste containers must be of sufficient strength and structural integrity to ensure that it is unlikely to burst or leak in its ordinary use. Waste containers must be covered to prevent rainwater from coming into contact with the waste. All facility waste must be separated (general and hazardous) and stored on impermeable surfaces at designated areas and frequently removed to prevent the accumulation of waste on site. All waste collected by extraction equipment must be regarded as hazardous and it must be collected by a registered waste collector to be disposed of at an appropriate waste disposal site. Where effluent is produced on site, it must be treated as per the standard operating procedures (SOPs) and removed by approved waste contractors. The Neoserve facility triggers activities in terms of the NEM:WA and must register on the national and provincial waste information systems i.e. the South African Waste Information System (SAWIS) as per the requirements of the National Waste Information Regulations of 13 August 2012 published under Government Notice R625. 	<ul style="list-style-type: none"> Visual monitoring. Hazardous waste must be disposed of at a registered hazardous waste disposal site by an approved waste disposal contractor. Waste disposal certificates must be kept available. General waste must be disposed of at a registered waste disposal site by an approved waste disposal contractor. Waste disposal certificates must be kept available. Annual Audit Reports for compliance with WMP and Norms & Standards. 	<ul style="list-style-type: none"> Weekly As required Annual Audit 	<ul style="list-style-type: none"> Neoserve Site Manager, Neoserve, Contractors



POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
Fire and Explosion Hazards	<ul style="list-style-type: none"> To ensure that the risk of fire or explosions is minimised 	<ul style="list-style-type: none"> All equipment associated with the storage of dangerous goods must be installed and maintained as required using approved contractors. Neoserve must ensure that sufficient training is presented to the operators of the facility. Training should include general site operation, spill response, environmental requirements and emergency procedures and site safety. Neoserve must compiled an Emergency Response Plan (ERP), get it approved by the Mogale City's Department of Emergency Management Services and keep the ERP and the approval on site at all times. In case of an emergency or an incident ERP must be followed. The ERP must be made available to anyone and everyone that works or access the Neoserve facility. The facility handles highly combustible material. Therefore, it is of paramount importance that all staff members are well prepared. A firefighting training must be conducted annually for all staff member and records of such training must be kept on site for at least 5 years. 	<ul style="list-style-type: none"> Records of all near misses and fire hazards on the site must be kept 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Neoserve Manager
			<ul style="list-style-type: none"> Records on the maintenance of all firefighting equipment must be kept 	<ul style="list-style-type: none"> Annually 	<ul style="list-style-type: none"> Neoserve Manager



- All firefighting equipment must be maintained, serviced as required and strategically placed in and around the facility to ensure ease of access in case of an emergency.
- Waste tyre storage on site must be in terms of regulation 10 (6) of the waste tyre regulations.
- Safety signage must be present on site and must be visible at all times. These should include, **“no naked flames; no smoking; no cellular phones”, etc. as per requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).**
- An appropriate smoking area must be dedicated for staff members and or any visitors to the facility. Such a smoking area must be designed such that it is not a fire hazard, taking into account the nature of the material and or products handled on site.
- The site must be inspected and approved by the local fire department to obtain a fire safety certificate.
- The fire department must immediately be informed of any fires that occur on site.
- Emergency numbers for local police, emergency medical services, fire department etc. must be placed in prominent areas around the facility.
- Neoserve must make sure that relevant employees are provided with adequate PPE to prevent exposure to hazards within the facility. Appropriate PPE must be worn at all times by all persons conducting any type of work on site.
- The facility must ensure that a spill kit is available on site and must be used to timely clean any spillages which may occur. All spillages must be cleaned as and when they occur.
- A register to record any and all incidents must be kept on site. Records of incidents must be kept on site for a minimum period of 5 years.
- Material Safety Data Sheet (MSDS) or Method statements for the handling of all the hazardous products at the Neoserve facility must be made available on site at all times.
- Neoserve must employ a method of leak detection to ensure prompt detection of any leaks. Should any leaks be detected they must be repaired immediately and recorded into the incident register.
- The facility must install a carbon monoxide monitoring system, which must be maintained regularly (annually) and the maintenance records of the system must be kept on site for a period of at least 5 years.
- Ensure good housekeeping within hazardous material storage areas.
- Hazardous material storage containers must be compatible with their respective hazardous material to avoid corrosion which may cause leaks.
- All hazardous material and storage areas must be appropriately labelled and such labels must be visible at all times.
- A daily record of the quantities of hazardous materials kept on site must be made available at the facility.

- Visual monitoring
- Valid fire and Emergency Certificate

- On going during operation

- Neoserve Manager



Air Pollution

<ul style="list-style-type: none"> To reduce the potential negative effects of the facility of air quality 	<ul style="list-style-type: none"> Facility emissions are regulated by NEM:AQA (Act 39 of 2004) and require an AEL. Therefore, Neoserve must acquire an AEL for their facility and adhere to the conditions stipulated in the AEL. Once AEL is issued, the facility must comply with its findings including the mitigation and monitoring stipulated therein. Abatement equipment must be maintained to ensure optimum efficiency. In case of a breakdown, the equipment must be immediately repaired and/or replaced to ensure optimum efficiency. Records of any maintenance undertaken on the abatement equipment must be kept on site for a period of at least 5 years. Ensure that abatement is fully operational at all times during the normal operations of the facility. Stack emissions monitoring on all point sources is required annually, as a minimum. Compliance with the minimum emission standards is required for the relevant listed activity in terms of Section 21 of NEM:AQA, as amended. Fugitive emissions from facility operations can be reduced through the implementation of a fugitive emissions management plan. Mitigation measures outlined in the Air Quality Impact Assessment (AQIA) must be implemented where possible. Burning of material or waste on site is strictly prohibited. A monthly complaints register must be maintained on site. Information reported on the complaints register must at least include the date of complaint, name of complainant, type of complaint (air, noise, etc.), and action taken. In the event where a complaint is made, the complaint must be investigated and reported to the relevant authorities. Regular maintenance of all equipment on site must be conducted and records of maintenance must be kept on site for a period of at least 5 years. Neoserve must register and report on the National Atmospheric Emissions Inventory System (NAEIS). Category A (listed activities) are required to report their emissions on the NAEIS annually. Ensure that all unit processes & apparatus used for undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing emissions, are at all times properly maintained and operated. Proof of maintenance must be kept on site for a period of at least 5 years. Ensure that all surfaces inside and outside the facility are paved and/or repair any damage to paved areas as soon as practicable. Restrict the distribution of materials to paved surfaces thus preventing dust entrainment during material handling activities. An annual AEL report must be submitted to the relevant authorities within the required timeframes. Such report should include: 	<ul style="list-style-type: none"> Complaints Register NAEIS Records on all maintenance conducted must be kept. 	<ul style="list-style-type: none"> Monitoring Schedule 	<ul style="list-style-type: none"> Contractor – Air quality specialist
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POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
		<ul style="list-style-type: none"> o Compliance audit report; o Summary of major upgrades; o Pollutant monitoring trends; o GHG emissions; o Summary of complaints; o Any other required documentation. 			
Noise Generation	<ul style="list-style-type: none"> • To reduce the possible negative effects of vehicle and operational noise on the surrounding area and adjacent land users. 	<ul style="list-style-type: none"> • Signs prohibiting boisterous noise such as hooting or loud music, must be put up on site. • The Site Manager and facility personnel must be aware of the noise levels on site and inform people to reduce noise where necessary. • No noise generating work must be conducted outside of normal working hours as approved by the National, and Local Authority. • Noise complaints must also be recorded on the complaints register. Any noise complaint should be reported to the authorities. • Noise levels emanating from the facility must comply with the Gauteng Noise Regulations. 	<ul style="list-style-type: none"> • Auditory monitoring 	<ul style="list-style-type: none"> • Ongoing during operation 	<ul style="list-style-type: none"> • Neoserve Manager
Traffic Congestion and Problems	<ul style="list-style-type: none"> • To reduce or eliminate the probability of traffic congestion at the site or on the access roads. 	<ul style="list-style-type: none"> • All the requirements stipulated in the National Road Traffic Act, 1996 (Act No. 93 of 1996) (NRTA) will need to be complied with during operation of the development. • It must be ensured that there is sufficient space on site for vehicles and, as such, delivery vehicles should not obstruct the access roads. • A traffic safety officer should be nominated to make all the necessary arrangements to maintain the required traffic measures for the duration of the facility to avoid any traffic congestions due to the operations of the facility. • During periods of high traffic entering and exiting the site, it is recommended that flagmen should help direct the traffic. This will enable the safe movement of facility and public traffic at the entrance and reduce the number of potential conflicts. 	<ul style="list-style-type: none"> • Visual monitoring 	<ul style="list-style-type: none"> • On going during operation 	<ul style="list-style-type: none"> • Neoserve Manager



POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
Visual Impact	<ul style="list-style-type: none"> To reduce the level of visual impact imparted upon the surrounding land users and passers-by. The site is within and existing industrial area and thus should conform to the surrounding sense of place. 	<ul style="list-style-type: none"> Lighting must be inward and downward pointing to reduce glare in surrounding areas. Lighting must be kept to a minimum and restricted to low level, downward facing lights to reduce light spill. The facility area and surroundings must be kept clean, tidy and well maintained to reduce negative visual impacts. Regular maintenance of exteriors and associated infrastructure must be undertaken. Storage of any material on site including waste tyre, final products or any other material must be stored appropriately in designated areas and where practicable storage should be in containers It is recommended that routine maintenance on buildings and other structures be implemented, to ensure that the paint of buildings do not weather and that they fit into the colour palette of the surroundings. If a green open space is demarcated and landscaped, it must be ensured that the vegetation be maintained and controlled to reduce the risk of potential alien floral species proliferation and to keep it aesthetically appealing to the receiving environment. It is recommended that maintenance activities should not take place at night or on weekends, unless absolutely essential. No naked / unshielded light sources are to be directly visible from a distance. Neoserve should ensure that their existing fence and walls are well maintained so to have tidy appearance and for security purposes. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> On going during operation 	<ul style="list-style-type: none"> Neoserve site manager
Safety and Security Threats	<ul style="list-style-type: none"> To ensure the all decommissioning activities take place in a safe and secure manner with no threat to human life or property. 	<ul style="list-style-type: none"> The facility staff must be kept informed and up to date in terms of all relevant codes and procedures for safe practise at the site. The Site Operator shall make provision for the possibility of an accident or emergency on site to staff. This would include the provision for a trained company first aid representative, a suitable first aid kit and details of the nearest medical facility. All contact details for emergency personnel must be kept on site. This would include contact details for the police, security services, ambulance services and the fire department. 	<ul style="list-style-type: none"> Visual monitoring Site audits must be conducted. Audit reports must be kept available on site 	<ul style="list-style-type: none"> On going during operation As acquired 	<ul style="list-style-type: none"> Neoserve site manager Neoserve site manager



POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
		<ul style="list-style-type: none"> An incident register should be kept on site to record all incidents that occur on site. All records of incidents must be kept on site for a period of 5 years. The fencing surrounding the site should be inspected regularly to ensure structural integrity and minimise opportunities for breaching the property. No vagrants are allowed to loiter or congregate on or around the site. In case of an incident, the facility's Emergency Response Procedure (ERP) must be followed. MSDS for all hazardous materials stored on site must be present on site and updated regularly. 	<ul style="list-style-type: none"> Records should be kept in terms of staff training (both initial and refresher) 	<ul style="list-style-type: none"> As acquired 	<ul style="list-style-type: none"> Neoserve site manger
Soil and Land	<ul style="list-style-type: none"> To reduce probability of activities leading to soil compaction untarred/unpaved surfaces which consist of soil material To reduce the possibility of contamination of the surrounding soils 	<ul style="list-style-type: none"> All vehicles must remain within demarcated roads as far as practically possible. Stormwater management must take place in order to prevent contaminated runoff from the Neoserve facility. Waste product should be recycled as best as practically possible so as to minimise sources of soil contamination. Storage of material on site must be limited to paved areas. Under no circumstances should the storage of any material be allowed on unpaved areas. 	<ul style="list-style-type: none"> Records should be kept in terms of spillages (volumes, date, reason, etc) on site and the methods in which they were addressed. 	<ul style="list-style-type: none"> On going during operation 	<ul style="list-style-type: none"> Neoserve site manger
			<ul style="list-style-type: none"> Correspondence regarding problems on site. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Neoserve site manager
			<ul style="list-style-type: none"> Waste disposal certificates must be kept available. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> Neoserve site manager, Neoserve, contractor(s)
			<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> On going during operation 	<ul style="list-style-type: none"> Neoserve site manager
Resource usage	<ul style="list-style-type: none"> To reduce the cumulative impacts associated with resource usage and ensure the lowest carbon footprint possible. 	<ul style="list-style-type: none"> Rainwater should be harvested and used in the facility's processes, especially during rainy seasons. The use of solar energy as well as energy efficient equipment and lighting should be investigated and implemented as far as practicable. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> On going during operation 	<ul style="list-style-type: none"> Neoserve site manager



POTENTIAL IMPACTS	OBJECTIVES	MITIGATION INTENDED	MONITORING		RESPONSIBLE PERSON
		<ul style="list-style-type: none"> • Should an alternative energy source be sought and/or used, such a source must be more eco-friendly and/or have a lower carbon footprint than the current energy source used. • Ensure that there is no leakage of oil, LPG, water etc. to avoid wastage of resources. Any leakage that is detected must be considered an emergency and repaired immediately. • Emissions from the facility's processes must be monitored and comply with the requirements of Section 21 of NEM:AQA. • Emissions trends must be reported as per Section 21 of NEM:AQA as well as the NAEIS requirements. • Ensure that all staff members exercise good environmental practice and know the significance of the preservation of natural resources. • Ensure that water infrastructure operates optimally and conduct regular leak detection to ensure water is used sparingly. • Storage of material on site must be limited to paved areas. Under no circumstances should the storage of any material be allowed on unpaved areas. 	<ul style="list-style-type: none"> • Emissions monitoring 	<ul style="list-style-type: none"> • Annually 	<ul style="list-style-type: none"> • Neoserve, contractor(s)



7.3. Decommissioning Phase – Recommendations

POTENTIAL IMPACTS	OBJECTIVES	COMPLIANCE	MONITORING	RESPONSIBLE PERSON	
Soil and groundwater contamination	<ul style="list-style-type: none"> To ensure that all buildings and infrastructure are removed in a safe manner. To determine whether contamination as a result of activities is present, the level of risk and remediation plans. 	<ul style="list-style-type: none"> All removed soil, backfill material and building waste should be temporally stored in such a manner as to reduce possible loss of soil in the event of precipitation occurrences. This would include the use of berms. Soil must not be stockpiled in low lying areas, areas where surface water may accumulate or areas susceptible to erosion. Movements of vehicles used during decommissioning should be restricted to prevent disruption of unaffected soils. If possible, decommissioning activities should be restricted to the dry season. All infrastructures, such as concrete slabs, bund walls, buildings, etc, should be broken down and removed off site for safe disposal. The site should be vegetated or developed following site decommissioning. If required, the site must be rehabilitated to an acceptable level as per the requirements of NEMA and in terms of the projected future land use. In case of an incident (spills, etc.) Neoserve' /contractor's Emergency Response Procedure (ERP) must be followed. Following infrastructure and waste removal, if contamination is suspected an independent contamination specialist should be contracted to conduct a contamination assessment as per accepted procedures. These procedures must highlight the required methodologies, methods of analysis, risk assessment and remediation. 	<ul style="list-style-type: none"> An ECO must be appointed to oversee decommissioning activities 	<ul style="list-style-type: none"> Once off 	<ul style="list-style-type: none"> Neoserve, contractor(s), ECO
			<ul style="list-style-type: none"> If required, a contamination investigated should be undertaken. Reports must be kept available. 	<ul style="list-style-type: none"> As required during decommissioning 	<ul style="list-style-type: none"> Neoserve, contractor, specialist
			<ul style="list-style-type: none"> If required, remediation measures must be implemented. Reports on progress and sampling results must be kept available. 	<ul style="list-style-type: none"> As required, sampling must be done as advised by remediation specialist 	<ul style="list-style-type: none"> Contractor(s), ECO
			<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> On going during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO



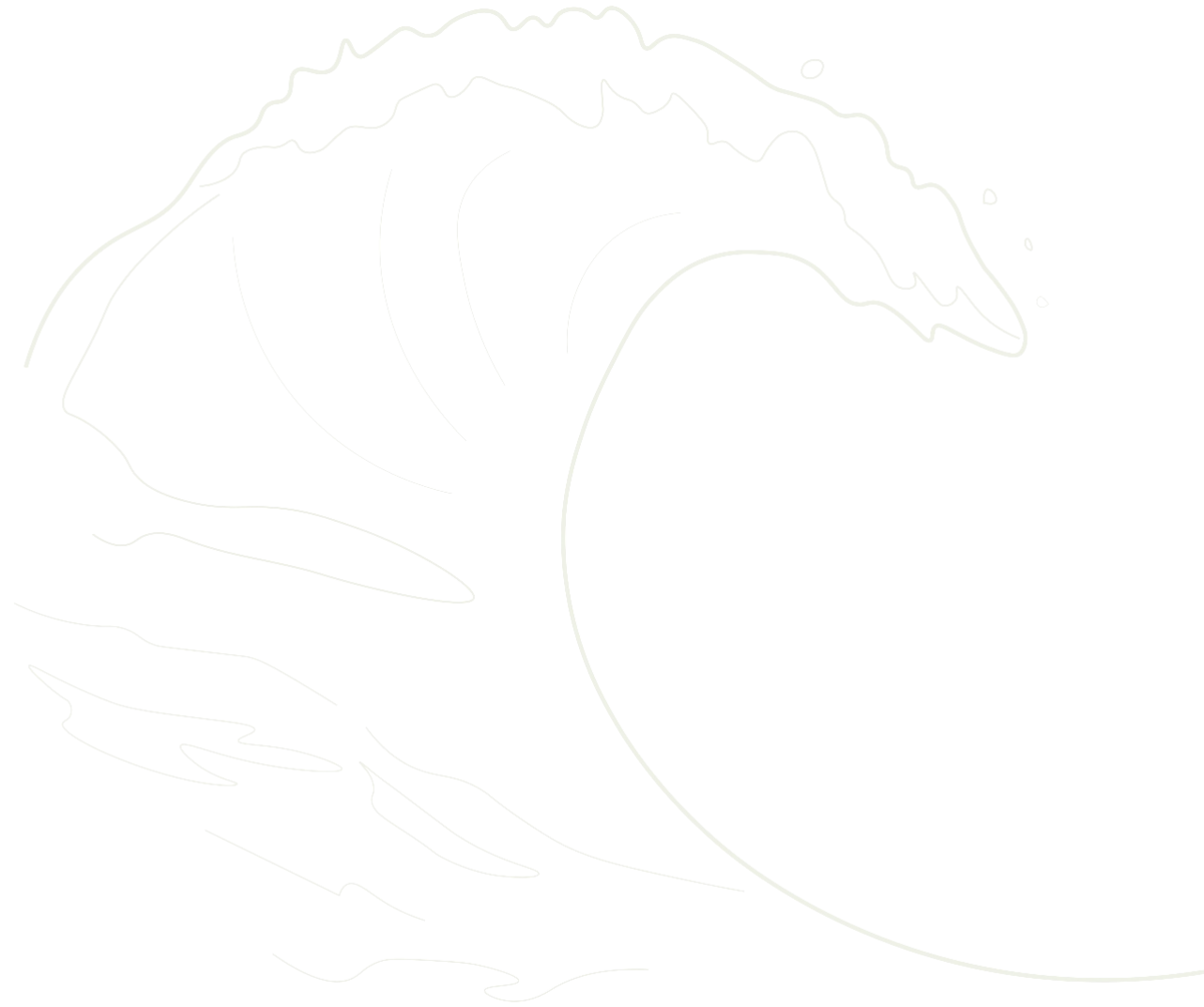
POTENTIAL IMPACTS	OBJECTIVES	COMPLIANCE	MONITORING		RESPONSIBLE PERSON
Noise Generation	<ul style="list-style-type: none"> To reduce the possible negative effects of noise generated as a result of decommissioning activities on the surrounding areas and adjacent land users. 	<ul style="list-style-type: none"> Decommissioning activities on site must only be carried out during normal working hours. Noise on site should be kept to a minimum where possible. This should include the judicious use of heavy machinery. In addition, contractors should be advised that excessive verbal noise will not be tolerated. No hooting by contractors around the site is allowed. Contractors should use the main roads in the area and should refrain from driving in/ through any private-owned areas. Contractor vehicles must be serviced and maintained regularly in order to keep noise generation as low as possible. 	<ul style="list-style-type: none"> Auditory monitoring 	<ul style="list-style-type: none"> On going during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Solid waste generation	<ul style="list-style-type: none"> To ensure that all waste generated during this phase is either recycled (reused) or disposed of in the correct manner. 	<ul style="list-style-type: none"> Solid waste such as soil and building rubble must either be reused off site for other construction activities or disposed of at a registered general waste disposal site by an approved waste disposal contractor. Any contaminated solid waste must be removed and transported to a registered hazardous waste disposal site. Contaminated solid waste to be temporarily stock piled on site must be placed on plastic sheeting and or container/skips. All necessary measure must be undertaken to prevent the spread and or washing away of the stock piled material. Waste disposal manifests must be provided to Neoserve as proof that waste was disposed of in the correct and appropriate manner and at an appropriate waste disposal facility. 6 	<ul style="list-style-type: none"> Waste disposal manifests must be kept available 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Neoserve, contractor(s)
			<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Soil Erosion	<ul style="list-style-type: none"> To reduce or eliminate the possibility of soil erosion resulting from precipitation or surface water. 	<ul style="list-style-type: none"> All removed soil should be temporally stored in such a manner as to reduce possible loss of soil in the event of precipitation events. This would include the use of berms. Soil should not be stock piled in low lying areas, areas where surface water may accumulate or areas susceptible to erosion. Vehicles used during decommissioning should be restricted in its movements to prevent disruption of unaffected soils. If possible, decommissioning activities should be restricted to the dry season. The site should be developed or vegetated after decommissioning has been completed, in line with the projected future land use. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO



POTENTIAL IMPACTS	OBJECTIVES	COMPLIANCE	MONITORING		RESPONSIBLE PERSON
Air Pollution	<ul style="list-style-type: none"> To reduce the possible negative effects of decommissioning on the general air quality of the area. However, the cessation of the facility activities will have a generally positive effect on the overall air quality 	<ul style="list-style-type: none"> The site must be lightly sprayed with water for dust suppression. Potable water must not be used for dust suppression. Vehicles must be regularly maintained to ensure maximum fuel economy and reduced exhaust emissions. All waste transported from the site, which may lead to dust generation, should be covered. No refuse generated during this phase must be burnt on site or on the neighbouring properties. All paved surfaces, where vehicle activity will frequently occur, should be cleared/ cleaned regularly to prevent accumulation of dust. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Traffic Congestion & problems	<ul style="list-style-type: none"> To reduce or eliminate the probability of traffic congestion at the site or on the access roads and to ensure that safety is not compromised. 	<ul style="list-style-type: none"> Vehicles must access and leave the site during off peak hours in order to avoid congestion. Vehicles must not be parked on roads or adjacent areas, as there is sufficient space for parking on site. Vehicles must under no circumstances obstruct access roads or driveways. The relevant safety signage and traffic measures must be displayed and implemented on and around the site to prevent accidents and reduce traffic congestion. A traffic safety officer shall be nominated to make all the necessary arrangements to maintain the required traffic measures for the duration of the decommissioning activities. During periods of high traffic entering and exiting the site, it is recommended that flagmen help direct the traffic. This will enable the safe movement of construction and public traffic at the entrance and reduce the number of potential conflicts. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Sanitation	<ul style="list-style-type: none"> To reduce the possible negative effects of uncontrolled sanitary practises by decommissioning personnel. 	<ul style="list-style-type: none"> Portable sanitation facilities must be provided on site by the Contractor. Its continuous maintenance is of utmost importance and must be carried out regularly. Measures to get rid of any unpleasant odour must be implemented. Contractor must provide sanitary arrangements throughout the decommissioning phase. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Surface Water Contamination & Water Wastage	<ul style="list-style-type: none"> To prevent the possible contamination of surface water on site and in the surrounding area 	<ul style="list-style-type: none"> Water used for dust suppression should be minimal and not promote soil erosion or mud formation. Potable water must not be used for dust suppression. Removed chemicals and infrastructure must not be cleaned or emptied on site. Product within the containers must be removed and stored in a suitable vessel before being transported off site for sterilisation and scrapping or recycling. In case of an incident (spills, etc.) Neoserve /contractor's Emergency Response Procedure (ERP) must be followed. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO



POTENTIAL IMPACTS	OBJECTIVES	COMPLIANCE	MONITORING		RESPONSIBLE PERSON
Visual impact	<ul style="list-style-type: none"> To reduce the level of visual impact imparted upon the surrounding land users and passers-by. 	<ul style="list-style-type: none"> Under no circumstances must any excavated soil, refuse or builder's rubble be placed on the adjacent properties, roads or road reserves during or after decommissioning. All refuse and builder's rubble must be disposed of at a registered general waste disposal site or where possible, recycled or reused. Refuse bins must be supplied on site for use by the Contractor. No waste must remain on site following decommissioning. The site must be screened off from the view of surrounding land users and passers-by during the decommissioning activities. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Safety & Security Threats	<ul style="list-style-type: none"> To ensure that all decommissioning activities take place in a safe and secure manner with no threat to human life or property. 	<ul style="list-style-type: none"> All decommissioning activities must be as per the relevant contractor codes and procedures for safe practise at its sites. Contractor vehicles and plant (machinery) must be operated by competent and licensed personnel. The Contractor should make provision for the possibility of an accident or an emergency on site. This would include the provision for a trained company first aid representative, a suitable first aid kit and details of the nearest medical facility. The Contractor personnel are not permitted to overnight at the site or surrounding properties. The Occupational Health and Safety Act must be made available on site and the details therein known to the Contractor. Neoserve must make provision for security arrangements on site. Access to the site should be restricted to site personnel only. In case of an incident, Neoserve /contractor's Emergency Response Procedure (ERP) must be followed. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO
Fire	<ul style="list-style-type: none"> To prevent the possibility of a fire on site during decommissioning 	<ul style="list-style-type: none"> Firefighting equipment must be provided at strategic points within the decommissioning area. Staff should be aware of such strategic points as well as the use of the fire extinguishers. Dry powder fire extinguishers are advised for smaller fires. The fire department should be notified of any fires at the facility. The building Contractor should make sure that the correct equipment is used on site (intrinsically safe). Equipment must be inspected regularly for damage and repaired/maintained as needed. In case of an incident, the contractor and Neoserve Emergency Response Procedures (ERP) must be followed. All construction vehicles must each have a fire extinguisher onboard. 	<ul style="list-style-type: none"> Visual monitoring 	<ul style="list-style-type: none"> Ongoing during decommissioning 	<ul style="list-style-type: none"> Contractor(s), ECO





8. PROPOSED MANAGEMENT AND REPORTING CALENDAR PLAN

8.1. Environmental management plan

Conditions	Conducted	Send Documents to Authority?	Person Accountable	Monthly Checklist												Completed
				J	F	M	A	M	J	J	A	S	O	N	D	
REGISTERS, COMPLAINTS AND REPORTING																
Complaints Register	All complaints resulting from the operation of the facility and actions taken to remediate the incidents must be recorded in this register.	Monthly	Only send to DFFE & Waterberg District Municipality, when complaints have been made. Otherwise, File and Keep on site.	Environmental Officer												
Incident Reporting	All incidents resulting from the operation of the facility and actions taken to remediate the incidents must be recorded in this register in terms of section 30(5) of the National Environmental Management Act (Act No. 107 of 1998).	Monthly	Only send to DFFE & Waterberg District Municipality when incidents have occurred. Otherwise, File and Keep on site.													
Waste Register/ Waste Management Checklists	Records in terms of volume, source and the nature of all waste received, recovered and transferred.	Monthly	Do not send. File and Keep on site.	Environmental Officer												
Emergency Response Plan	Details of any emergency incidence regarding the operation of the facility that occurred during the period under review.	Monthly	Only send DFFE & Waterberg District Municipality when incidents have occurred. Otherwise, File and Keep on site.	Environmental & Safety Officer												
Internal Environmental Audits / Inspections	Internal audits must be conducted by the holder of the authorisation and a report must be compiled on the findings of the audit. The results of the audit must be kept on site. The report must cover the following: <ul style="list-style-type: none"> Compliance with the conditions of the EA. Details of any emergency incidence regarding the construction that occurred during the period under review. Records in terms of volume, source and the nature of all wastes received, recovered, and transferred. Records confirming appropriate disposal of waste generated from the facility. Discussions of emergency procedures and fire drills undertaken during this period. 	Daily/ Weekly	Only record and file. These are to be shared with the ECO during their external monthly audits.	Environmental & Safety Officer (DEO)												



	<ul style="list-style-type: none"> Discussions on the adequacy of PPE to further mitigate against exposure of workers to hazards within the facility and on site. Storm water and effluent management on site and adequacy thereof. Compliance with the recommendations of the EMPr. 				
External Audit	<p>Holder of authorisation must appoint an independent external auditor to conduct annual environmental audits and the resulting report must be made available to the department upon request. The annual report should include discussions on, but not limited to, the following:</p> <ul style="list-style-type: none"> Maintenance of equipment has been undertaken according to a maintenance register. There is conformance of operation to industry standards and SANS codes. Kept records of waste and effluent disposed/removed from the site in terms of the manifest system. Compliance with conditions of the authorisation. Requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). Compliance with the EMPr and ERP. 	Monthly	Send to DFFE and any other relevant authority who may be interested in the project.	External Audit	