NEW GX ENVIRO SOLUTIONS AND LOGISTICS HOLDINGS (PTY) LTD

KWAGGASRAND RECYCLING FACILITY UPGRADE – DRAFT SCOPING REPORT

Locality: Pretoria

Departmental Ref No: Gaut: 002/14-15/W0015

Date: May 2015

SHANGONI
Management Services (Pty) Ltd

DRAFT SCOPING REPORT

New GX Enviro Solutions and Logistics Holdings (Pty) Ltd

Kwaggasrand Recycling Facility Upgrade

Locality: Pretoria

Departmental Ref No: Gaut: 002/14-15/W0015

May 2015

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SHANGONI

Management Services (Pty) Ltd

PROJECT DETAILS

Gauteng Department of Agriculture and Rural Development

Reference No.: Gaut: 002/14-15/W0015

Project Title: Kwaggasrand Recycling Facility Upgrade

Project Number: NEW-KWA-14-09-11

Compiled by: Lizette Crous

Date: 19 May 2015

Technical Reviewer: Lourens de Villiers

HL de Villiers

EXECUTIVE SUMMARY

The Applicant

New GX Enviro Solutions Logistics Holdings (Pty) Ltd is a waste management company specialising in the provision of waste disposal and recycling solutions.

In 2011, New GX was adjudicated a tender (Tender CB124/2010) by the City of Tshwane Metropolitan Municipality (CTMM) to provide the following services in Region 3 and Region 4 of the City of Tshwane:

- Weekly waste collection;
- Litter picking;
- Illegal dumping clearance; and
- Skip removal services, as and when required.

Through the fulfilment of the above mentioned tender, New GX currently provides employment to 120 local residents and further develops local Small, Medium and Micro-sized Enterprises (SMMEs). The company is also contractually required to support community based recycling initiatives and establish a buy-back centre or centres.

Background description

New GX is leasing the project property (Portion 463 of the farm Pretoria Town and Townlands 351 JR) from the CTMM. An existing recycling facility, the Kwaggasrand Recycling Facility, is located on the eastern part of the property and has been operational for more than ten years.

Project description

A waste recycling facility exists for the sorting, screening, balling and/or crushing of the following recyclables:

- Cardboard;
- Paper;
- Plastic;
- Cans; and
- Glass.

Phase 1A: Currently, the manual sorting has been temporarily ceased, as of the 1st of December 2013. This is due to the fact that the adjacent Kwaggasrand landfill site has closed, as no airspace was remaining at the facility. A Materials Recovery Facility (MRF) will be introduced adjacent to the existing recycling building to optimise the recycling facility. The processing capacity of the facility will stay the same and the installation of the MRF therefore does not form part of the Waste Management Licence application as the same processes will occur, only via a more efficient system.

The proposed project involves the upgrading of the Kwaggasrand Recycling Facility into a multi-purpose waste recycling facility (the activities being applied for as a part of this Waste Management Licence application). The project will entail the following three phases.

Phase 1B of the project: The construction of new infrastructure in support of the existing recycling facility in order to optimise and increase the throughput capacity of the facility. This phase entails the establishment of a Waste Transfer Station and the throughput capacity of the recycling facility will be increased to ±54.6 tons per day of paper, cardboard, plastic, glass and cans. The infrastructure will include, for example, a docking/parking area for the dumping of waste and refuse loads, a waste and refuse storage area, a staff canteen and ablution facilities. Designs for the upgrade of the recycling facility are being finalised and will be included in the Environmental Impact Assessment Reports for this project.

Wet waste will be managed in two ways at the facility. In the first process, the wet waste will be loaded into an in-vessel composter where the material will be aerated. The resultant compost will be sold and exhaust fumes will be extracted through a bio-filter. In the second process, the recyclable fractions will be removed and the remaining waste will be baled. Wastewater from this process will be treated and released into the municipal sewage system.

Phase 2 of the project:
Green waste: A composting facility will be set up on open land west of the above mentioned recycling building.

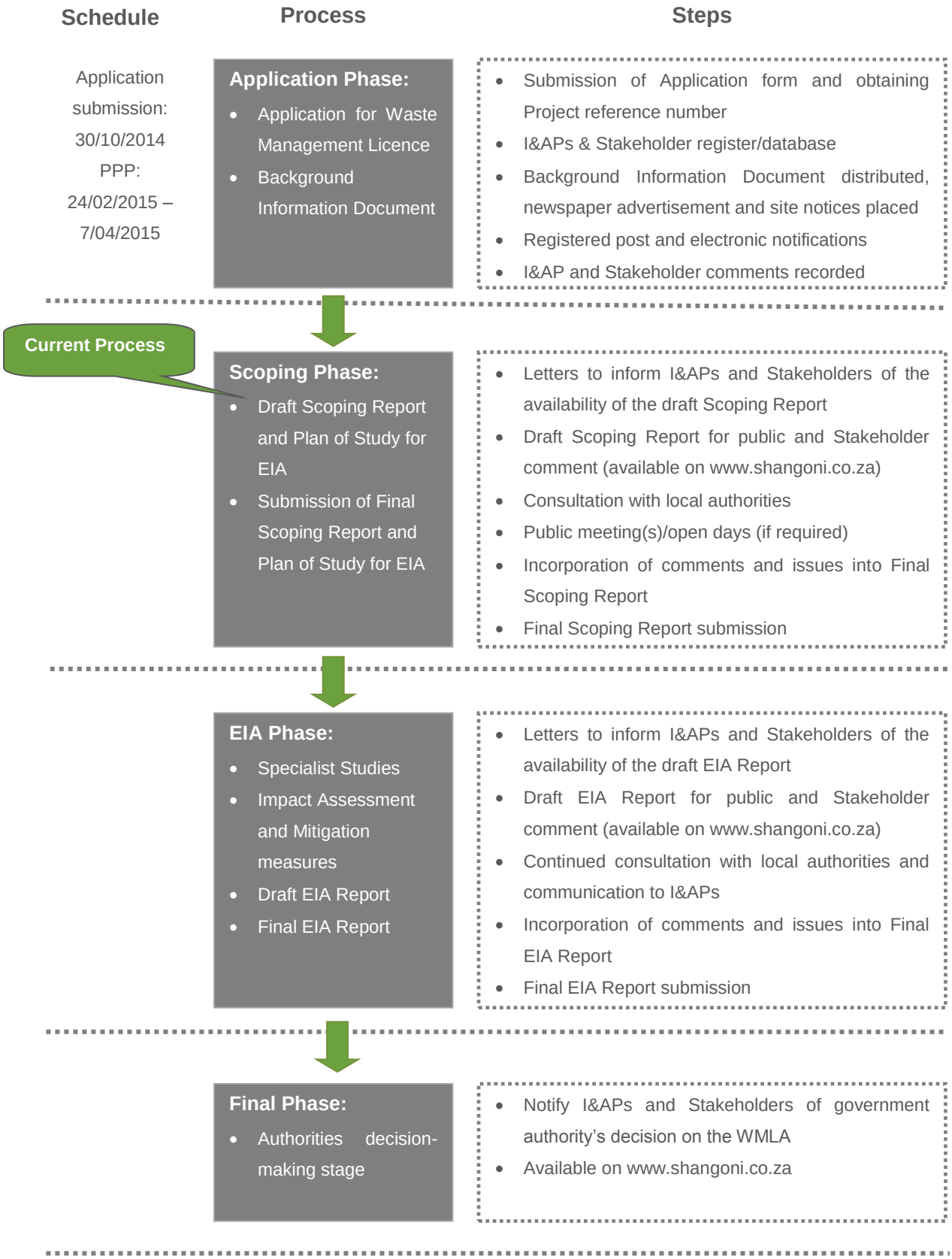
Phase 3 of the project: A building rubble crushing plant will be erected on open land to the west of the proposed composting facility. Phase 3 will also entail the establishment of a Waste Tyre Crumbing Facility where waste tyres will be de-beaded, cut, shredded, screened and grinded into rubber crumbs.

Legal requirements and legislative process

Proposed waste management activities at the recycling facility trigger listed waste management activities in terms of the National Environmental Management: Waste Act, Act 59 of 2008 (NEM:WA, 2008) and the regulations there under. Relevant listed activities triggered by the proposed activities are described further in this Scoping Report (refer to Part 1.5).

It is the intention of this Scoping Report to provide the necessary information pertaining to the proposed activities associated with the project, as required in terms of the Environmental Impact Assessment Regulations (EIA Regulations R543: EIA Regulations in terms of Chapter 5 of the NEMA, 1998, dated June 2010). This Scoping Report intends to highlight all information relevant to the proposed recycling facility upgrade project.

The diagram below provides a visual representation of the Scoping- and EIA approach followed in terms of NEM:WA, 2008, NEMA, 1998, and the Environmental Impact Assessment Regulations, dated 2010.


Schedule
Process
Steps
Application submission: 30/10/2014
PPP: 24/02/2015 – 7/04/2015
Application Phase:
Application for Waste Management Licence
Background Information Document
Submission of Application form and obtaining Project reference number
I&APs & Stakeholder register/database
Background Information Document distributed, newspaper advertisement and site notices placed
Registered post and electronic notifications
I&AP and Stakeholder comments recorded
Current Process
Scoping Phase:
Draft Scoping Report and Plan of Study for EIA
Submission of Final Scoping Report and Plan of Study for EIA
Letters to inform I&APs and Stakeholders of the availability of the draft Scoping Report
Draft Scoping Report for public and Stakeholder comment (available on www.shangoni.co.za)
Consultation with local authorities
Public meeting(s)/open days (if required)
Incorporation of comments and issues into Final Scoping Report
Final Scoping Report submission
EIA Phase:
Specialist Studies
Impact Assessment and Mitigation measures
Draft EIA Report
Final EIA Report
Letters to inform I&APs and Stakeholders of the availability of the draft EIA Report
Draft EIA Report for public and Stakeholder comment (available on www.shangoni.co.za)
Continued consultation with local authorities and communication to I&APs
Incorporation of comments and issues into Final EIA Report
Final EIA Report submission
Final Phase:
Authorities decision-making stage
Notify I&APs and Stakeholders of government authority's decision on the WMLA
Available on www.shangoni.co.za

Anticipated impacts

For the purpose of the Scoping report it is required by Regulation 28 (g) (of Regulation 543) of the EIA Regulations dated 2010, under the NEMA, 1998, that the major potential impacts that the activities, processes and actions may have on the surrounding environment, are identified.

Regulation 31 (of Regulation 543) of the EIA Regulations, 2010, under the NEMA, 1998, requires that an Environmental Impact Assessment Report (EIR) includes an assessment of the status, extent, duration, probability, reversibility, replaceability of resources and mitigatory potential of the major potential environmental impacts of the proposed project be undertaken.

A baseline identification of the major potential impacts has therefore only been included in this Scoping Report. The prediction of the nature of each impact, the evaluation of each impact by rating its significance and the management and mitigation measures adopted to address each impact, will be assessed during the EIR.

The activities associated with the proposed project are described in full in Part 2 and the anticipated impacts of the proposed project are described in Part 7.

Potential significant impacts that have been identified during the scoping process are:

- Soil, surface water and ground water pollution due to incorrect management and disposal of cement and concrete;
- Soil, surface water and ground water pollution due to ineffectively treated wastewater entering the environment;
- Soil, surface water and ground water pollution due to the run-off of contaminated wash water;
- Soil pollution and degradation due to incorrect management, storage and disposal of construction waste, general waste and hazardous waste;
- Soil, surface water and ground water pollution due to unsanitary conditions onsite;
- Soil, surface water and ground water pollution due to inadequate storage of tyres and rubber crumbs;
- Soil, surface water and ground water pollution due to the incorrect management, storage and disposal of chemicals and oil;
- Soil, surface water and ground water pollution due to affected stormwater runoff;
- Generation of noise pollution and nuisance;
- Degradation of ambient air quality due to dust generation;
- Increased traffic flow to the site and potential strain on existing road infrastructures as well as creating a higher risk of vehicular accidents on the access roads;
- The generation of odours and nuisance from the waste handled onsite;
- The handling of large quantities of loose waste material, such as paper, can create windblown litter;

- Fire establishment due to the storage of large quantities of waste materials, both before and after processing at the recycling facility, as well as the storage of waste tyres and rubber crumbs;
- Groundwater contamination from waste leachate from the composting facility;
- Erosion of soil at the composting facility; and
- Potential loss of artefacts or sites protected by the National Heritage Resources Act, 1999 (Act No. 25 of 1999).

Additional potentially significant impacts may be highlighted at a later stage during the process. The extent of the identified potentially significant impacts will be quantified and will be reported on as part of the EIR.

Knowledge gaps

The following knowledge gaps and uncertainties have been identified during the scoping process of the proposed recycling facility upgrade project and require further investigations that will be carried out comprehensively as part of the EIA process for the proposed project:

- All relevant specialist studies need to be conducted for the proposed recycling facility upgrade project. The studies identified during the Scoping Phase include a Need and Desirability Investigation, a Heritage Impact Assessment, a Palaeontological Impact Assessment Survey, a Vegetation Assessment/Opinion and the compilation of a Stormwater Management Plan;
- Shapefiles of the project property were sent to GDARD at GDACE_BiodiversityInfo@gauteng.gov.za to determine whether a Biodiversity Assessment is required for the site, but no feedback has been received from GDARD thus far;
- While impacts have been identified as part of the scoping process, it is required as part of the EIA Phase to fully quantify impacts to all aspects of the environment; and
- Designs or layout plans are being developed for the proposed recycling facility upgrade and its associated infrastructure. These designs will be presented as part of the EIR phase.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

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DEFINITIONS

Building and Demolition Waste

Means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition *[NEM: WA, (Act No. 59, 2008)].*

Demography

The scientific study of human population, especially, with reference to their size, structure and distribution.

Domestic Waste

Means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes *[NEM: WA, (Act No. 59, 2008)].*

Environment

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

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

Environmental Aspects

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

Environmental Degradation

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

Environmental Impacts

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

Environmental Impact Assessment

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

Environmental Impact Report

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

Environmental impact

An environmental change caused by some human act.

General Waste

Means waste that does not pose immediate hazard or threat to health or to the environment, and includes-

(a) domestic waste;
(b) building and demolition waste;
(c) business waste; and
(d) inert waste *[NEM: WA, (Act No. 59, 2008)].*

Hazardous waste

Means any waste that contains organic or inorganic elements compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment *[NEM: WA, (Act No. 59, 2008)].*

Land use

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

Pollution

Pollution means any change in the environment caused by -

(i) substances;
(ii) radioactive or other waves; or
(iii) noise, odours, dust or heat,

emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or wellbeing or on the composition, resilience and productivity

of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future *[NEM: WA, (Act No. 59, 2008)].*

Pollution Prevention

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

Public Participation Process

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

Recovery

In terms of the Waste Tyre Regulations, 2009, means the controlled extraction of a material or the retrieval of energy from waste tyres.

Recycle

In terms of the Waste Tyre Regulations, 2009, means the separation and processing of materials from waste tyres for further use as new products or resources.

Registered Interested and Affected Party

In relation to an application, means an interested and affected party whose name is recorded in the register opened for that application.

Topography

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

Tyre

In terms of the Waste Tyre Regulations, 2009, means a continuous pneumatic covering made of natural rubber or synthetic rubber or a combination of natural and synthetic rubber encircling a wheel, whether new, used or re-treaded.

Vegetation

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

Waste

As per the definition of the National Environmental Management Waste Act, Act 59 of 2008 - means any substance, whether or not that substance can be reduced, re-used, recycled and recovered—

(a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
(b) which the generator has no further use of for the purposes of production;
(c) that must be treated or disposed of; or
(d) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—
(i) a by-product is not considered waste; and
(ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste.

Waste Tyre

In terms of the Waste Tyre Regulations, 2009, means a new, used, re-treaded, or un-roadworthy tyre, not suitable to the re-treaded, repaired, or sold as a part worn tyre and not fit for its original intended use.

Waste Tyre Processor

In terms of the Waste Tyre Regulations, 2009, means any person or entity that is engaged in the commercial re-use, recycling or recovery of waste tyres.

ABBREVIATIONS

BID	-	Background Information Document
CRR	-	Comments and Responses Report
DWS	-	Department of Water and Sanitation
EAP	-	Environmental Assessment Practitioner
EIA	-	Environmental Impact Assessment
EIR	-	Environmental Impact Report
EMF	-	Environmental Management Framework
EMP	-	Environmental Management Programme
GDARD		Gauteng Department of Agriculture and Rural Development
GN	-	Government Notice
I&AP	-	Interested and Affected Party
IDP	-	Integrated Development Plan
NEMA	-	Environmental Management Act, 1998 (Act No. 107 of 1998) as amended
NEM:WA	-	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended
R	-	Regulation
S&EIR	-	Scoping and Environmental Impact Reporting
SAHRA	-	South African Heritage Resources Agency
SWMP	-	Storm Water Management Plan

1. INTRODUCTION

This draft Scoping Report forms part of an application for a Waste Management Licence for waste management activities associated with the proposed recycling facility upgrade project on Portion 463 of the farm Pretoria Town and Townlands, 351 JR, Gauteng Province. The application is made in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice No. 921 of 29 November 2013.

The application process is undertaken on behalf of the applicant, New GX Enviro Solutions and Logistics Holdings (Pty) Ltd, by Shangoni Management Services (Pty) Ltd. Shangoni was appointed, as independent environmental practitioner, to assist the applicant in undertaking the process as prescribed in the above mentioned environmental legislation.

A Waste Management Licence Application was submitted to the identified competent authority (the Gauteng Department of Agriculture and Rural Development). The Department subsequently registered the project and the formal process was thereby initiated. All the findings from the scoping process are included in this report.

This Scoping Report is divided into the following parts:

- Part 1: Introduction (including a description of the project).
- Part 2: Nature and extent of the environment affected by activity.
- Part 3: Applicable legislation and guidelines.
- Part 4: Public Participation Process.
- Part 5: Need and desirability for the project.
- Part 6: Description of alternatives.
- Part 7: Identification of anticipated environmental Impacts.
- Part 8: Plan of study for EIA.
- Part 9: Conclusion.

1.1 Process followed

1.1.1 Objectives of the scoping process and the Scoping Report

Scoping is the procedure that is undertaken during the initial stages of the Planning Phase of a project and is used to determine the extent of, and approach to, an EIA (i.e. terms of reference). This process is required for the proposed project in terms of the NEM:WA, 2008, as well as the EIA Regulations, 2010.

The objectives of the Scoping Process are to:

- Provide an opportunity for the Applicant, relevant Authorities and Interested and Affected Parties (I&APs) to exchange information and express their views and concerns regarding the proposed project before the EIA is undertaken. This is a requirement in terms of Regulation 54 of the EIA Regulations, dated 2010.
- Focus the study on identifying relevant anticipated impacts, issues and concerns, as well as reasonable alternatives (as per Regulation 28 of the EIA Regulations, dated 2010), and knowledge gaps, to ensure that the resulting EIA is useful to the Authorities for decision-making, and addresses the impacts, issues and concerns as identified.
- Facilitate an efficient assessment process that optimises time, resources and costs.

1.1.2 Methodology applied to conducting the scoping process

The figure below indicates the methodology that was applied in conducting the scoping process.

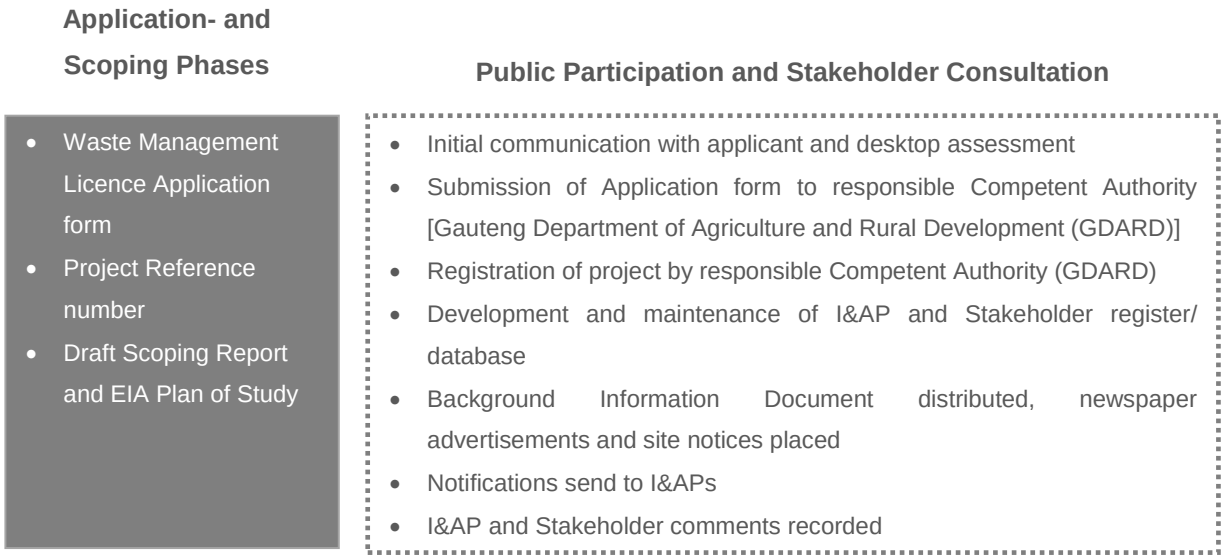

Figure 1: Methodology applied to conducting the scoping process

1.1.3 The Scoping Report in terms of the requirements of NEMA, 1998

Regulation 28(1) of the EIA Regulations, 2010 under the NEMA, 1998, lists aspects that must be included in Scoping Reports. The table below indicates the parts where information has been provided as part of this Scoping Report:

Table 1: The Scoping Report in terms of the EIA Regulations, 2010, under the NEMA, 1998

Regulation No:		Description	Scoping Report Part
R543 Regulation 28(1)(a)		Details of the Environmental Assessment Practitioner (EAP).	Part 1 & Appendix F
	(i)	Details of the EAP who prepared the report.	
	(ii)	Details of the expertise of the EAP to carry out	

Regulation No:		Description	Scoping Report Part
		scoping procedures.	
R543 Regulation 28(1)(b)		A description of the proposed activity.	Part 1
R543 Regulation 28(1)(c)		Any feasible and reasonable alternatives that have been identified.	Part 6
R543 Regulation 28(1)(d)		A description of the property on which the activity is to be undertaken and the location of the activity on the property.	Part 1
R543 Regulation 28(1)(e)		A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.	Part 2
R543 Regulation 28(1)(f)		An indication of all legislation and guidelines that have been considered in the preparation of the scoping report.	Part 3
R543 Regulation 28(1)(g)		A description of environmental issues and potential impacts, including cumulative impacts that have been identified.	Part 7
R543 Regulation 28(1)(h)		Details of the public participation process conducted in terms of Regulation 27(a).	Part 4 & Appendix D
	(i)	Steps taken to notify potentially interested and affected parties of the application.	
	(ii)	Proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the application have been displayed, placed or given.	
	(iii)	A list of all persons or organisations that were identified and registered in terms of Regulation 55 as interested and affected parties in relation to the application.	
R543 Regulation 28(1)(h)	(iv)	A summary of the issues raised by interested and affected parties, the date of receipt of, and the response of the EAP to those issues.	Part 4 & Appendix D
R543 Regulation 28(1)(i)		A description of the identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and communities that may be affected by the activity.	Part 6
R543 Regulation 28(1)(j)		A description of the need and desirability of the proposed activity.	Part 5
R543 Regulation 28(1)(k)		Copies of any representations and comments	Part 4 &

Regulation No:		Description	Scoping Report Part
		received in connection with the application or the scoping report from interested and affected parties.	Appendix D
R543 Regulation 28(1)(l)		Copies of any minutes of any meetings held by the EAP with interested and affected parties and other role players that record the views of the participants.	Part 4 & Appendix D (if any)
R543 Regulation 28(1)(m)		Any responses by the EAP to those representations and comments and views.	Part 4 & Appendix D
R543 Regulation 28(1)(n)		A plan of study for Environmental Impact Assessment (EIA), which sets out the proposed approach to the EIA of the application.	Part 8
	(i)	A description of tasks that will be undertaken as part of the EIA process including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken.	
	(ii)	An indication of the stages at which the competent authority will be consulted.	Part 4 & Part 8
	(iii)	A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity.	Part 7 & Part 8
	(iv)	Particulars of the public participation process that will be conducted during the EIA process.	Part 4 & Part 8
R543 Regulation 28(1)(o)		Any specific information required by the competent authority.	N/A*
R543 Regulation 28(1)(p)		Any other matters required in terms of Section 24(4) (a) and (b) of the Act.	N/A*

** No specific requests have been received from the competent authority to date.*

The EIA process will be undertaken subsequent to the scoping process and will be conducted in accordance with Regulations 31 of the Environmental Impact Assessment Regulations, 2010 under the NEMA, 1998, as amended. The EIA document for the proposed project will include detailed information pertaining to anticipated or potential impacts that may be associated with the proposed project.

1.2 Details of the project applicant

Name of Applicant	New GX Enviro Solutions and Logistics Holdings (Pty) Ltd
Postal Address	P.O. Box 781902 Sandton 2146

Telephone No.	011 784 4048
Fax No.	086 577 6890
Farm name and portion on which the activities take place	Portion 463 of the farm Pretoria Town and Townlands 351 JR, Gauteng
Title Deed Number and 21 Digit Code	T0JR00000000035100463
Co-ordinates of operation	25°46'30.757"S; 28°5' 42.494"E

1.3 Appointed Environmental Assessment Practitioner

Name of firm	Shangoni Management Services (Pty) Ltd	
Postal address	P.O. Box 74726 Lynnwood Ridge Pretoria 0400	
Telephone No.	012 807 7036	
Fax	012 807 1014/086 643 5360	
E-mail	lizette@shangoni.co.za	
Team of Environmental Assessment Practitioners on project		
Name	**Qualifications & experience to conduct the EIA**	**Responsibility**
Mr Lourens de Villiers	• B.Sc. (Hons) (PU for CHE) MSc.(UP) • More than 10 years' experience conducting Environmental Impact Assessments and Waste Management License Applications	EIA Project Leader and Co-ordinator
Ms Lizette Crous	• MSc. Environmental Management (University of London) • More than 3 years' experience conducting Environmental Impact Assessments and Waste Management License Applications	EAP
Ms Karien du Plessis	• B.Sc. (Hons) Environmental Management • Less than 1 years' experience conducting Environmental Impact Assessments and Waste Management License Applications.	EAP

** Detailed CVs for the project team are attached (Appendix C).*

1.4 Current situation

The Kwaggasrand Recycling Facility has been operational for more than 10 years. Currently, the manual sorting has been temporarily ceased, as of the 1st of December 2013. This is due to the fact that the adjacent Kwaggasrand landfill site has closed, as no airspace was remaining at the facility. Waste now needs to be taken to the Onderstepoort landfill site. A portion of the project property has also been used as a temporary off-site construction camp by the CTMM. The remainder of the property is vacant.

Table 2: Surface rights holders relevant to the current operation(s)

Farm Name	Title deed	Owner
Portion 463 of the farm Pretoria Town and Townlands 351 JR	T114490/2002	City of Tshwane Metropolitan Municipality (CTMM)

1.5 Proposed activity(ies)

New GX Enviro Solutions and Logistics Holdings (Pty) Ltd is proposing to upgrade the Kwaggasrand Recycling Facility to a multi-purpose waste recycling facility. The proposed project arose when New GX realised that the CTMM faces a challenge with fast dwindling landfill airspace at a number of their landfill sites. The multi-purpose waste recycling facility will therefore aim to reduce the volume of waste being taken to the various landfill sites by removing the recyclable waste fraction from the waste stream intended for disposal and thereby extend the life span of the landfill sites.

The waste recycling facility is capable of sorting, screening, balling and/or crushing the following recyclables:

- Cardboard;
- Paper;
- Plastic;
- Cans; and
- Glass.

Phase 1A of the project (2.35ha): Currently, the manual sorting has been temporarily ceased, as of the 1st of December 2013. This is due to the fact that the adjacent Kwaggasrand landfill site has closed, as no airspace was remaining at the facility. A Materials Recovery Facility (MRF) will be introduced adjacent to the existing recycling building to optimise the recycling facility. A MRF is a specialised plant that sorts mixed waste into separate waste streams/fractions through a combination of automated and manual processes. The processing capacity of the facility will stay the same and the installation of the MRF therefore does not form part of the Waste Management Licence application as the same processes will occur, only via a more efficient system.

The proposed upgrade of the waste recycling facility will commence in three phases, as shown in the figure below, and will cater for the processing of approximately 1 521.5 tons of the following waste materials per day:

- Cardboard;
- Paper;
- Plastics;
- Cans;
- Glass;
- Green waste;
- Wet waste;
- Building rubble; and
- Waste tyres.

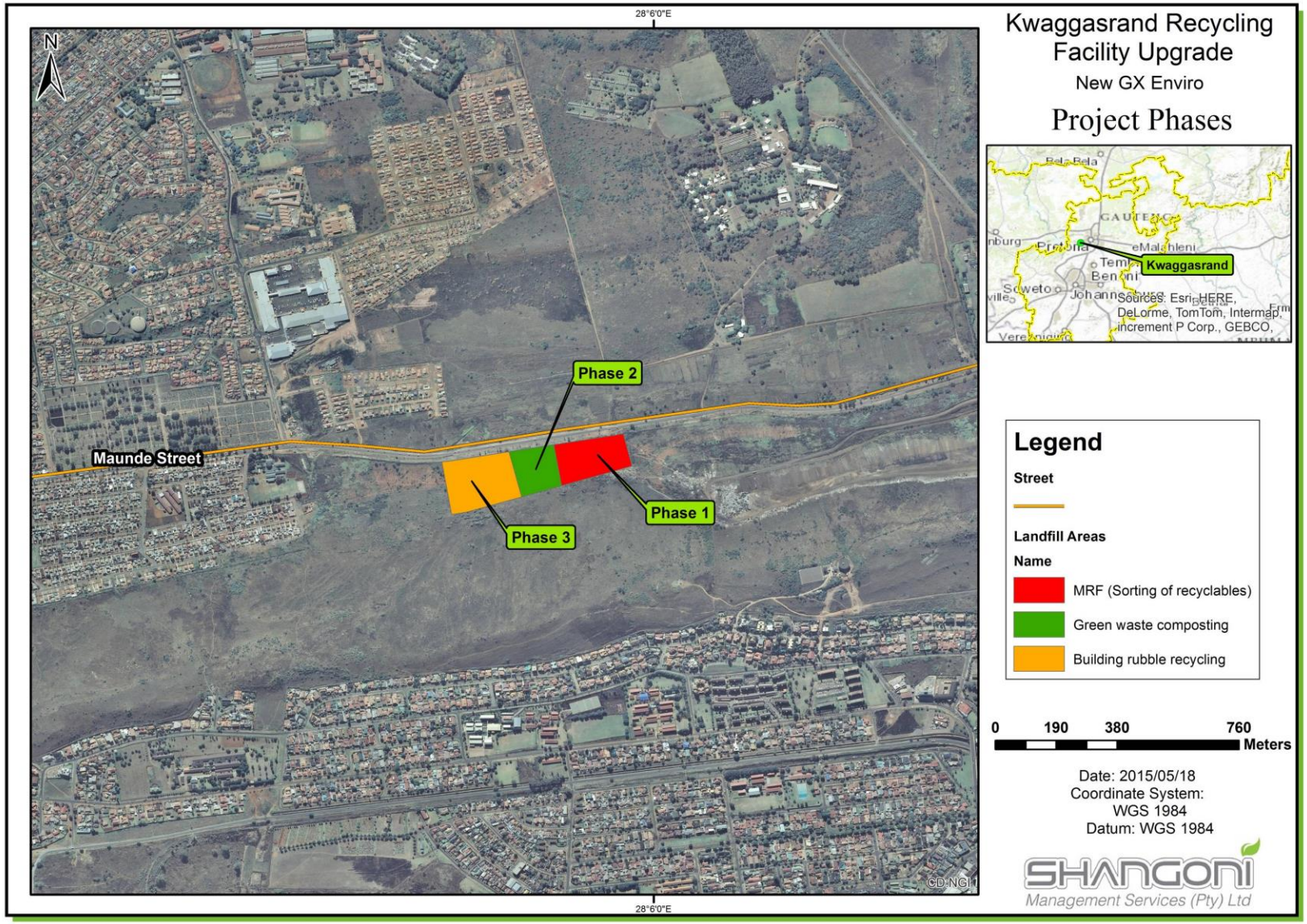

Figure 2: Project Phases

Phase 1B of the project (1.68ha): The construction of new infrastructure in support of the existing recycling facility in order to optimise and increase the throughput capacity of the facility. This phase entails the establishment of a Waste Transfer Station and the throughput capacity of the recycling facility will be increased to ±54.6 tons per day of paper, cardboard, plastic, glass and cans. The infrastructure will include, for example, a docking/parking area for the dumping of waste and refuse loads, a waste and refuse storage area, a staff canteen and ablution facilities. Designs for the upgrade of the recycling facility are being finalised and will be included in the Environmental Impact Assessment Reports for this project.

A process flow for the upgraded waste recycling facility is given below. From the MRF, the material will leave the site for use as raw materials in external manufacturing processes. The facility will also be open for local communities to drop off their sorted recyclable waste.

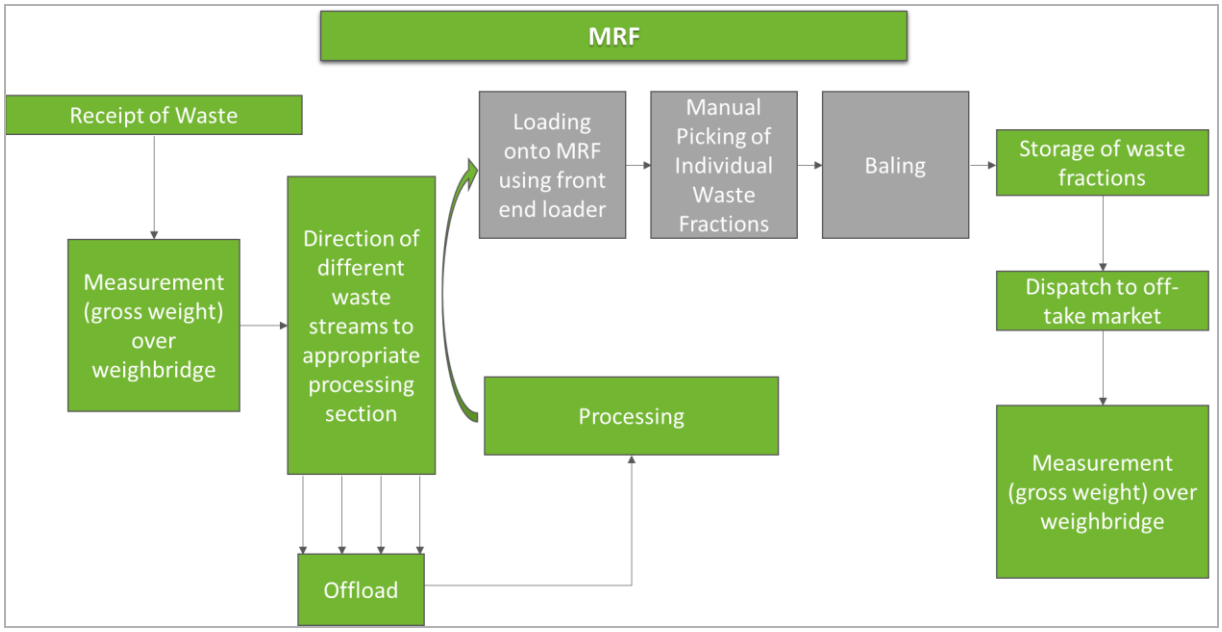

Figure 3: Flow diagram for the Materials Recovery Facility

Wet waste will be managed in two ways at the facility. In the first process, the wet waste will be loaded into an in-vessel composter where the material will be aerated. The resultant compost will be sold and exhaust fumes will be extracted through a bio-filter. A flow diagram of this process is given below.

In the second process, the recyclable fractions of the wet waste will be removed and the remaining waste will be baled. The bales will then either be wrapped in plastic or loaded into static compactor bins and taken off site to landfill sites or waste-to-energy facilities. Wastewater from this process will be treated and released into the municipal sewage system. A flow diagram of this process is also given below.

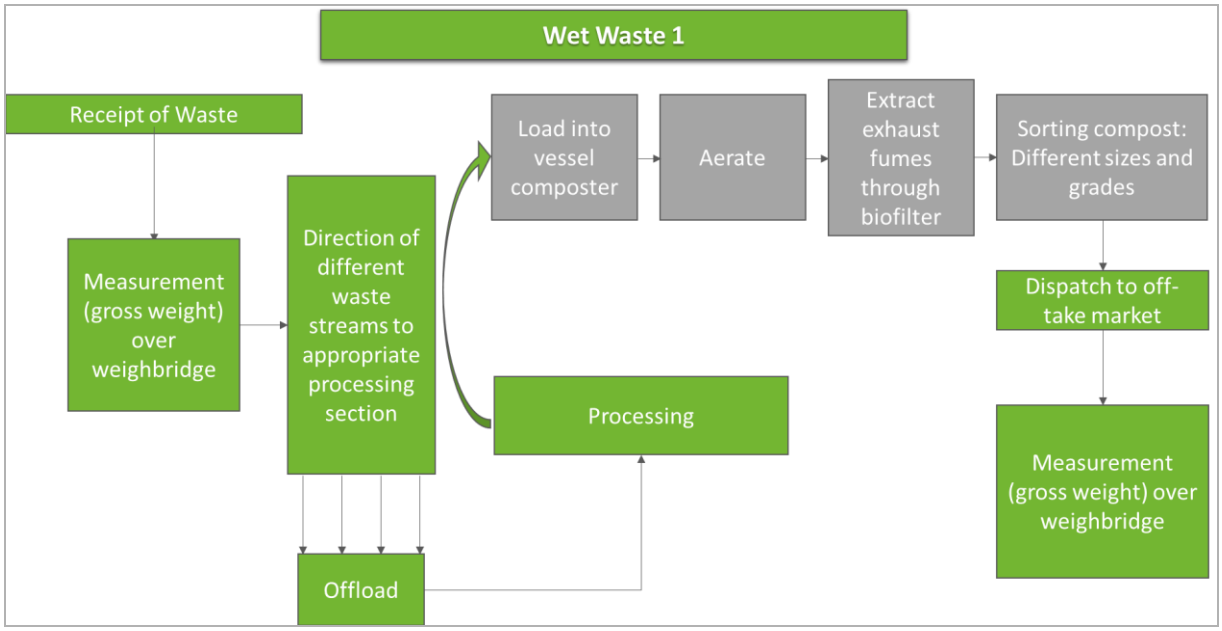

Figure 4: Flow diagram for wet waste (1) - In-vessel composter

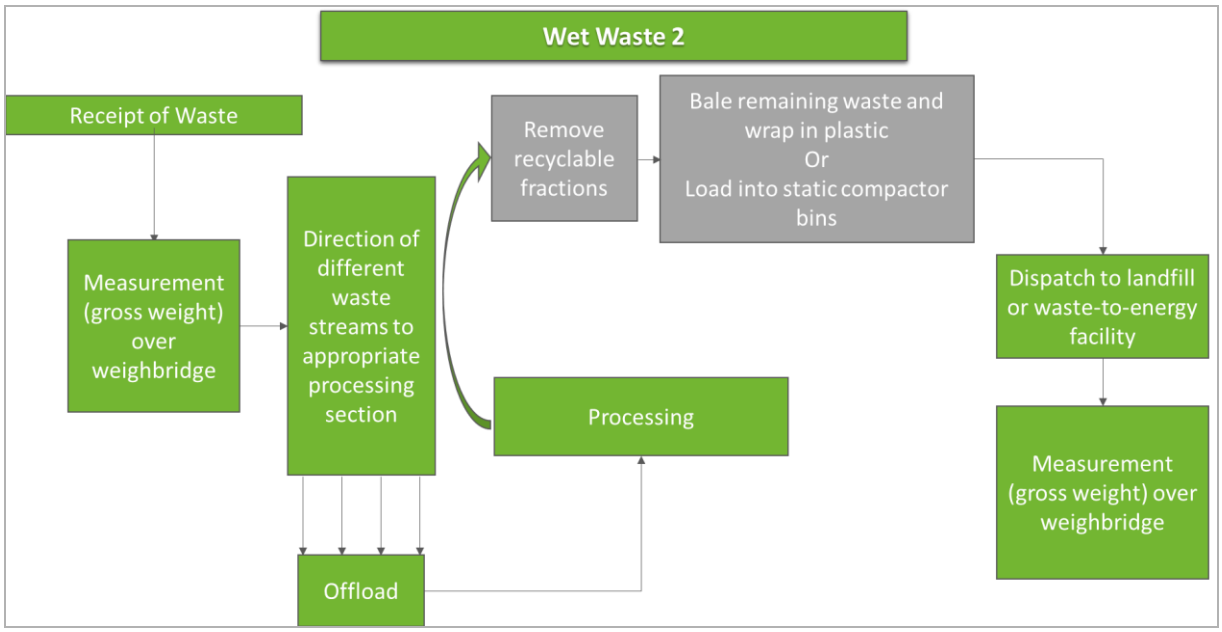

Figure 5: Flow diagram for wet waste (1) - Wet waste baler

Phase 2 of the project (2.10ha):

Green waste: A composting facility will be set up on open land west of the above mentioned recycling building. At the composting facility, green waste such as garden refuse and sports field- and park-maintenance waste, will be stockpiled and fed into a shredding or mulching apparatus where after the bulk of the shredded/mulched material will enter a windrow composting process. Some mulched material will be stockpiled and sold off as mulch to the landscaping and/or rehabilitation industry without being subjected to further composting. Compost windrows will repeatedly be turned and moistened and the resultant compost will be sold. Seepage water from the composting windrows will

be collected in a retention pond, sump or other similar containment facility for re-use to moisten the windrows. A flow diagram of this process is given below.

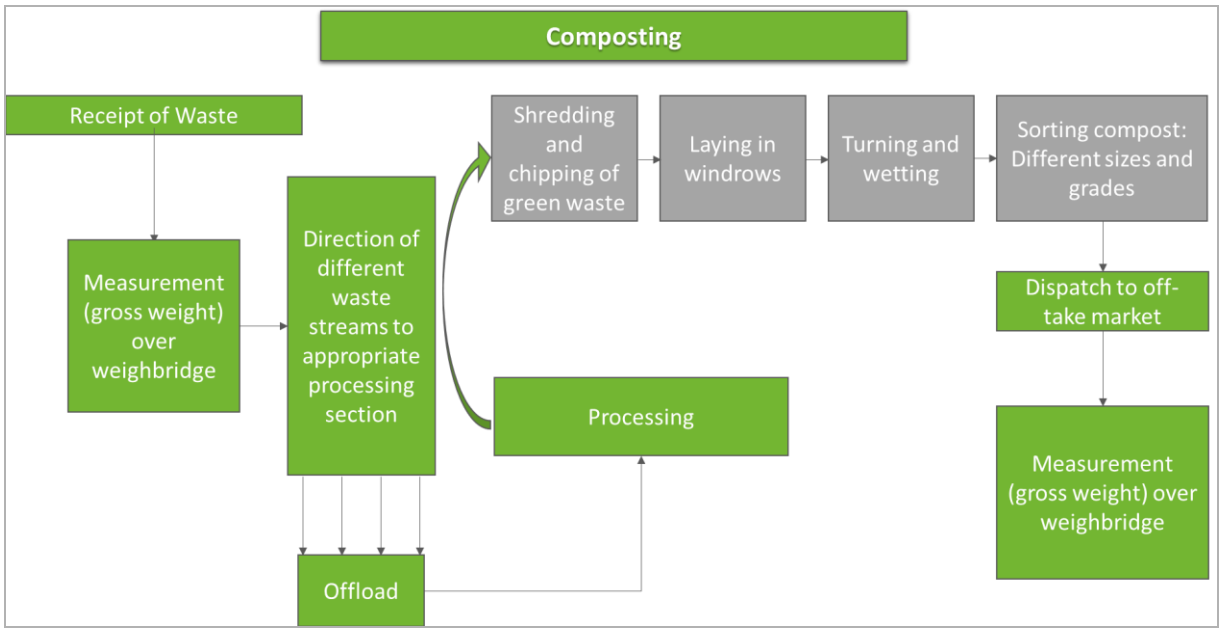

Figure 6: Flow diagram for the composting facility

Phase 3 of the project (1.00ha): A building rubble crushing plant will be erected on open land to the west of the proposed composting facility. Here building rubble will be stockpiled and crushed in a crushing plant. Crushed material will be distributed for foundation and filling material for local construction projects. A flow diagram of this process is given below.

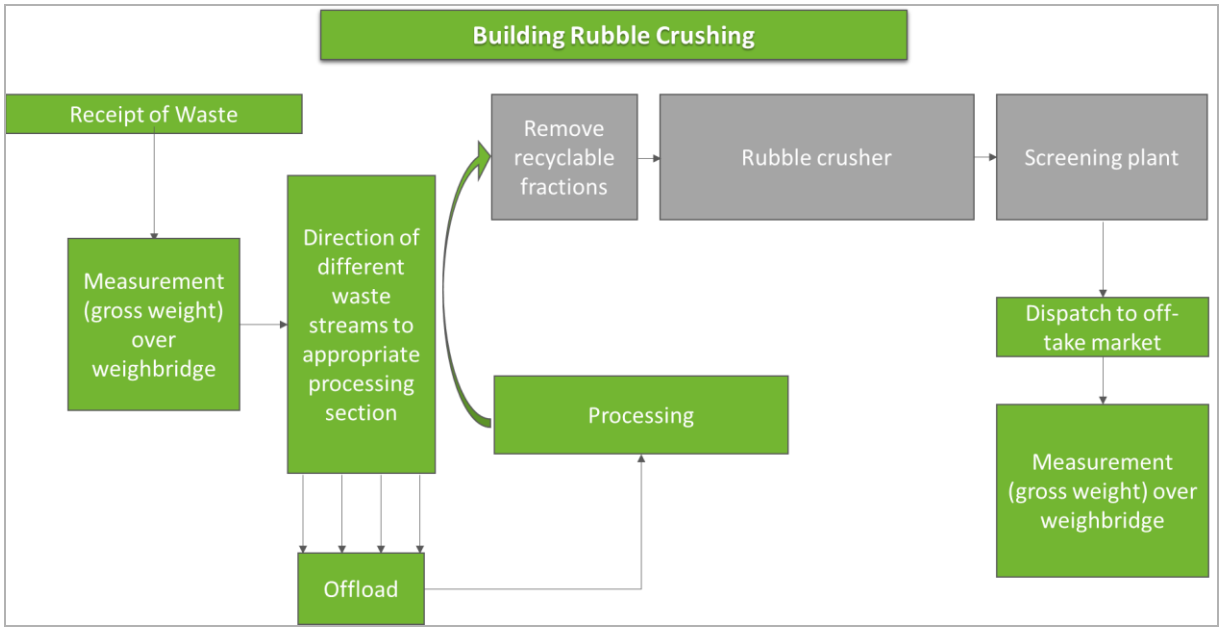

Figure 7: Flow diagram for the building rubble crusher

At a Waste Tyre Crumbing Facility, waste tyres will be de-beaded, cut, shredded, screened and grinded into rubber crumbs. The rubber crumbs will leave the site for re-use elsewhere such as, for example, in road tarmac, rubber products, agriculture and reclaimed rubber processes. A flow diagram of this process is given below.

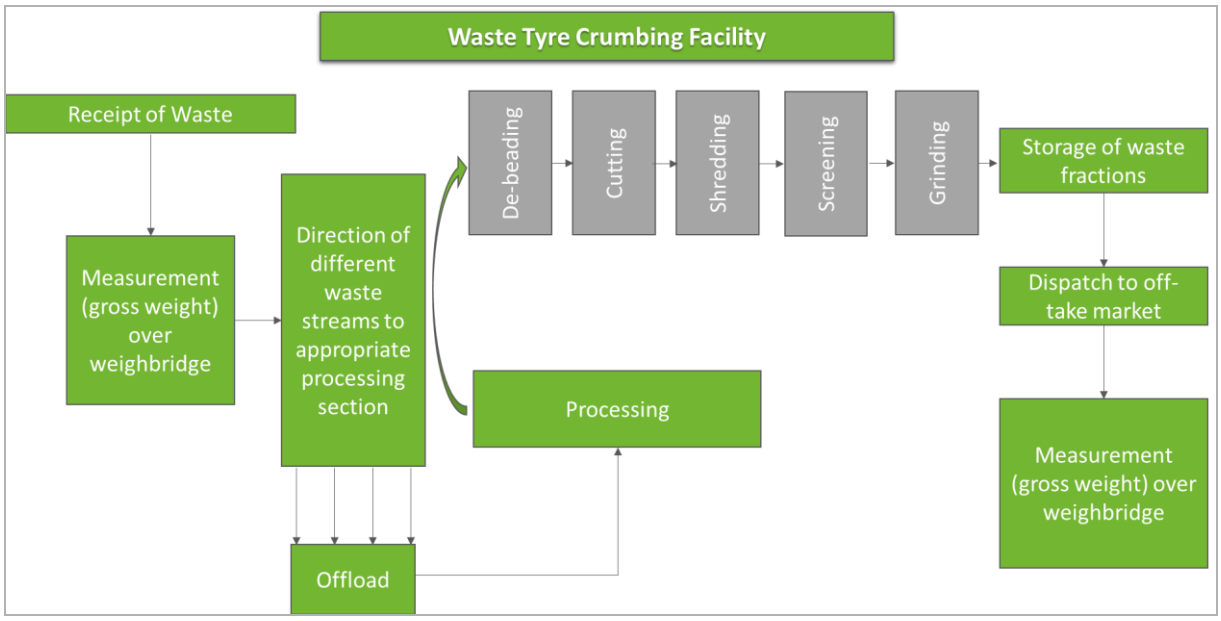

Figure 8: Flow diagram for the Waste Tyre Crumbing Facility

It is expected that the recycling facility will have the following operational times:

Table 3: Expected operational times for the facility

PERIOD	FROM	UNTIL
Weekdays	07:00	00:00
Saturdays	07:00	00:00
Sunday	07:00	00:00
Public holidays	07:00	00:00

The following listed activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) are being applied for:

Table 4: Listed activities in terms of GN. No R 921, dated 2013 under NEM: WA, 2008

Number and date of the relevant notice	Category	Activity No	Description
GN. No 921 of 29 November 2013	Category A	2	The sorting, shredding, grinding, crushing, screening or bailing of general waste at the facility that has an operational area in excess of 1 000m^2.

Number and date of the relevant notice	Category	Activity No	Description
			The operational area for sorting, shredding, grinding, crushing, screening and baling of waste will be approximately 71 342.72m^2. The following will occur at the facility: • Sorting, screening and baling of cardboard, paper, plastic and cans. • Sorting, crushing and screening of glass. • Shredding and composting of green waste. • Sorting, screening, baling and composting of wet waste. • Crushing and screening of building rubble. • Waste tyre de-beading, cutting, shredding, screening and grinding.
GN. No 921 of 29 November 2013	Category A	3	The recycling of general waste at a facility that has an operational area in excess of 500m^2, excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises. General waste will be recycled at the Kwaggasrand Recycling Facility. The facility has an operational area of approximately 71 342.72m^2. The following waste streams will be recycled: • Cardboard • Paper • Plastic • Cans • Glass • Green waste • Wet waste • Building rubble • Waste tyres Cardboard, paper, plastic, cans and glass will pass through a Materials Recovery Facility (MRF) where the waste will be sorted, screened and baled or crushed. The waste will then leave the site for re-use as raw material for manufacturing processes or for export. Green waste will be shredded and composted at the composting facility. The resulting compost will be sold.

Number and date of the relevant notice	Category	Activity No	Description
			Wet waste will be sorted and composted or screened and baled. Compost from the composting process will be sold. The baled wet waste will leave the site for use in waste-to-energy facilities. Waste tyres will be de-beaded, cut, shredded, screened and grinded.
GN. No 921 of 29 November 2013	Category A	12	The construction of a facility for a waste management activity listed in Category A of this Schedule (not isolation to associated waste management activity). Construction activities associated with the green waste composting facility, building rubble recycling facility (building rubble crushing) and waste tyre crumbing facility. The general waste recycling building is existing and operational.
GN. No 921 of 29 November 2013	Category B	3	The recovery of waste including the refining, utilisation, or co-processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 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. 1 521.5 tons of general waste will be recovered at the Kwaggasrand Recycling Facility per day. The following waste streams will be recycled and recovered: • Cardboard • Paper • Plastic • Cans • Glass • Green waste • Wet waste • Building rubble • Waste tyres Cardboard, paper, plastic, cans and glass will pass through a Materials Recovery Facility (MRF) where the waste will be sorted, screened and baled or crushed. The waste will then leave the site for re-use as raw materials for manufacturing processes or for export. Green waste will be shredded and composted at the composting facility. The resulting compost will be sold.

Number and date of the relevant notice	Category	Activity No	Description
			Wet waste will be sorted and composted or screened and baled. Compost from the composting process will be sold. The baled wet waste will leave the site for use in waste-to-energy facilities. Waste tyres will be de-beaded, cut, shredded, screened and grinded.
GN. No 921 of 29 November 2013	Category B	6	The treatment of general waste in excess of 100 tons per day calculated as a monthly average, using any form of treatment. 1 521.5 tons of general waste will be treated (physical, biological and/or chemical treatment) at the Kwaggasrand Recycling Facility per day. The following waste streams will be treated: • Cardboard • Paper • Plastic • Cans • Glass • Green waste • Wet waste • Building rubble • Waste tyres Cardboard, paper, plastic, cans and glass will pass through a Materials Recovery Facility (MRF) where the waste will be sorted, screened, baled or crushed. The waste will then leave the site for re-use as raw materials or for export. Green waste will be shredded and composted at the composting facility. The resulting compost will be sold. Wet waste will be sorted and composted or screened and baled. Compost from the composting process will be sold. The baled wet waste will leave the site for use in waste-to-energy facilities. Waste tyres will be de-beaded, cut, shredded, screened and grinded.
GN. No 921 of 29 November 2013	Category B	10	The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity). Construction activities associated with recycling and recovery of general waste in excess of the current throughput capacities.

Number and date of the relevant notice	Category	Activity No	Description
			This includes, for example, the construction of a Docking/Parking area for Disposal/Dumping of waste and refuse loads, the construction of a Waste and refuse storage area and the construction of the staff canteen and ablution facilities.

1.5.1 Proposed locality

The proposed site for the recycling facility upgrade project is located on Portion 463 of the farm Pretoria Town and Townlands 351 JR in Pretoria, Gauteng Province. The property is 12.8165 hectares in extent.

The proposed site is situated within the City of Tshwane Metropolitan Local Municipalities' jurisdiction.

Table 5: Administrative and water management boundaries

Province	Gauteng
District Municipality	City of Tshwane Metropolitan Municipality (CTMM)
Local Municipality	City of Tshwane Metropolitan Municipality (CTMM)
Ward	3, 51 and 61
Department of Water and Sanitation (DWS) Local Office	Pretoria
Department of Agriculture and Rural Development Local Office	Johannesburg
Catchment Zone	A23D
Water Management Area	Crocodile (West) and Marico

Table 6: Direction and distance to the nearest areas

Closest areas	Distance from site	Direction from site
Atteridgeville	Less than 1km	North, North-west and West
Laudium	Less than 1km	South

The site locality map is given below as Figure 9 and is attached in Appendix A. Site photographs are also provided below and attached in Appendix B.

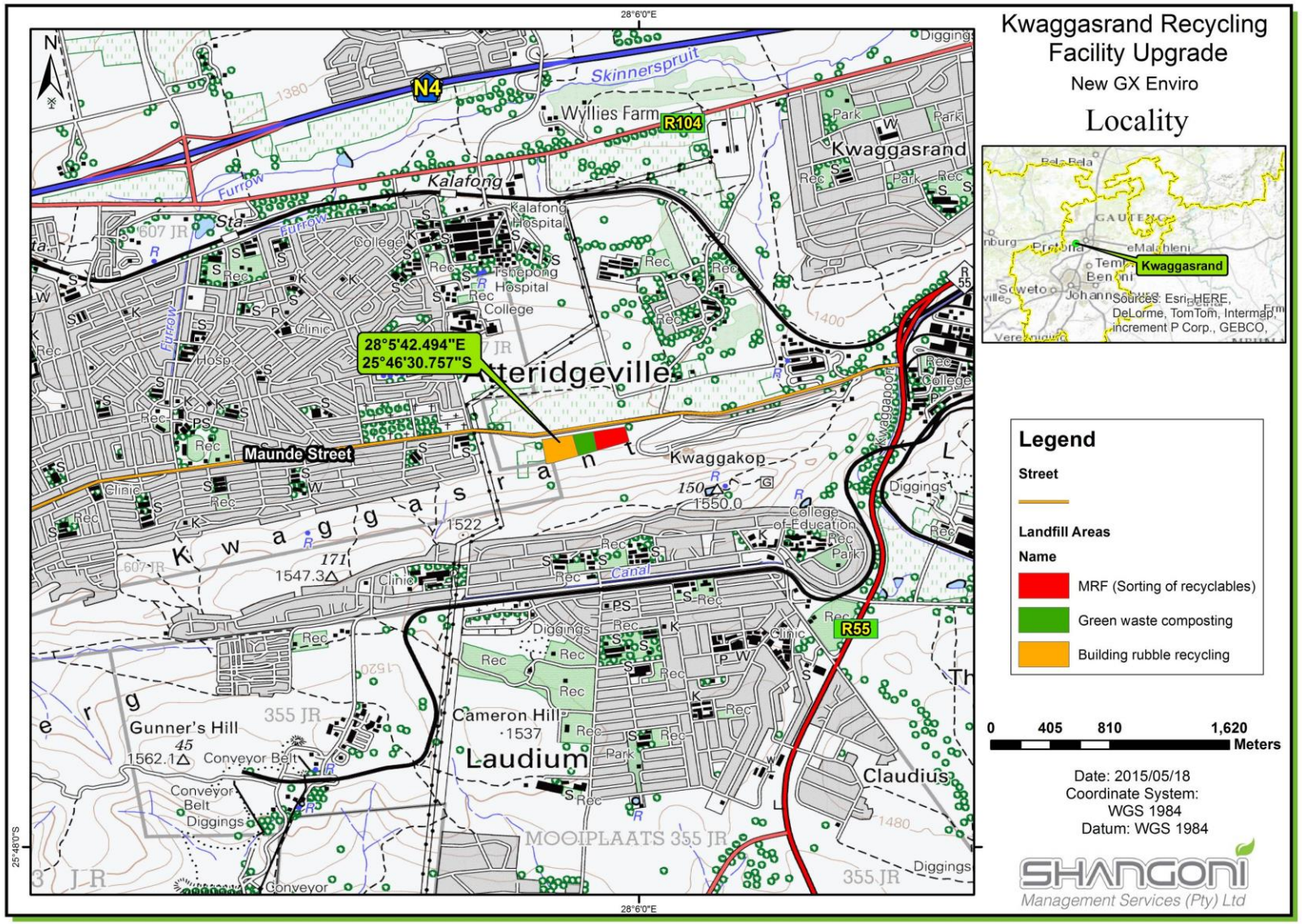

Figure 9: Locality of the site

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b

c

d

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i

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k

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m

Figure 10(a-m): Site photographs

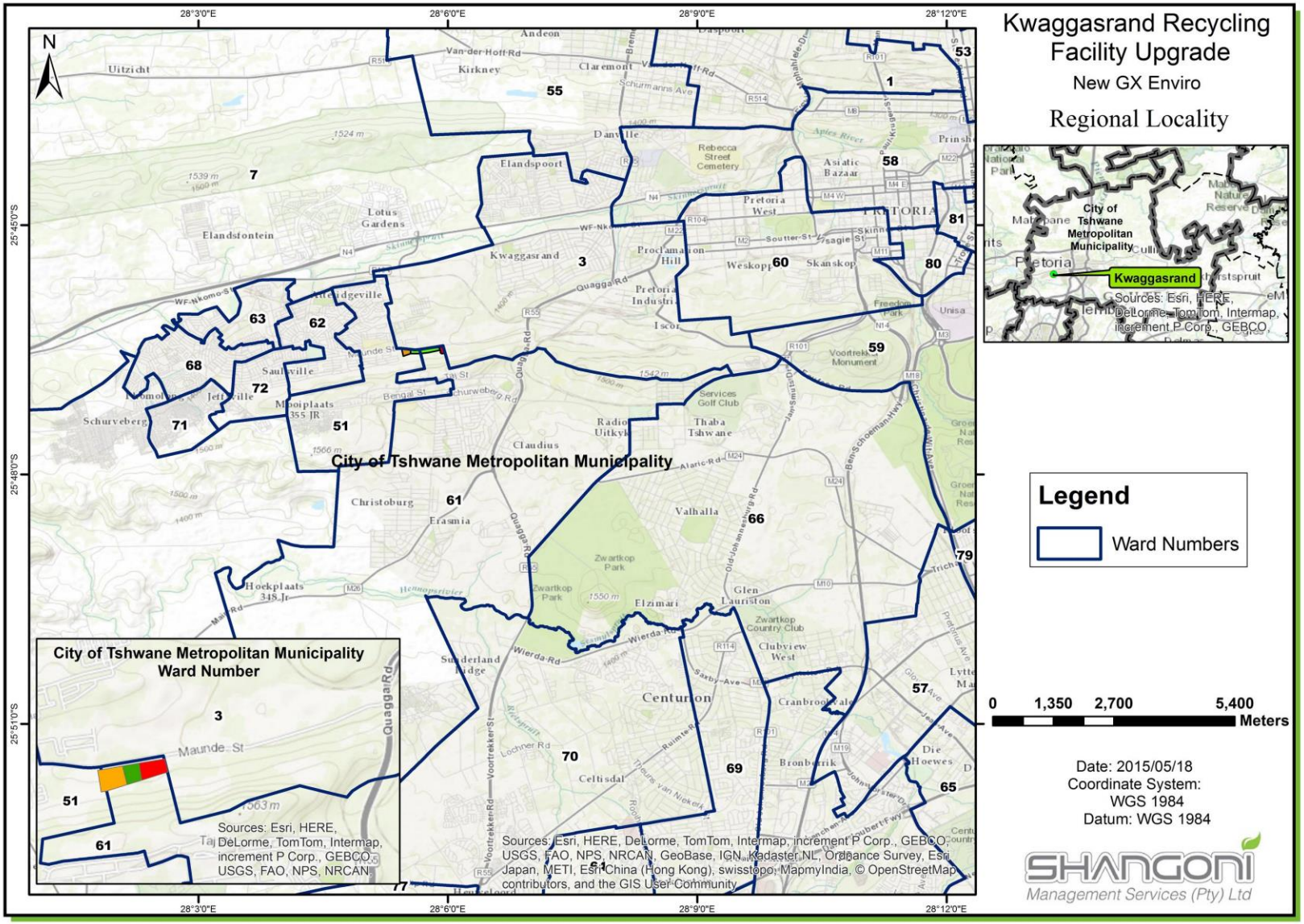


Figure 11: Regional locality of the site

1.5.2 Land tenure and use of immediately adjacent land

The predominant land uses in the vicinity of the project property are shown in Figure 19 and include urban built-up areas, degraded areas and open spaces (natural areas). The Kwaggasrand landfill site is situated adjacent and to the east of the project property.

The adjacent land owners of the project property are listed in the table below and shown in

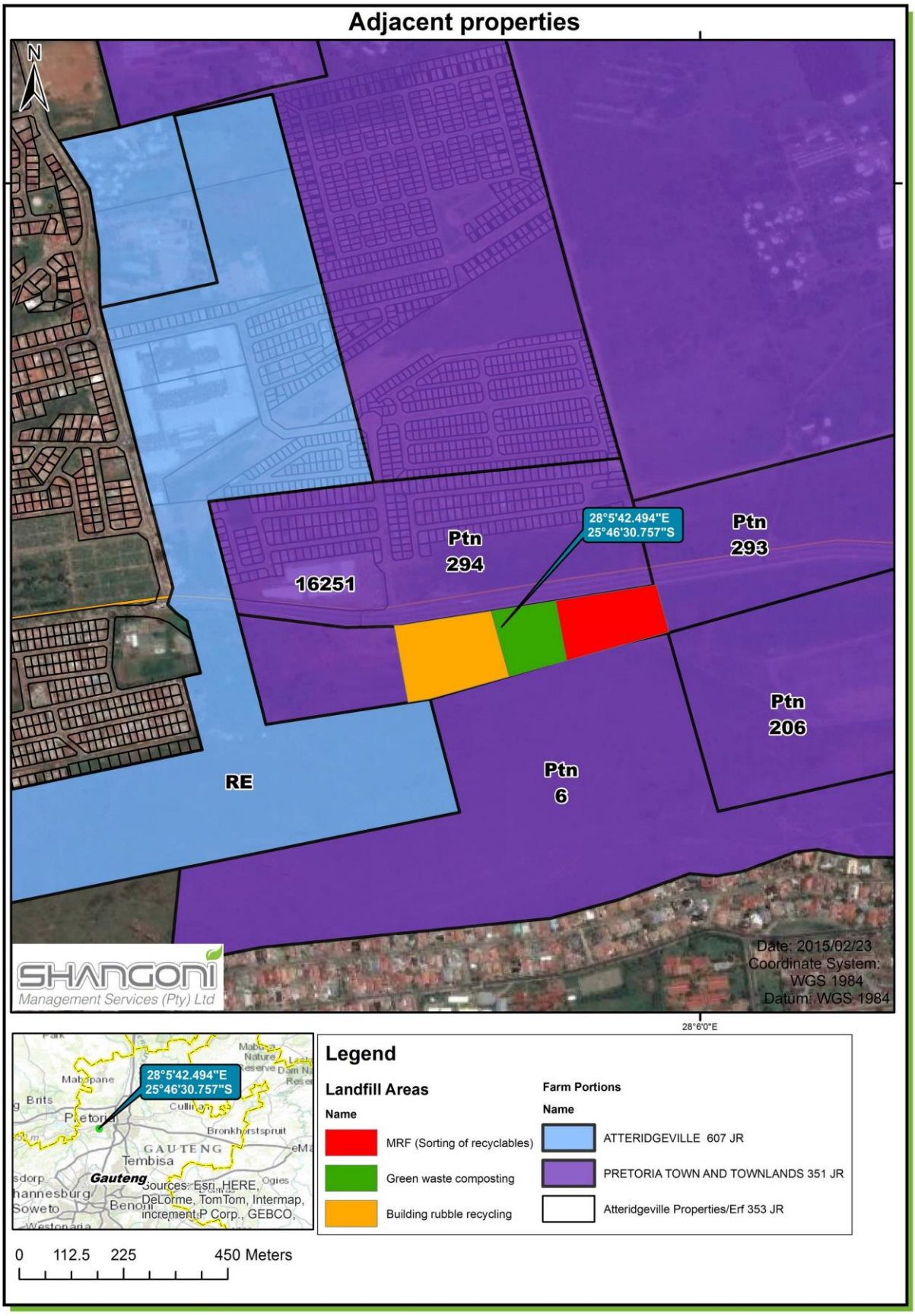


Figure ***12***. Refer also to Part 4 for more detail regarding the Public Participation Process.

Table 7: Surface rights holders of properties adjacent to the proposed site

Farm Name	Title deed	Owner
Portion 206 of the farm Pretoria Town and Townlands 351 JR	G225/956	City of Tshwane Metropolitan Municipality
Portion 293 of the farm Pretoria Town and Townlands 351 JR	T45099/981	Lifetime Township Developers (Pty) Ltd (JT Group)
Portion 294 of the farm Pretoria Town and Townlands 351 JR	T45099/981	Lifetime Township Developers (Pty) Ltd (JT Group)
Portion 6 of the farm Pretoria Town and Townlands 351 JR	G294/908	City of Tshwane Metropolitan Municipality
Remaining extent of the farm Atteridgeville 607 JR	T69319/1987	City of Tshwane Metropolitan Municipality
16251/Erf 353 JR (Atteridgeville Properties)		Safari Retail/Investments

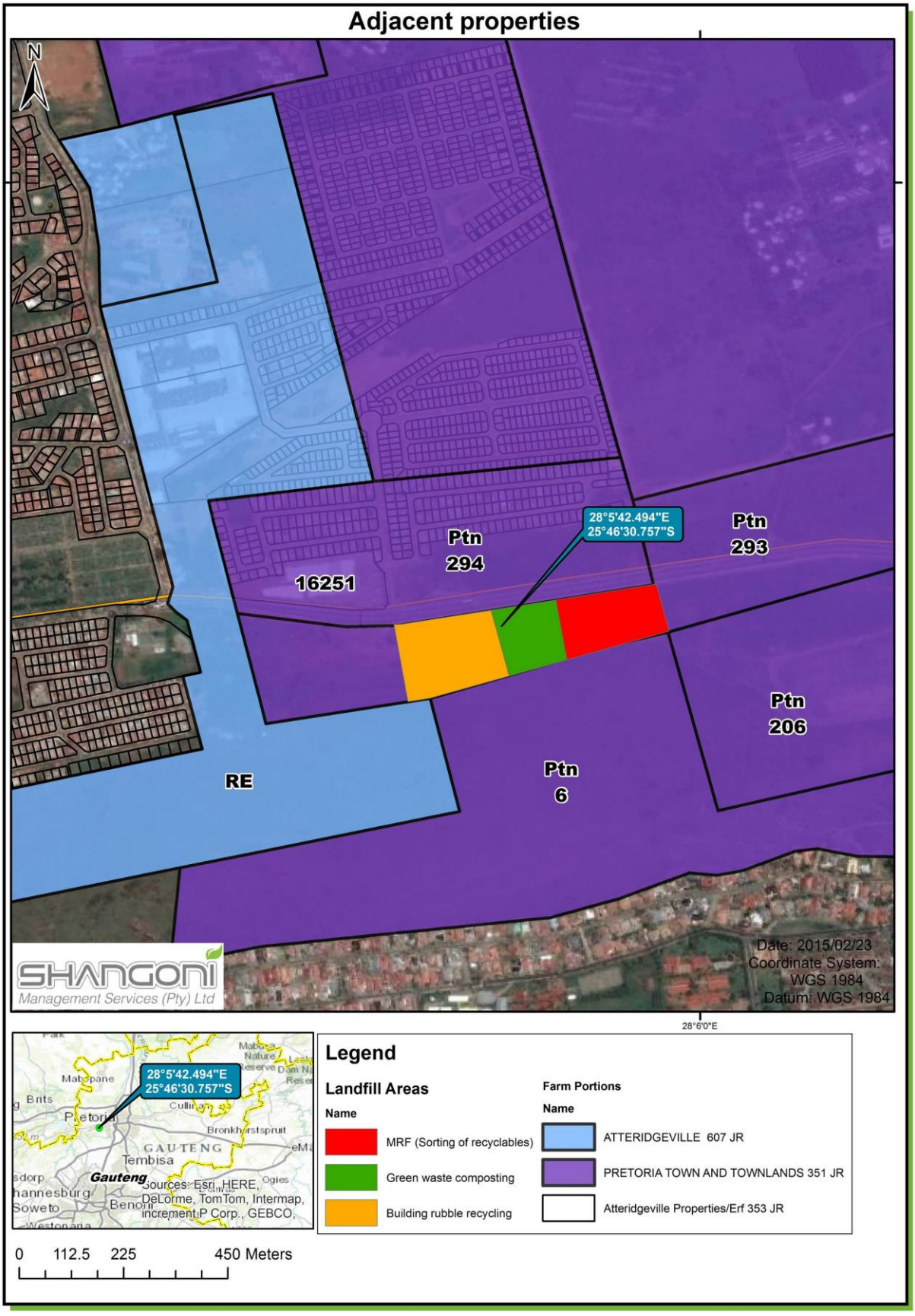


Figure 12: Properties adjacent to the proposed site

1.5.3 Design

Design layouts and engineering drawings for the proposed project have not been finalised for all the phases as yet. These layouts and drawings will be supplied to the Department once they have been finalised.

2. NATURE AND EXTENT OF THE ENVIRONMENT AFFECTED BY ACTIVITY

2.1 Geology

According to Mucina & Rutherford (2006), the geology underlying the Gauteng Shale Mountain Bushveld vegetation type (the vegetation type of the project site) is dominated by coarse clastic sediments and shale, as well as extensive andesite from the Pretoria Group (Transvaal Supergroup). These are all sedimentary rocks. A part of the area is also underlain by Malmani dolomites of the Chuniespoort Group (also Transvaal Supergroup) (Mucina & Rutherford, 2006).

The geology of the site and surrounding areas are shown in the figure below.

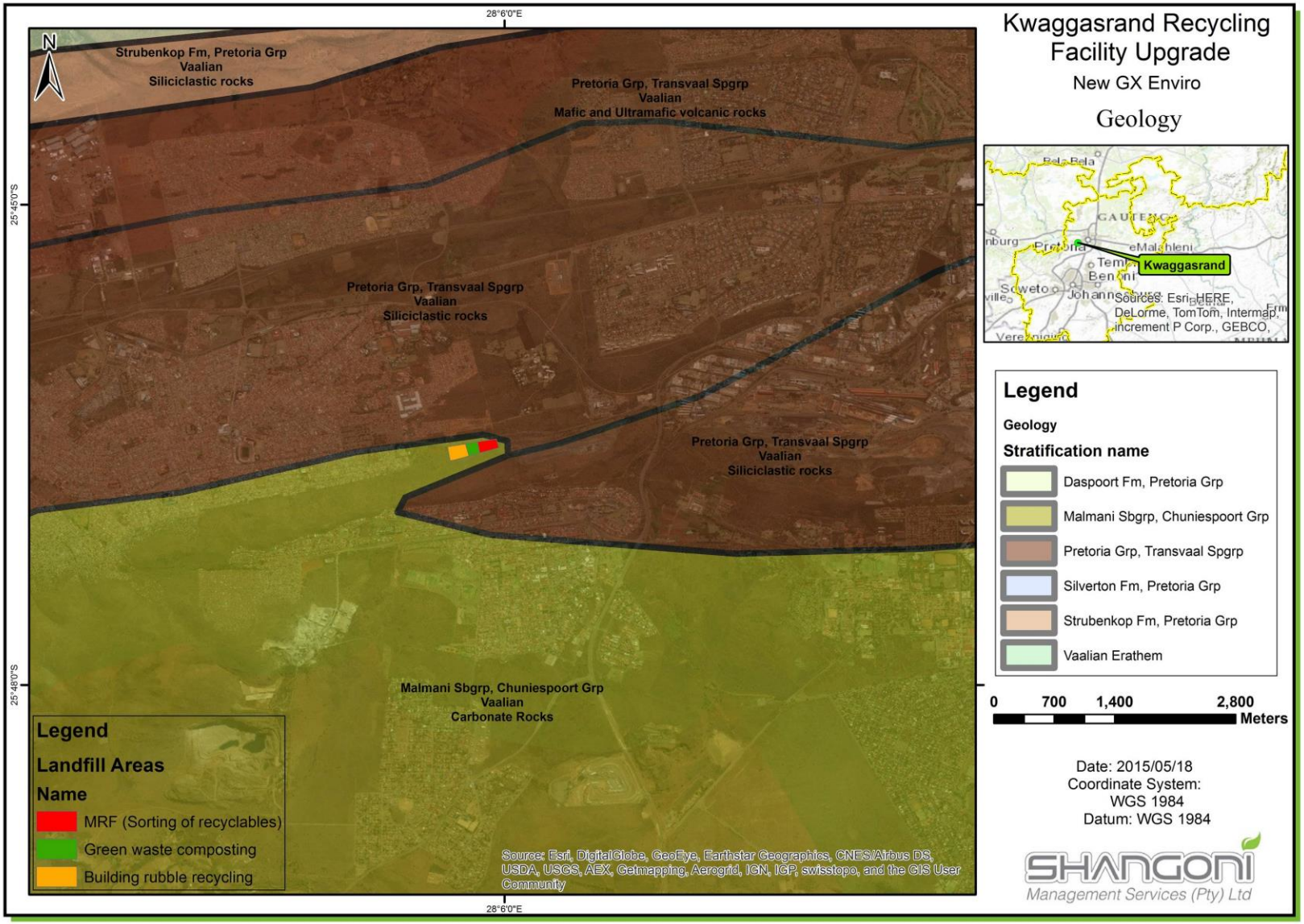


Figure 13: Geology at the site

2.2 Regional climate

2.2.1 Rainfall

The site is located within a summer rainfall area with very dry winters. Frost occurrence is frequent in the winter. According to the AGIS Comprehensive Atlas (2007), the mean annual rainfall at the site area is 601-800mm per annum. The figure below shows the long-term mean annual rainfall for the study area.

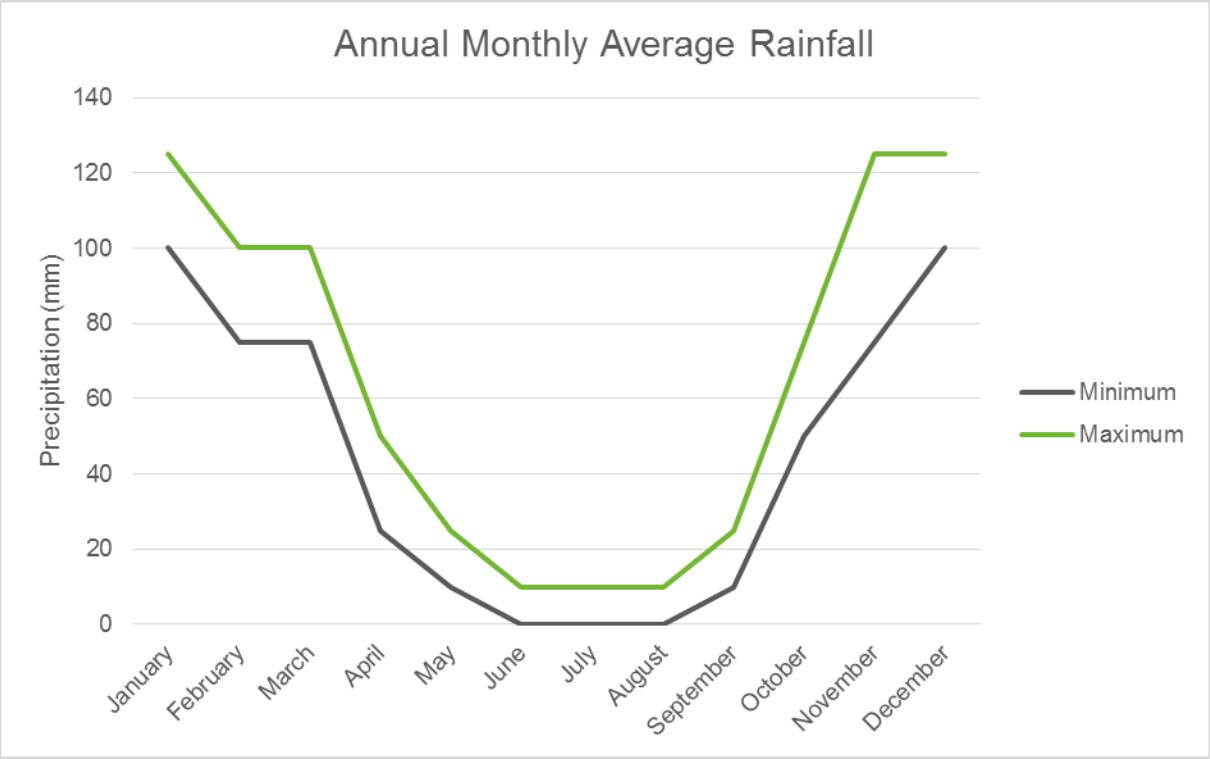


Figure 14: Annual monthly average rainfall at the site

2.2.2 Temperature

The maximum mean annual temperature for the site is between 25°C and 27°C and the minimum mean annual temperature for the site area is between -1°C and 4°C (AGIS, 2007). The figure below shows the annual monthly average temperature at the site for 2013.

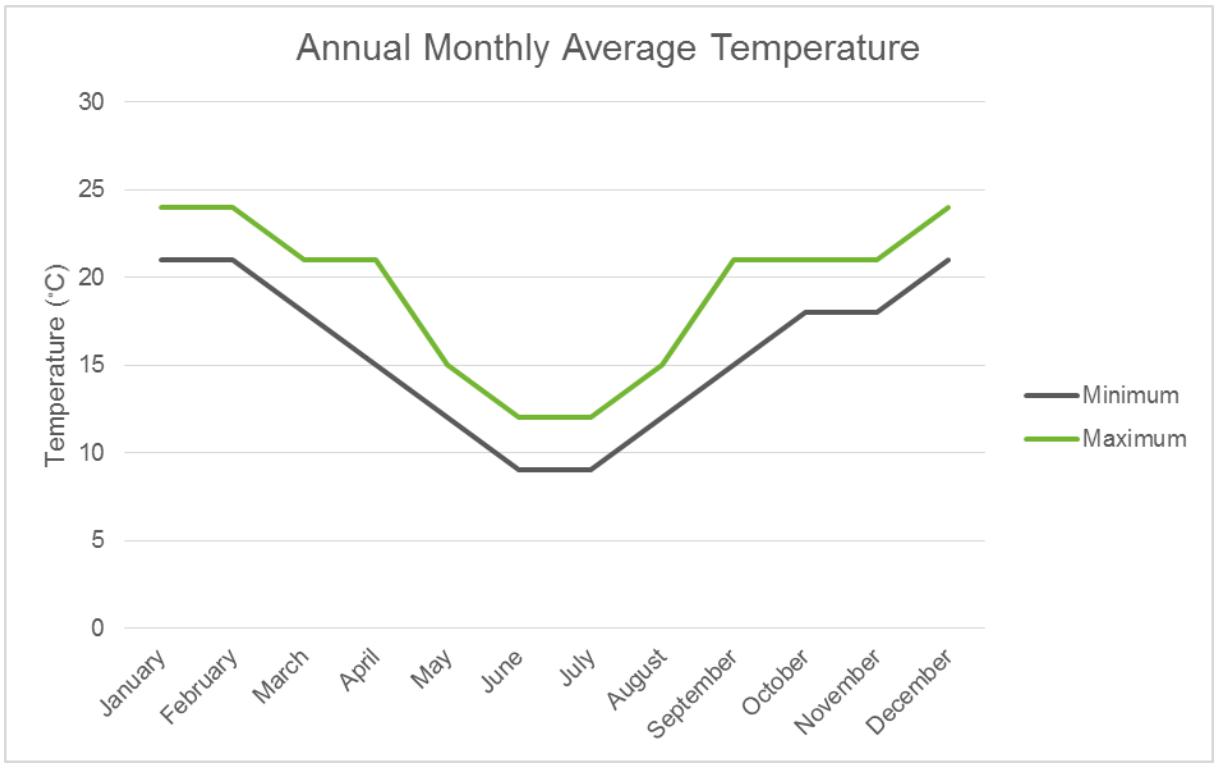


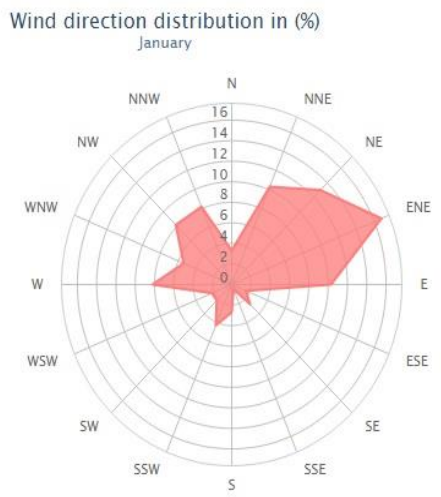
Figure 15: Annual monthly average temperature at the site

2.2.3 Evaporation

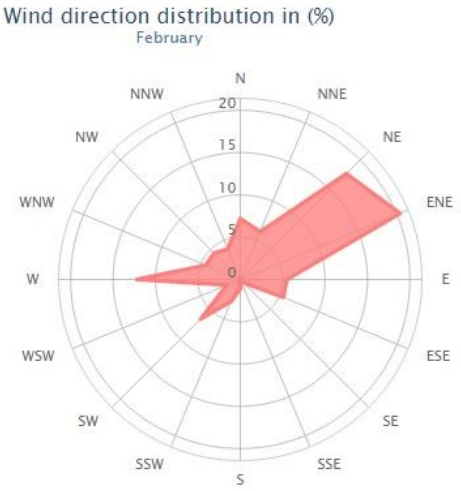
The Mean Annual Evaporation at the site ranges between 2 001 and 2 200 mm per annum (AGIS, 2007).

2.2.4 Wind

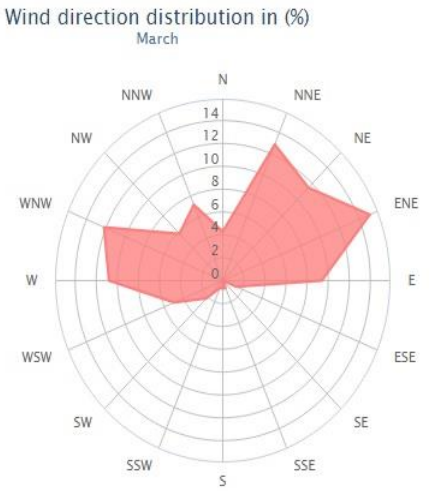
The figures below show the monthly wind directions at the site, compiled for the period December 2011 to March 2015 and obtained from www.windfinder.com. The predominant wind direction at the site is North-east (www.windfinder.com).


Wind direction distribution in (%)
January
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
0

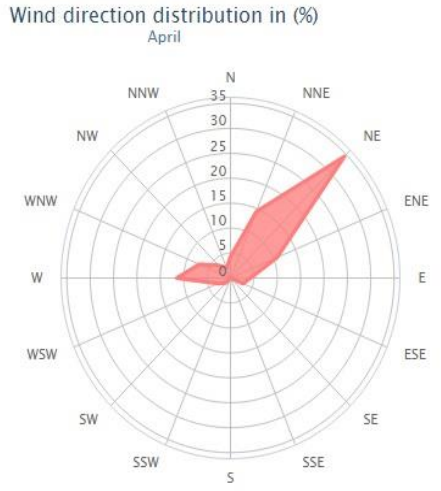
a


Wind direction distribution in (%)
February
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
20
15
10
5
0

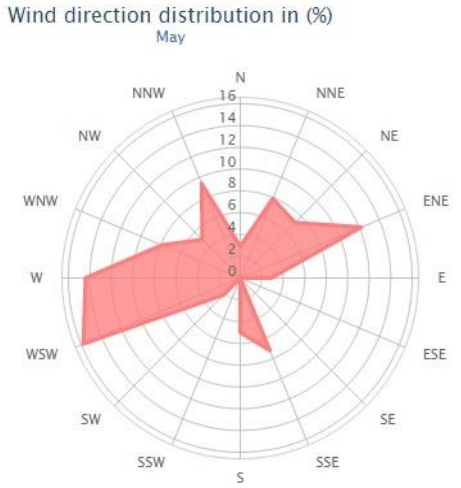
b


Wind direction distribution in (%)
March
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
14
12
10
8
6
4
2
0

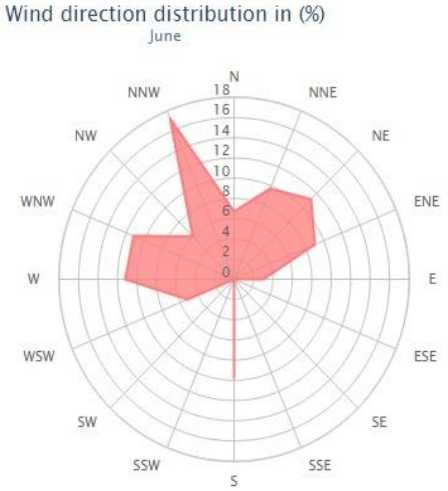
c


Wind direction distribution in (%)
April
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
35
30
25
20
15
10
5
0

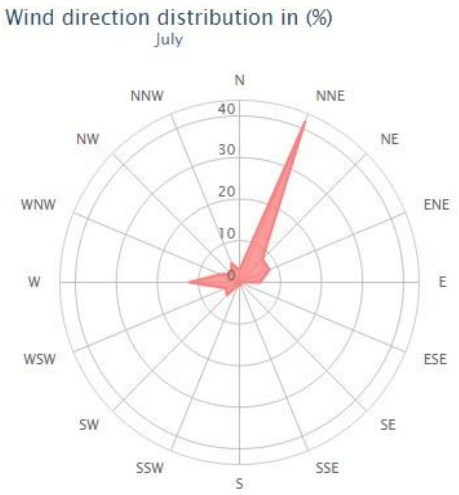
d


Wind direction distribution in (%)
May
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
16
14
12
10
8
6
4
2
0

e


Wind direction distribution in (%)
June
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
18
16
14
12
10
8
6
4
2
0

f



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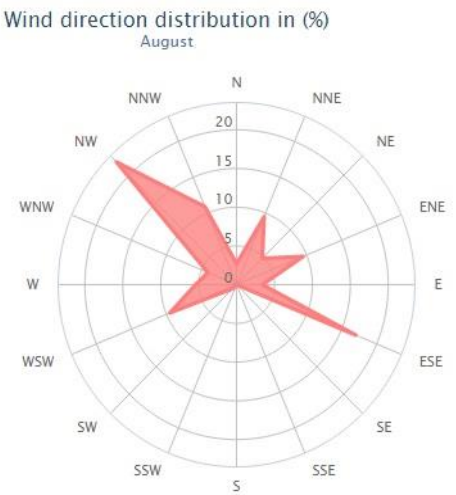

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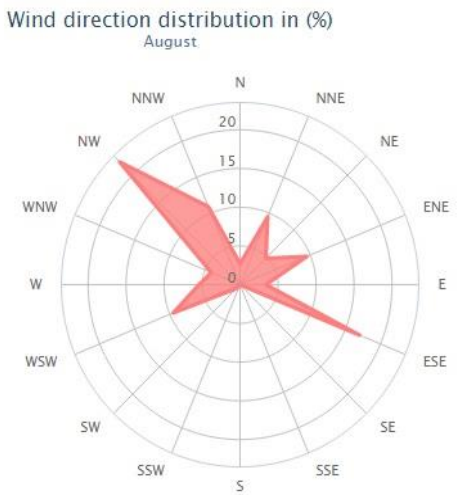

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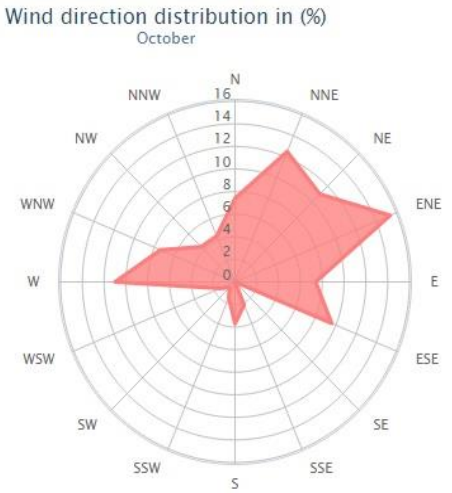
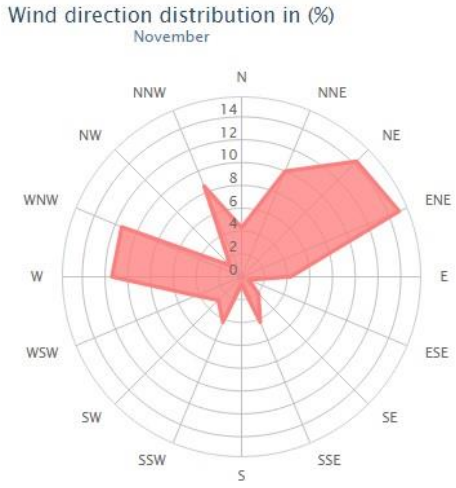
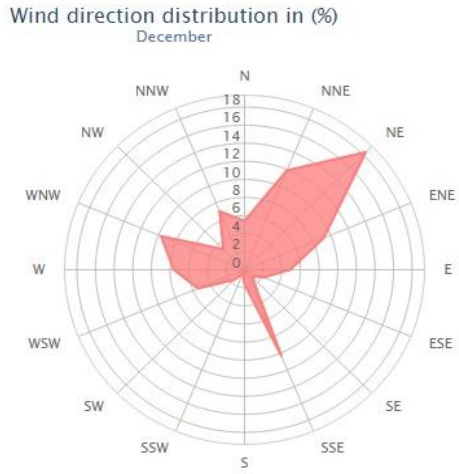


j



k



l

Figure 16: Wind roses showing the monthly wind direction at the site

2.3 Topography

According to Mucina and Rutherford (2006), areas covered by Gauteng Shale Mountain Bushveld vegetation type occur mainly on the ridge of Gatsrand, to the south of Carletonville, Westonaria and Lenasia, but also as a narrow band along the ridge that runs from a point between the Magaliesberg and Tarlton in the west, through Pelindaba, Sterkfontein and Atteridgeville to Klapperkop and the south-east of Pretoria in the east. The altitude of these areas range from 1 300 to 1 750 masl (metres above sea level) (Mucina & Rutherford, 2006).

The site slopes downwards from west to east, from an elevation of 1 430 masl to 1 410 masl. The topography of the site is shown in the figure below.

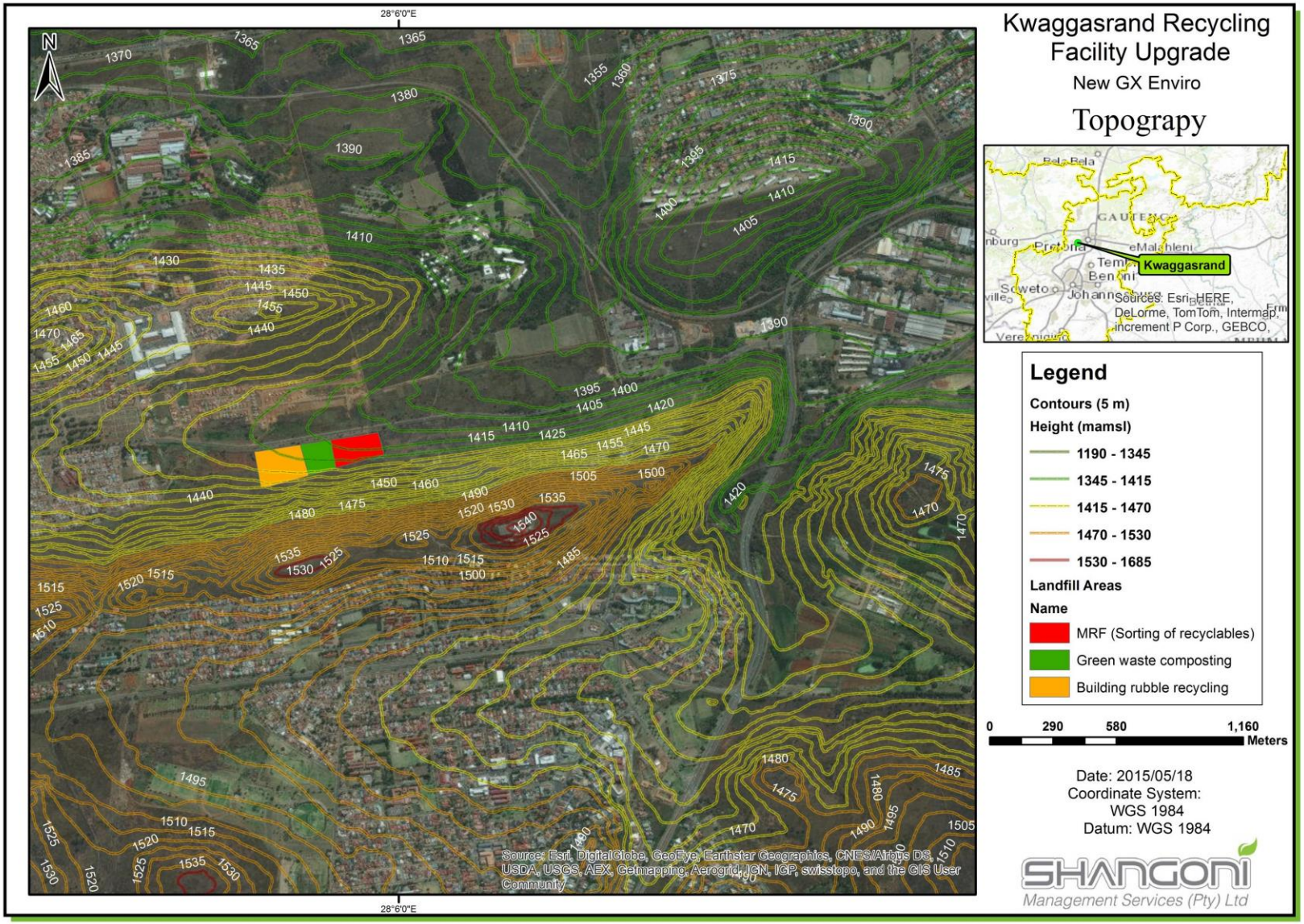


Figure 17: Topography of the site

2.4 Soils

In general, soils underlying Gauteng Shale Mountain Bushveld vegetation type, are mostly shallow Mispah, tending to be deeper at the foot of slopes (Mucina & Rutherford, 2006). The figure below shows that the site consists of S16 soils. Areas further north and south of the site consist of S17 and S2 soil types, respectively.

S16 soils are non-soil land classes and may be water-intake areas. There are restricted land use options for these soils.

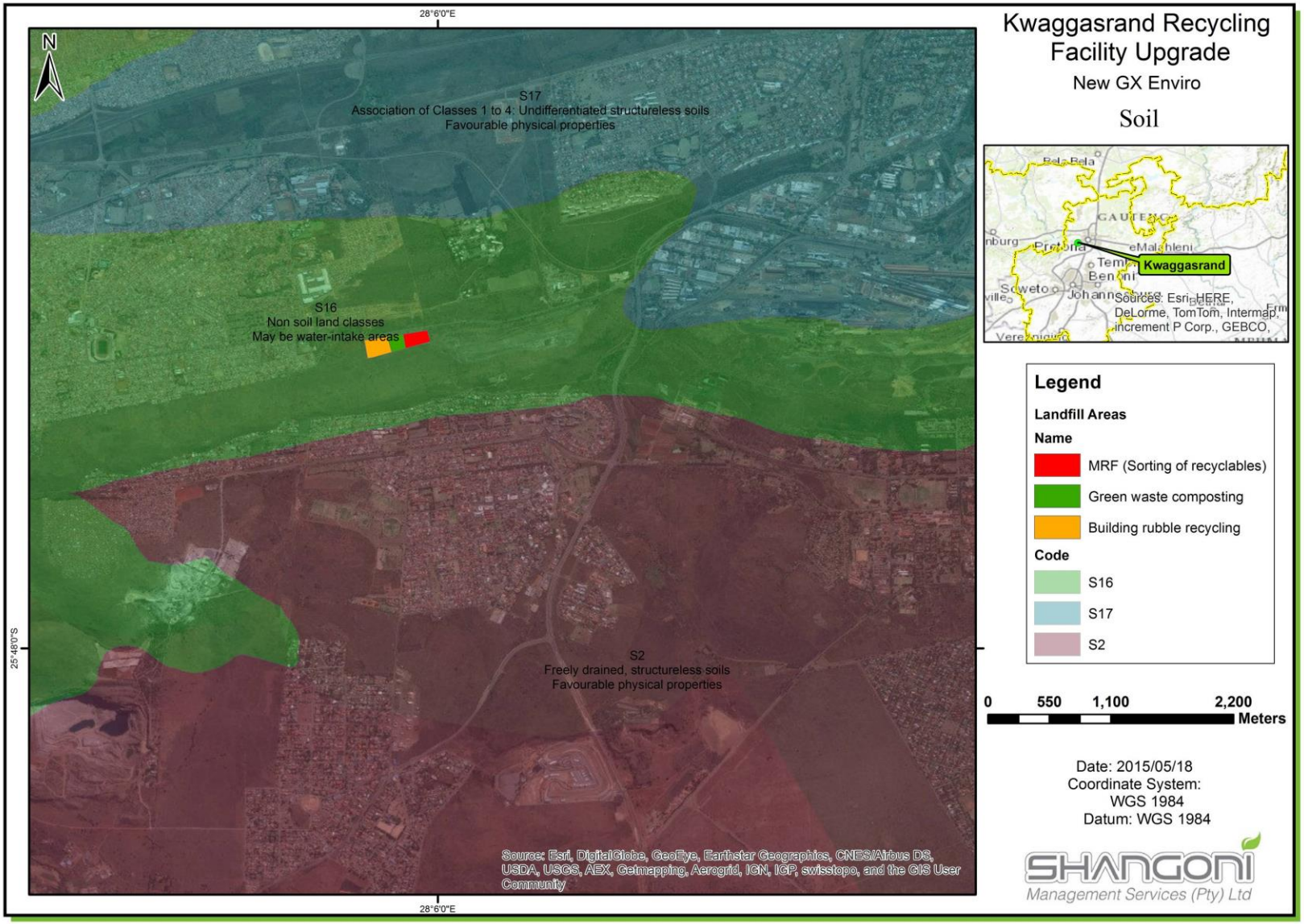


Figure 18: Soil types present at the site

2.5 Land use and land capability

The property is zoned as Industrial 1 and there is an existing building (recycling facility) on the eastern part of the property where general waste has been sorted and recycled by hand. Currently, the manual sorting has been temporarily ceased, as of the 1st of December 2013. This is due to the fact that the adjacent Kwaggasrand landfill site has closed, as no airspace was remaining at the facility. A portion of the property has also been used as a temporary off-site construction camp by the CTMM. The remainder of the property is vacant. The land uses of the areas adjacent to the project site are shown in the figure below.

According to the AGIS Comprehensive Atlas (2007) the land capability of the property is “Wilderness”. In the figure below, the land use of the property is “Natural”.

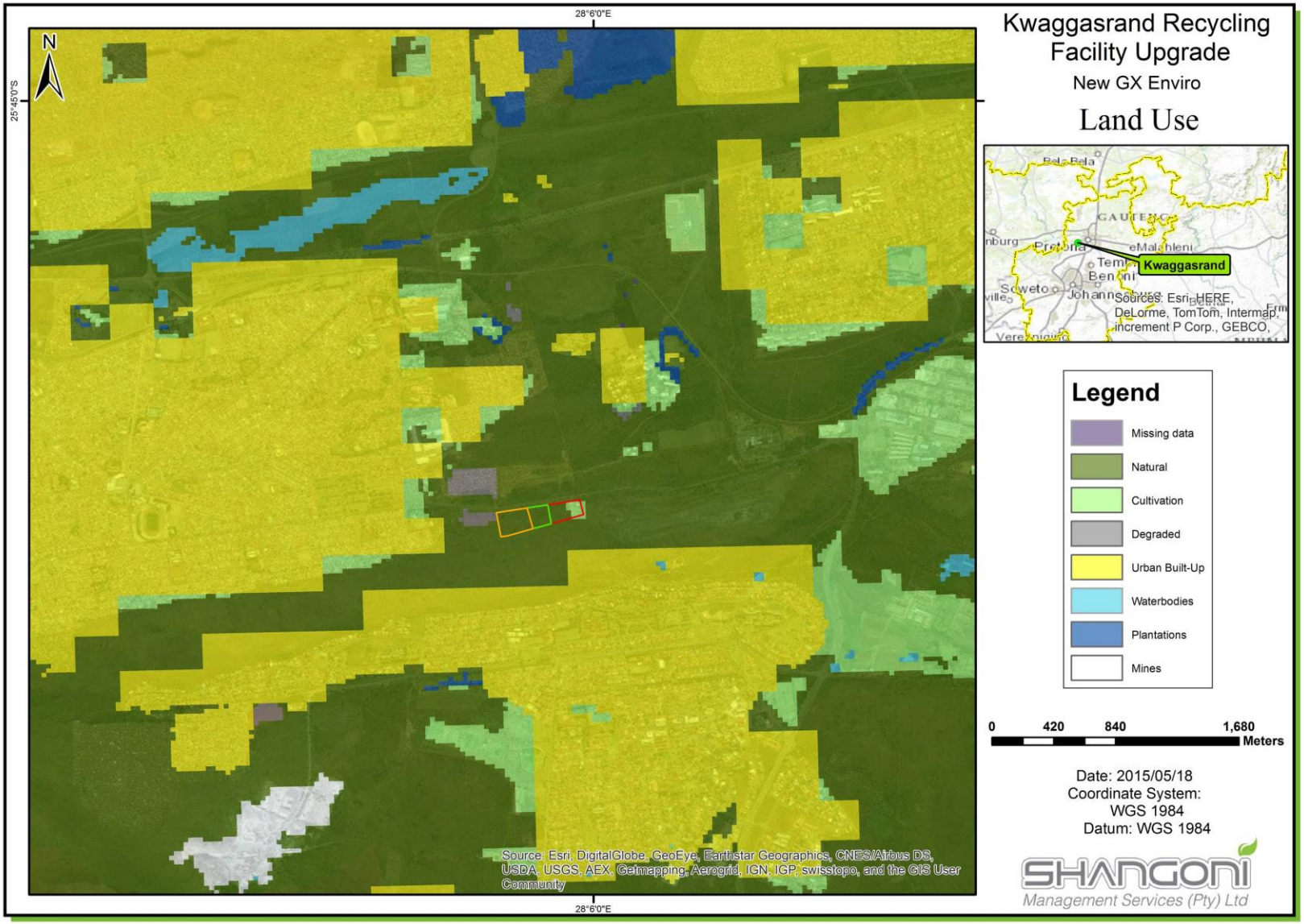


Figure 19: Land use of the site and surrounding areas

2.6 Vegetation

2.6.1 Vegetation type(s)

A large portion of the site, mostly the northern part of the project site, is in a disturbed state and is devoid of vegetation. Vegetation is present on the southern and western portions of the site. Due to the disturbed nature of the vegetation onsite, a desktop assessment was undertaken at this stage to describe the nature of any natural vegetation on site and surrounding the site.

As shown in the figure below, the vegetation type of the area and site is the Gauteng Shale Mountain Bushveld (SVcb 10). The vegetation type is listed as “Vulnerable”. About 21% of the vegetation type have been transformed by urban and build-up areas, quarries, mines, cultivation and plantations. The vegetation type has a conservation target of 24%, but less than 1% is statutorily conserved in the Skanskop Nature Reserve, Hartbeesthoek Nature Reserve, Magaliesberg Nature Area and Groenkloof National Park. Another 1% is conserved in other reserves such as the Hartbeesthoek Radio Astronomy Observatory, John Nash Nature Reserve and Cheetah Park (Mucina & Rutherford, 2006).

2.6.2 Dominant species

The table below lists important taxa within the Gauteng Shale Mountain Bushveld vegetation type.

Table 8: Important taxa in the Gauteng Shale Mountain Bushveld (Mucina & Rutherford, 2006)

Type	Species
Small Trees	*Acacia caffra, Dombeya rotundifolia, Acacia karroo, Celtis africana, Combretum molle, Cussonia spicata, Englerophytum magalismontanum, Protea caffra, Rhus leptodictya, Vangueria infausta, Zanthoxylum capense, Ziziphus mucronata*
Tall Shrubs	*Asparagus laricinus, Canthium gilfillanii, Chrysanthemoides monilifera, Dichrostachys cinerea, Diospyros austro-africana, D. lycioides* subsp. *lycioides, Ehretia rigida* subsp. *rigida, Euclea crispa* subsp. *crispa, Grewia occidentalis, Gymnosporia polyacantha, Olea europaea* subsp. *africana, Tephrosia capensis, T. longipes*
Low Shrubs	*Acalypha angustata, Asparagus suaveolens, Athrixia elata, Felicia muricata, Indigofera comosa, Rhus megalismontana subsp. magalismontana*
Geoxylic Suffrutex	*Elephantorrhiza elephantina*
Succulent Shrub	*Kalanchoe rotundifolia*
Woody Climber	*Ancylobotrys capensis*
Graminoids	*Hyparrhenia dregeana, Cymbopogon caesius, C. pospiscilii, Digitaria eriantha* subsp. *eriantha, Eragrostis curvula*
Herbs	*Dicoma zeyheri, Helichrysum nudifolium, H. rugulosum, Hermannia lancifolia, Hibiscus pusillus, Selaginella dregei, Senecio venosus, Vernonia natalensis, V. oligocephala*
Geophytic Herbs	*Cheilanthes hirta, Pellaea calomelanos, Scadoxus puniceus*

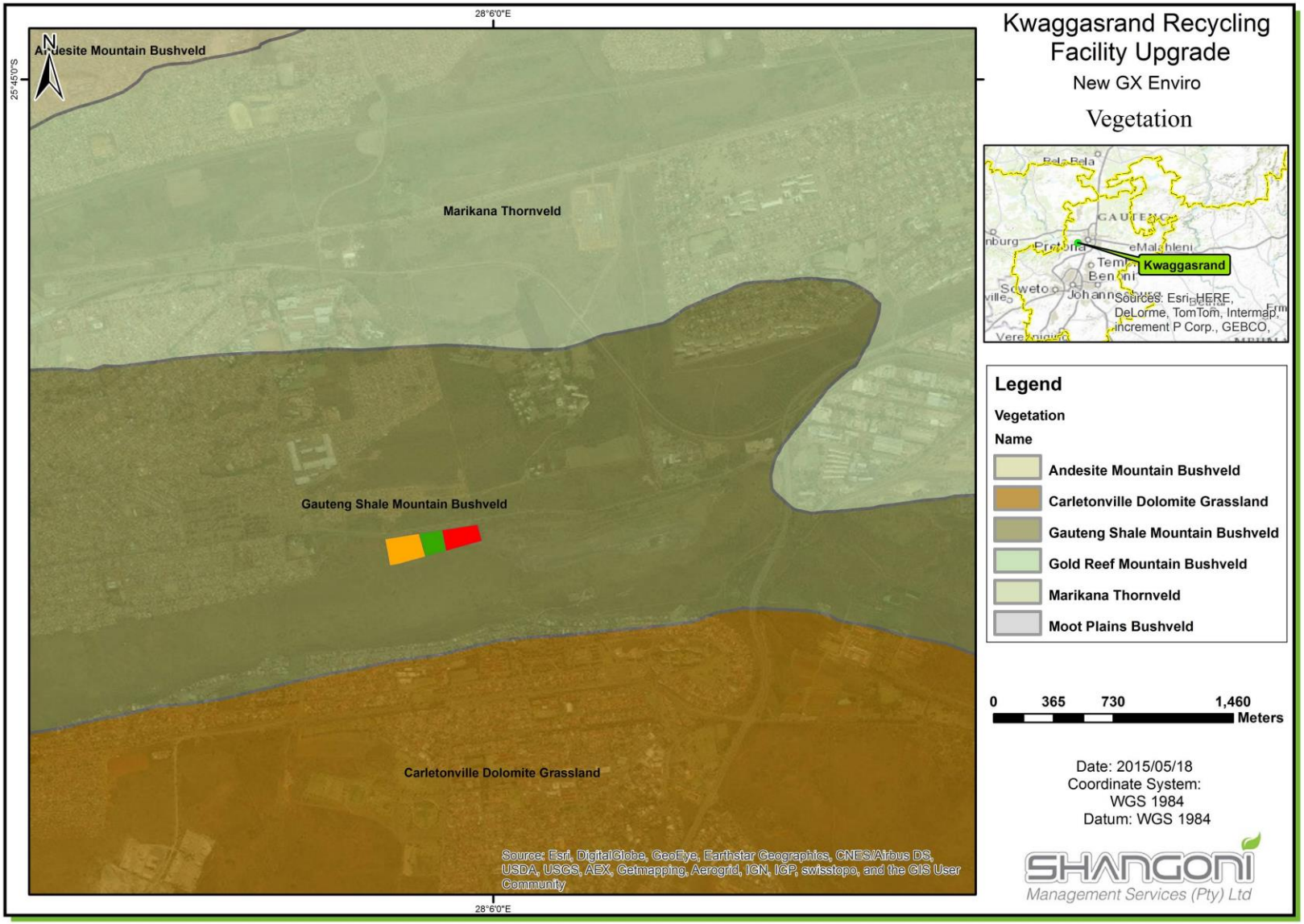


Figure 20: Vegetation type present at the site

2.6.3 Critical Biodiversity Areas

The figure below indicates the Critical Biodiversity Areas in the proximity of the site. The site extends into Important Areas and Ecological Support Areas in terms of the Gauteng Conservation Plan. For this reason, a Vegetation Assessment/Opinion is being proposed as a specialist study to be conducted for this project, in order to verify the state of remaining vegetation on the project property. Areas south of the site are also classified as Ecological Support Areas and Important Areas.

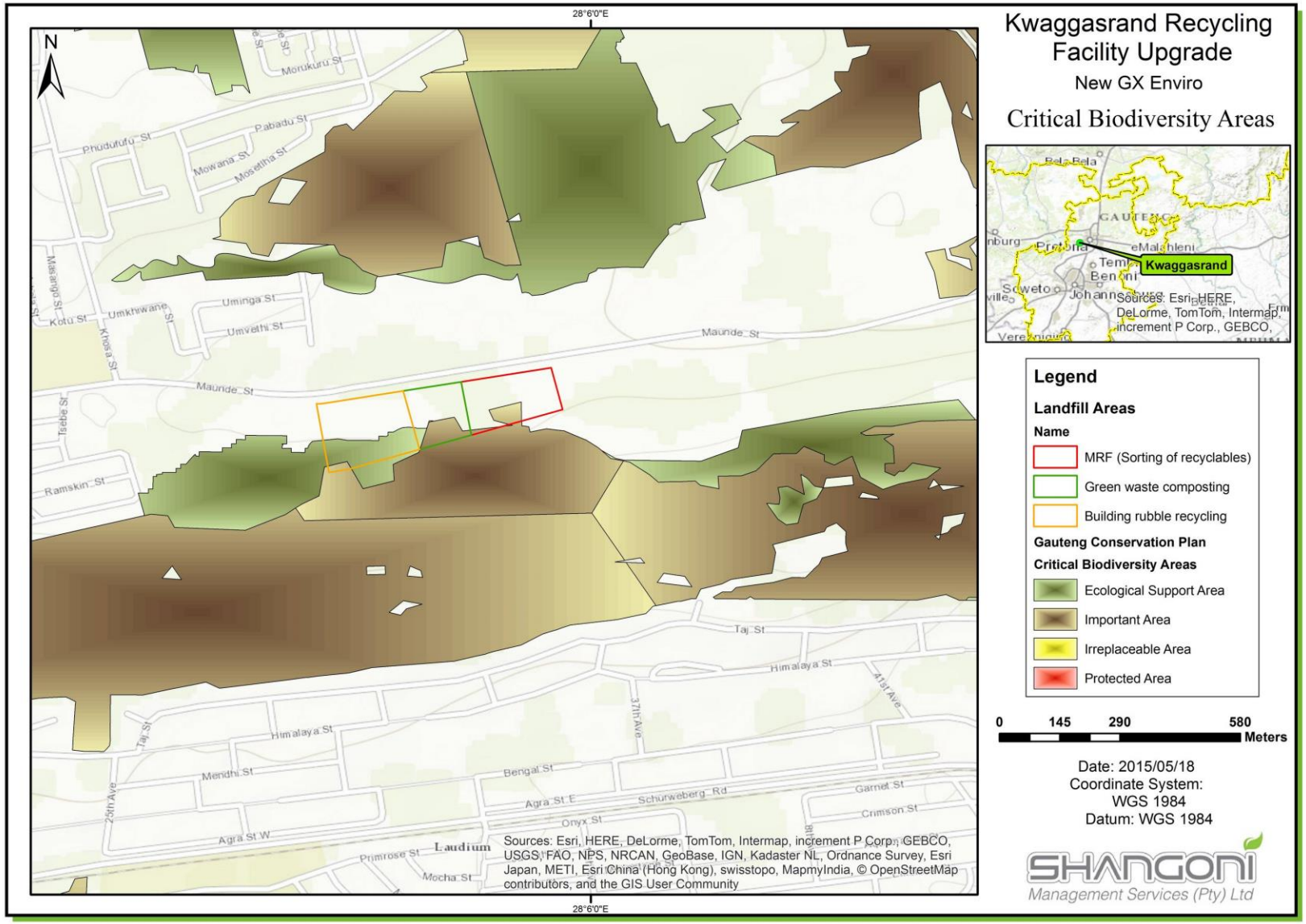


Figure 21: Critical Biodiversity Areas

2.7 Animal life

The site is situated within Pretoria and is mostly in a disturbed state. For this reason, a desktop assessment of the animal life of the general area, specifically any remaining natural areas, was conducted. Please note that only a few or none of these animal species may be present at the project site.

2.7.1 Commonly occurring species

A list of commonly occurring animal species in the study area, according to the South African Biodiversity Information Facility (SIBIF), is attached to this report under Appendix E.

2.7.2 Endangered species

The following tables show the IUCN (International Union for Conservation of Nature and Nature Resources) Red List of Threatened Species that are found in the North West Province. Importantly, these species are not necessarily present at the specific project site. The following abbreviations are used: EN: Endangered; VU: Vulnerable; NT: Near Threatened; DD: Data Deficient and LC: least concern.

Table 9: IUCN Red List of threatened mammal species (IUCN, 2013)

Scientific name	Common name	Red List Status
Mystromys albicaudatus	White-tailed Mouse/White-tailed Rat	EN

Table 10: IUCN Red List of threatened insect species (IUCN, 2013)

Scientific name	Common name	Red List Status
Acanthoplus discoidalis	Armoured Katydid	LC
Aloeides dentatis	Roodepoort Copper	VU
Anax ephippiger	Vagrant Emperor	LC
Anax imperator	Blue Emperor Dragonfly	LC
Anax speratus	Orange Emperor	LC
Anax tristis	Black Emperor	LC
Azuragrion nigridorsum	Black-tailed Bluet	LC
Cacyreus virilis	Alternative Bush Blue	LC
Capys alphaeus	Orange-banded Protea Butterfly	LC
Ceriagrion glabrum	Common Pond Damsel	LC
Clonia uvarovi	Uvarov's Clonia	VU
Clonia wahlbergi	Wahlberg's Clonia	LC
Cloniella praedatoria	Predatory Slender Clonia	DD

Scientific name	Common name	Red List Status
Conchotopoda crassicauda	Rare Dimorphic Leaf Katydid	DD
Conchotopoda parva	Highveld Dimorphic Leaf Katydid	DD
Conocephalus caudalis	Long-tailed Meadow Katydid	LC
Conocephalus iris	Yellowtail Meadow Katydid	LC
Crocothemis sanguinolenta	Little Scarlet	LC
Diplacodes lefebvrii	Black Percher	LC
Enyaliopsis transvaalensis	Northern Armoured Katydid	LC
Eulioptera reticulata	Reticulated Leaf Katydid	LC
Eurycorypha cereris	Kalahari Oblong-eyed Katydid	LC
Eurycorypha lesnei	Lesne's Oblong-eyed Katydid	LC
Eurycorypha meruensis	African Oblong-eyed Katydid	LC
Ischnura senegalensis	Common Bluetail	LC
Orthetrum chrysostigma	Epaulet Skimmer	LC
Lestes pallidus	Pallid Spreadwing	LC
Lestinogomphus angustus	Common Fairytail	LC
Melidia brunneri	Brunner's Melidia	LC
Nesciothemis farinosa	Black-tailed Skimmer	LC
Orthetrum abbotti	Abbott's Skimmer	LC
Orthetrum caffrum	Two-striped Skimmer	LC
Orthetrum trinacria	Long Skimmer	LC
Palpopleura deceptor	Deceptive Widow	LC
Pantala flavescens	Globe Skimmer	LC
Paragomphus genei	Green Hooktail	LC
Paternympha narycia	Spotted-eye Brown	LC
Phaneroptera sparsa	Sickle-bearing Leaf Katydid	LC
Pseudagrion draconis	Mountain Sprite	LC
Pseudagrion kersteni	Kersten's Sprite	LC
Pseudorhynchus hastifer	Spear Reed Katydid	LC
Rhyothemis semihyalina	Phantom Flutterer	LC
Ruspolia ampla	Robust Conehead Katydid	LC
Sympetrum fonscolombii	Red-veined Darter	LC
Terpnistria zebrata	Zebra Katydid	LC
Tholymis tillarga	Old World Twister	LC
Tramea basilaris	Keyhole Glider	LC
Tramea limbata	Ferrugineus Glider	LC
Trithemis annulata	Violet Dropwing	LC
Trithemis arteriosa	Red-veined Dropwing	LC

Scientific name	Common name	Red List Status
Trithemis furva	Navy Dropwing	LC
Trithemis kirbyi	Orange-winged Dropwing	LC
Tuxentius calice	White Pierrot	LC
Tylopsis bilineolata	Striped Grass Katydid	LC
Tylopsis continua	Common Grass Katydid	LC
Zabalius ophthalmicus	Blue-legged Sylvan Katydid	LC
Zygonyx torridus	Ringed Cascader	LC

Table 11: IUCN Red List of threatened reptile species (IUCN, 2013)

Scientific name	Common name	Red List Status
Duberria lutrix	Common Slug Eater	LC
Chamaeleo dilepis	Common African Flap-necked Chameleon	LC
Lygodactylus nigropunctatus	Black-spotted Dwarf Gecko	LC

Table 12: IUCN Red List of threatened millipede (Diplopoda) species (IUCN, 2013)

Scientific name	Common name	Red List Status
Doratogonus levigatus	-	LC
Doratogonus rugifrons	-	LC
Doratogonus subpartitus	-	DD

2.8 Surface water

2.8.1 Catchment areas

The site is situated in the A23D quaternary catchment area as shown in the figure below. This quaternary catchment region is located within the Crocodile (West) and Marico Water Management Area (WMA). The main rivers in the WMA, the Crocodile and Marico Rivers, give rise to the Limpopo River at their confluence (DWAF, 2004).

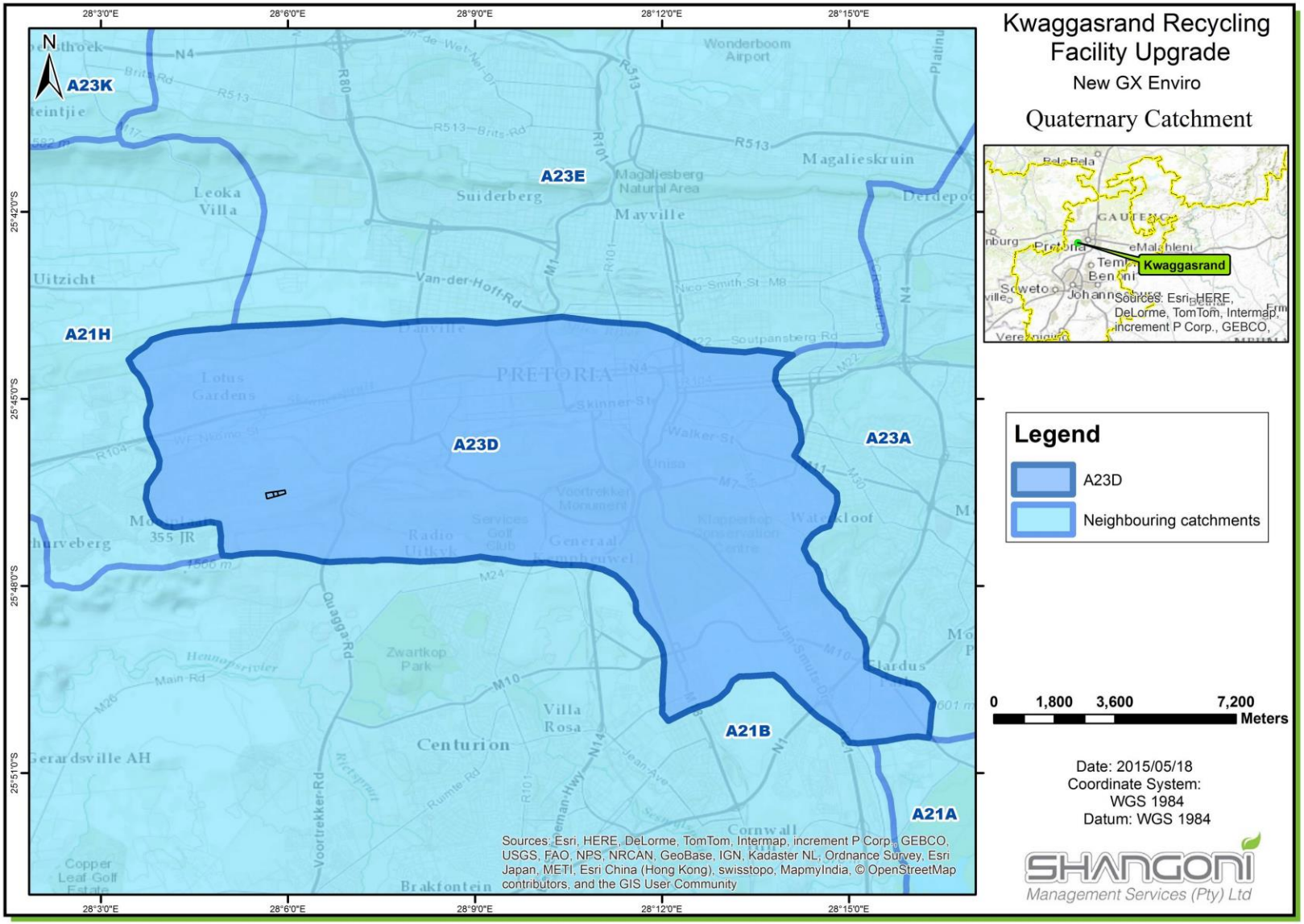


Figure 22: Quaternary Catchment in which the site is located

2.8.2 Mean annual runoff (MAR)

The total Mean Annual Runoff for the Upper Vaal Water Management Area is 855 million m^3/annum and the Ecological Reserve is 164 million m^3/annum (DWAF, 2004).

2.8.3 Surface water quantity, quality and use

No information is available regarding surface water in the vicinity of the site. A municipal water supply will be used on the site.

2.8.4 Water authority

The relevant water authority is the Department of Water and Sanitation, Pretoria Regional Office.

2.9 Groundwater

2.9.1 Aquifer type

The aquifer type of the area is b3, fractured aquifers with median borehole yields of 0.5-2 litres/second (Geohydrological Map Sheet 2526, 1999). The aquifers are classified as “minor” aquifers (DWA, 2012).

The groundwater recharge is approximately 14mm per annum and the baseflow is approximately 36mm per annum in the area of the site (DWAF, 2010).

2.9.2 Depth of water tables

The depth of the water table is approximately 14 mbgl (metres below ground level) in the area of the site (DWAF, 2010).

2.9.3 Groundwater quality

The groundwater quality, in terms of mean TDS (total dissolved solids), underlying the area of the site is 166mg/l (DWAF, 2010).

2.10 Sensitive landscapes

Two small, flat wetlands are located 0.58km and 1.15km south-east of the site, respectively. A larger seep wetland is located approximately 2km north of the site. These wetlands are shown in the figure below. According to the ArcGIS databases, no wetlands are present on site.

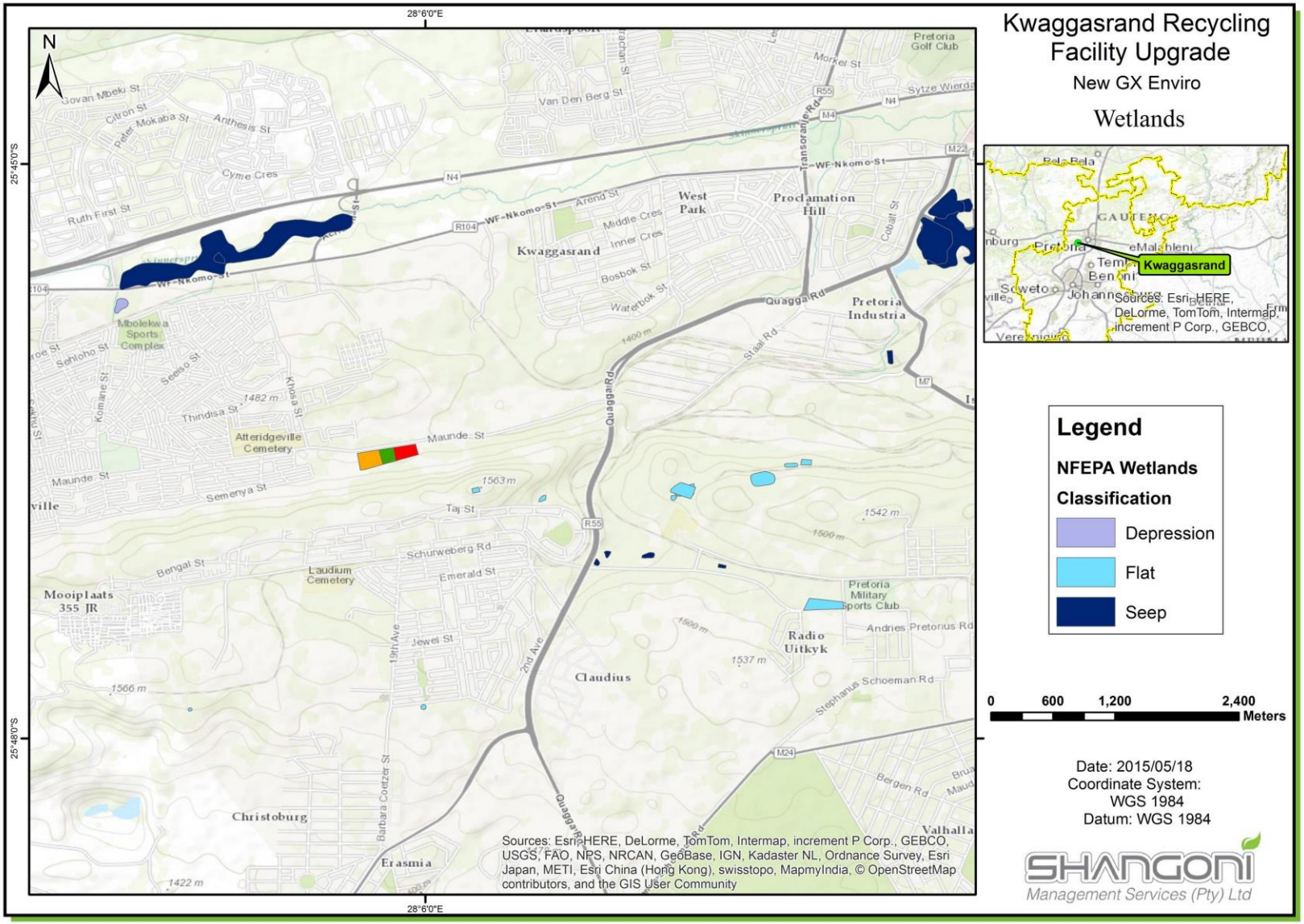


Figure 23: Wetlands Present Near the Site

2.11 Sites of archaeological and cultural interest

Approximately half of the site has been disturbed in the past. No information is available relating to the possible presence or absence of any sites of cultural heritage (historical and/or archaeological). The South African Heritage Resources Agency has been informed of the proposed development and has indicated that they require a Heritage Impact Assessment and a Desktop Palaeontological Impact Assessment Survey to be conducted for the proposed project.

2.12 Air Quality

The site is not situated within an Airshed Priority Area and the following are the main sources of atmospheric emissions in the municipal area:

- Power generation (Pretoria West and Rooiwal power stations);
- Industrial processes, such as iron, steel and ceramic industries;
- Specific industries such as dyers, printers and spray painters;
- Household fuel combustion;
- Biomass burning;
- Transportation (petrol and diesel vehicle emissions);
- Aviation emissions;
- Mining activities;
- Landfill sites;
- Tyre burning;
- Agricultural activities;
- Vehicle entrainment on dust roads;
- Veldt fires;
- Incinerators; and
- Wind-blown dust from open areas.

The main areas of concern in terms of diminishing air quality within the CTMM are as follows:

- Areas situated close to industrial areas like the Moot and Pretoria West;
- Areas in close proximity to busy intersections and highways, which are affected by vehicle emissions; and
- Informal settlements where wood and coal are burnt as energy sources, mostly for cooking purposes. This is particularly evident in cold, winter months when fires are also used for the generation of heat (Airshed Planning Professionals, 2005).

2.13 Noise

According to the Appendix F of the City of Tshwane Noise Management Policy, 2004, the main sources of environmental noise in the municipal area include the following:

- Road traffic on highways, main arterial roads and lower order roads;
- Freight and passenger trains;
- Large public transport termini and stops such as those for taxis, buses and trains;
- Airfields (Wonderboom Airport, Zwartkops Military Airbase and the Waterkloof Military Airbase);
- Helipads;
- Industrial areas;
- Quarrying operations;
- Mining operations;
- Office blocks;
- Shopping centres;
- Sporting venues; and
- Venues where musical entertainment occurs, including restaurants, stadiums and so forth (Calyx Environmental CC, 2004).

The main sources of noise in the vicinity of the site include road traffic on Maunde Street, residential activities in Atteridgeville and any still-existing activities at the Kwaggasrand landfill site.

2.14 Visual aspects

The site is located next to Maunde Street and is clearly visible to motorists travelling on this road. The site is also visible to adjacent landowners to the north, east and west. The land to the south of the site is open and there are therefore limited receptors to the south. A Landscape Development Plan (LDP) is being compiled for the proposed project.

2.15 Socio-economic aspects

2.15.1 Demography

According to the 2011 census, 2 921 488 people formed part of the 911 536 households in the City of Tshwane Metropolitan Municipality. The average household size is 3.2 people per household. The growth rate in the municipality is 3.10% per annum. There are 99 men for every 100 women in the municipality (Statistics South Africa, 2011). The table below shows the age structure of the municipality.

Table 13: Demographic Profile of the City of Tshwane Metropolitan Municipality

Age Group	Percentage of Population (%)
Under 15 years of age	23.2

Age Group	Percentage of Population (%)
15 to 64 years of age	71.9
Over 65 years of age	4.9
Total	**100**

2.15.2 Major economic activities

According to the City of Tshwane Integrated Development Plan (Draft 2014/2015 review), the city has an established manufacturing sector and the automotive industry plays a large role in this sector. The city has the highest concentration of automotive industries, including Original Equipment Manufacturers (OEMs) in the country. The municipality is the fastest growing municipality in South Africa (City of Tshwane, 2014).

2.15.3 Unemployment and employment

The 2011 census found that the official unemployment rate in the City of Tshwane Metropolitan Municipality was 24.2% and the youth unemployment rate (15 to 34 years of age) was 32.6%. The dependency ratio was 39 per 100 people between the ages of 15 and 64 years (Statistics South Africa, 2011).

3. APPLICABLE LEGISLATION AND GUIDELINES

The table below provides an indication of the main legislation, policies and/or guidelines applicable to the Kwaggasrand Recycling Facility Upgrade project.

Table 14: Applicable legislation, policies and / or guidelines

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
Laws of General Application		
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)	-	To establish a Constitution with a Bill of Rights for the RSA.
Environment Conservation Act, 1989 (Act No. 73 of 1989 as amended)	Gauteng Department of Agriculture and Rural Development	To control environmental conservation.
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.	Gauteng Department of Agriculture and Rural Development	To provide for the integrated management of the environment, and to regulate the 'Duty of Care' Principle.
National Environmental Management: Waste Act (Act No. 59 of 2008)	Gauteng Department of Agriculture and Rural Development	To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation.
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000 as amended)	-	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights.
Air Quality and Noise		
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	City of Tshwane Metropolitan Municipality	To reform the law regulating air quality to protect the environment by providing reasonable measures for the prevention of pollution. To provide for national norms and standards regulating air quality monitoring, management and control.
Water Management		
National Water Act (NWA), 1998 (Act No. 36 of 1998)	Department of Water and Sanitation	To provide for fundamental reform of the law relating to water

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
		resources.
Waste Management		
National Environmental Management: Waste Act (Act No. 59 of 2008)	Gauteng Department of Agriculture and Rural Development	To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation.
National Environmental Management: Waste Act (Act No 59 of 2008) – Waste Classification and management regulations (GNR. 634 of 23 August 2013)	Gauteng Department of Agriculture and Rural Development	To regulate the classification and management of waste in a manner that supports and implements the provisions of the Waste Act.
GNR. 926 of 29 November 2013 – National Norms and Standards for the Storage of Waste	Gauteng Department of Agriculture and Rural Development	To provide a uniform national approach to the management of waste storage facilities, to ensure best practice in the management of waste storage facilities and to provide minimum standards for the design and operation of new and existing waste storage facilities.
GNR. 634 of 23 August 2013 – Waste Classification and Management Regulations	Gauteng Department of Agriculture and Rural Development	To regulate the classification and management of waste in a manner that supports and implements the provisions of the Waste Act, to establish a mechanism and procedure for the listing of waste management activities that do not require a Waste Management Licence, to prescribe requirements for the disposal of waste to landfill, to prescribe requirements and timeframes for the management of certain wastes and to prescribe general duties of waste generators, transporters and managers.
Environmental Conservation Act, 1989, Waste Tyre Regulations, 2008.	Gauteng Department of Agriculture and Rural Development	To regulate the management of waste tyres by providing for the regulatory mechanisms.
Biodiversity		
National Environmental	Gauteng Department of Agriculture	To provide for the management and

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
Management Biodiversity Act, 2004 (Act No. 10 of 2004)	and Rural Development	conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	Gauteng Department of Agriculture and Rural Development	To provide for control over the utilisation of the natural agricultural resources of South Africa in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants.
Soil and Land Management		
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.	Gauteng Department of Agriculture and Rural Development	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.
Environment Conservation Act, 1989 (Act No. 73 of 1989 as amended)	Gauteng Department of Agriculture and Rural Development	To control environmental conservation.
Heritage and Archaeological Resources		
National Heritage Resources Act No 25 of 1999 (Act No. 25 of 1999 as amended)	South African Heritage Resources Agency	To introduce an integrated and interactive system for the management of the national heritage resources; to promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations
Protected Areas		
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003 as amended)	Gauteng Department of Agriculture and Rural Development	To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes.
Planning of New Activities		
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.	Gauteng Department of Agriculture and Rural Development	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.
National Environmental Management: Waste Act (Act No.	Gauteng Department of Agriculture and Rural Development	To reform the law regulating waste management in order to protect

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
59 of 2008)		health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation.
Government Notice (GN) 718: "*List of waste management activities that have, or are likely to have a detrimental effect on the environment*", dated 2009.	Gauteng Department of Agriculture and Rural Development	To regulate and control the authorisation of certain waste-related listed activities.

4. PUBLIC PARTICIPATION PROCESS

4.1 Objectives of the Public Participation Process (PPP)

Section 24 of the Constitution of the Republic of South Africa of 1996 guarantees everyone the right to an environment that is not harmful to their health and well-being and to have the environment protected for the benefit of present and future generations. In order to give effect to this right, the National Environmental Management Act (NEMA), 1998, as amended, came into effect.

In terms of Section 24(4) of the NEMA, 1998, as amended, procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, ensure, with respect to every application:

- Coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state;
- That the findings and recommendations flowing from an investigation, the general objective of integrated management laid down in NEMA, 1998, as amended, and the principles of environmental management set out in Section 2 of NEMA, 1998, as amended, are taken into account in any decision made by the organ state in relation to any proposed policy, programme, process, plan or projects, consequences or impacts; and
- Public information and participation procedures which provide all integrated and affected parties, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures.

One of the general objectives of integrated environmental management laid down in Section 23(2) (d) of NEMA, 1998, as amended, is to: “ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment”.

The National Environmental Management Principles as stipulated in NEMA, 1998, as amended state:

- “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.
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have an opportunity to develop the understanding, skills and capacity necessary to achieve equitable and effective participation, and participation by vulnerable and disadvantage persons must be ensured”.

4.2 Legislation and guidelines followed for the PPP

The public participation process for this project was conducted by Shangoni Management Services in terms of:

- The procedures and provisions in terms of the NEMA 1998, as amended;
- The procedures and provisions in terms of the NEM:WA, 2008;
- Chapter 6 of the EIA Regulations of 2010;
- GN 807; Public Participation Guideline in the Environmental Impact Assessment Process, dated October 2012; and
- Other relevant legislation such as the Promotion of Access to Information Act (PAIA), 2000.

Refer to Appendix D for an extract regarding the required public participation process to be followed, taken from the relevant legislation and guidelines

4.3 Public Participation Process followed

4.3.1 Identification and registration of I&APs and key stakeholders

The table below lists the landowners and adjacent landowners identified and notified (by means of e-mail, fax and/or registered post) of the proposed project. Copies of the notifications to the I&APs have been included in Appendix D.

Table 15: List of landowners and adjacent landowners identified and notified

Farm Name	Title deed	Owner
Portion 206 of the farm Pretoria Town and Townlands 351 JR	G225/956	City of Tshwane Metropolitan Municipality
Portion 293 of the farm Pretoria Town and Townlands 351 JR	T45099/981	Lifetime Township Developers (Pty) Ltd (JT Group)
Portion 294 of the farm Pretoria Town and Townlands 351 JR	T45099/981	Lifetime Township Developers (Pty) Ltd (JT Group)
Portion 6 of the farm Pretoria Town and Townlands 351 JR	G294/908	City of Tshwane Metropolitan Municipality
Remaining extent of the farm Atteridgeville 607 JR	T69319/1987	City of Tshwane Metropolitan Municipality
16251/Erf 353 JR (Atteridgeville Properties)		Safari Retail/Investments

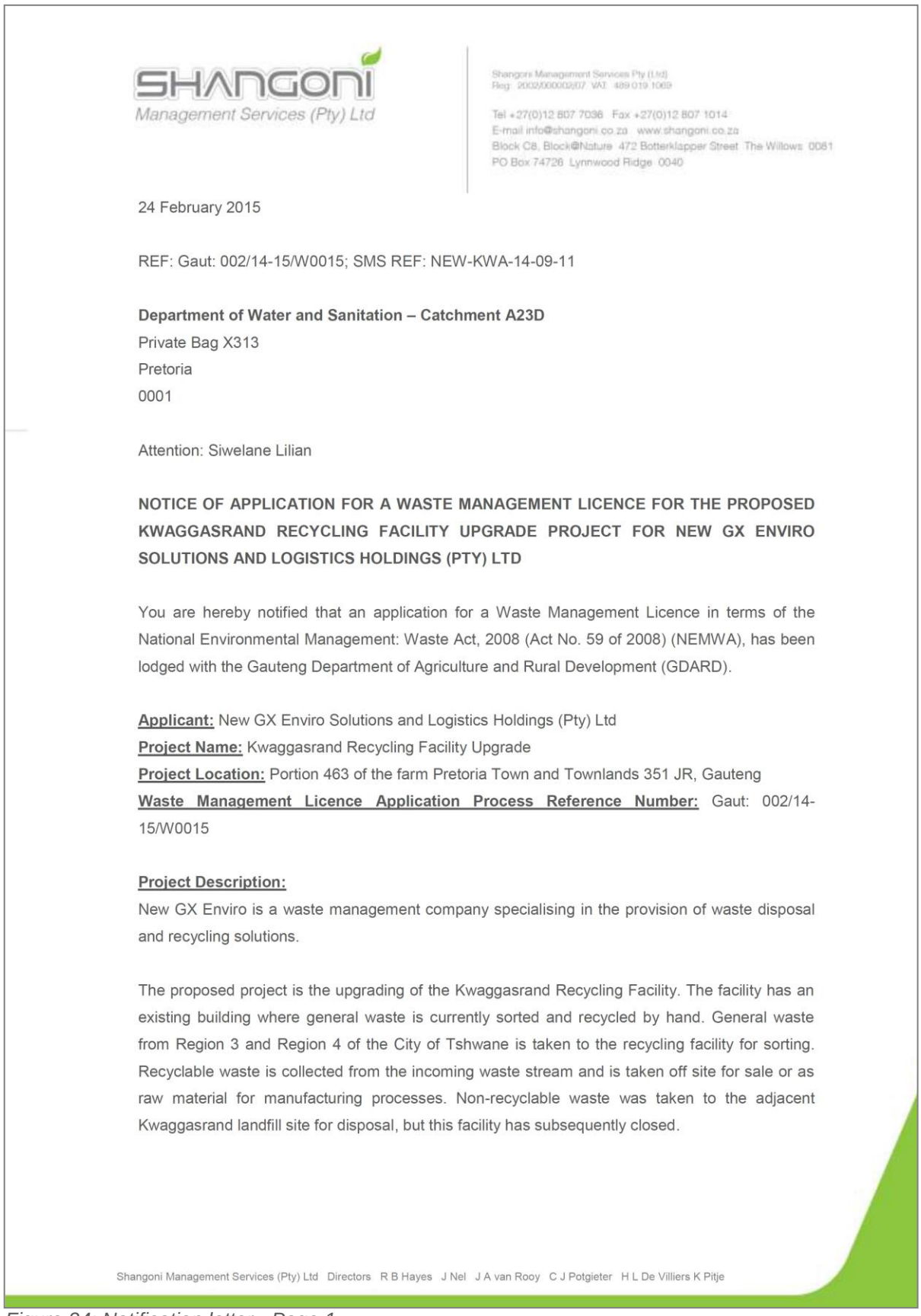
All organs of state that may have jurisdiction in respect of the proposed project are considered to be registered I&APs.

The following organs of state were notified of the proposed project:

- Gauteng Department of Local Government and Housing;

- Gauteng Department of Community Safety;
- Gauteng Department of Economic Development;
- Gauteng Department of Finance;
- Gauteng Department of Health;
- Gauteng Department of Infrastructure Development;
- Gauteng Department of Roads and Transport;
- Gauteng Department of Human Settlements;
- Gauteng Department of Social Development;
- Gauteng Department of Co-operative Governance and Traditional Affairs;
- Department of Water and Sanitation;
- City of Tshwane Metropolitan Municipality; and
- South African Heritage Resources Agency.

Copies of the notifications to the organs of state have been included in Appendix D and examples are included in the figures below.



SHANGONI
Management Services (Pty) Ltd

Shangoni Management Services Pty (Ltd)
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E-mail info@shangoni.co.za www.shangoni.co.za
Block C8, Block@Nature 472 Botterklapper Street The Willows 0081
PO Box 74726 Lynnwood Ridge 0040

24 February 2015

REF: Gaut: 002/14-15/W0015; SMS REF: NEW-KWA-14-09-11

Department of Water and Sanitation – Catchment A23D
Private Bag X313
Pretoria
0001

Attention: Siwelane Lilian

NOTICE OF APPLICATION FOR A WASTE MANAGEMENT LICENCE FOR THE PROPOSED KWAGGASRAND RECYCLING FACILITY UPGRADE PROJECT FOR NEW GX ENVIRO SOLUTIONS AND LOGISTICS HOLDINGS (PTY) LTD

You are hereby notified that an application for a Waste Management Licence in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEMWA), has been lodged with the Gauteng Department of Agriculture and Rural Development (GDARD).

Applicant: New GX Enviro Solutions and Logistics Holdings (Pty) Ltd
Project Name: Kwaggasrand Recycling Facility Upgrade
Project Location: Portion 463 of the farm Pretoria Town and Townlands 351 JR, Gauteng
Waste Management Licence Application Process Reference Number: Gaut: 002/14-15/W0015

Project Description:
New GX Enviro is a waste management company specialising in the provision of waste disposal and recycling solutions.

The proposed project is the upgrading of the Kwaggasrand Recycling Facility. The facility has an existing building where general waste is currently sorted and recycled by hand. General waste from Region 3 and Region 4 of the City of Tshwane is taken to the recycling facility for sorting. Recyclable waste is collected from the incoming waste stream and is taken off site for sale or as raw material for manufacturing processes. Non-recyclable waste was taken to the adjacent Kwaggasrand landfill site for disposal, but this facility has subsequently closed.

Shangoni Management Services (Pty) Ltd Directors R B Hayes J Nel J A van Rooy C J Potgieter H L De Villiers K Pitje

Figure 24: Notification letter - Page 1

Phase 1 of the project: A Materials Recovery Facility (MRF) will be introduced adjacent to the existing recycling building. The MRF will optimise the existing manual sorting process. At the MRF, the following waste streams will be sorted, screened, baled or crushed:

- Cardboard;
- Paper;
- Plastic;
- Cans; and
- Glass.

At the proposed Waste Tyre Crumbing Facility, waste tyres will be de-beaded, cut, shredded, screened and grinded into rubber crumbs.

Phase 2 of the project:

1. Green waste: A composting facility will be set up on open land next to the above mentioned recycling building.
2. Wet waste: Wet waste will be managed in two ways at the facility. In the first process, the wet waste will be loaded into an in-vessel composter where the material will be aerated. The resultant compost will be sold and exhaust fumes will be extracted through a bio-filter. In the second process, the recyclable fractions will be removed and the remaining waste will be baled. Wastewater from this process will be treated and released into the municipal sewage system.

Phase 3 of the project: A building rubble crushing plant will be erected on open land adjacent to the proposed composting facility.

A Background Information Document (BID) and Interested and Affected Party Registration Form is also attached hereto in order to provide more detail with regards to the proposed project as well as for persons to register as I&APs for the proposed project.

Invitation to participate: Should you wish to be registered as an Interested and Affected Party (I&AP) or comment on the above-mentioned project and application process, please submit a completed Registration Form (attached to this letter) or provide your name, contact information, and interest in the matter, in writing, to the contact person below, by no later than 7 April 2015.

Where to obtain more information: To obtain additional information please contact the Environmental Assessment Practitioner at the details provided below.

Figure 25: Notification letter - Page 2

Environmental Assessment Practitioner:

Shangoni Management Services (Pty) Ltd

PO Box 74726, Lynnwood Ridge, Pretoria, 0040

Contact Person: **Lizette Crous**

Tel: 012 807 7036, Cell: 071 673 3355, Fax: 012 807 1014/086 643 5360,

E-mail: lizette@shangoni.co.za

For online participation go to www.shangoni.co.za and click on the "Public Documents" link.

Regards,

Lizette Crous

Shangoni Management Services

Figure 26: Notification letter - Page 3

4.3.2 Methods of Notification

4.3.2.1 Advertisement(s)

The proposed project was advertised in two local newspapers, the Beeld and the Pretoria West Rekord, on the 27th of February 2015. The Beeld and Pretoria West Rekord were found to be the most appropriate newspapers in terms of their accessibility to the I&APs. A copy of the advertisement and proof of the placement thereof is attached in Appendix D. Refer also to Figure 27 and Figure 28 below.

4.3.2.2 Placement of site- and public notices

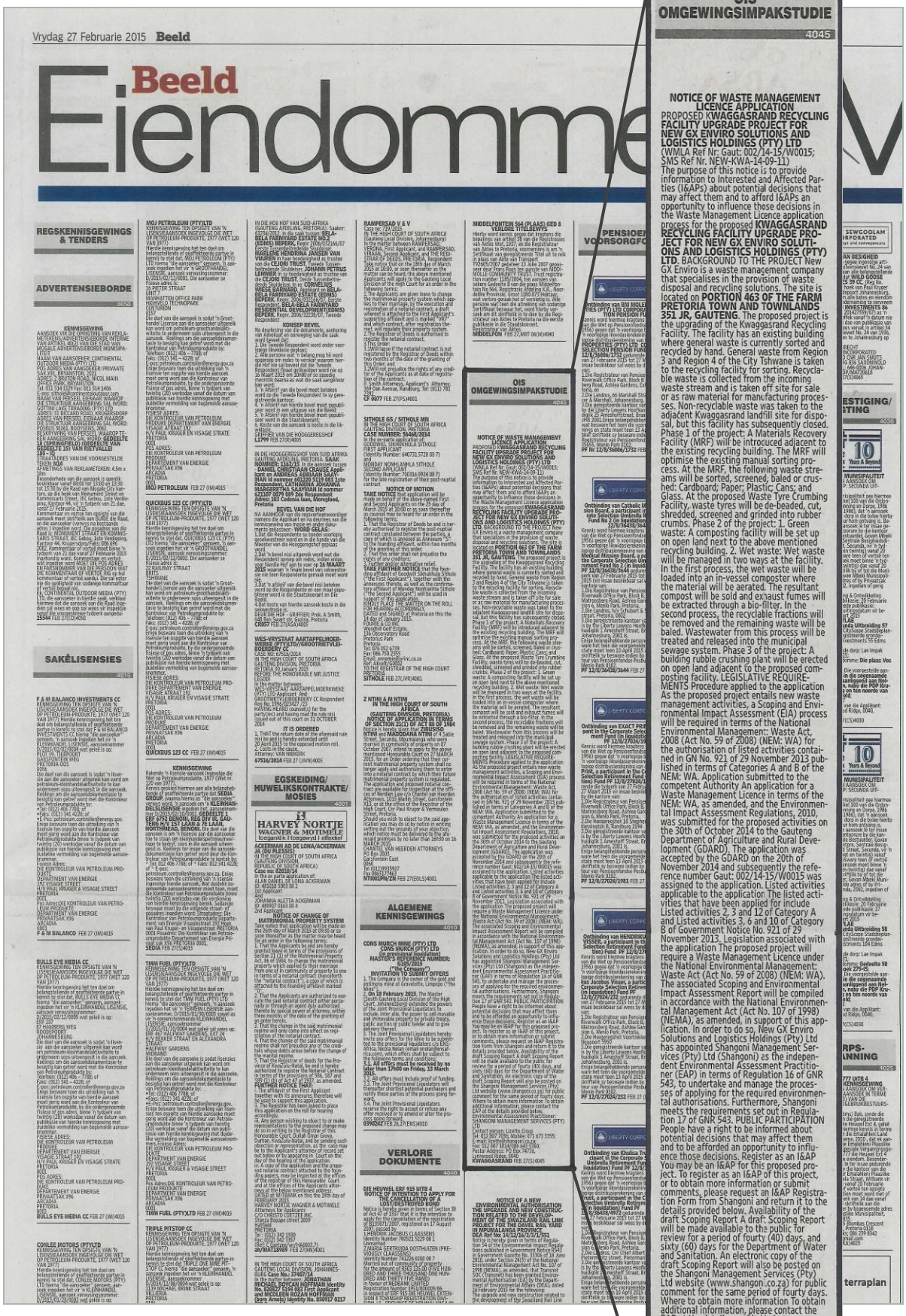
Notice was also given to Interested and Affected Parties (I&APs) via the placement of notice boards. Notice boards were placed at five different, noticeable and conspicuous places on the 27th of February 2015. A copy of the site notice and photographs of the site notices are attached in Appendix D. Refer also to Figure 29 below.

4.3.2.3 Background Information Document

Notification letters and the Background Information Document (BID) for the proposed project provide background information pertaining to the project and are intended to inform I&APs of the project. The BID also includes a registration form which potential I&APs, stakeholders and organs of state are encouraged to complete in order to register as I&APs for the proposed project.

The Notification Letters and BID were made available to all landowners adjacent to the proposed site, as well as to all organs of state that may have jurisdiction over any aspect of the activity on the 24th of February 2015.

Copies of the notification letters and BID and proof of their distribution to the adjacent landowners and organs of state are attached under Appendix D. Proof of postage of the notification letters is given in Figure 30 below. Further proofs are also attached under Appendix D.



Vrydag 27 Februarie 2015 **Beeld**

Beeld Eiendomme

OIS OMGEWINGSIMPAKSTUDIE

4045

NOTICE OF WASTE MANAGEMENT LICENCE APPLICATION

PROPOSED **KWAGGASRAND RECYCLING FACILITY UPGRADE PROJECT FOR NEW GX ENVIRO SOLUTIONS AND LOGISTICS HOLDINGS (PTY) LTD** (WMLA Ref Nr: Gaut: 002/14-15/W0015; SMS Ref Nr. NEW-KWA-14-09-11)

The purpose of this notice is to provide information to Interested and Affected Parties (I&APs) about potential decisions that may affect them and to afford I&APs an opportunity to influence those decisions in the Waste Management Licence application process for the proposed **KWAGGASRAND RECYCLING FACILITY UPGRADE PROJECT FOR NEW GX ENVIRO SOLUTIONS AND LOGISTICS HOLDINGS (PTY) LTD**. BACKGROUND TO THE PROJECT New GX Enviro is a waste management company that specialises in the provision of waste disposal and recycling solutions. The site is located on **PORTION 463 OF THE FARM PRETORIA TOWN AND TOWNLANDS 351 JR, GAUTENG**. The proposed project is the upgrading of the Kwaggasrand Recycling Facility. The facility has an existing building where general waste is currently sorted and recycled by hand. General waste from Region 3 and Region 4 of the City Tshwane is taken to the recycling facility for sorting. Recyclable waste is collected from the incoming waste stream and is taken off site for sale or as raw material for manufacturing processes. Non-recyclable waste was taken to the adjacent Kwaggasrand landfill site for disposal, but this facility has subsequently closed. Phase 1 of the project: A Materials Recovery Facility (MRF) will be introduced adjacent to the existing recycling building. The MRF will optimise the existing manual sorting process. At the MRF, the following waste streams will be sorted, screened, baled or crushed: Cardboard; Paper; Plastic; Cans; and Glass. At the proposed Waste Tyre Crumbing Facility, waste tyres will be de-beaded, cut, shredded, screened and grinded into rubber crumbs. Phase 2 of the project: 1. Green waste: A composting facility will be set up on open land next to the above mentioned recycling building. 2. Wet waste: Wet waste will be managed in two ways at the facility. In the first process, the wet waste will be loaded into an in-vessel composter where the material will be aerated. The resultant compost will be sold and exhaust fumes will be extracted through a bio-filter. In the second process, the recyclable fractions will be removed and the remaining waste will be baled. Wastewater from this process will be treated and released into the municipal sewage system. Phase 3 of the project: A building rubble crushing plant will be erected on open land adjacent to the proposed composting facility. LEGISLATIVE REQUIREMENTS Procedure applied to the application As the proposed project entails new waste management activities, a Scoping and Environmental Impact Assessment (EIA) process will be required in terms of the National Environmental Management:: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA) for the authorisation of listed activities contained in GN No. 921 of 29 November 2013 published in terms of Categories A and B of the NEM: WA. Application submitted to the competent Authority An application for a waste management licence in terms of the NEM: WA, as amended, and the Environmental Impact Assessment Regulations, 2010, was submitted for the proposed activities on the 30th of October 2014 to the Gauteng Department of Agriculture and Rural Development (GDARD). The application was accepted by the GDARD on the 20th of November 2014 and subsequently the reference number Gaut: 002/14-15/W0015 was assigned to the application. Listed activities applicable to the application The listed activities that have been applied for include Listed activities 2, 3 and 12 of Category A and Listed activities 3, 6 and 10 of Category B of Government Notice No. 921 of 29 November 2013, Legislation associated with the application The proposed project will require a Waste Management Licence under the National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM: WA). The associated Scoping and Environmental Impact Assessment Report will be compiled in accordance with the National Environmental Management Act (Act No. 107 of 1998) (NEMA), as amended, in support of this application. In order to do so, New GX Enviro Solutions and Logistics Holdings (Pty) Ltd has appointed Shangoni Management Services (Pty) Ltd (Shangoni) as the independent Environmental Assessment Practitioner (EAP) in terms of Regulation 16 of GNR 543, to undertake and manage the processes of applying for the required environmental authorisations. Furthermore, Shangoni meets the requirements set out in Regulation 17 of GNR 543. PUBLIC PARTICIPATION People have a right to be informed about potential decisions that may affect them and to be afforded an opportunity to influence those decisions. Register as an I&AP You may be an I&AP for this proposed project. To register as an I&AP of this project, or to obtain more information or submit comments, please request an I&AP Registration Form from Shangoni and return it to the details provided below. Availability of the draft Scoping Report A draft Scoping Report will be made available to the public for review for a period of forty (40) days, and sixty (60) days for the Department of Water and Sanitation. An electronic copy of the draft Scoping Report will also be posted on the Shangoni Management Services (Pty) Ltd website (www.shangoni.co.za) for public comment for the same period of forty days. Where to obtain more information To obtain additional information, please contact the EAP at the details provided below. Environmental Assessment Practitioner: SHANGONI MANAGEMENT SERVICES (PTY) LTD

Contact person: Lizette Crous
Tel: 012 807 7036; Mobile: 071 673 3355;
E-mail: lizette@shangoni.co.za;
Fax: 012 807 1014/086 643 5360;
Postal Address: PO Box 74726,
Lynnwood Ridge, 0040
KWAGGASRAND FEB 27(S)4045

Figure 27: Newspaper Advertisement - Beeld

PRETORIA WEST REKORD *FRIDAY FEBRUAR*

DEBT PROBLEMS? NO PROBLEM!!
- Emergency loans
- Consolidation finance
- Debt re-structuring

NOT DEBT REVIEW!!!
Isabel in Capital Park
012 756 2306
074 207 9890
www.adsadr.com

looking for vacancies

0820 GENERAL

Data Entry COPY & PASTE. Access over 30000 companies that need YOU to submit forms. No qualification or experience needed. Step-by-Step instructions. Own hours. Registered company. For full info send your email & cell no to. opportunities @rotagroup.co.za

Has your telephone stopped ringing?

TIME TO ADVERTISE!

REKORD
T: 012 842 0300
F: 086 540 9916

0830 MANAGEMENT

Aanbeveelde Poste
Wil jy 2015 reg begin?
Ons is 'n Internationale mpy wat uitbrei in PTA. Ons het reeds suksesvolle takke in PTA en JHB.

ONS BENODIG
•8 Senior Bestuurders
•8 Junior Bestuurders
•10 Jong Mense om opgeleide word as tak bestuurders (18-25)

ONS BIED
•Basies R18 000
•Medies, Huissubsidie, Pensioen
•Groei en standvastigheid
•Volledige Opleiding
•Goeie ondersteuning

Stuur CV na admin @pasuri.co.za
AM009074

Aanbeveelde poste beskikbaar

Wil jy 2015 reg afskop?

Is jy moeg om te hoor jy is te jonk, te oud of geen ondervinding?

Ons " Holding Company" in Kaapstad wat 28 jaar bestaan, brei uit na Pretoria.

4 Nuwe Takke

Ons benodig

4 Senior bestuurders
4 Junior Bestuurders
6x Konsultante om opgelei te word as bestuurders

Ons Bied

•Beginsalaris van R12 000 - R18 000 pm
•Positiewe werks atmosfeer
•Medies en Pensioen
•Permanente posisie met langtermyn bevorderings geleenthede.

Epos jou cv na hr@mgmttraining.co.za

(Let Wel: Geen Kansvatters!!)
AM009075

AANSTELLING BY INTERNASIONALE MPY
Vanaf 1986, brei uit na Pretoria. Jnr & Snr Bestuursposte beskikbaar.

Ons bied
- Opleiding
- Definitiewe Groei
- Pakket R20000 met mpy voordele ingesluit.

Stuur CV na hr@tgnsa.co.za
AM009076

NOTICE OF WASTE MANAGEMENT LICENCE APPLICATION: PROPOSED KWAGGASRAND RECYCLING FACILITY UPGRADE PROJECT FOR NEW GX ENVIRO SOLUTIONS AND LOGISTICS HOLDINGS (PTY) LTD (WMLA Ref Nr: Gaut: 002/14-15/W0015; SMS Ref Nr. NEW-KWA-14-09-11)

The purpose of this notice is to provide information to Interested and Affected Parties (I&APs) about potential decisions that may affect them and to afford I&APs an opportunity to influence those decisions in the Waste Management Licence application process for the proposed Kwaggasrand Recycling Facility Upgrade Project for New GX Enviro Solutions and Logistics Holdings (Pty) Ltd. **BACKGROUND TO THE PROJECT:** New GX Enviro is a waste management company that specialises in the provision of waste disposal and recycling solutions. The site is located on Portion 463 of the farm Pretoria Town and Townlands 351 JR, Gauteng. The proposed project is the upgrading of the Kwaggasrand Recycling Facility. The facility has an existing building where general waste is currently sorted and recycled by hand. General waste from Region 3 and Region 4 of the City Tshwane is taken to the recycling facility for sorting. Recyclable waste is collected from the incoming waste stream and is taken off site for sale or as raw material for manufacturing processes. Non-recyclable waste was taken to the adjacent Kwaggasrand landfill site for disposal, but this facility has subsequently closed. **Phase 1 of the project:** A Materials Recovery Facility (MRF) will be introduced adjacent to the existing recycling building. The MRF will optimise the existing manual sorting process. At the MRF, the following waste streams will be sorted, screened, baled or crushed: Cardboard; Paper; Plastic; Cans; and Glass. At the proposed Waste Tyre Crumbing Facility, waste tyres will be de-beaded, cut, shredded, screened and grinded into rubber crumbs. **Phase 2 of the project:** 1. Green waste: A composting facility will be set up on open land next to the above mentioned recycling building. 2. Wet waste: Wet waste will be managed in two ways at the facility. In the first process, the wet waste will be loaded into an in-vessel composter where the material will be aerated. The resultant compost will be sold and exhaust fumes will be extracted through a bio-filter. In the second process, the recyclable fractions will be removed and the remaining waste will be baled. Wastewater from this process will be treated and released into the municipal sewage system. **Phase 3 of the project:** A building rubble crushing plant will be erected on open land adjacent to the proposed composting facility. **LEGISLATIVE REQUIREMENTS: Procedure applied to the application:** As the proposed project entails new waste management activities, a Scoping and Environmental Impact Assessment (EIA) process will be required in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA) for the authorisation of listed activities contained in GN No. 921 of 29 November 2013 published in terms of Categories A and B of the NEM: WA. **Application submitted to the competent Authority:** An application for a Waste Management Licence in terms of the NEM: WA, as amended, and the Environmental Impact Assessment Regulations, 2010, was submitted for the proposed activities on the 30th of October 2014 to the Gauteng Department of Agriculture and Rural Development (GDARD). The application was accepted by the GDARD on the 20th of November 2014 and subsequently the reference number Gaut: 002/14-15/W0015 was assigned to the application. **Listed activities applicable to the application:** The listed activities that have been applied for include Listed activities 2, 3 and 12 of Category A and Listed activities 3, 6 and 10 of Category B of Government Notice No. 921 of 29 November 2013. **Legislation associated with the application:** The proposed project will require a Waste Management Licence under the National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM: WA). The associated Scoping and Environmental Impact Assessment Report will be compiled in accordance with the National Environmental Management Act (Act No. 107 of 1998) (NEMA), as amended, in support of this application. In order to do so, New GX Enviro Solutions and Logistics Holdings (Pty) Ltd has appointed Shangoni Management Services (Pty) Ltd (Shangoni) as the independent Environmental Assessment Practitioner (EAP) in terms of Regulation 16 of GNR 543, to undertake and manage the processes of applying for the required environmental authorisations. Furthermore, Shangoni meets the requirements set out in Regulation 17 of GNR 543. **PUBLIC PARTICIPATION:** People have a right to be informed about potential decisions that may affect them and to be afforded an opportunity to influence those decisions. Register as an I&AP: You may be an I&AP for this proposed project. To register as an I&AP of this project, or to obtain more information or submit comments, please request an I&AP Registration Form from Shangoni and return it to the details provided below. Availability of the draft Scoping Report: A draft Scoping Report will be made available to the public for review for a period of fourty (40) days, and sixty (60) days for the Department of Water and Sanitation. An electronic copy of the draft Scoping Report will also be posted on the Shangoni Management Services (Pty) Ltd website (www.shangoni.co.za) for public comment for the same period of fourty days.

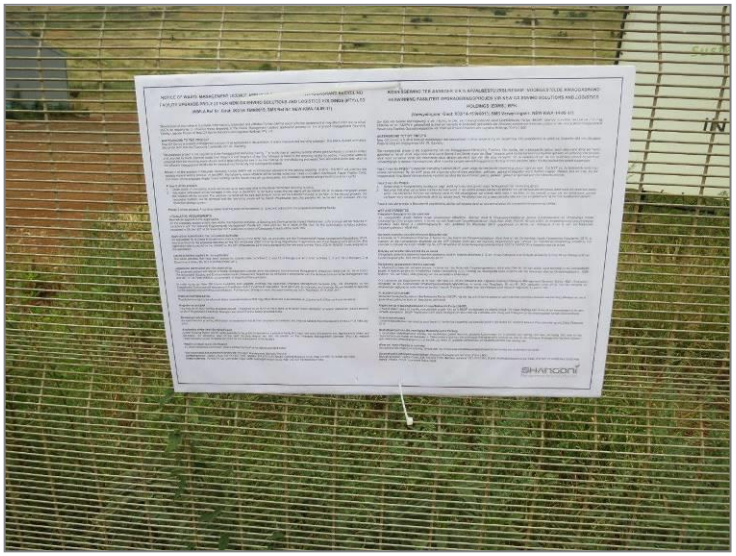
Where to obtain more information: To obtain additional information, please contact the EAP at the details provided below.

Environmental Assessment Practitioner: Shangoni Management Services (Pty) Ltd
Contact person: Lizette Crous
Tel: 012 807 7036; **Mobile:** 071 673 3355; **Email:** lizette@shangoni.co.za;
Fax: 012 807 1014/086 643 5360;
Postal Address: PO Box 74726, Lynnwood Ridge, 0040

AB006813

SHANGONI Management Services (Pty) Ltd

Figure 28: Newspaper Advertisement - Pretoria West Rekord



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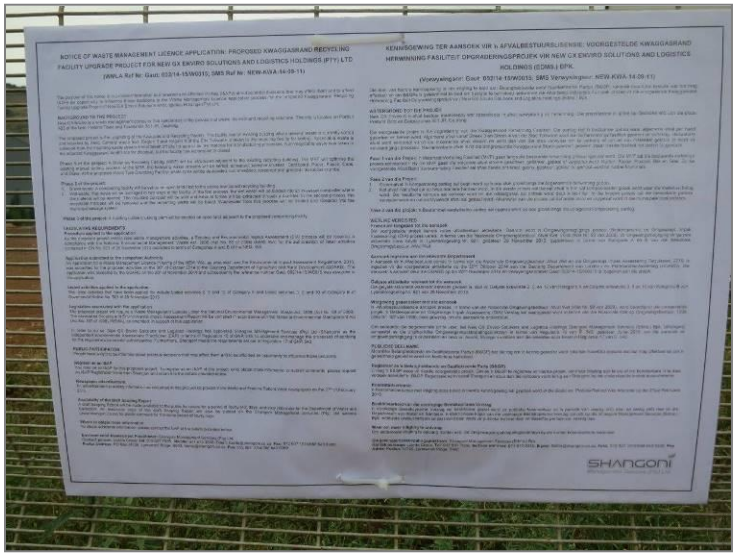

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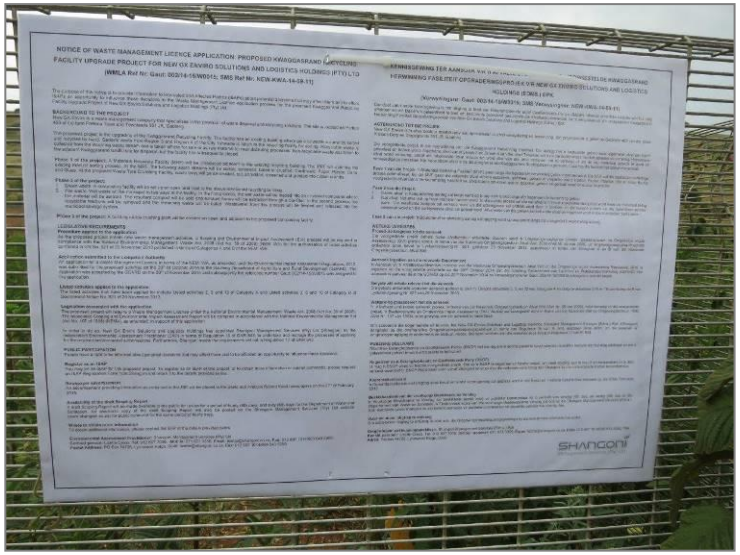

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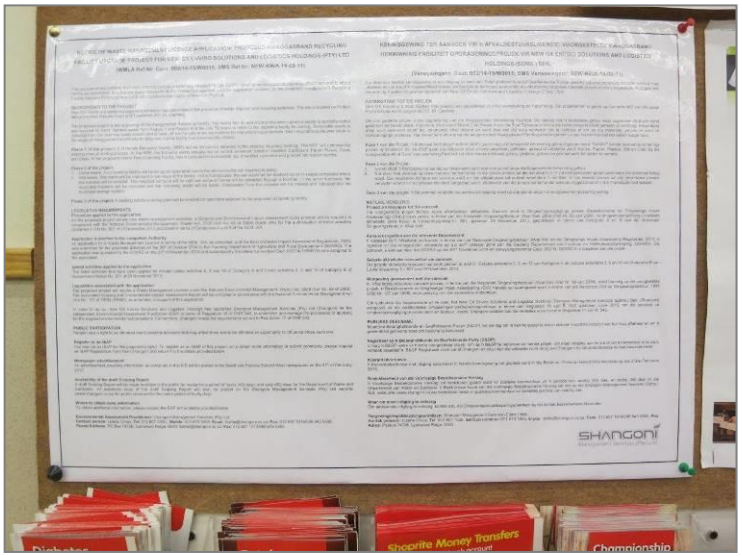
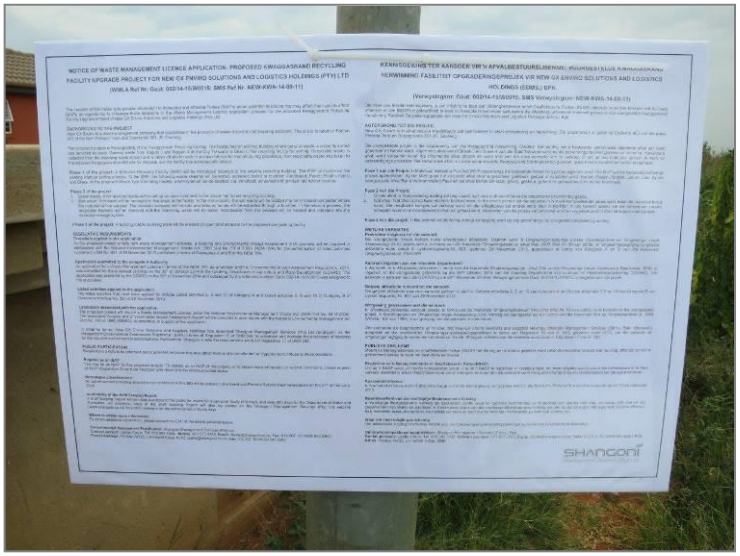

SHANGONI
Shoprite Money Transfers

e


SHOPRITE
ENTRANCE

f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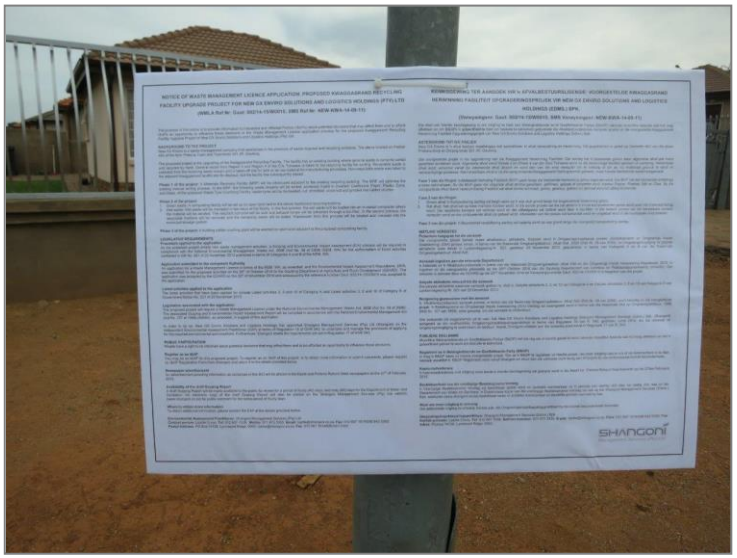

i

j

Figure 29(a-j): Placement of Site Notices

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

Full tracking and tracing/Volledige volg en spoor

Post Office

Enquiries/Navrae Sharecall number/nommer **0860 111 502** www.postoffice.co.za

Name and address of sender:
Naam en adres van afsender: Shangoni Management Services (Pty) Ltd
PO Box 74726 Lynnwood Ridge 0040

No	Name and address of addressee / Naam en adres van geadreseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-Kliëntafskrif
1	Gauteng Department of Community Safety PO Box 62440 Marshalltown 2107 Advocate Mangezi Tshangwezi / Thabisile Nkuli					RD 976 476 580 ZA CUSTOMER COPY
2	Gauteng Dept of Co-operative Gov and Traditional Affairs Private bag X86 Marshalltown 2107 Mr B Nkontwana					RD 976 476 576 ZA CUSTOMER COPY
3	Gauteng Department of Economic Development Private bag X011 Marshalltown 2107 Ms Phindile Mbanjwa					RD 976 476 735 ZA CUSTOMER COPY
4	Gauteng Department of Finance Private bag X112 Marshalltown 2107 Mr John Sikazi					RD 976 476 749 ZA CUSTOMER COPY
5	Gauteng Department of Health Private bag X085 Marshalltown 2107 Dr Hugh Gusnell					RD 976 476 718 ZA CUSTOMER COPY
6	Gauteng Department of Human Settlements Private bag X085 Marshalltown 2107 Ms Y Mahiza and Ms T Longolo					RD 976 476 721 ZA CUSTOMER COPY
7	Gauteng Dept of Infrastructure Development Private bag X83 Marshalltown 2107 Mr B Ntshisivhahe					RD 976 476 695 ZA CUSTOMER COPY
8	Gauteng Dept of Local Government and Housing PO Box 102350 Maleka Plaza 0184 Mr Killion Mwinga					RD 976 476 704 ZA CUSTOMER COPY
9	Gauteng Department of Roads and Transport Private bag X88 Marshalltown 2107 Mr Ronald Swartz / Sebenzile Mathelelisa					RD 976 476 783 ZA CUSTOMER COPY
10	Gauteng Department of Social Development Private Bag X35 Johannesburg 2000 Ms Shoki Tshitaladila					RD 976 476 766 ZA CUSTOMER COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos (10)

Signature of client / Handtekening van kliënt: AM Plessis

Signature of accepting officer / Handtekening van aanneembeampte:

Date stamp: LYNNWOODRIF 24 FEB 2015 7 0040 — Datumstempel

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

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

701248

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor
Post Office
Enquiries/Navrae Sharecall number/nommer 0860 111 502 www.postoffice.co.za
Name and address of sender: Shangoni Management Services (Pty) Ltd
PO Box 74726 Lynnwood Ridge 0040

No	Name and address of addressee / Naam en adres van geadreseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-Kliëntafskrif
1	City of Tshwane Metropolitan Mun (CTMM) - Planning PO Box 3242 Pretoria 0001 Ntsoko Hobyani					RD 976 476 678 ZA CUSTOMER COPY
2	City of Tshwane Metropolitan Mun (CTMM) - Ward 3 PO Box 6338 Pretoria 0001 Cllr Dane Jacobs Swanepoel					RD 976 476 681 ZA CUSTOMER COPY
3	City of Tshwane Metropolitan Mun (CTMM) - Ward 3 PO Box 440 Pretoria 0001 Cllr Dane Jacobs Swanepoel					RD 976 476 655 ZA CUSTOMER COPY
4	City of Tshwane Metropolitan Mun (CTMM) - Ward 51 PO Box 440 Pretoria 0001 Cllr Francina Maredi					RD 976 476 664 ZA CUSTOMER COPY
5	City of Tshwane Metropolitan Mun (CTMM) - Ward 51 PO Box 6338 Pretoria 0001 Cllr Francina Maredi					RD 976 476 647 ZA CUSTOMER COPY
6	City of Tshwane Metropolitan Mun (CTMM) - Ward 61 PO Box 6338 Pretoria 0001 Cllr Essop Mahomed					RD 976 476 633 ZA CUSTOMER COPY
7	City of Tshwane Metropolitan Mun (CTMM) - Ward 61 PO Box 440 Pretoria 0001 Cllr Essop Mahomed					RD 976 476 616 ZA CUSTOMER COPY
8	City of Tshwane Metropolitan Mun (CTMM) - Waste Management PO Box 1454 Pretoria 0001 Mmoloki Kokso					RD 976 476 620 ZA CUSTOMER COPY
9	City of Tshwane Metropolitan Municipality (CTMM) PO Box 440 Pretoria 0001 Derek Neo					RD 976 476 593 ZA CUSTOMER COPY
10	Department of Water and Sanitation - Catchment A23D Private Bag X313 Pretoria 0001 Swanepoel Lilian					RD 976 476 602 ZA CUSTOMER COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos (10)

Signature of client / Handtekening van kliënt: AM Plessis

Signature of accepting officer / Handtekening van aanneembeampte:

Date stamp: LYNNWOODRIF 24 FEB 2015 7 0040 — Datumstempel

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

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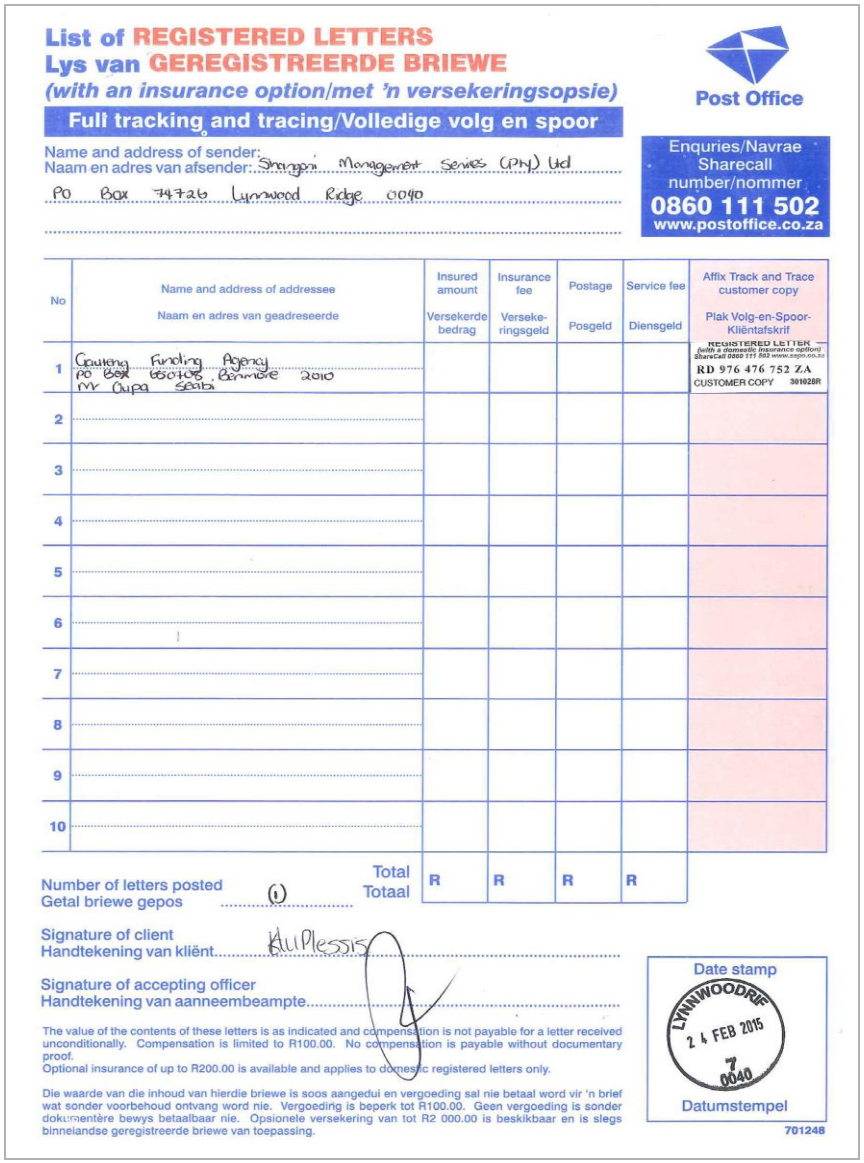
701248



List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender:
Naam en adres van afsender: Shangoni Management Services (Pty) Ltd
PO Box 74726 Lynnwood Ridge 0040

Enquiries/Navrae Sharecall number/nommer
0860 111 502
www.postoffice.co.za

No	Name and address of addressee / Naam en adres van geadreseerde	Insured amount / Versekerde bedrag	Insurance fee / Verseke-ringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-Kliëntafskrif
1	Gauteng Finding Agency PO Box 66405 Bennie 2010 Mr Cupa Sabi					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 976 476 752 ZA CUSTOMER COPY 301028R
2						
3						
4						
5						
6						
7						
8						
9						
10						
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos (1)

Signature of client / Handtekening van kliënt: AJ Plessis

Signature of accepting officer / Handtekening van aanneembeampte:

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

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

Date stamp
LYNNWOODRIF 24 FEB 2015 0040
Datumstempel

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Figure 30: Proof of postage of notification letters

4.3.3 I&AP register

Once all adjacent landowners, organs of state and the public were notified of the proposed project, an I&AP Register (also provided in Appendix D) was compiled. The table below provides an extract of the I&AP Register indicating the organs of state and other I&APs that have been registered.

Table 16: Registered I&APs

No.	Name	Department
Organs of State		
1.	Mr Killian Mwiinga	Gauteng Department of Local Government and Housing
2.	Advocate Mongezi Tshongweni	Gauteng Department of Community Safety
3.	Ms Phindile Mbanjwa	Gauteng Department of Economic Development
4.	HOD	Gauteng Department of Finance
5.	Dr Hugh Gosnell	Gauteng Department of Health
6.	Mr B. Netshiswinzhe	Gauteng Department of Infrastructure Development
7.	Mr Ronald Swartz	Gauteng Department of Roads and Transport
8.	Ms Y. Malaza and Ms T. Lengolo	Gauteng Department of Human Settlements
9.	Mr B. Nkontawa	Gauteng Department of Co-operative Governance and Traditional Affairs
10.	Siwelane Lilian	Department of Water and Sanitation
11.	Dorah Nteo	City of Tshwane Metropolitan Municipality (CTMM)
12.	Mthobeli Kolisa	City of Tshwane Metropolitan Municipality (CTMM) – Waste Management
13.	Ntsako Hobyani	City of Tshwane Metropolitan Municipality (CTMM) – Planning
14.	Cllr Danie Jacobs Swanepoel	City of Tshwane Metropolitan Municipality (CTMM) – Ward 3
15.	Cllr Francina Maredi	City of Tshwane Metropolitan Municipality (CTMM) – Ward 51
16.	Cllr Essop Mahomed	City of Tshwane Metropolitan Municipality (CTMM) – Ward 61
17.	Nokukhanya Khumalo	South African Heritage Resources Agency
No.	**Name**	**Interest**
Registered I&APs		
1.	Cllr Danie Jacobs Swanepoel	City of Tshwane Metropolitan Municipality (CTMM) – Ward 3

Refer also to Appendix D for a detailed I&AP Register including contact information for all registered organs of state and I&APs.

4.3.4 Public meeting(s)

No public meetings have been held nor is one anticipated at this stage.

4.3.5 Access and opportunity to comment on written submissions

The draft Scoping Report will be made available to the public for review for a period of fourty (40) days and sixty (60) days for the Department of Water and Sanitation. An electronic copy of the draft Scoping Report will also be posted on the Shangoni Management Services' website (www.shangoni.co.za) for public comment for the same period of fourty days.

4.3.6 Consultation with the relevant Authorities

4.3.6.1 Application form in terms of the NEMA, 1998

The applicable Waste Management Licence application form under NEM: WA, 2008, was submitted to the Gauteng Department of Agriculture and Rural Development (GDARD) on the 30th of October 2014. A reference number (Gaut: 002/14-15/W0015) was issued by GDARD on the 20th of November 2014. The letter of acknowledgement indicating the above mentioned reference number is attached as Appendix F.

4.3.6.2 Authorities meeting(s)

No meetings have been held with any of the competent authorities nor are such meetings anticipated at present.

4.3.7 Further consultation with relevant Authorities

No further consultation has occurred.

4.3.7 Comments and Responses

All issues, comments and questions received from I&APs thus far have been summarised in the table below. Copies of the comments received have also been included in Appendix D.

Table 17: Comments and responses

Name of contact person	Company	Date	Method of comment	Issue raised	Response
Danie Swanepoel	City of Tshwane – Ward 3	15-03-2015	E-mail	Hi Lizette, Thank you for sending me the notice regarding the application for the waste management Licence. Please keep me informed as a affected party. Could you also tell me if there is a steering committee or something in that line setup?	**Initial Response** Your e-mail received on the 15th of March 2015 refers: We hereby confirm that you have been registered as an Interested and Affected Party for the Kwaggasrand Recycling Facility Upgrade Project. You will henceforth receive all correspondence regarding public participation opportunities as the process unfolds. We also take note of your comments. They will be included and addressed in the subsequent reports for this project. **Second Response** Your enquiry, dated 15 March 2015, refers: There is no Steering Committee or similar entity for this project.
Nokukhanya Khumalo	South African Heritage Resources Agency	12-05-2015	SAHRIS website	**Response to NID (Notification of Intent to Develop)** **In terms of Section 38(2) of the National Heritage Resources Act (Act 25 of 1999)** **New GX Enviro is a waste management company that specialises in the provision**	We hereby acknowledge receipt of your comments on the proposed Kwaggasrand Recycling Facility upgrade project. A Heritage Impact Assessment and Palaeontological Impact Assessment Survey will be conducted for this project and uploaded onto SAHRIS as soon as the

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				of waste disposal and recycling solutions. New GX Enviro proposes to construct a waste disposal facility on Portion 463 of the farm Pretoria Town and Townlands 351 JR, City of Tshwane Municipality, Gauteng Province. The proposed development will consist of upgrading the existing Kwaggasrand Recycling Facility. Phase 1 of the project will be the construction of mechanical sorting machine and a tyre crumbing facility. Phase 2 of the project will be the construction of a composting facility and wet waste facility. The 3rd Phase will be for the construction of building rubble. In terms of the National Heritage Resources Act (NHRA), no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that before such sites are disturbed by development it is incumbent on the developer	studies have been completed. The project site is correctly mapped on the SAHRIS map for this case, as shown in the image below. 

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				(or mine) to ensure that a Heritage Impact Assessment is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required. No Heritage Impact Assessment was uploaded to this case. Nor a Palaeontological Impact Assessment was uploaded to the case on SAHRIS. **SAHRA Notification of Development comment** SAHRA APM Unit requires a Heritage Impact Assessment study conducted by a suitably qualified professional archaeologist for the proposed development. The assessment should look at the built environment, graves, and archaeology of the proposed development. The proposed development lies in a High to Very High palaeontological sensitive zone	

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				(http://www.sahra.org.za/sahris/map/palaeo), thus SAHRA APM unit will require a Desktop Palaeontological Impact Assessment Survey for this proposed development also conducted by a suitably qualified professional palaeontologist. SAHRA will comment further on this proposed development once the above requested studies are submitted to the case. Also the project is incorrectly mapped on the SAHRIS map, before further comment is made to the case, the project area extent must be mapped out exactly on the SAHRIS map, using a polygon tool and not the dot that is currently on the SAHRIS map for this project.	

4.3.8 Conclusions of the PPP

In conclusion, the Public Participation exercise has provided adequate information to enable an understanding of what the proposed project would entail and to address the concerns and comments received during the EIA process thus far.

5. NEED AND DESIRABILITY FOR THE ACTIVITY

A need and desirability for this project is evident from the following perspectives:

5.1 Developer/Applicant

The proposed project will generate a source of income for the applicant, New GX Enviro Solutions and Logistics Holdings, and is therefore desirable from an economic point of view. The revenue will originate from the sale of recyclable material to manufacturers for use in their respective production processes. This includes the sale of cardboard, paper, plastic, cans and glass. Rubber crumbs from the waste tyre crumbing facility will be sold for re-use in rubber products, road tarmac and so forth. Compost and crushed building rubble will also be sold.

5.2 CTMM

The upgrading of the Kwaggasrand Recycling Facility into a multi-purpose recycling facility will benefit the CTMM in the following ways:

- By removing recyclable waste material from the waste stream before it is taken to landfill, less material will be taken to the Onderstepoort Landfill Site. This will extend the lifespan of this landfill site; and
- The project will assist the CTMM in complying with the National Environmental Management: Waste Act, 2008, and the National Waste Management Strategy which requires all metropolitan municipalities to initiate programmes for waste separation and to divert 25% of recyclables from landfill for re-use, recycling or recovery by 2016 (Metroplan, 2013).

5.3 Local Community

The upgrading of the waste recycling facility will generate 312 new, permanent, full-time jobs and will create a cleaner city for all the local residents (Metroplan, 2013). The local community will benefit from being able to drop off their sorted recyclable waste at the facility for recycling. The project can therefore help to increase levels of participation in recycling programmes and public confidence in such schemes.

5.4 Economy

The proposed project can help to stimulate economic growth and especially the growth of a green economy in the CTMM.

5.5 Global Scale

Recycling facilities have a benefit on a wider scale as they decrease the need for the extraction of virgin materials. This decreases the Carbon Dioxide emissions associated with the extraction and

processing of virgin materials. For example, the recycling of plastic saves approximately 2.5kg of CO_2 per kilogram of plastic. Whereas the production of plastic generates 6kg CO_2 per kilogram of plastic produced, recycled plastic only generates 3.5kg CO_2 (Pusch, 2009).

Also, decreasing the amount of waste sent to landfill, where the anaerobic decomposition of waste produces methane (CH_4) [a greenhouse gas with a Global Warming Potential 21 times that of CO_2 (US EPA, 2006)], decreases CH_4 emissions to the atmosphere.

5.6 Need and Desirability in terms of the Guideline on Need and Desirability dated 20 October 2014

On the 20th of October 2014, the Department of Environmental Affairs published a Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010, in Government Notice 891 of 2014.

A Need and Desirability Investigation has been identified as a specialist study that is required for the completion of the list of questions contained in the above mentioned guideline (GN 891 of 2014). A table with all of the questions and their responses will therefore only form part of the Environmental Impact Assessment Reports for this project.

6. IDENTIFIED ALTERNATIVES

The following definition of "alternatives" is given in the EIA Regulations of 18 June 2010: "alternatives", in relation to the proposed activity, *means different means of meeting the general purpose and requirements of the activity, which may include alternatives to-*

a) the property on which or location where it is proposed to undertake the activity;
b) the type of activity to be undertaken;
c) the design or layout of the activity;
d) the technology to be used in the activity;
e) the operational aspects of the activity; and
f) the option of not implementing the activity".

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

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

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

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

6.1 No-Go Option

The potential impact of the preferred project option on environmental and socio-economic attributes identified during the assessment phase is evaluated against the potential impact of the No-Go option on the same attributes. The summary of this assessment is provided in the table below.

Table 18: Development vs. No-Go option

Attribute	Development Option	No-go Option
Physical environment		
Air Pollution	-1	-1
Noise Pollution	-1	0
Water Quality	0	0
Water Quantity	-1	0
Visual Aesthetics	1	-1
Biophysical environment		
Fauna and Flora	0	0
Sensitive Environments	0	0
Social environment		
Traffic	-1	0
Impact on property values	1	-1
Safety and security	1	-1
Local and regional economy	1	0
Infrastructure development	1	0
Total	**1**	**-4**

As can be seen in the table above, the development option (the upgrading project) is preferred to the No-Go option (the operation of the existing recycling facility), as derived from comparative analysis. While the development option has negative impacts in terms of air and noise pollution, water quantity and the generation of traffic, it also has benefits in terms of visual aesthetics (as the mostly vacant site will be developed), property values, safety and security, infrastructure development and the local and regional economy. The positive social impacts outweigh the negative environmental impacts to give an overall positive score of “1”, whereas the No-Go Option results in a negative score of “-4”.

6.2 Alternatives considered

6.2.1 Activity alternatives

General waste

In terms of general waste (cardboard, paper, plastic, glass and cans), the activity is the recycling, recovery and treatment of the waste. One alternative to this would be to dispose of the waste material at a landfill site where it would take up valuable landfill airspace. Another alternative is to incinerate the waste, but this results in atmospheric emissions and the volumes of waste that would need to be

incinerated are also very large. Certain material, such as glass and cans can also not be incinerated. The proposed activity is the preferred option as the recycled, recovered and treated waste material can be re-used in manufacturing processes instead of virgin materials. This is preferable from both an economic and environmental point of view.

Green waste

The activity is the shredding and composting of the plant material. An alternative activity would be to dispose of the waste material at a landfill site where it would take up valuable landfill airspace. Another alternative is to incinerate the waste, but this results in atmospheric emissions and the volumes of waste that would need to be incinerated are large. It is therefore favourable for the green waste to rather be composted and the resulting compost sold for use in gardening.

Wet waste

The activity is the sorting and composting and/or screening and baling of wet waste. An alternative activity would be to dispose of the waste material at a landfill site where it would take up valuable landfill airspace. Another alternative is to incinerate the waste, but this results in atmospheric emissions and the volumes of waste that would need to be incinerated are also very large. It is therefore favourable for the wet waste to rather be composted and the resulting compost sold for use in gardening.

Waste tyres

The activity is the de-beading, cutting, shredding, screening and grinding of waste tyres to produce rubber crumbs. The most prevalent alternative activity at this stage is the disposal of tyres to landfill or their accumulation at various facilities or on vacant land. In the last mentioned cases, the tyres are abandoned and unmanaged. Alternative methods to dispose of, recycle or re-use waste tyres include the following:

- Tyres can be re-treaded, whereby the remaining tread is removed and a new tread (rubber strip) is fused to the old “skeleton” of the tyre using vulcanisation. The quality of the re-treaded tyre is, however, not high;
- Tyres can be mechanically or cryomechanically milled/ground up and the rubber pieces used in other applications, such as for sport surfaces, carpets, playgrounds etc. If the rubber is ground up into a very fine powder, the powder can be used to reinforce new rubber products. These applications do not produce atmospheric emissions (the proposed activity);
- It has often been attempted to reclaim scrap rubber products, but the process is difficult and costly. The quality of the reclaimed rubber is also not high and the re-selling of the reclaimed rubber as a raw material is therefore problematic; and
- Pyrolysis presents an opportunity to produce valuable products from the waste tyres and can also result in less negative environmental impacts than for example, the burning of tyres or their disposal to landfill. The solid Char can be used as a smokeless fuel, to reinforce new rubber products or as activated Carbon. The oils can be used as fuels, a source of chemicals due to the

oil's mixture of organic compounds, or as a feedstock for the petroleum industry (Juma *et al.*, 2006).

From the above alternatives for the disposal, recycling or re-use of waste tyres, the mechanical/ cryomechanical milling of the waste tyres and pyrolysis are the two most practical options. The applicant is not interested in the establishment of a waste tyre pyrolysis plant and for that reason, the milling of the waste tyres is the most suitable activity alternative. This process will ensure that the resultant rubber crumbs can be sold for re-use.

Building rubble

The activity is the crushing and screening of building rubble. An alternative activity would be to dispose of the waste material at a landfill site where it would take up valuable landfill airspace. It is therefore favourable to crush the building rubble so that it can be re-used as foundation and filling material for construction projects.

All of the proposed activities are high up on the waste management hierarchy, as indicated in the figure below, whereas the alternative activity, namely disposal to landfill, is at the bottom of the hierarchy and is the least preferred option.

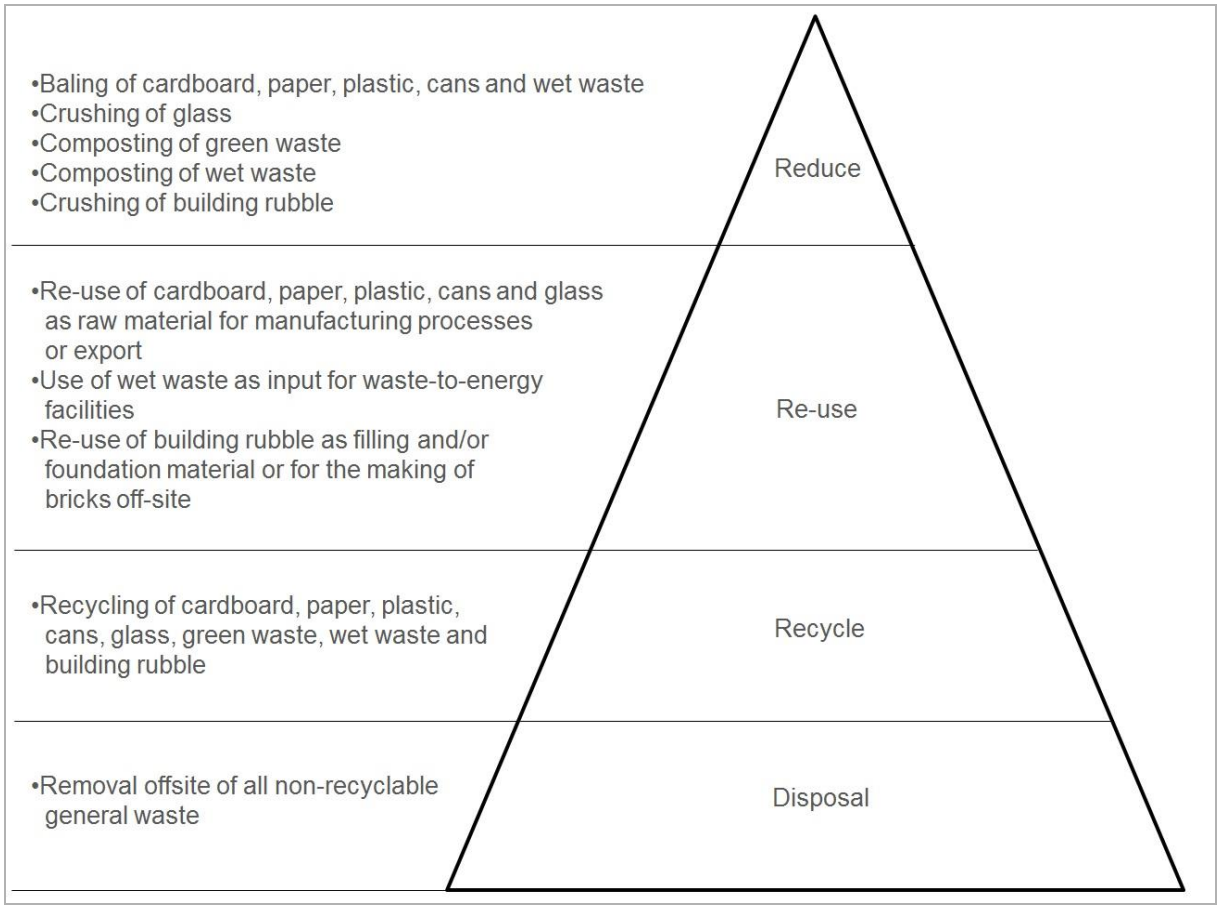

Figure 31: Waste Management Hierarchy

6.2.2 Location alternatives

Three location alternatives can be considered for this proposed project. The first is to establish the multi-purpose recycling facility on an undeveloped property, the second is to utilise a property with existing infrastructure suited for the proposed project and the third is to use a property with existing infrastructure, but which is not suited for the proposed project.

The use of an undeveloped property would entail the purchase or leasing of open land by the applicant and the development of the property from scratch. This would include the installation of all bulk services as well as the construction of the necessary buildings for the recycling facility. This alternative would entail financial costs for site establishment and is therefore not as economically feasible as a site with existing infrastructure present. It is also possible that such an undeveloped site may lie entirely within a Critical Biodiversity Area in terms of the Gauteng Conservation Plan (C-Plan) and its development could therefore result in negative impacts in terms of fauna and flora loss. The rezoning of such as site could also be necessary.

The use of a property with existing buildings that are suited to the proposed project is the preferred alternative and is the situation at the proposed site. The proposed site has an existing building where an established waste recycling operation is taking place. The majority of the site is also already in a disturbed state which will decrease the need for site clearance should the project be approved. There is also an existing access point to the site from Maunde Street.

The use of a property with existing buildings that are not suitable to the proposed project, such as a property where the existing buildings were used for offices or as houses, is not a feasible alternative for the following reasons: The buildings would not be big enough nor designed for industrial use and would need to be demolished so that suitable buildings could be constructed. This would entail additional financial costs and is therefore not economically feasible. The rezoning of such as site could also be necessary.

6.2.3 Site layout alternatives

As the majority of the site is vacant, a number of site layout alternatives could be considered. As recycling activities are already occurring in the existing building on site, it makes practical sense to conduct the upgrade part of the project (to expand the processing capacity of the recycling facility) at the existing recycling facility, on the eastern part of the site. This is the first phase of the project. From there, it makes sense to implement the next phases, starting from the eastern side of the site and moving towards the western side, i.e. Phase 2 will be to the west of Phase 1 and Phase 3 will be to the west of Phase 2, as shown in Figure 2. Positioning the phases in such a manner makes sense from a practical and financial point of view as infrastructure will be built close to existing infrastructure first and only extended to the far west of the site later on, when it is required. I.e. the internal road infrastructure will be extended from the existing, approved access point to the site from Maunde Street.

6.2.4 Process and design alternatives

The applicant will determine the optimal processes and designs for the upgrade of the waste recycling facility, the composting facility, the waste tyre crumbing facility, the in-vessel composter and the building rubble crushing plant. The designs will be based on industry best practice and will be provided as part of the Environmental Impact Assessment phase of this project. No process and design alternatives have therefore been assessed as part of this Scoping process.

6.2.5 Land use alternatives

The project property is zoned as “Industrial 1” land and the following uses are therefore permitted as primary rights on the property:

- Commercial Use: Land and buildings used for distribution centres, wholesale trade, storage, warehouses, telecommunication centres, transport depots, laboratories and computer centres and may include offices, light industries, a cafeteria and a caretaker’s flat, that are directly related and subservient to the main commercial use that is carried out on the land or in the building;
- Industry: Land and buildings where a product or part of a product is manufactured, mounted, processed, repaired, rebuilt or packed, including a power station and incinerator plant and may include a cafeteria and a caretaker’s flat and any other activities connected to or incidental to the activities mentioned herein, excluding noxious industries, light industries and retail industries; and
- Light Industrial: Land and buildings used for, inter alia, a bakery, a builder’s yard, a car wash, a contractor’s yard, dry-cleaners, carpet cleaners, a joinery workshop, a launderette, a laundry, a lawnmower workshop, a painter’s workshop, a plumber’s workshop, a printing workshop, a transport depot, a panel-beater, motor workshops, a ready-mix plant and any other such industries, workshops or yards which in the opinion of the Municipality do not cause a nuisance to the environment, may be used for similar purposes and may include the retail sale of products ancillary and subservient to the main use on the same property.

Any of the above mentioned land uses could therefore be established on the proposed project property, however, the only proposed activities for the project property are those listed under section 1.5 of this report (proposed activities) and no other land use alternatives could be considered.

7. IDENTIFICATION OF ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This part of the document focuses on the identification of the major potential impacts that the activities, processes and actions may have on the surrounding environment. It indicates the major impacts that these activities may have on the environmental components associated with the site, as required in terms of Regulation 28 (g) of R.543 of the EIA Regulations, 2010, under the NEMA, 1998.

7.1 Project phases and activities to be undertaken

For the purposes of this impact assessment, the project timeframe will be subdivided into the following four phases:

- Design and Planning Phase;
- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.

Potential cumulative impacts were also identified, where applicable.

7.1.1 Design and Planning Phase

- Designing and planning of the recycling facility upgrade;
- Designing and planning of the waste tyre crumbing facility;
- Designing and planning of the composting facility;
- Designing and planning of the wet-waste in-vessel composter;
- Designing and planning of the building rubble crushing plant;
- Designing and planning of the stormwater management system for the site;
- Designing and planning of the water retention pond, sump or similar collection system for the composting facility; and
- Designing and planning of the wastewater collection and treatment system for the wastewater from the wet-waste processes.

7.1.2 Construction Phase

Phase 1B

- Installation of two weighbridges;
- Installation of an access gate;

- Upgrading of the existing recycling facility and construction of its associated infrastructures, such as docking/parking areas, areas for the dumping of waste and a waste and refuse storage area;
- Installation of the stormwater management system for the site;
- Installation of the wet-waste in-vessel composter;
- Installation of wastewater collection and treatment system for the wastewater from the wet-waste processes;
- Construction of staff facilities, including ablution facilities and a staff canteen; and
- Concurrent rehabilitation of disturbed areas, where applicable.

Phase 2

- Establishment of the composting facility;
- Installation of the water retention pond, sump or similar collection system for the composting facility; and
- Concurrent rehabilitation of disturbed areas, where applicable.

Phase 3

- Installation of the building rubble crushing plant;
- Installation of the waste tyre crumbing facility; and
- Concurrent rehabilitation of disturbed areas, where applicable.

7.1.3 Operational Phase (General description applicable to all waste streams, for all phases of the project)

- The receipt of incoming waste;
- The weighing of the incoming waste using the weighbridge;
- Direction of the different waste streams to the appropriate processing areas;
- Offloading of the incoming waste;
- Processing of waste at the facility;
- Storage of processed waste fractions;
- Dispatch of processed waste fractions to off-take market;
- The weighing of the outgoing waste using the weighbridge.
- The release of treated wastewater of suitable quality into the municipal sewage system; and
- The pumping of sewage off site into the municipal sewage system.

7.1.4 Decommissioning Phase

Closure and decommissioning of the recycling facility is not anticipated for the foreseeable future. Should the facility close, a detailed closure and rehabilitation plan will be submitted to the Gauteng Department of Agriculture and Rural Development prior to decommissioning.

7.2 Impacts identified

The main impacts identified for the recycling facility upgrade project are listed below. The environmental impact assessment report will include a full risk assessment of all environmental impacts. The Environmental Management Programme (EMP) will set out mitigation measures to be implemented during the Construction, Operational and Decommissioning Phases. Refer to Part 8 of this Scoping Report for the Impact Assessment methodology that will be followed as part of the EIA process.

7.2.1 Design and Planning Phase

The table below lists the potential impacts during the Design and Planning Phase.

Table 19: Potential impacts during the Design and Planning Phase

Impact: Air pollution (Generation of dust)	
Contributing aspects	Inadequate design of the waste tyre storage area.
	Inadequate design of the composting facility.
	Inadequate design of the building rubble crushing plant.
Impact: Air pollution (Generation of atmospheric emissions)	
Contributing aspects	Inadequate design of the composting facility.
	Inadequate design for the upgrading of the recycling facility.
Impact: Environmental Noise	
Contributing aspects	Inadequate design of the waste tyre crumbing facility.
	Inadequate design of the building rubble crushing plant.
Impact: Soil, surface and/or groundwater pollution	
Contributing aspects	Inadequate design of the ablution facilities.
	Inadequate design of the sewage pipeline system.
	Inadequate design of the stormwater management system for the site.
	Inadequate design of the water retention pond, sump or similar collection system for the composting facility.
	Inadequate design of the wastewater collection and treatment system for the wastewater from the wet-waste processes.
Impact: Soil erosion	
Contributing aspects	Inadequate design of the waste tyre storage area.

7.2.2 Construction Phase

The table below lists the potential impacts during the Construction Phase.

Table 20: Potential impacts during the Construction Phase

Impact: Soil Pollution and Degradation	
Contributing aspects	Incorrect management, storage and disposal of concrete and cement.
	Incorrect management, storage and disposal of chemicals.

	Incorrect management, storage and disposal of construction waste, general waste and hazardous waste.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Unsanitary conditions on site.
	Loss of topsoil due to ineffective topsoil removal and storage.
Impact: Air pollution and nuisance (generation of dust)	
Contributing aspects	Construction vehicles not adhering to speed limits on the site.
	Ineffective dust suppression.
Impact: Air pollution and nuisance (generation of atmospheric emissions)	
Contributing aspects	Vehicle emissions released from the additional construction vehicles and equipment used during the construction phase.
Impact: Environmental Noise and nuisance	
Contributing aspects	Noise generated by additional construction vehicles and equipment during the construction activities.
Impact: Surface and/or groundwater pollution	
Contributing aspects	Incorrect management, storage and disposal of concrete and cement.
	Incorrect management, storage and disposal of chemicals.
	Incorrect management, storage and disposal of construction waste, general waste and hazardous waste.
	Unsanitary conditions on site.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Spillages from cleaning equipment used for construction (e.g. cement mixers).
Impact: Soil erosion	
Contributing aspects	Bare areas devoid of vegetation.
	Inadequate concurrent rehabilitation.
Impact: Loss of heritage artefacts or sites	
Contributing aspects	General construction and excavation activities.

7.2.3 Operational Phase

The table below lists the potential impacts during the Operational Phase.

Table 21: Potential impacts during the Operational Phase

Impact: Soil Pollution	
Contributing aspects	Incorrect management, storage and disposal of general and hazardous waste.
	Unsanitary conditions on site.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Leaking or broken sewage pipes.

	Contamination of stormwater runoff.
	Incorrect storage of waste tyres and rubber crumbs resulting in leachate formation.
Impact: Air pollution (Generation of dust)	
Contributing aspects	Vehicles not adhering to speed limits on the site.
Impact: Air pollution (Generation of air emissions and nuisance)	
Contributing aspects	Release of atmospheric emissions from potential burning of stockpiled tyres, rubber crumbs or waste due to unsafe storage practices that result in the establishment of fires.
	Increased traffic flow to the site.
	Generation of odorous emissions from the composting processes and waste handled onsite.
Impact: Environmental Noise	
Contributing aspects	Noise generated by the recycling processes, such as through exterior processing equipment and vehicles travelling to and from the facility.
Impact: Surface and/or groundwater pollution	
Contributing aspects	Incorrect management, storage and disposal of general and hazardous waste.
	Unsanitary conditions on site.
	Contamination of stormwater runoff.
	Leaking or broken sewage pipes.
	Incorrect storage of waste tyres and rubber crumbs resulting in leachate formation.
	Waste leachate from the composting facility.
Impact: Surface and/or groundwater quantity impacts (Municipal water supply)	
Contributing aspects	Leaking or broken water storage vessels.
	Leaking or broken water pipelines.
Impact: Soil erosion	
Contributing aspects	Possible soil erosion due to incorrectly managed stormwater runoff.
Impact: General nuisance and visual impact	
Contributing aspects	Windblown litter as a result of the incorrect management of large quantities of loose waste material.

7.2.4 Decommissioning Phase

Closure and decommissioning of the recycling facility is not anticipated in the foreseeable future. Should the facility close, a detailed closure and rehabilitation plan will be submitted to the Gauteng Department of Agriculture and Rural Development prior to decommissioning.

7.2.5 Cumulative Impacts

The following potential cumulative impact has been identified and will be investigated further during the EIA phase:

Table 22: Cumulative impacts

Impact: Environmental Noise	
Contributing aspects	Noise generated at the recycling facility will add to the existing noise levels in the area, such as from passing vehicles on the adjacent Maunde Street.

7.3 Conclusion on impacts identified

In general the expected environmental impacts from the construction and operation of the upgraded waste recycling facility and its associated infrastructure do not indicate that the proposed activities would have irreversible detrimental effects on the receiving environment.

However, further specialist studies and investigations will be carried out during the EIA phase and will thus be taken into consideration when conducting the risk (impact) assessment for the proposed project. Information obtained during the abovementioned phase will be included in the EIR. Refer to Part 8 of this Scoping Report for further information.

7.4 Specialist Studies Identified

A Need and Desirability Investigation, a Heritage Impact Assessment, a Palaeontological Impact Assessment Survey, a Vegetation Assessment/Opinion and a Stormwater Management Plan have been identified as specialist studies necessary for the Environmental Impact Assessment phase of this project.

7.5 Processes to be undertaken to ensure that impacts are mitigated

Mitigation measures need to be identified to ensure that impacts from the proposed activity are reduced as far as possible. The following mitigation measures objectives will be kept in mind while mitigation measures are identified:

- To find more environmentally sound ways of undertaking specific activities;
- To enhance any environmental and social benefits of a proposed activity;
- To avoid, minimise or remedy negative environmental impacts; and
- To ensure that any residual negative environmental impacts are environmentally acceptable.

Identifying appropriate mitigation measures will be conducted in a hierarchal manner:

1. Preventative measures will be identified to avoid, where possible, negative impacts that may arise as a result of the proposed activity;
2. Measures will be identified to minimise and/or reduce the negative impacts to “as low as practicable” levels; and

3. Measures will be identified to compensate or remedy residual negative impacts that are unavoidable and cannot be minimised or reduced any further (Department of Environmental Affairs, 2006).

Proposed mitigation measures will be communicated to the applicant for review as part of Draft Environmental Management Plan (EMP). The applicant will comment on the feasibility and practicality of implementing the mitigation measures. The mitigation measures may be adjusted based on the applicant's comments.

8. PLAN OF STUDY FOR EIA

In accordance with of Regulation 28 (of Regulation 543) of the EIA Regulations (2010), under the NEMA, 1998, the knowledge gaps identified and a description of the tasks that will be undertaken as part of the EIA process, including any specialist reports or specialised processes (including the manner in which such tasks will be undertaken), are discussed in this part of the Scoping Report.

8.1 Tasks to be undertaken as part of the EIA process

The Environmental Impact Assessment process will be conducted subsequent to the Scoping process and will be undertaken in accordance with the Regulation 31 of the EIA Regulations of 18 June 2010. The Environmental Impact Report (EIR) for the proposed project will include detailed information relating to the potential or anticipated impacts that may arise as a result of the proposed activity.

The EIR and draft EMP in accordance with NEMA (1998) and as per the EIA Regulations R.543 of 18 June 2010, will include, but is not limited to, the following:

- Details of the Environmental Assessment Practitioner (EAP);
- Expertise of the EAP to carry out an EIA;
- A detailed description of the proposed activity;
- A description of the property on which the activity is to be undertaken and the location of the activity on the property;
- A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
- Details of the public participation process followed;
- A description of the need and desirability of the proposed activity;
- A description of the identified alternatives to the proposed activity, including advantages and disadvantages that the proposed activity may have on the environment and the community that may be affected by the activity;
- An indication of the methodology used in determining the significance of potential environmental impacts;
- A description and comparative assessment of all alternatives identified during the environmental impact assessment process;
- A summary of the findings and recommendations of any specialist report or report on a specialised process (no specific requests have been received from the competent authorities to date);
- A description of all environmental issues that were identified during the environmental impact assessment process, an assessment of the significance of each issue and an indication of the extent to which the issue could be addressed by the adoption of mitigation measures;

- An assessment of each identified potentially significant impact, including cumulative impacts, the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources, and the degree to which the impact can be mitigated;
- A description of any assumptions, uncertainties and gaps in knowledge;
- A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
- An environmental impact statement;
- A draft environmental management programme containing the aspects contemplated in the regulations, including, but not limited to, environmental management objectives and goals, mitigation measures and management of significant impacts, a description of persons responsible for mitigation implementation, description of time periods applicable to mitigation implementation, and monitoring and performance assessment;
- Inclusion of technical and supporting information;
- Copies of any specialist reports and reports on specialised processes complying with regulation;
- Any specific information that may be required by the competent authority; and
- Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

Compilation of the EIR and draft EMP will be conducted according to the EIA Regulations of 18 June 2010 (R.543) as per NEMA, 1998, and will include, but is not limited to, the following:

- The compilation of the EIR as stipulated in Regulation 31 of R.543 (18 June 2010), as per NEMA, 1998;
- The draft EIR and EMP will be submitted to the applicant for input prior to its submission for public and competent authority comment;
- Public Participation will be conducted in accordance with the EIA Regulations of 18 June 2010 (R.543). This will include submission of the draft EIR and EMP to the competent authority and the public in order to obtain their comments for a period of 40 days [R543(56)] and for 60 days for the Department of Water and Sanitation [R543(56)(8)];
- All comments, objections and/or representations received during the Public Participation Process will be included and addressed in the final EIR and this document will be finalised;
- The final EIR and draft EMP will be submitted to the client to obtain their inputs;
- Registered Interested and Affected Parties will be given an opportunity to comment on the final EIR as stipulated in R543(56)(6). Their comments will be submitted directed to the competent authority and the EAP or applicant will be copied;
- The final EIR and draft EMP will be submitted to the competent authority for consideration. The competent authority will have 14 days to acknowledge receipt of the final EIR. Thereafter, the competent authority has 60 days to consider the report and in writing accept the report, reject the report, or ask for additional information or amendments to the document [R.543(34)(2)]. Once the

report has been accepted, the competent authority has 45 days to grant or refuse authorisation [R.543(35)(1)];

- Continued consultation with the relevant authority until issuing of the decision.

8.2 Stages at which the competent authority will be consulted

The stages at which the competent authority will be consulted in the process of compiling the EIR and draft EMP as per the EIA Regulations R.543 (2010), will include amongst others, the following:

- During the Public Participation Process in accordance to EIA Regulations R.543 (2010), the draft EIR will be submitted to the competent authority for a period of 40 days (unless agreed otherwise) to obtain their comments [R543 (56)];
- The final EIR will be submitted to the competent authority. They will have 60 days, after acknowledging receipt of the final EIR, to consider the report and in writing accept the report, reject the report or request additional information or amendments to the document [Regulation 543(34)(2)]; and
- Continued consultation with the competent authority until the decision is issued.

8.3 Methodology of assessing the environmental impacts

It is required by Regulation 28 (g) of R.543 of the EIA Regulations, 2010, that major potential impacts on the surrounding environment, as a result of the proposed activity, are identified during the Scoping Phase.

Regulation 31 of R.543 of the EIA Regulations (2010), under the NEMA (1998), requires that an EIR includes an assessment of the status, extent, duration, probability, reversibility, replaceability of resources and mitigatory potential of the major potential environmental impacts of the proposed activity.

A baseline identification of the major potential impacts has therefore only been included in this Scoping Report. The prediction of the nature of each impact, the evaluation of each impact by rating its significance and the management and mitigation measures adopted to address each impact, will be assessed during the EIR.

Impact assessments should be conducted based on a methodology that includes the following:

- Clear processes for impact identification, predication and evaluation;
- Specification of the impact identification techniques;
- Criteria to evaluate the significance of impacts;
- Design of mitigation measures to lessen impacts;
- Definition of the different types of impacts (indirect, direct or cumulative); and
- Specification of uncertainties.

In broad terms, the impact assessment for this project will include the following:

- All potential impacts of the proposed activity will be identified and assessed;
- The nature, extent, magnitude and duration of all potentially significant impacts will be predicted;
- A range of mitigation measures that could diminish the impacts will be identified; and
- The significance of residual impacts that remain, after the proposed mitigation measures are implemented, will be evaluated.

The construction, operational and decommissioning phases of the project will be considered whilst identifying impacts. A detailed understanding of the proposed activity will be obtained to ensure that all the potential impacts are identified. The following process will be followed to identify and assess the potential impacts of the proposed activity:

- The current environmental conditions will be determined in detail. This will act as a baseline against which impacts can be identified and measured;
- The changes that will occur in future, should the proposed activity not occur, will be identified;
- A detailed understanding of the activity will be obtained in order to fully understand its consequences; and
- The significant impacts that will occur as a result of the proposed activity will be identified (should the activity be authorised).

After all impacts have been identified, the nature of each impact can be predicted. The impact prediction will take into account physical, biological, socio-economic and cultural information and will then estimate the likely parameters and characteristics of the impacts. The impact prediction will aim to provide a basis from which the significance of each impact can be determined and appropriate mitigation measures can be developed.

The risk assessment methodology is based on defining and understanding the three basic components of the risk, i.e. the source of the risk, the pathway and the target that experiences the risk (receptor). Refer to the figure below for a model representing the above principle (as contained in the DWA's Best Practice Guideline: G4 – Impact Prediction).

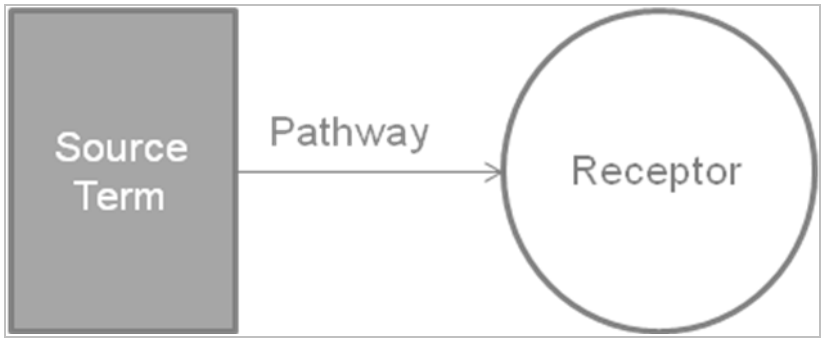

Figure 32: DWA's model for impact prediction (risk assessments)

Table 23 and Table 24 below indicate the methodology to be used in order to assess the Probability and Magnitude of the impact, respectively, and Table 25 provides the Risk Matrix that will be used to plot the Probability against the Magnitude in order to determine the Severity of the impact.

Table 23: Determination of Probability of Impact

Frequency of Aspect / Unwanted Event	Score	Availability of pathway from the source to the receptor	Score	Availability of receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

Step 1: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor.

Table 24: Determination of Magnitude of Impact

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site. (metres);	1	Very small quantities / volumes / intensity (e.g. < 50L or < 1Ha)	1	Non-toxic (e.g. water) / Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance / sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities / volumes / intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic / Harmful (e.g. diluted brine) / Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary (hundreds of metres)	3	Moderate quantities / volumes / intensity (e.g. > 210 L < 5000L or 5 – 8Ha)	3	Moderately toxic (e.g. slimes) Potential to create damage or destruction to the environment	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced / Partially reversible	3	Current environmental component(s) are a mix of disturbed and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	3
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4
Beyond life of Organisation / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive area (endangered species, wetlands, protected habitats etc.)	5

Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors above.

Table 25: Determination of Severity of Impact

ENVIRONMENTAL IMPACT RATING / PRIORITY					
	MAGNITUDE				
PROBABILITY	**1 Minor**	**2 Low**	**3 Medium**	**4 High**	**5 Major**
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

Step 3: Determine the **SEVERITY** of the impact by plotting the averages that were obtained above for Probability and Magnitude in the table below.

8.4 Public Participation during the EIA process

The compilation of the EIR and draft EMP, as per R.543 will include, but is not limited to, the following public participation processes:

- The draft EIR and draft EMP will be provided to the client for review prior to public and competent authority comment;
- The Public Participation Process will be conducted in accordance with the EIA Regulations R.543 (2010). This will include submitting the draft EIR to the competent authority and public for a review period of 40 days [Regulation 543(56)] and 60 days for the Department of Water and Sanitation [Regulation 543(56)(8)];
- All comments, objections and/or representations received during the Public Participation Process will be included and addressed in the final EIR and this document will be finalised;
- The final EIR and draft EMP will be submitted to the client to obtain their inputs; and
- Registered Interested and Affected Parties (I&APs) will be given an opportunity to comment on the final EIR as stipulated in R.543(56)(6). Their comments will be submitted directly to the competent authority and the EAP or applicant will be copied.

8.5 Alternatives

Alternatives have and will continue to be investigated and the “No-Go Option” will be included in the assessment. The EIA document will discuss the alternatives identified and investigated for the proposed project as well as the advantages and disadvantages of each.

8.6 Knowledge gaps and specialist studies

The following knowledge gaps and uncertainties have been identified during the scoping process of the proposed Kwaggasrand Recycling Facility upgrade project and require further investigations that will be comprehensively carried out as part of the EIA process for the proposed project:

- All relevant specialist studies need to be conducted for the proposed recycling facility upgrade project. The studies identified during the Scoping Phase include a Need and Desirability Investigation, a Heritage Impact Assessment, a Palaeontological Impact Assessment Survey, a Vegetation Assessment/Opinion and the compilation of a Stormwater Management Plan;
- Shapefiles of the project property were sent to GDARD at GDACE_BiodiversityInfo@gauteng.gov.za to determine whether a Biodiversity Assessment is required for the site, but no feedback has been received from GDARD thus far;
- While impacts have been identified as part of the scoping process, it is required as part of the EIA Phase to fully quantify impacts to all aspects of the environment; and
- Design drawings are being developed for the proposed project and its associated infrastructures and these designs will be presented as part of the final EIR.

9. CONCLUSION

This scoping process has been carried out in accordance with the NEM: WA, 2008, NEMA, 1998, and the Regulations under both of these acts.

The following main potential environmental impacts have been identified as part of this Scoping phase:

- Soil, surface water and ground water pollution due to incorrect management and disposal of cement and concrete;
- Soil, surface water and ground water pollution due to ineffectively treated wastewater entering the environment;
- Soil, surface water and ground water pollution due to the run-off of contaminated wash water;
- Soil pollution and degradation due to incorrect management, storage and disposal of construction waste, general waste and hazardous waste;
- Soil, surface water and ground water pollution due to unsanitary conditions onsite;
- Soil, surface water and ground water pollution due to inadequate storage of tyres and rubber crumbs;
- Soil, surface water and ground water pollution due to the incorrect management, storage and disposal of chemicals and oil;
- Soil, surface water and ground water pollution due to affected stormwater runoff;
- Generation of noise pollution and nuisance;
- Degradation of ambient air quality due to dust generation;
- Increased traffic flow to the site and potential strain on existing road infrastructures as well as creating a higher risk of vehicular accidents on the access roads;
- The generation of odours and nuisance from the waste handled onsite;
- The handling of large quantities of loose waste material, such as paper, can create windblown litter;
- Fire establishment due to the storage of large quantities of waste materials, both before and after processing at the recycling facility, as well as the storage of waste tyres and rubber crumbs;
- Groundwater contamination from waste leachate from the composting facility;
- Erosion of soil at the composting facility; and
- Potential loss of artefacts or sites protected by the National Heritage Resources Act, 1999 (Act No. 25 of 1999).

Appropriate mitigation measures will assist in minimising the potential impacts on the surrounding environment during the construction and operational phases of the development. These will be identified during the Environmental Impact Assessment Phase of this project.

Knowledge gaps identified as part of this scoping phase include specialist studies (a Need and Desirability Investigation, a Heritage Impact Assessment, a Palaeontological Impact Assessment Survey, a Vegetation Assessment/Opinion and a Stormwater Management Plan) as well as the finalisation of designs for the recycling facility upgrade and its associated infrastructures.

Based on the above-mentioned information and the identification of the potential environmental impacts as a result of the proposed project, it is concluded that a full Environmental Impact Assessment may commence.

All relevant specialist studies need to be conducted for the proposed recycling facility upgrade project. The studies identified during the Scoping Phase include a Need and Desirability Investigation, a Heritage Impact Assessment, a Palaeontological Impact Assessment Survey, a Vegetation Assessment/Opinion and a Stormwater Management Plan.