

THE PROPOSED SELF-STORAGE FACILITY TO BE KNOWN AS “STORAGE ON 82”

On

Portion 214 of Farm Hartsenbergfontein
335 IQ

GDARD REF NO: GAUT 002/22-23/E3363



Draft Basic Assessment Report

September 2022

PREPARED FOR:

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of Agriculture and Rural
Development

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Abbreviations

SCC	Species of Conservation Concern
TOPS	Threatened or Protected Species
EMPr	Environmental Management Plan
GDARD	Gauteng Department of Agriculture and Rural Development
GPEMF	Gauteng Provincial Environmental Management Framework
CoJ	City of Johannesburg
IDP	Integrated Development Plan
SDF	Spatial Development Framework
SEI	Site Ecological Importance
CBA	Critical Biodiversity Area
ESA	Ecological Support Area

EXECUTIVE SUMMARY

Storage on 82 (Pty) Ltd is applying for Environmental Authorization for the proposed self-storage facility. The proposed project will include the following:

- number of storage units: 833 units on 14,212.4 m²
- Ablution facilities for visitors and staff
- Admin and security offices
- Parking and internal roads

The proposed Storage on 82 is situated on Portion 214 of Farm Hartsenbergfontein 335 IQ, Gauteng Province. The application site consists of 25807 m² in total of which 1250 m² consists of an Eskom servitude.

The site is located between the R82 and the eastern part of the town of Walkerville and is approximately 200m from the Walkerville Spar. The site is situated on a portion of a sliver of land that was cut off from the farms to the east by the K57 (extension of R82), therefore the site lies between Walkerville residential/agricultural holdings and the R82.

The site falls in the Gauteng Provincial Environmental Management Framework (GPEMF) Zone 1, which is an “urban development zone”. The intention with Zone 1 is to streamline urban development activities in it and to promote development infill, densification and concentration of urban development within the urban development zones as defined in the Gauteng Spatial Development Framework (GSDF), in order to establish a more effective and efficient city region that will minimize urban sprawl into rural areas. Storage units is an accepted activity for Zone 1. The Midvaal Spatial Development Framework (SDF) 2021/2022 and Walkerville Precinct Plan indicates this sliver of land as Business and Commercial use and forms part of the nodal development along the R82 between Johannesburg and Vereeniging.

The **sensitivities** of the site include:

The site is indicated to be within a Gauteng Conservation plan (C-plan V.3.3) Critical Biodiversity Area (CBA), however is on the outer border of this with Walkerville town to the west of the site and the K57/R82 east of the site. No wetlands/watercourses are found on site or within 500m.

The conservation potential of the sliver of land cut off by the R82 is considered low, due to the fragmentation and separation from the rest of the CBA to the east, as well as the edge effect of Walkerville to the west.

- Gauteng Critical Biodiversity Area 2: Important area
- No Threatened Ecosystem according to SANBI (2011)
- No municipal environmental sensitivity: site is indicated as
 - part of the Urban Development Zone of the Midvaal Local Municipality Land Use Scheme (2017)
 - part of the Business and Commercial use areas of the Walkerville Development Framework and Precinct Plan, 2017

- Vegetation
 - Orange-listed species including: *Hypoxis hemerocallidea* and *Boophone disticha*
 - No Species of Conservation Concern
- No Fauna Species of Conservation Concern, or Aquatic or Heritage sensitivities are found to occur on site.

The **goals** of this project are to provide a sustainable self-storage facility, and that will stimulate economic growth along the R82-R59 development corridor. Furthermore, the project aims to minimize and mitigate all impacts on site sensitivities and resources of the area. The Orange-listed plants on site will be moved into the Eskom servitude crossing the southeastern corner of the site and measures to establish these plants are provided in the EMP.

The **impacts** of the construction phase of the proposed project are expected to be temporary and minimal, and can be managed effectively through mitigation measures as provided in the EMP. Mitigation of impacts during the operational phase include waste management measures.

The project aligns with the goals of the GPEMF, Midvaal SDF and Walkerville Precinct Plan to streamline urban development activities and to promote development infill, densification and concentration of urban development within the urban development zones. The overall impact of the proposed facility is expected to be minimal, and is mitigated by means of specific measures for relocation of the Orange listed plants, and by means of general construction mitigation measures.



GAUTENG PROVINCE

AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1/2022)

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This template is current as of April 2022. It is the responsibility of the EAP to ascertain whether subsequent versions of the template have been published or produced by the competent authority.
3. A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.
4. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority (uploaded to the EIA online system) empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application. The EIA online system can be accessed at <https://eia.gauteng.gov.za>.**
- 5.
6. **A copy (PDF) of the final report and attachments must be uploaded to the EIA online system. The EIA online system can be accessed at <https://eia.gauteng.gov.za>.**
7. **Draft and final reports submitted in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) must be emailed to environmentsue@gauteng.gov.za.**
8. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
9. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
10. An incomplete report may lead to an application for environmental authorisation or Waste Management License being refused.
11. Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorization or Waste Management License being refused.
12. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation or Waste Management License being refused.
13. The applicant must fill in all relevant sections of this form. Incomplete applications will not be processed. The applicant will be notified of the missing information in the acknowledgement letter that will be sent within 10 days of receipt of the application.
14. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
15. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
P.O. Box 8769
Johannesburg
2000

Ground floor, Umnotho House, 56 Eloff Street, Johannesburg

Administrative Unit telephone number: (011) 240 3051/3052
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

Not Applicable.

Is a closure plan applicable for this application and has it been included in this report? **No**

If no, state reasons for not including the closure plan.

The application is for the construction and operation of a self-storage facility and does not relate to the decommissioning/closure of a facility.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? **Yes**

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person? **Yes**

If no, state reasons for not attaching the list.

Not Applicable.

Have State Departments including the competent authority commented? **No**

If no, why?

This is the Draft Report circulated for comment and all comments will be included in the Final BAR.

Section A: Activity information

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

Storage on 82:

This Draft Basic Assessment Report is for the proposed development of a self-storage facility in Walkerville, known as "Storage on 82" situated on Portion 214 of Hartsenbergfontein 335 IQ, Gauteng Province. The application site consists of approximately 2.5 ha in total, zoned as "Agricultural" holding, of which 1250m² consists of Eskom servitude, which will be excluded from development.

The site is located between the R82 and the eastern part of the town of Walkerville, that is situated midway between Johannesburg and Vereeniging. The site is situated between the R550 and R557 arterial roads that link the R82 and Walkerville to the R59 (Figure 1). Access to the site is gained from Fourth Avenue, via Fourth Street which intersects with the R82.

The proposed project will include the following:

- number of storage units:
 - 623 units of 5,750m X 3,000m = 10,746.7 m²
 - 159 units of 6,140m X 3,000m = 2928.7 m²
 - 51 units of 3,510m X 3,000m = 537 m²
 - Total 833 units Total 14,212.4 m²**
- Ablution facilities for visitors and staff
- Admin and security offices
- Parking and internal roads

Activities being applied for in Listing Notice 1, GN 983 of 2014 as amended by GN 327 of 2017:

- Activity 27. The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation

Activities being applied for in Listing Notice 3, GN 985 of 2014 as amended by GN 327 of 2017:

- Activity 12. The clearance of an area of 300 square metres or more of indigenous vegetation (in) iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans.

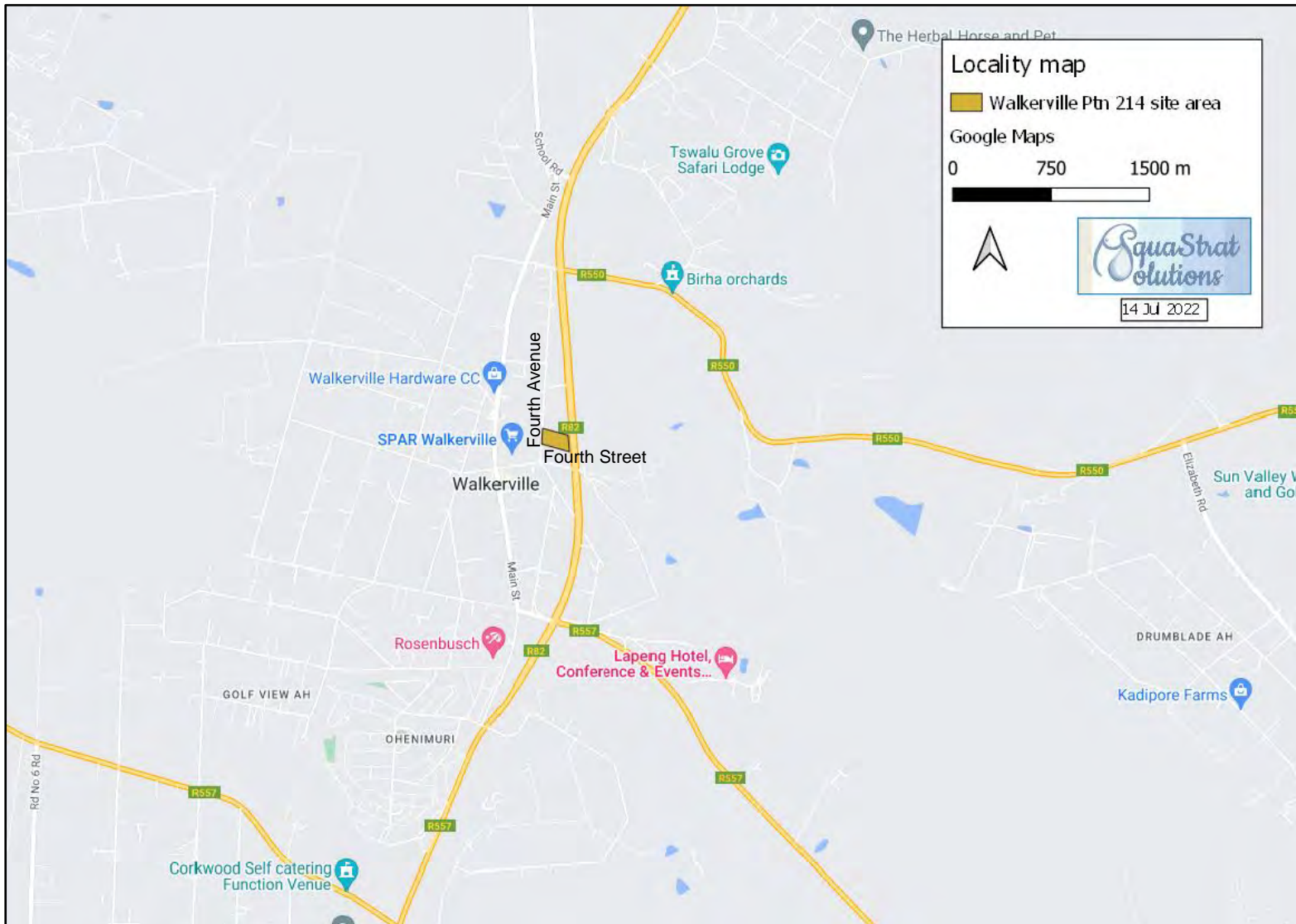


Figure 1: Locality Map.

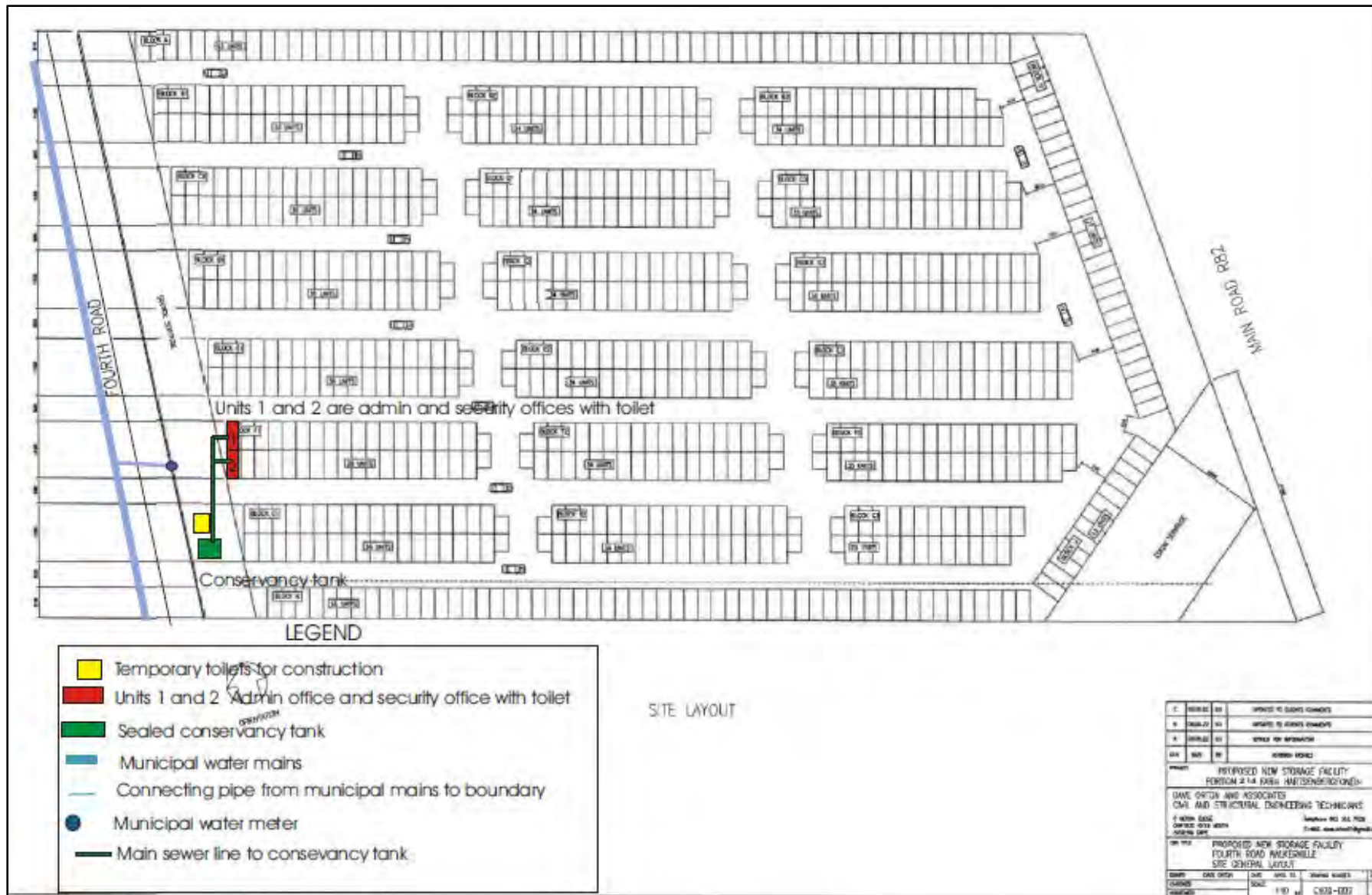


Figure 2: Layout A (preferred alternative) of the proposed Storage on 82.

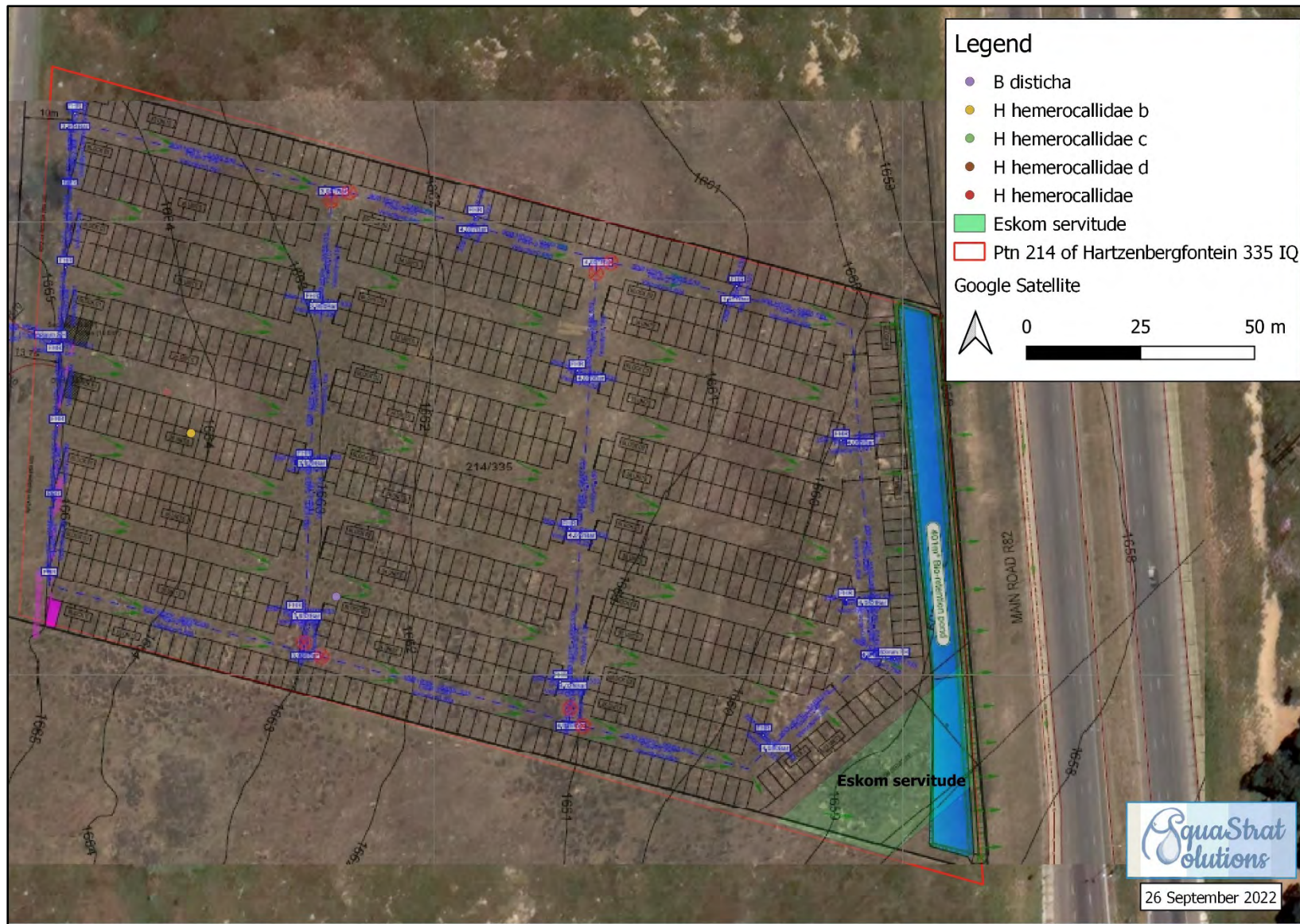


Figure 3: Master layout of the proposed Storage on 82 showing vegetation to be relocated to Eskom servitude.

STORAGE ON 82: DEVELOPMENT BACKGROUND

The proposed project will include the following:

- number of storage units:
 - 623 units of 5,750m X 3,000m = 10,746.7 m²
 - 159 units of 6,140m X 3,000m = 2928.7 m²
 - 51 units of 3.510m X 3,000m = 537 m²
 - Total 833 units Total 14,212.4 m²**
- Ablution facilities for visitors and staff
- Admin and security offices
- Parking and internal roads

Operation:

Upon completion of construction, units 1 and 2 (red polygons on Figure 2) will be allocated for an admin and security office respectively, each with a toilet facility. Operational staff is expected to be 3 – 4 people on site.

Construction:

The construction period is expected to take place over 5 or more years.

SERVICES BACKGROUND

Water

There is currently a 75mmØ AC water pipe running along 4th Avenue and a 110mmØ pipe needs to be installed to provide sufficient capacity to the site.. Water will be provided by Midvaal Municipality and a connection to the property will be provided by them from the existing pipeline in Fourth Avenue in the position shown on Figure 2 in blue.

Highest anticipated water demand (Special with the maximum of 50m² office/security space):

Total area = 50m² with say 3 staff members

At 2 kl/d per 500 m²

$50 / 500 \times 2 = 0,2 \text{ kl/d or } 0.002 \text{ l/s}$

Total demand = 0.002 l/s

Applying a peak of 6

Total peak flow = 0.0123l/s

The total peak fire flow =15.0123 l/s

Water use volume during Construction: approximately 29 000 litres per month

Sewer

No municipal piped system exists in proximity downstream of the site. Grey and black water will be discharged and stored in a conservancy tank.

Highest anticipated water demand (Special with the maximum of 50m² office/security space):

Total area = 50m² with say 3 staff members

At 1.6 kl/d per 500 m²

$50 / 500 \times 1.6 = 0,16 \text{ kl/d} = 160\text{l/d}$

Volume during Construction: approximately 4 000 litres per month, temporary toilet facilities that discharges into the conservancy tank. Removal will take place by a Council approved contractor and discharged into a Council approved facility.

Volume during Operation: 10 000 litres capacity

An internal reticulation on the site will be required with a 110mmØ sewer connected to a conservancy tank.

Assuming a 6000-litre underground JoJo tank be installed, the tank can be emptied at least every 30

days. An external contractor will be appointed to emptying of the tank.

Electricity

Eskom electricity is available from the local powerlines on Fourth Avenue and can be connected as soon as Eskom application is approved.

Roads

The site is completely serviced by a roads network and access to the site is currently provided from 4th Avenue which runs along the western boundary of the site. 4th Avenue as a 5,5m wide asphalt road with no kerbs and gravel shoulders. A 10m Road widening servitude will be given off along 4th Road. Access will be off 4th road with 10m radius bell mouths and a 13,75m off-set to the gate. A provincial road is located along the eastern boundary (R82).

Traffic

The Coto (Committee of Transport Officials) TMH17 SA Trip data manual Ver 1.01 Dated September 2013 was consulted as a guide for storage facility's trip generation. The closest reference is 151 Mini-Warehousing with a Saturday peak of 0.4 trips per 100m² GLA. This amounts to $14 \text{ 200m}^2/100 \times 0.4 = 57$ trips. The Saturday peak hour traffic is expected to be no more than 50 trips and therefore don't require a traffic impact study.

GEOTECHNICAL BACKGROUND

Based on the profile, the site can be subdivided into two distinct zones, namely Zone 1 which comprises a shale profile and Zone 2 which comprises a dolerite profile (Jones & Wagener, 2022).

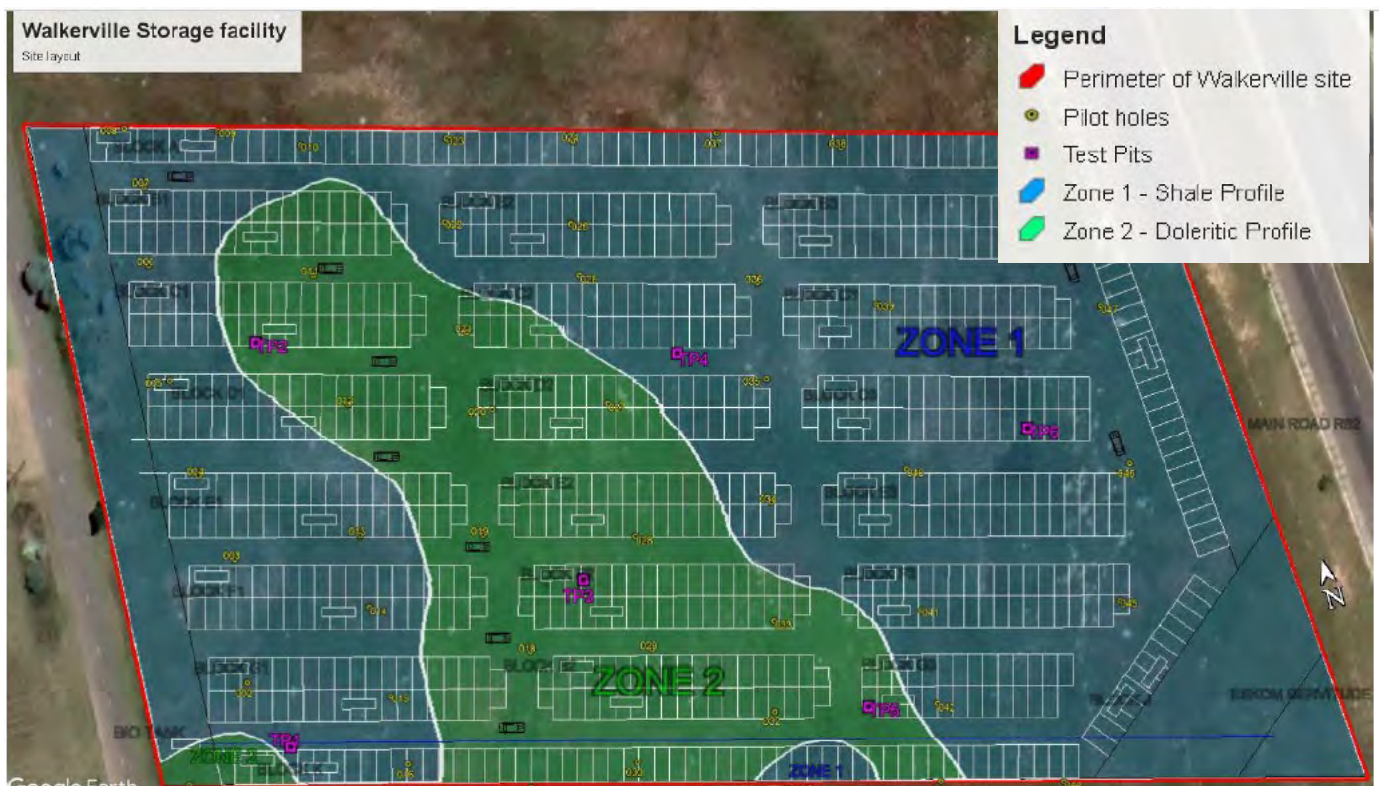


Figure 4. Geotechnical zones of the proposed Storage on 82 property (2022).

Zone 1 - Shale profile:

This zone comprises a blanketing layer of loose gravelly silty sand hillwash that extends to a depth of between 0.2m and 0.3m. This is underlain by residual shale that comprises loose to medium dense, clayey sandy gravel or closely packed cobbles and boulders consisting of shale rock in a silty sand matrix. The residual shale extends to a depth of between 0.6m and 1.1m. Soft rock or soft to medium hard rock shale is generally present across this zone from a depth of between 0.6m and 1.1m. Groundwater was not

encountered in any of the test pits excavated across this zone. However, the investigation was conducted during the dry season and a perched water table could develop above the rock during periods of high rainfall.

Soft excavation conditions can be expected across this zone in the hillwash, residual shale and soft to medium hard rock shale to a depth of between 0.9 and 2.0m. Intermediate to hard excavation conditions can be expected below these depths in the medium hard rock shale.

The soft to medium hard rock shale encountered across this zone is considered a competent founding medium and it is recommended that the structures be founded conventionally on the soft to medium hard rock shale with a bearing pressure of 500kPa being allowed.

Zone 2 - Dolerite profile:

This zone also comprises a blanketing layer of loose gravelly silty sand hillwash that extends to a depth of between 0.3m and 0.4m. The hillwash is underlain by firm sandy silt residual dolerite that extends to a depth of between 1.1m and at least 3.0m. The residual dolerite grades into very soft rock dolerite from a depth of between 1.1m and 1.7m. The exception being TP03 where no dolerite rock was encountered to a depth of at least 3.0m. In TP2 and TP05 the dolerite rock is underlain by soft rock shale that is present from a depth of between 2.6m and 2.8m. In TP02 a thin layer of residual dolerite (300mm thick) is present at the contact with the shale rock below and comprises stiff, gravelly sandy silty with zones of very soft rock dolerite. Groundwater was not encountered in any of the test pits excavated across this zone. However, the investigation was conducted during the dry season and a perched water table could develop above the rock during periods of high rain fall.

Across this zone, soft excavation conditions can be expected in the hillwash, residual dolerite, very soft rock dolerite and soft rock shale present to a depth of at least 3.0m. Intermediate to hard excavation conditions can be expected below these in more competent rock.

It is anticipated that the residual dolerite will be compressible and might undergo volume changes due changes in moisture content. It is therefore not recommended to found conventionally in the residual dolerite and a removal and replacement founding option is recommended.

The site slopes down towards the east and it is anticipated that some cut and fill might be required across the site. Based on the proposed structures, relatively light loads are expected, and it was indicated that the structures will be founded utilising strip foundations. With this in mind the following preliminary founding recommendation should be considered for foundations in Zone 2:

Limited remove and replace

- Remove material below the individual foundations to a depth and width of 1.5x foundation width below the proposed foundation level, or to the very soft rock dolerite present from a depth of 1.7m.
- Compact the base, if in soil, to approximately 90% Modified AASHTO.
- Replace with G7 quality material or better, compacted in 150mm layers to 93% Modified AASHTO density at -1% to +2% optimum moisture content to the required founding level.
- Normal construction with reinforced strip footings and reinforcement in the masonry if required.
- Bearing pressure not to exceed 150kPa.
- Site drainage and plumbing/service precautions.
- Floors
- Remove 300mm of the in-situ material.
- Compact the base, if in soil, to approximately 90% Mod AASHTO density.
- Replace with G7, or better, quality material compacted in 150mm layers to 95% Modified AASHTO density at -1% to +2% optimum moisture content (The hillwash and shale rock material could possibly be used as structural fill, but this will have to be confirmed based on the laboratory test results.)

General:

Based on the layout of the proposed structures and zonation across the site it appears that some of the structures will straddle both Zone 1 and Zone 2 conditions. This will result in portions of the structure being founded on rock and a portion founded on structural fill above the residual dolerite. Differential settlement is therefore expected and this needs to be taken into account during design of the foundations and the superstructure.

STORMWATER MANAGEMENT

There is no formal municipal piped system downstream of the site.

The only formal stormwater is supplied by the Gautrans road located east of the site in the form of a concrete V-channel next to the road, flowing in a southern direction and crossing the roads by means of a culvert towards the east. The new stormwater network was analysed with Civil Designer software using the SWMM calculation methods for the 1:5 year and 1:25 year storms.

It is proposed to incorporate Sustainable Urban Drainage Systems (SUDS) to the designs in order to:

1. Reduce the runoff of the development by means of attenuation.
2. Promote soil infiltration by means of permeable dam bottoms.
3. Reduce debris from entering the piped stormwater system by means of gratings.
4. Discharge clean stormwater by means of filtration.

Due to the lay-out, topology, space, cost, affordability, slope restrictions, geology and lack of a municipal stormwater system etc, the following SUDS controls were chosen:

Source Control: Bio-retention areas are landscaped depressions used to manage stormwater runoff through several natural processes such as filtration, adsorption, biological uptake and sedimentation.

The bio-retention pond will follow the total length of the eastern boundary of +123m. The bottom width will be +5,5 m wide. A 1m wide earth berm will be created to a maximum height of 0,5m. No deep excavations are possible to the shallow shale.

The pond volume of 401m³ will be supplied, as this volume for a 1:10 year storm can be detained without discharging any water from the site. For the pond surface area of 933m² and depth of 500mm the pond should be empty in +4hours after a 1:10 year storm recurrence interval.

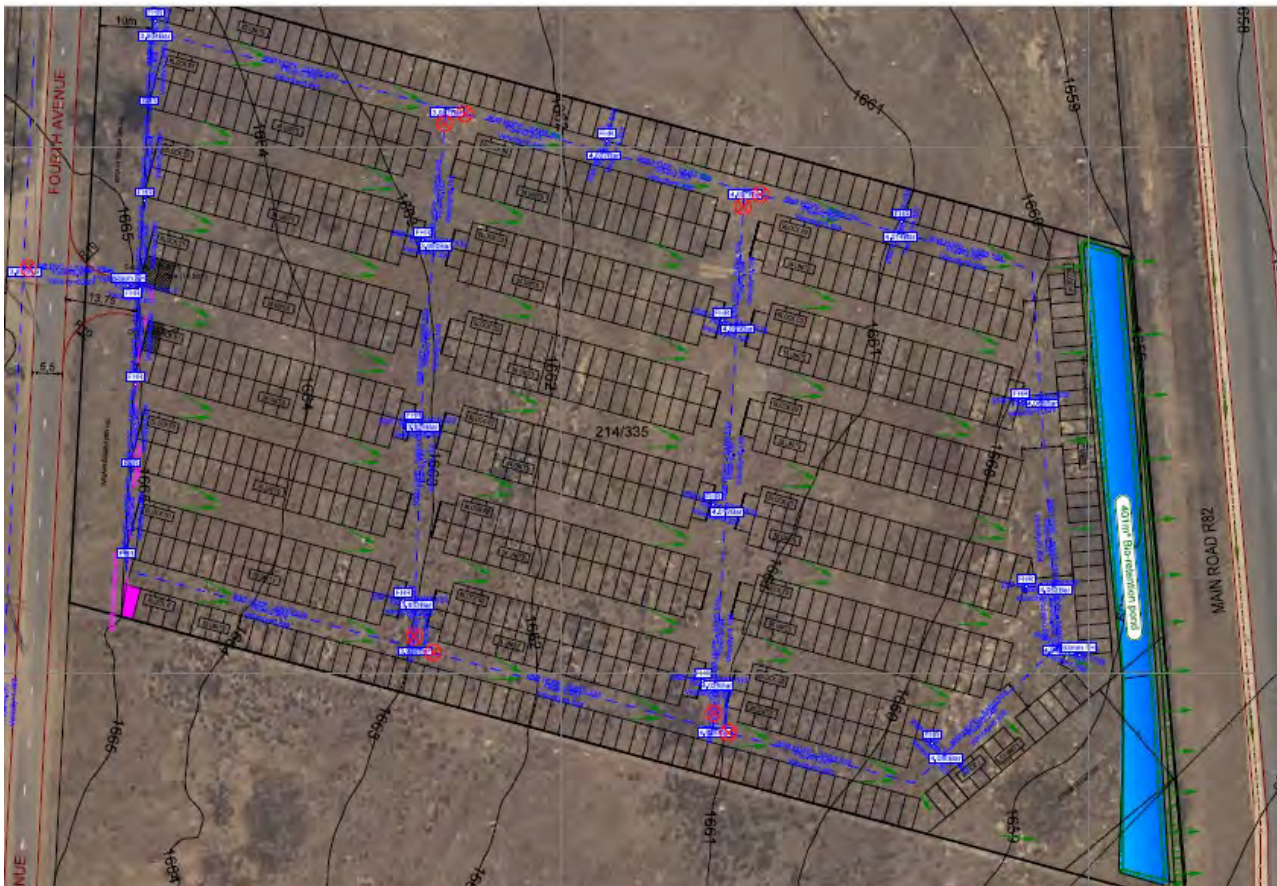


Figure 5. Stormwater management Plan (OSR, 2022)

Select the appropriate box

The application is for an upgrade of an existing development

The application is for a new development

Other, specify

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES NO

If yes, describe the legislation and the Competent Authority administering such legislation

- Heritage Resources Act (SAHRA), 1999 (Act No. 25 of 1999)
SAHRA

If yes, have you applied for the authorisation(s)?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
---	-----------------------------

If yes, have you received approval(s)? (attach in appropriate appendix)

<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
------------------------------	--

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Constitution of Southern Africa Act No. 108 of 1996	National	18 Dec 1996
National Environmental Management Act No. 107 of 1998 as amended.	National	27 Nov 1998
NEMA Environmental Impact Assessment (EIA) Regulations 2014, as amended in April 2017 (published in Government Notice No. R.326)	National	4 Dec 2014, amended 7 Apr 2018
Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998	National	20 Mar 2020
The National Water Act, 1998 (Act No. 36 of 1998)	National	26 Aug 1998
The National Water Act, 1998 (Act No. 36 of 1998) General Notice 509 - development within 500 meters of a wetland	National	26 Aug 2016
The National Water Act, 1998 (Act No. 36 of 1998) General Notice 276 – Regulations for Water Use Licence Applications and Appeals	National	24 Mar 2017
National Environmental Management Waste Act 59 of 2008	National	6 Mar 2009 amended 2 Jun 2014
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	National	19 Feb 2005, amended 19 May 2014
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	National	1 Nov 2004 as amended to date 25 Feb 2016
National Environmental Management: Biodiversity Act, (Act No. 10 of 2004)	National	7 Jun 2004
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), as amended	National	1 Jun 1984
Section 108 of the Town Planning and Townships Ordinance, 1986 (Ord. 15 of 1986).	National	18 Dec 1986
The South African Heritage Resources Act (SAHRA), 1999 (Act No. 25 of 1999) protects the cultural resources on a proposed development site.	National	14 Apr 1999
The Municipal Systems Act, 2000 (Act No. 32 of 2000) and the Integrated Development Plans (IDP)	National	20 Nov 2000

World Heritage Convention Act, 1999 (Act No. 49 of 1999);	National	9 Dec 1999
Protection of Personal Information Act, 2013	National	26 Nov 2013
Occupational Health and Safety Act (Act 85 of 1993)	National	2 July 1993
Gauteng Noise Control Regulations (GN 5479 of 1999)	Provincial	20 Aug 1999
Gauteng Planning and Development Act, 2003 (Act No. 3 of 2003) (GPDA)	Provincial	14 Oct 2003
Gauteng Pollution Buffer Zone Guidelines, 2017	Provincial	March 2017
Gauteng Provincial Government (2020) Best Management Practices for Sustainable Drainage Systems	Provincial	14 Feb 2020
Gauteng Spatial Development Framework 2030	Provincial	12 May 2016
Gauteng Provincial Environmental Management Framework, GPEMF, 2021.	Provincial	2021
The Gauteng Draft Red Data Policy	Provincial	2001
GDARD Conservation Plan, Version 3.3	Provincial	Oct 2014
GDARD Requirements for Biodiversity Assessments (Version 3, 2014)	Provincial	Mar 2014
Gauteng Ridges Guideline, v.2019	Provincial	Apr 2001
Gauteng Agricultural Hubs Policy	Provincial	2006
Midvaal Spatial Development Framework, 2022 - 2027	Local	May 2022
Midvaal Integrated Development Plan, 2022 - 2027	Local	2022
Midvaal Local Municipality Spatial Planning and Land Use Management By-law	Local	undated
Midvaal Local Municipality Land Use Scheme, 2017	Local	2017
Walkerville Development Framework and Precinct Plan, 2017	Local	May 2017
Draft Green Building Policy of Midvaal Local Municipality, 2018	Local	2018

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy or guideline	Description of compliance
Constitution of Southern Africa Act No. 108 of 1996	The proposed activities entail the provision of a storage facility, which is in line with the provisions of the Constitution of Southern Africa of human dignity, the achievement of equality and the advancement of human rights and freedoms.
National Environmental Management Act No. 107 of 1998 as amended (NEMA).	Environmental Authorization applied for in terms of NEMA – Government Notice R 983 of 2014 (as amended by GN 327 of 2017) (Listing Notice 1): 27. The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation Government Notice R 985 of 2014 (as amended by GN 324 of 2017 (Listing Notice 3): 12. The clearance of an area of 300 square metres or more of indigenous vegetation (in) iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans.

The National Water Act, 1998 (Act No. 36 of 1998) (NWA)	A Water Use License is not required in terms of Section 21 of NWA, as the proposed development is outside 500m of a wetland.
The National Water Act, 1998 (Act No. 36 of 1998) General Notice 509 - development within 500 meters of a wetland	Development within 500 m of a wetland requires authorization, therefore there are no requirements for this project in this regard.
The National Water Act, 1998 (Act No. 36 of 1998) General Notice 267 of 2017 – WULA Regulations.	Regulations to be followed for the Water Use License Application. No requirements for this project.
National Environmental Management: Biodiversity Act, (Act No. 10 of 2004	The identification of important ecological features on site included Fauna and Vegetation Assessments and specialist recommendations were incorporated in the preferred alternative layout. The site falls in the Gauteng Shale Mountain Bushveld, which is not a threatened ecosystem.
Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998	Procedures and criteria were implemented for the fauna and vegetation assessments. Species of conservation concern were identified and the recommended mitigation measures are incorporated in the layout and EMP.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	Erosion control and alien invasive plant control measures are included in the EMP for construction and operational phases.
The South African Heritage Resources Act (SAHRA), 1999 (Act No. 25 of 1999) protects the cultural resources on a proposed development site.	A Palaeontology Compliance Statement was done and no aspects were identified. A Chance Find Protocol is included in the EMP.
National Environmental Management: Protected Areas Act (Act No. 57 of 2003)	The proposed development site does not fall within any of the Protected Areas (SACAD, 2017), and the closest Protected Areas are the Klipsriviersberg Municipal Nature Reserve and Suikerbosrand Provincial Nature Reserve.
Occupational Health and Safety Act (Act 85 of 1993)	Facility will be constructed in a phased manner and the requirements of this Act will be instituted where necessary.
Gauteng Provincial Environmental Management Framework (GPEMF), 2021.	Identification of zones where activities are controlled or exempt from certain listed activities. The site falls in Zone 1, which is an “urban development zone” and is indicated to be conditionally compatible with developments or land uses including: domestic service industry, light industry / service industry. Storage units is an approved activity for Zone 1.

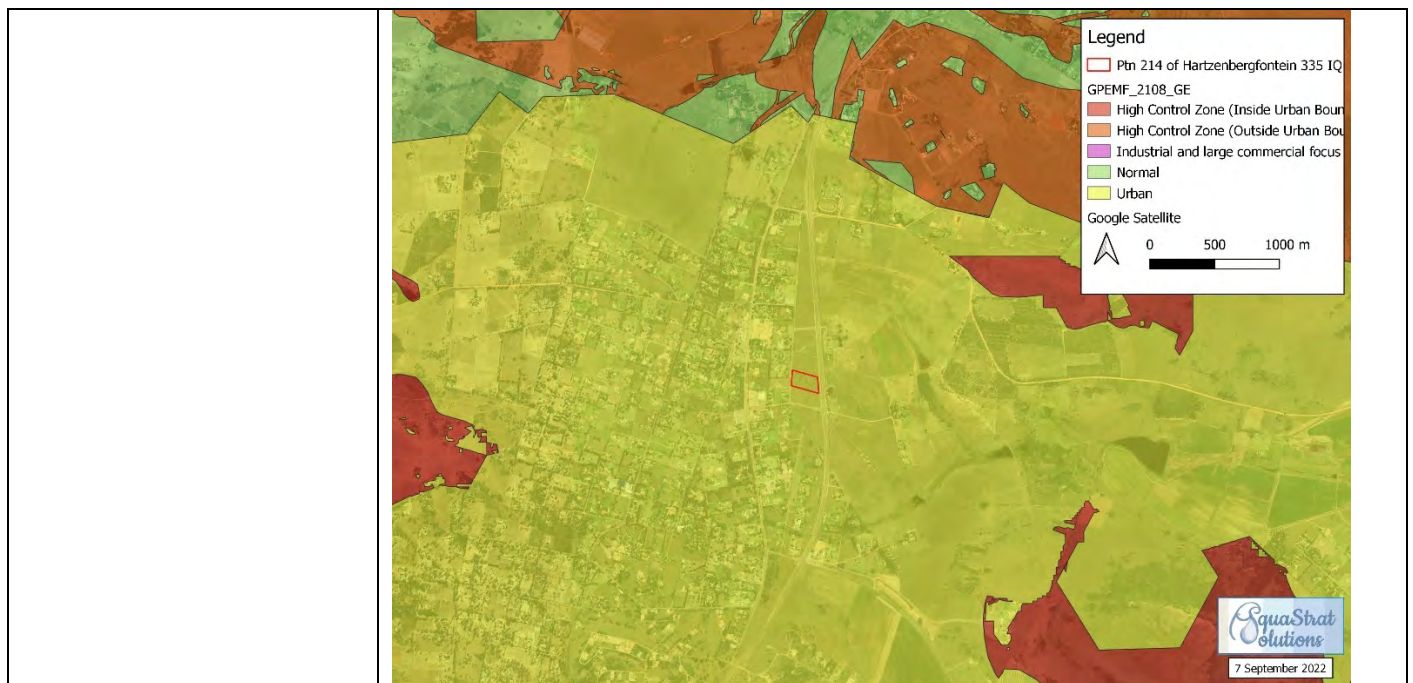


Figure 6. GPEMF showing the project site (red outline polygon).

Gauteng Agricultural Hubs Policy	Determination of the agricultural potential of the proposed site is not considered relevant, as the limited size and shallow soil renders it unsuitable for agricultural use.
Gauteng Pollution Buffer Zone Guidelines, 2017	No Pollution Buffers are applicable to the site.
The Gauteng Draft Red Data Policy	Identification of Red Data species was done by means of the fauna and vegetation specialist assessments. Vegetation sensitivities were identified and recommended mitigation measures are incorporated in the EMPr.
GDARD Conservation Plan, Version 3.3	Site falls in CBA: Important Area. Identification of biodiversity areas and determining the sensitivity thereof was done by means of the fauna and vegetation specialist studies. Vegetation sensitivities were identified and recommended mitigation measures are incorporated in the layout and EMPr. Refer to Figure 9 for the relevant map.
Gauteng Ridges Guidelines, 2019	Site does not fall on a ridge and the nearest Class 2 ridge to the northeast and Class 3 ridge to the southwest are several kms from the site.
GDARD Requirements for Biodiversity Assessments (Version 3, 2014)	Identification of biodiversity areas and determining the sensitivity thereof: applied in fauna and vegetation assessments.
Gauteng Provincial Government (2020) Best Management Practices for Sustainable Drainage Systems	SUDS principles were considered in stormwater management: attenuation on site and discharge into existing R82 stormwater channel is recommended. Various sustainable drainage systems have been investigated, from bio swales, permeable paving, wetland, retention and detention basins to suit the development plan. After consultation with engineers and experts in this field (see storm water management plan) it was recommended that an attenuation pond will be developed to manage storm water runoff for protection against flooding, erosion control, and to improve the water qualities of adjacent bodies of water. Although the concept of rainwater harvesting was discussed and debated, the decision was to not engage in such initiative, based on two reasons. The first is the cost of the operation to be significantly high, measured against the level of water consumption of the development (2 X toilets and 1 kitchen). Secondly, the risk of fire is relatively low that does not justify the retention of water for this purpose, in particular with the required pressure for such from the Midvaal Municipality

Midvaal Spatial Development Framework, 2022 - 2027

There has been a steady growth in building plan approvals, subdivision, and rezoning applications. The anticipated development along the R59 and the expansion of Savanna City might contribute to growth in the construction sector. The R82 is a secondary route between Vereeniging and Johannesburg via Walkerville and De Deur. It runs parallel to the R59, earmarked as development / industrial corridors; and the N1 and attracts mixed use development, to which future direct access onto the N1 corridor will further expand development opportunities.

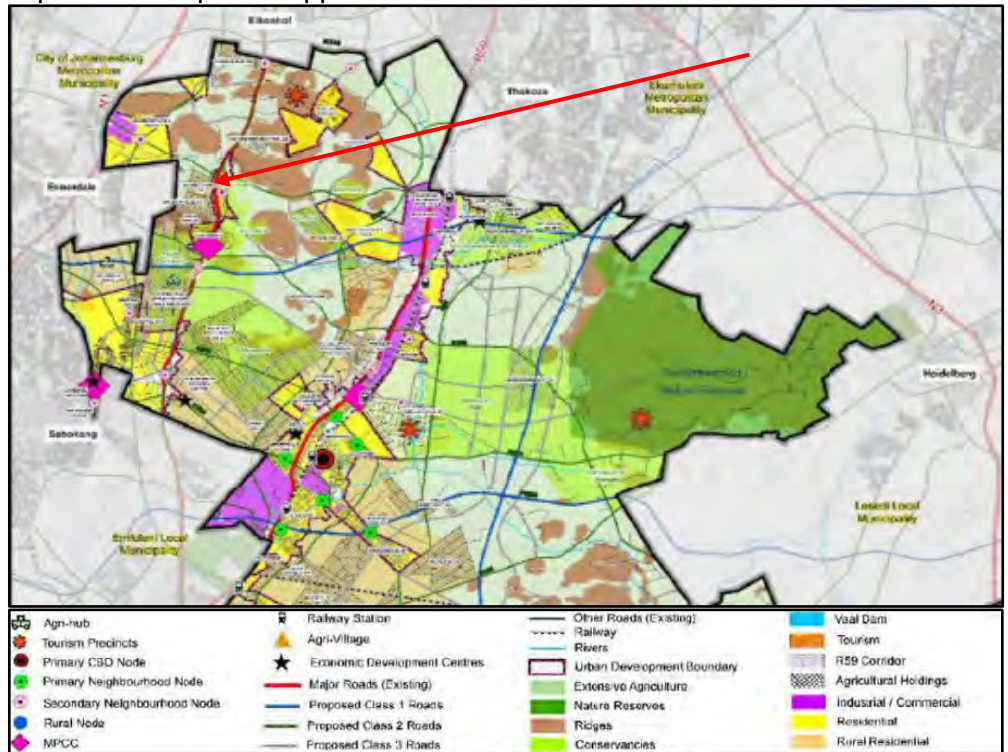


Figure 7. Midvaal showing the project site (located in Residential zone and Secondary Neighbourhood Node).

Midvaal Integrated Development Plan, 2022 - 2027

The R82 has been the main arterial route between De Deur, Vereeniging and Johannesburg. This road has given rise to residential developments such as De Deur Estates, Ohenimuri, Walkerville and Tedderfield. The future growth of the municipality is dependent on its ability to attract new investment in the industrial and commercial sector as this will create sustainable employment opportunities in the entire value chain

Midvaal Local Municipality Spatial Planning and Land Use Management By-law

This applies to all land and development applications situated within the Midvaal Local Municipality municipal area. Rezoning application is being undertaken to allow for Business activities.

Midvaal Local Municipality Land Use Scheme, 2017

The intention of the Urban Development Zone is to streamline urban development activities in it and to promote development infill, densification and concentration of urban development within the Urban Development Zones as defined in the Gauteng Spatial Development Framework, in order to establish a more effective and efficient city region that will minimise urban sprawl into rural areas. Certain currently listed activities (see GEMF) may be exempted from environmental assessment requirements at the discretion of the competent authority.

Urban Development Zone - Development conditions:

- o Development in this area shall be sustainable in respect to the capacity of the environment and specifically the hydrological system to absorb additional sewage and storm water loads as a result of increased densities.

o Storm water drainage shall be in accordance with the Water Research Commission Report, 2012 and the South African Guidelines for Sustainable Drainage Systems.
The project is deemed to be in line with these conditions, as the impact on environmental sensitivities is minimal and can be mitigated; and as stormwater is managed on site by means of attenuation and slow discharge.

Walkerville Development Framework and Precinct Plan, 2017

The site (black polygon on map below) falls in the area earmarked for Business and Commercial use according to the Precinct Plan.

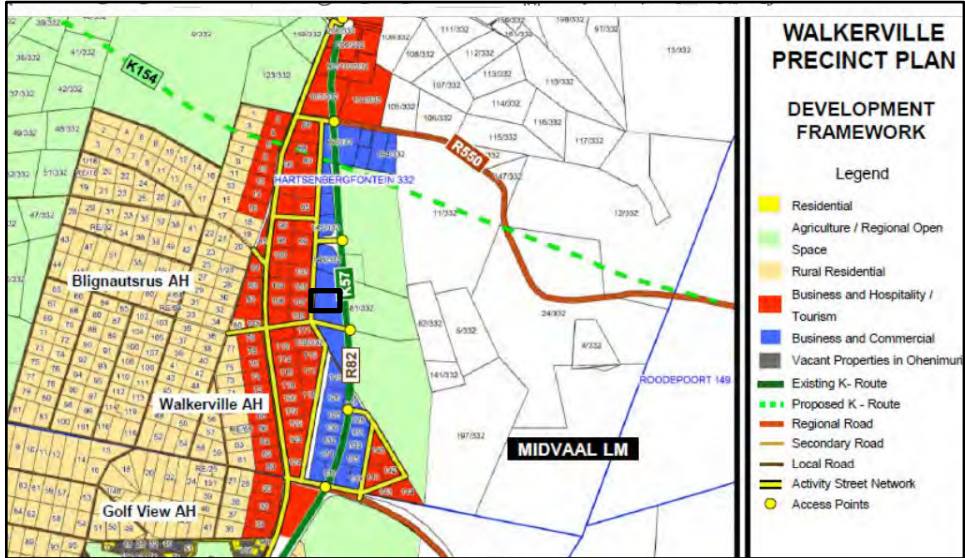


Figure 8. Walkerville Precinct Plan showing the project site (black polygon).

The key objectives of the Framework include preserving the rural character and maximising the economic potential. Another key objective is relevant to the site: “Strategically use the newly created land parcels along the western side of K57, whilst ensuring the rural residential and tourism character of the larger node is unaffected”.

The key directive of promoting limited densification (two-storey walk ups, semi-detached units), inclusionary housing, gap market housing, middle-higher income bonded housing identifies the need for ancillary facilities such as self-storage.

Draft Green Building Policy of Midvaal Local Municipality, 2018

The construction phase activities is in line with the Construction Phase Guidelines of the Policy, and are incorporated in the EMP.

Protection of Personal Information Act, 2013

The protection of personal information during the public participation process is implemented by obtaining permission from Interested & Affected Parties for obtaining, storing and distributing specified information for purposes of registering Issues and Concerns.

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

The following alternatives were considered for the Storage on 82 project:

The **site locality** alternatives include:

several land options were taken into consideration to develop the storage facility. Criteria used were the position of the land, access routes to the property, communities as customers, availability and size of land. It was evident that this land is in an ideal position (on the R82), has several access routes from the R82 and other roads, is close to communities as potential customers (Walkerville, Eye of Africa Golf Estate and Residential Estate, Kibler Park, Savanna City and others), available for this purpose (in line with the approved Development Plan of Midvaal Municipality (earmarked for such business development in Walkerville) and have a size of 2,4774 Hectares that could host an economically viable number of storage units. With the land complying with all the criteria listed, made the choice of land as compulsory, rather than an alternative choice.

Technology alternatives:

Three alternative construction technologies and two different roof materials were considered. The alternate construction technologies included:

- (a) face brick option (**preferred**)
- (b) the use of six-meter shipping containers,
- (c) a metal sheeting structure option that is currently available in the market

It was decided to use the face brick option (both internally and externally) as this is not only aesthetically more pleasing but also reduces the heat that would be generated inside and outside the units and provides a more environmentally friendly construction.

Two different roof materials were also considered, one using normal IBR sheeting (fastening with roof nails) and the other, a clip lock system (using clip locks). The clip-lock system also makes provision for fastening of solar panels to generate electricity for the development. The clip lock system was decided upon having better waterproofing qualities over time as no roof nails are used in the process of securing roof sheets and the possibility to accommodate a solar panel system. This, minimizes the risk of leaking roofs, in particular when the storage of customer's property is at stake. Lastly the inside of the roofs will have sheeting to decrease the heat on the inside of the storage units.

Layout alternatives

Two layout alternatives for the design of the development were considered namely:

- (a) portrait layout (see Figure 2 in this report)
- (b) landscape layout

Taken into consideration the number of units required to be financially viable for this development, the percentage road coverage (inside the development) and access for the fire brigade as risk management decision, the portrait format is the most conducive layout and will be followed.

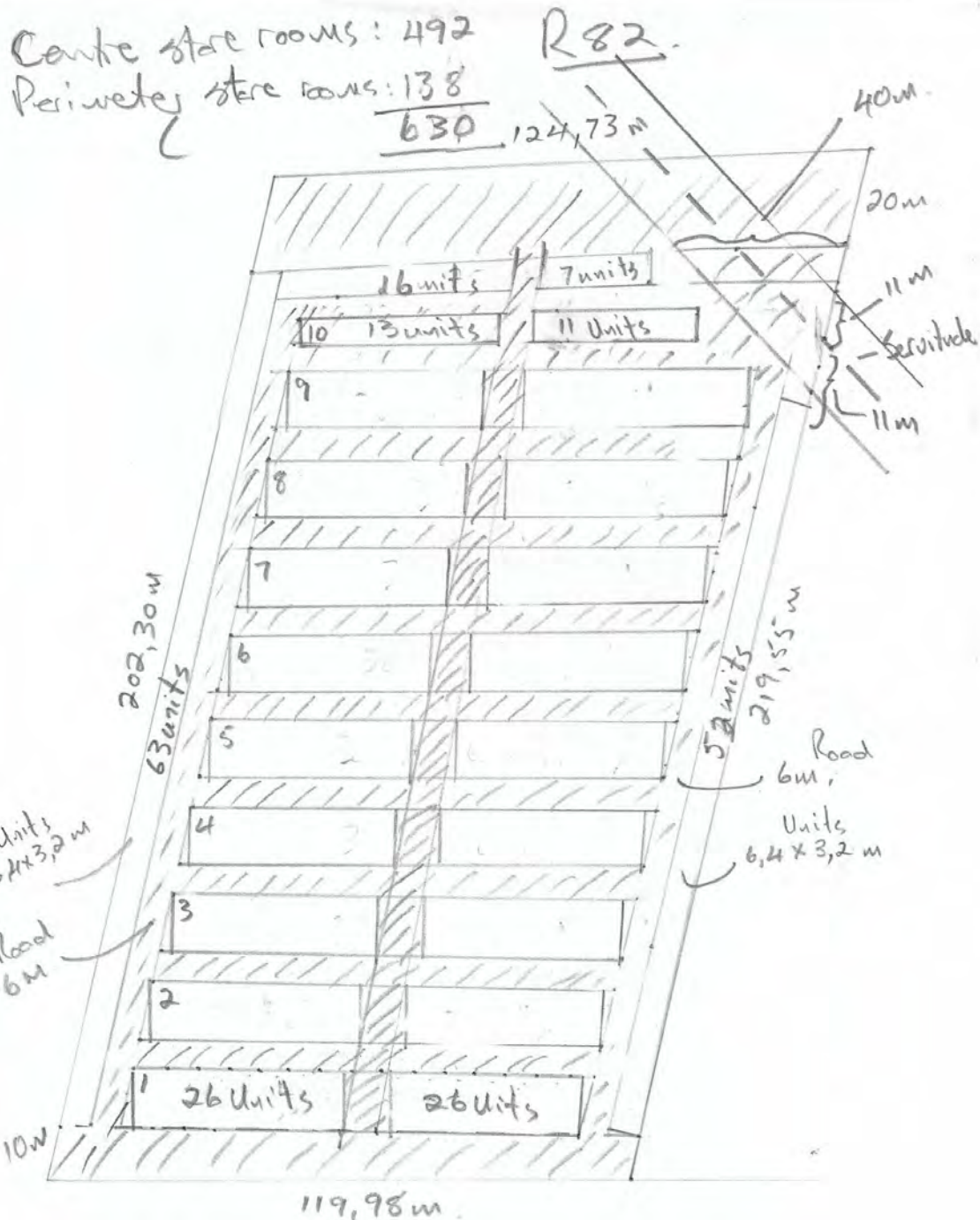


Figure 9. Layout Alternative B

No-go alternative

Should the property be left undeveloped and the areas earmarked for active ecological management and monitoring not be managed and monitored, the current status quo will most likely lead to:

- Continued uncontrolled fires
- Alien invasive vegetation spread
- No erosion control
- No litter control
- Unlawful occupation

Preferred option

The preferred option is to construct the proposed face-brick self-storage facility as shown on Layout A, to be known as Storage on 82. The preferred option includes management of the vegetation sensitivities as recommended in the Vegetation specialist report, by relocating the individual plants to the Eskom servitude.

SUMMARY OF THE ALTERNATIVES

ALTERNATIVE	ASSESSMENT
<p>Preferred Alternative 1: Layout A (portrait layout)</p>	<p>Advantages:</p> <ul style="list-style-type: none"> ○ Orange-listed plants will be relocated to the Eskom servitude on site ○ Alien invasive vegetation control ○ Monitoring for vegetation structure change ○ Erosion control ○ Litter control ○ Formal services provision contributes to municipal rates and taxes ○ No unlawful occupation of the property ○ Fewer internal roads ○ Firefighting requirements (access for fire brigade) are met <p>Disadvantages:</p> <ul style="list-style-type: none"> ○ Construction impacts on vegetation ○ Potential loss of individual plants during relocation on site ○ Enclosing the site will prevent potential movement of fauna.
<p>Alternative 2: Layout B (landscape layout)</p>	<p>Advantages:</p> <ul style="list-style-type: none"> ○ Orange-listed plants will be relocated to the Eskom servitude on site ○ Alien invasive vegetation control ○ Monitoring for vegetation structure change ○ Erosion control ○ Litter control ○ Formal services provision contributes to municipal rates and taxes ○ No unlawful occupation of the property <p>Disadvantages:</p> <ul style="list-style-type: none"> ○ Higher percentage internal road coverage ○ Firefighting requirements (access for fire brigade) cannot be met ○ Construction impacts on vegetation ○ Potential loss of individual plants during relocation on site ○ Enclosing the site will prevent potential movement of fauna.
<p>Preferred Alternative 1: Technology alternative A (face-brick)</p>	<p>Advantages:</p> <ul style="list-style-type: none"> ○ Energy requirements: Heat retaining properties for winter reduces energy to heat facilities including office. ○ Aesthetically pleasing and blends in with the visual character of the area <p>Disadvantages:</p> <ul style="list-style-type: none"> ○ Longer construction period
<p>Alternative 3: Technology alternative B (6m shipping containers)</p>	<p>Advantages:</p> <ul style="list-style-type: none"> ○ Shorter construction period <p>Disadvantages:</p> <ul style="list-style-type: none"> ○ High energy requirements: heat retaining properties are extensive and will require cooling systems for the admin and

	security offices during summer and warmer periods of Spring and Autumn.
Alternative 4: Technology alternative C (metal sheeting structure)	<p>Advantages:</p> <ul style="list-style-type: none"> Shorter construction period <p>Disadvantages:</p> <ul style="list-style-type: none"> High energy requirements: heat dissipation properties require heating in winter.
No-go option	<p>Advantages:</p> <ul style="list-style-type: none"> Uncontrolled open space function of site will prevail and continue No temporary construction impacts <p>Disadvantages:</p> <ul style="list-style-type: none"> Continued uncontrolled fires Alien invasive vegetation spread No erosion control No litter control Unlawful occupation

This study therefore **recommends that the preferred alternative be instituted**, as it is in line with the Midvaal Integrated Development Plan and the Walkerville Development Framework and Precinct Plan and provides a sustainable facility in an area earmarked for urban development.

Provide a description of the alternatives considered

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	Description
1	Proposal (Preferred Option) Alternative 1	Face-brick self-storage facility as shown on Layout A, to be known as Storage on 82
2	Alternative 2	Layout B
3	Alternative 3	6m Shipping containers (technology)
4	Alternative 4	Metal Sheeting structure (technology)

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

Alternative layout provided.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

Proposed activity (**Total environmental (landscaping, parking, etc.) and the building footprint**)

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Size of the activity:

2.35 ha

2.35 ha

2.35 ha

Ha/ m²

or, for linear activities: Not Applicable

Proposed activity

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Length of the activity:

Not Applicable

Not Applicable

Not Applicable

m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

Proposed activity

Size of the site/servitude:
N/A

Alternatives:

Alternative 1 (if any)

N/A

Alternative 2 (if any)

N/A

Ha/m²

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?

YES	NO
x	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Access from Fourth Avenue, via Fourth Street that intersects with R82.

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1

Does ready access to the site exist, or is access directly from an existing road?

YES	NO

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Same as above

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

Does ready access to the site exist, or is access directly from an existing road?

YES	NO

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated

0

Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
 - A4 size for activities with development footprint of 10sqm to 5 hectares;
 - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
 - A2 size for activities with development footprint of >20 hectares to 50 hectares);
 - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
 - A0 = 1: 500
 - A1 = 1: 1000
 - A2 = 1: 2000
 - A3 = 1: 4000
 - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
 - Rivers and wetlands;
 - the 1:100 and 1:50 year flood line;
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

7. SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route times

Instructions for completion of Section B for location/route alternatives

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives times (complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route (complete only when appropriate for above)

Section B – Location/route Alternative No. (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description:
(Including Physical Address and Farm name, portion etc.)

Portion 214 of Hartsenbergfontein 335 IQ

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:

Proposal, Alternative 1 and Alternative 2

Latitude (S):

-26. 416945°

Longitude (E):

27. 961662°

In the case of linear activities: Not applicable

Alternative:

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Longitude (E):

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached

The 21 digit Surveyor General code of each cadastral land parcel

PROPOSAL T 0 I Q 0 0 0 0 0 0 0 0 3 3 5 0 0 2 1 4

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat (1:60)	1:50 – 1:20 X	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain X	Undulating plain/low hills	River front
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5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)

YES	NO X
YES	NO x
YES	NO x
YES	NO x
YES	NO X
YES	NO x
YES	NO X
YES	NO X

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

Unstable rocky slopes or steep slopes with loose soil

Dispersive soils (soils that dissolve in water)

Soils with high clay content (clay fraction more than 40%)

Any other unstable soil or geological feature

An area sensitive to erosion

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)

YES	NO X
-----	---------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):

Longitude (E):

--	--

c) are any caves located within a 300m radius of the site(s)

YES	NO X
-----	---------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):

Longitude (E):

°	°
---	---

d) are any sinkholes located within a 300m radius of the site(s)

YES	NO X
-----	---------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):

Longitude (E):

°	°
---	---

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?

YES	NO X
-----	---------

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUND COVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % =	Natural veld with scattered aliens % = 80	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % = 20

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site

YES X	NO
------------------	----

If YES, specify and explain:

A few individuals of Orange-listed plants were found on site to be relocated to the Eskom servitude on site:
Hypoxis hemerocallidea and *Boophone disticha*

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.

YES X	NO
------------------	----

If YES, specify and explain:

The Orange-listed individuals found on site extends beyond the boundaries of the site

Are there any special or sensitive habitats or other natural features present on the site?

YES X	NO
------------------	----

If YES, specify and explain:

Situated in CBA: Important area

Specialist declaration: Storage on 82

Was a specialist consulted to assist with completing this section

YES x	NO
------------------	----

If yes complete specialist details

Name of the specialist:	Marion Bamford		
Qualification(s) of the specialist:	PhD Palaeontology (Wits, 1990)		
Postal address:	P O Box 652, WITS		
Postal code:	2050		
Telephone:	011 717 6690	Cell:	082 555 6937
E-mail:	Marion.bamford@wits.ac.za	Fax:	-

Are any further specialist studies recommended by the specialist?

YES	NO X
-----	-----------------

If YES, specify:

If YES, is such a report(s) attached?

YES	NO
-----	----

If YES list the specialist reports attached below

Date: 30 July 2022



Signature of specialist: _____

Was a specialist consulted to assist with completing this section

YES	NO
x	

If yes complete specialist details

Name of the specialist:

AN HAFARI PHAMPHE

Qualification(s) of the specialist:

M.Sc Botany

Postal address:

55th STREET LINDEN

Postal code:

2195

Telephone:

Cell:

082 783 6724

E-mail:

MBOWENI.PHAMPHE@GMAIL.COM

Fax:

Are any further specialist studies recommended by the specialist?

YES	NO
	X

If YES, specify:

If YES, is such a report(s) attached?

YES	NO

If YES list the specialist reports attached below

Signature of specialist:



Date:

27/07/2022

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial ^{AN}	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport ^N	23. Train station or shunting yard ^N	24. Railway line ^N	25. Major road (4 lanes or more) ^N
26. Sewage treatment plant ^A	27. Landfill or waste treatment site ^A	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam ^A	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

WEST

13	34	34	25	12
34	34	34	25	7
34	34		25	7
12	34	34	25	7
12	34	34	25	7

EAST

= Site

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached

YES	NO
x	

If yes indicate the type of reports below

Vegetation and Fauna Assessments: Terrestrial Ecological Report
Paleontology Assessment

The findings of the specialist studies are summarized below:

Vegetation Assessment

The site is indicated to be within a Gauteng Conservation plan (C-plan V.3.3) Critical Biodiversity Area (CBA), however is on the outer border of this with Walkerville town to the west of the site and the K57/R82 east of the site, as shown in Figure 9.

The conservation potential of the sliver of land cut off by the R82 is considered low, due to the fragmentation and separation from the rest of the CBA to the east, as well as the edge effect of Walkerville to the west.

Mucina and Rutherford (2006) classified the project site as falling within the Gauteng Shale Mountain Bushveld vegetation type, and although indicated as being Poorly Protected (Skowno *et al.*, 2019), the site does not fall in a threatened ecosystem. The proposed development will result in the removal of indigenous vegetation within a CBA of the Gauteng Province that is considered Important to reach the conservation targets in the province. The Orange listed species on site will be relocated to the Eskom servitude on site.

The Orange-listed species (species listing confirmed by GDARD in September 2022) include:

- *Hypoxis hemerocallidea*
- *Boophone disticha*.

The proposed mitigation for the 5 individual plants is relocation into the Eskom servitude on site.

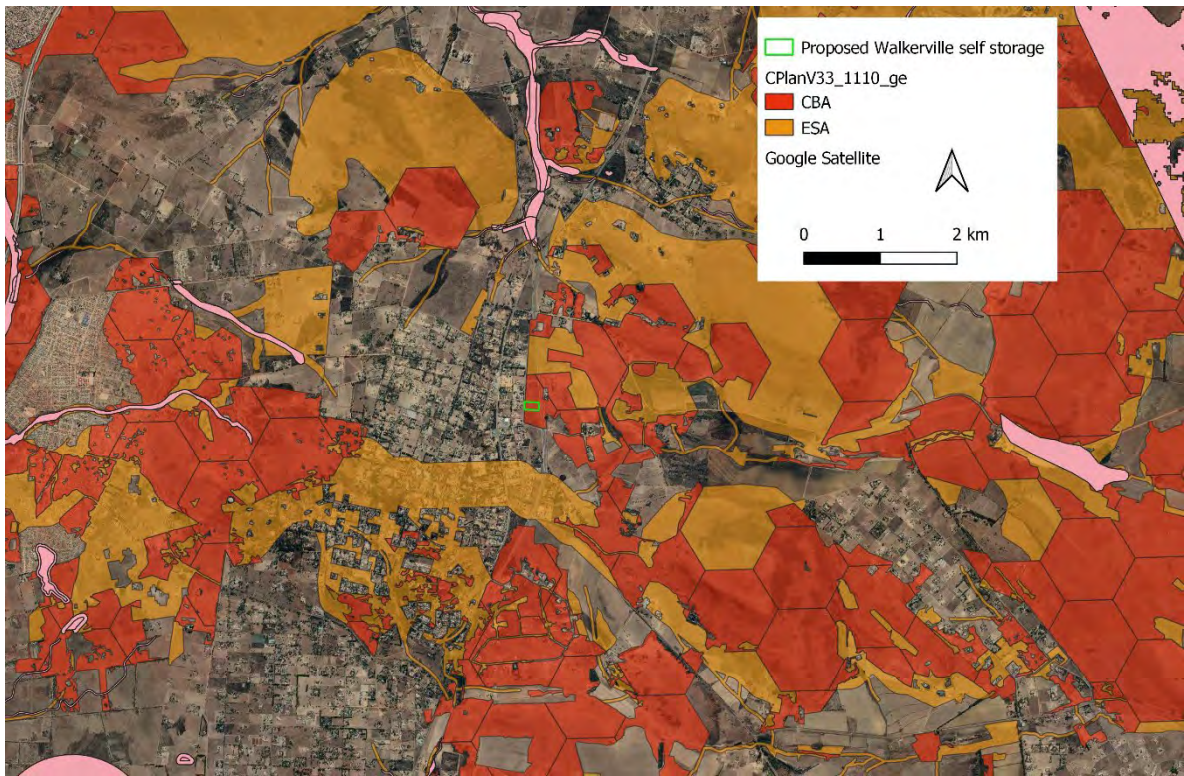


Figure 10. The development site in relation to the GDARD C-plan (V.3).



Figure 11. Localities of Orange-listed vegetation species on site.

Fauna Assessment

The project site is situated near human habitation, however, the grassland habitat on site is not degraded.

No fauna Species of Conservation Concern were recorded on site. The fragmented area has lost the ecological ability to sustain any medium to large faunal assemblage or community. The human presence and associated disturbances usually have a detrimental

impact on fauna species (especially mammals and snakes) in the area (Ecological Report, 2022).

Paleontology Assessment

The proposed site lies on the Timeball Hill Formation (Pretoria Group, Transvaal Supergroup) that could preserve trace fossils such as stromatolites or microbial features. No fossils have been reported from here. Nonetheless, a Fossil Chance Find Protocol should be added to the EMP. Based on this information it is recommended that no further palaeontological impact assessment is required unless fossils are found by the contractor, environmental officer or other designated responsible person once excavations or drilling activities have commenced. Since the impact will be low, as far as the palaeontology is concerned, the project should be authorised.



Figure 12. Geology of the area including the study area indicated with yellow polygon.

The figure above shows that the study site falls in Vt, Timeball Hill FM, Transvaal SG, in an area with Shale, siltstone, conglomerate in places.

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site falls in the Gauteng Provincial Environmental Management Framework (GPEMF) Zone 1, which is an “urban development zone”. The intention with Zone 1 is to streamline urban development activities in it and to promote development infill, densification and concentration of urban development within the urban development zones as defined in the Gauteng Spatial Development Framework (GSDF), in order to establish a more effective and efficient city region that will minimize urban sprawl into rural areas. Storage units is an accepted activity for Zone 1.

The site is located adjacent to the Vereeniging Road (R82/K57), midway between Johannesburg and Vereeniging and falls in the Midvaal Ward 5 that has a population of 6313 (Census 2011), of which 51% Black African and 45% White, and 55% is male. The number of households in Ward 5 is 2204 of which 7.4% is informal and 36.8% of the households are fully owned. Approximately 60% of households in this ward are getting water from a regional or local service provider; approximately 80% have access to flush or chemical toilets and approximately 70% of households are getting refuse disposal from a local authority or private company (Census 2011). Approximately 60% of the ward population is employed and 64% of these are in the formal sector.

Extensive public participation was conducted for the Midvaal SDF, and the SDF indicates that the anticipated development along the R59 and the expansion of Savanna City may contribute to growth in the construction sector. The R82 is a secondary route between Vereeniging and Johannesburg via Walkerville and De Deur. It runs parallel to the R59, earmarked as development / industrial corridors.

Walkerville is situated midway between Johannesburg and Vereeniging which is connected via the R82 that is situated directly to the east of the site. The Walkerville Precinct Plan designates the area where the site is located for Residential and Hospitality use and the East Precinct allows nurseries, small home-based businesses, home industries and general agricultural activities. Uses excluded are activities that will create a nuisance, excessive traffic or in excess of 5 tons, or that creates pollution or noise. The properties adjacent to the K57 road is identified to have a particular character and related development potential, based on their relationship with the road network. The proposed activity is deemed to be in line with these requirements.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000 m2 in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES	NO
	X

If YES, explain:

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

No aspects of possible heritage value are found on site.
See Paleontology Assessment: no fossils expected

Will any building or structure older than 60 years be affected in any way?

YES	NO x
YES	NO x

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please attached the comments from SAHRA in the appropriate Appendix

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

1. The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?

YES x	NO
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If yes, has any comments been received from the local authority?

YES	NO x
-----	---------

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

Responses will be included in the Final BAR

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES	NO x
-----	---------

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

To be included in the FBAR Issues & Concerns Register in PP Report, Appendix E.

If "NO" briefly explain why no comments have been received

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Refer to Annexure E1

Appendix 2 – Written notices issued as required in terms of the regulations

Refer to Annexure E2

Appendix 3 – Proof of newspaper advertisements

Refer to Annexure E3

Appendix 4 – Communications to and from interested and affected parties

Refer to Annexure E4

Appendix 5 – Minutes of any public and/or stakeholder meetings

No public meeting was required.

Appendix 6 - Comments and Responses Report

Refer to Annexure E6

Appendix 7 – Comments from I&APs on Basic Assessment (BA) Report

Refer to Annexure E6

Appendix 8 – Comments from I&APs on amendments to the BA Report

N/A

Appendix 9 – Copy of the register of I&APs

Refer to Annexure E9

Appendix 10 – Comments from I&APs on the application

Refer to Annexure E6

Appendix 11 – Other

Not Applicable – No Other Information

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives
(complete only when appropriate)

times

Section D Alternative No.

Proposal

(complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO
x	

If yes, what estimated quantity will be produced per month?

22 m³

How will the construction solid waste be disposed of (describe)?

Approximately 1m³ building rubble (pieces of bricks and cement) and 45 m³ soil, rocks, etc. from excavation of foundations per block will be generated over a building period of 3 months. For the building of 22 blocks approximately 22 m³ of building rubble and 990 m³ soil, rocks, etc. will be generated over a period of five (or more) years. All building rubble and soil, rocks, etc. from excavation will be used as backfill beneath floor slabs and mainly under brick paving. Volume of cement bags that will be generated is estimated at 44m³ for 22 blocks to be disposed over five (or more) years of construction and will be disposed of at the local waste disposal facility.

Domestic waste such as food and others will be approximately two bags per week, collected weekly by the Midvaal Municipality collection service (included in the monthly rates account). If the volumes of domestic waste become larger than what could be managed by the municipality, the developers will weekly dispose these at the local rubbish dump.

Where will the construction solid waste be disposed of (describe)?

Building rubble: used as backfill under floor slabs and brick paving; cement bags and other construction waste (minimal) to be disposed of at local landfill site.
Domestic waste: Midvaal Municipality and local landfill site (if required).

Will the activity produce solid waste during its operational phase?

YES	NO
X	
1m3	

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

Waste from administrative and security offices will be disposed of in the municipal bins.

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

YES	NO
	X

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

The litter loads are not excessive and will be included in current waste disposal in municipal bins.

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	NO
	x

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
	x

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

Building rubble will be used as backfill under floor slabs and brick paving

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
	x

If yes, what estimated quantity will be produced per month?

m³

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?

Yes	NO
	x

If yes, what estimated quantity will be produced per month?

1m³

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO

	x
--	----------

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Water use is expected to be minimal during operation.

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

YES	NO x
-----	----------------

If yes, what estimated quantity will be produced per month?

--	--

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?

YES	No
-----	----

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES x	NO
------------------------	----

If yes describe how it will be treated and disposed off.

Grey water and toilet waste will be stored in a conservancy tank that will be emptied regularly by registered companies that are operating in the municipal district.

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO x
-----	-----------------------

If yes, is it controlled by any legislation of any sphere of government?

YES	NO
-----	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

--

2. WATER USE

Indicate the source(s) of water that will be used for the activity

Municipal x	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water
------------------------------	---------------------------	-------------	----------------------------	-------	---------------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: **Not applicable**

	liters
--	--------

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?

YES	NO x
-----	-----------------------

If yes, list the permits required

--

If yes, have you applied for the water use permit(s)?

YES	NO
-----	----

If yes, have you received approval(s)? (attached in appropriate appendix)

YES	NO
-----	----

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

Eskom will supply electricity

If power supply is not available, where will power be sourced from?

--

4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The main activity is a self-storage facility, and the main electricity use is for the administrative and security office and outdoor lighting, as well as occasional use of indoor lighting. The clip lock roof system included in Alternative 1 as the preferred technology alternative, makes provision for solar panels to be placed on the roof.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

A solar energy backup system will be utilised to provide electricity for security lighting and fencing as well as kitchen use. The backup system will progressively be replaced by a full-supply solar system that will replace the use of electricity from Eskom. It is also envisaged that this development could eventually provide electricity to the Eskom grid once completed.

Section E: impact assessment

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i)).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarize the issues raised by interested and affected parties.

Comments from and responses to GDARD comments will be included in the PP Report (Appendix E) of the Final BAR.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)

(A full response must be provided in the Comments and Response Report that must be attached to this report):

Comments from and responses to GDARD comments will be included in the PP Report (Appendix E) of the Final BAR.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

Impact Assessment Methodology

Impact assessment processes were developed in order to:

- (a) identify potential impacts of a proposed development/activity on the environment
- (b) predict the likely nature of these impacts and
- (c) evaluate the significance of the potential impacts.

Negative impacts are identified, described, rated in terms of the spatial scale, duration, severity and probability to determine the magnitude of the significance of the specific individual impacts.

In many proposed projects, there may be **positive impacts**, which are actions and activities with a positive contribution to overall ecological and/or habitat functioning and health, above and beyond the mitigation measures for the negative impacts of the project. These positive impacts are only considered to be relevant if the criteria below can be met:

- Positive impact must align with conservation goals for the vegetation type and local, provincial and national development frameworks and plans.
- Positive impact is considered a long-term impact and not simply related to the construction phase mitigation measures.
- Management actions to achieve positive impact are prescribed and regulated by means of an EMPr and Environmental Authorisation to ensure ongoing implementation, monitoring, auditing and adaptive management

Rating of positive impacts are done by means of the same rating system used for negative impacts as described below and an **Adjusted Significance** rating is calculated for the relevant impacts.

Significance is a fundamental concept in the impact assessment steps above and ultimately, in decision-making within the specific socio-economic and environmental contexts. Significance consists broadly of three forms, namely Institutional recognition (including legislation, policies, guidelines), Public recognition (ex. voluntary conservation action) and Technical recognition (scientific and technical assessments of critical resource characteristics).

Significance can be determined in terms of a three-stage process involving scaling, weighting and aggregation (DEAT, 2002).

Scaling is the standardization of empirical data onto a common scale to allow comparisons between different types of impacts.

Weighting is the imposition of professional and/or societal values on a range of potential environmental impacts.

Aggregation is the combination of different types of impact values to produce composite scores, which facilitates a comparison of project alternatives.

Predictions on the nature of the impacts are based on simplified conceptual models of how natural processes function. Criteria that can be used to describe the nature of an impact include (DEAT, 2002; GN 326 of 2017; Chetty, 2015):

- spatial extent;
- resource sensitivity
- duration and timing of the impact;
- intensity or severity of the impact;
- status of the impact (i.e. either positive (a benefit) or negative (a cost) or neutral);
- reversibility (i.e. reversible or permanent);
- probability of occurrence
- degree of certainty; and
- mitigatory potential.

Rating

Although there are numerous approaches internationally to impact determination, the current general practice of determining significance is to derive it from a combination of scientific methods and values ascribed by the EIA team. The criteria from the list in 12.1 were incorporated in the four main aspects of significance determination, including spatial scale, duration, severity and probability. Rating of each criterion is based on a sliding scale with high impacts rated as 5, medium-high as 4, medium as 3, low-medium as 2 and low as 1. Each significance score is therefore assessed in relation to the highest potential score of 10 as indicated in Table 6 below.

Degree of certainty is indicated for each impact assessed, however is not included in the significance rating calculation, and is rather meant as a reference to the data source used to identify the impact. Degree of certainty is based on the following criteria:

Table 1: Criteria for rating the degree of certainty of the impact rating

Degree of certainty	
Scientific data: specialist assessment specified impact rating	High
Inferred from specialist assessment	Medium
Generally associated impact	Low

The criteria for rating the nature of impacts (DEAT, 2002) are illustrated below:

Table 2: Criteria for rating the extent or spatial scale of impacts

Spatial scale Rating		Numerical rating
High	Widespread; Far beyond site boundary Regional/national/international scale	5
Medium-High	Within local catchment	4
Medium	Beyond site boundary Local area	3
Low-Medium	Within site boundary	2
Low	Within site footprint	1

Table 3: Criteria for rating the duration of impacts

Duration Rating		Numerical rating
High (Long term)	Permanent. Beyond decommissioning. Long term (More than 15 years).	5
Medium-High	Not easily reversible over time. Lifespan of the project and several years beyond. Medium term (5 – 15 years).	4
Medium (Medium term)	Reversible over time. Lifespan of the project and a short time beyond. Medium term (3 – 5 years).	3
Low-Medium	Relatively quickly reversible. Lifespan of the project. Medium short term (1 – 2 years).	2
Low (Short term)	Quickly reversible. Less than the project lifespan. Short term (0 – 1 years).	1

Table 4: Criteria for rating intensity or severity of impacts

Severity Rating		Numerical rating
High	Disturbance of pristine areas that have important conservation value; or Destruction of rare or endangered species.	5
Medium-High	Disturbance of areas that have confirmed conservation value or are of use as resource; or Complete change in large-scale species occurrence or variety.	4
Medium	Disturbance of areas that have potential conservation value or are of use as resource; or Complete change in species occurrence or variety on site.	3
Low-Medium	Disturbance of partially degraded areas, which have little conservation value; or Small change in species occurrence or variety.	2
Low	Disturbance of highly degraded areas, which have little conservation value; or Negligible change in species occurrence or variety.	1

Table 5: Criteria for rating probability of impacts occurring

Probability Rating		Numerical rating
High	Very likely to occur	5
Medium-High	Likely to occur regularly	4
Medium	Likely to occur occasionally	3
Low-Medium	Small likelihood	2
Low	Not likely	1

Table 6: Summary of impact magnitude and significance

Impact Magnitude and Significance Rating		Rating range	
		NEG	POS
High	Of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or some combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt. In the case of beneficial impacts, the impact contributes significantly to conservation goals and will bring about long-term positive change.	9 - 10	9 - 10
Medium-High	Impact is unavoidable and relatively substantial. Mitigation requires higher level of input than EMP, i.e., specialist input such as an Ecological Management Plan. Social, cultural and economic activities of communities continue in the changed form. In the case of beneficial impacts, the impact contributes to conservation goals and will bring about long-term positive change.	7 - 8	7 - 8
Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and fairly easily possible. Social, cultural and economic activities of communities are changed, but can be continued (albeit in a different form). Modification of the project design or alternative action may be required. In the case of beneficial impacts, the impact may contribute to conservation goals and will bring about some positive change.	5 - 6	5 - 6
Low-Medium	Impact is of a low order but may have a small effect. Mitigation is relatively easily achieved by implementing EMP measures. Small changes to social, cultural and economic activities of communities. In the case of beneficial impacts, the impact will bring about a positive change in the medium term.	3 - 4	3 - 4
Low	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural and economic activities of communities can continue unchanged. In the case of beneficial impacts, alternative means of achieving this benefit are likely to be easier, cheaper, more effective and less time-consuming. In the case of beneficial impacts, the impact will bring about a small positive change in the short term.	1 - 2	1 - 2
No impact	Zero impact.	0	

Mitigation

Mitigation is defined in the EIA Regulations (GN 326 of 2017) as “to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible”. Mitigation measures are included in each specialist assessment and these are included in the impact assessment to show an impact score before and after

mitigation. The Environmental Management Plan includes all expected impacts from the proposed activities above, as well as mitigation, monitoring and auditing requirements.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Preferred Alternative Score Summary:

The preferred alternative has the lowest construction and operational phase scores after mitigation in comparison to all other alternatives. All site sensitivities were considered and can be mitigated.

The various impacts of the preferred alternative are rated below in terms of the construction and operational phases. The impacts of the other alternatives are similar to the Preferred Alternative with the exception of the blue blocks in each table below.

Table 7: Summary of impact scores of Preferred Alternative

Category	Impact Score before Mitigation	Impact Score after Mitigation
Construction Phase		
Terrestrial Ecosystem	5: Medium	2: Low
Aquatic Ecosystem	3: Low-medium	1: Low
Water Resources	4: Low-medium	2: Low
Heritage Resources	3: Low-medium	1: Low
Social Aspects	4: Low-medium	2: Low
Air Quality	4: Low-medium	2: Low
Waste Management	4: Low-medium	2: Low
Noise	4: Low-medium	2: Low
Traffic	4: Low-medium	2: Low
Total Construction Impact Score	4: Low-medium	2: Low
Operational Phase		
Terrestrial Ecosystem	4: Low-medium	2: Low
Waste Management	5: Medium	2: Low
Noise	4: Low-medium	2: Low
Traffic	4: Low-medium	2: Low
Total Operation Impact Score	4: Low-medium	2: Low

Alternative 2: Layout B

The landscape layout is not considered the ideal layout for minimizing internal road surfaces and adhering to firefighting regulations. The additional impact of not being able to provide the required access for firefighting vehicles is noted under “social aspects”.

Table 8: Summary of impact scores of Alternative 2

Category	Impact Score before Mitigation	Impact Score after Mitigation
Construction Phase		
Terrestrial Ecosystem	5: Medium	2: Low
Aquatic Ecosystem	3: Low-medium	1: Low
Water Resources	4: Low-medium	2: Low
Heritage Resources	3: Low-medium	1: Low
Social Aspects	4: Low-medium	3: Low-medium
Air Quality	4: Low-medium	2: Low
Waste Management	4: Low-medium	2: Low
Noise	4: Low-medium	2: Low
Traffic	4: Low-medium	2: Low
Total Construction Impact Score	4: Low-medium	2: Low
Operational Phase		
Terrestrial Ecosystem	4: Low-medium	2: Low
Waste Management	5: Medium	2: Low
Noise	4: Low-medium	2: Low
Traffic	4: Low-medium	2: Low
Total Operation Impact Score	4: Low-medium	2: Low

No-go - Status quo continues.

The current state of the site includes the following impacts:

- removal of Orange-listed plants
- uncontrolled fires
- littering
- risk of informal settlement

These impacts will remain unmanaged if the status quo continues and poses a risk to the landowner, residents and business owners of the area, and the municipality.

Table 9: Summary of impact scores of the No-go Alternative

Category	Impact Score
Terrestrial Ecosystem	5: Medium
Aquatic Ecosystem	2: Low
Water Resources	2: Low
Heritage Resources	3: Medium-low
Social Aspects	5: Medium
Waste Management	5: Medium
Noise	2: Low
Traffic	2: Low
Total Operation Impact Score	3: Medium-low

2.1 IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE FOR THE PREFERRED ALTERNATIVE:

NEG/POS	Potential impacts	Spatial scale	Duration	Severity	Probability	Degree of certainty	Significance before mitigation	Proposed mitigation: summary	Significance after mitigation	Risk management measures
TERRESTRIAL BIODIVERSITY, HABITAT & ECOLOGY										
Neg	Destruction of habitat due to vegetation clearing	1	2	2	5	High	5: Medium	<ul style="list-style-type: none"> All construction-related impacts (including access to activity site, storing of equipment/building materials/vehicles or any other activity) should be kept in the limits of the footprint. Relocate Orange-listed plants as directed in the EMP. All assembly or pre-casting must be done in a designated non-sensitive area. Declared weed and invader species must be controlled. Spills should be immediately cleaned up/removed. Spill kit on site. 	2: Low	<ul style="list-style-type: none"> Appoint an ECO during construction to ensure compliance with the EMP and authorizations Ongoing monitoring and management as per EMP
Neg	Loss of Orange-listed plants (potentially due to relocation of individuals)	1	2	2	3	High	4: Low-medium		2: Low	
Neg	Proliferation of alien vegetation	2	3	2	2	High	5: Medium		2: Low	
Neg	Loss of habitat connectivity	3	4	1	2	High	5: Medium		3: Low-medium	
Neg	Soil contamination	2	2	1	2	Med	4: Low-medium		2: Low	
Neg	Soil erosion, compaction & creation of preferential flow paths	2	2	1	2	Med	4: Low-medium		2: Low	

									<ul style="list-style-type: none"> • Topsoil must be stored separately to protect seedbank for vegetation re-establishment. • Any disturbed, denuded or eroded areas noted must be rehabilitated to avoid progressive environmental degradation between phases of the development 		
TERRESTRIAL ECOSYSTEM IMPACT SCORE								5: Medium		2: Low	
AQUATIC ECOSYSTEMS											
Neg	Drivers and Responses of Aquatic Ecosystems	1	2	1	1	Low	3: Low-medium	<ul style="list-style-type: none"> • Runoff and sediment control to be implemented during construction. • Implementation of SWMP as soon as construction activities allow • Avoid hydrocarbon and construction material spills – waste management. • Domestic wastewater: report all sewer and water leaks noted in the area to council immediately and provide the reference number to the ward councillor for escalation. 	1: Low	<ul style="list-style-type: none"> ▪ Strict erosion control measures must be implemented during the construction. ▪ Appoint an ECO during construction to ensure compliance with the EMP and authorizations 	

Neg	Sense of place	3	3	1	1	Low	4: Low-medium	<ul style="list-style-type: none"> Face brick buildings will blend in with the natural surroundings 	2: Low	
SOCIAL ASPECTS IMPACT SCORE							4: Low-medium		2: Low	
AIR QUALITY										
Neg	Fugitive particulate emissions (dust) related to construction activities.	3	2	1	2	Low	4: Low-medium	<ul style="list-style-type: none"> Dust Control measures to be put in place as per the EMPr. 	2: Low	Expected risk is low.
AIR QUALITY IMPACT SCORE							4: Low-medium		2: Low	
WASTE MANAGEMENT										
Neg	Soil/water/air pollution due to improper waste handling, storage and disposal	3	2	1	2	Low	4: Low-medium	<ul style="list-style-type: none"> Waste hierarchy to be implemented: avoid, reuse, recycle, dispose. Waste must be separated on site Waste must be disposed of in allocated storage bins 	2: Low	With the implementation of mitigation methods all impacts can be prevented.
WASTE MANAGEMENT IMPACT SCORE							4: Low-medium		2: Low	
NOISE										
Neg	Nuisance to visitors and neighbouring residents from construction activities.	3	2	1	2	Low	4: Low-medium	<ul style="list-style-type: none"> The contractor must be familiar with and adhere to any regulations and local by-laws regarding the 	2: Low	Nuisance noise caused by construction activities

									generation of noise and hours of operation.		is expected to be of short duration.
									<ul style="list-style-type: none"> All construction activity will take place in a manner that does not cause social disturbance. 		
NOISE IMPACT SCORE								4: Low-medium		2: Low	
TRAFFIC											
Neg	Increased traffic in the project area and in the region	3	2	1	2	Low	4: Low-medium	<ul style="list-style-type: none"> All contractors should commit to following road safety rules. Appropriate signage must be placed. 	2: Low	Traffic is not expected to be significantly impacted.	
Neg	Risks to the safety of pedestrians and road users	3	2	1	2	Low	4: Low-medium	<ul style="list-style-type: none"> Contractor must ensure that trucks are not overloaded. 	2: Low	Normal road rules and precautions apply.	
TRAFFIC IMPACT SCORE								4: Low-medium		2: Low	

2.2 IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE FOR THE PREFERRED ALTERNATIVE

Potential impacts:		Spatial scale	Duration	Severity	Probability	Degree of certainty	Significance before mitigation	Proposed mitigation:	Significance after mitigation	Risk management measures
									Adjusted significance	
TERRESTRIAL BIODIVERSITY, HABITAT & ECOLOGY										
Neg	Proliferation of alien vegetation	2	3	1	1	High	4: Low-medium	<ul style="list-style-type: none"> Regular removal of alien vegetation if required 	2: Low	Low risk
TERRESTRIAL ECOSYSTEM IMPACT SCORE							4: Low-medium		2: Low	
WASTE MANAGEMENT										
Neg	Soil/water/air pollution due to improper waste handling, storage and disposal	3	5	1	1	High	5: Medium	<ul style="list-style-type: none"> General waste on site must be effectively controlled. Backup waste removal services must be used if municipal waste removal has not taken place. Waste sorting bins must be provided and recycling implemented. Conservancy tank must be serviced as required 	2: Low	With the implementation of mitigation methods all impacts can be prevented.

WASTE MANAGEMENT IMPACT SCORE							5: Medium		2: Low	
NOISE										
Neg	Noise during operation	3	3	1	1	Low	4: Low-medium	<ul style="list-style-type: none"> Operational phase noise from visitor activity may exceed ambient noise levels very occasionally but will be restricted to operating hours. 	2: Low	Noise caused by visitors minimal impact.
NOISE IMPACT SCORE							4: Low-medium		2: Low	
TRAFFIC										
Neg	Increased traffic in the project area	3	3	1	1	Low	4: Low-medium	<ul style="list-style-type: none"> Access will be from the R82 to Fourth Street and directly into Fourth Road. 	2: Low	Traffic is not expected to be significantly impacted.
TRAFFIC IMPACT SCORE							4: Low-medium		2: Low	

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- Vegetation and Fauna Assessment: Terrestrial Ecological Assessment
- Palaeontology Assessment
- Geotechnical Findings
- Stormwater Management Report

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

It is assumed that all mitigation measures will be implemented as stipulated in the EMPr during the construction phase, as well as the operational phase as specified respectively.

3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Should the proposed facility be decommissioned, similar impacts are anticipated as indicated during the construction phase, including vegetation clearing, erosion, alien invasives species spread, harvesting of SCC, damage to heritage resources, impacts on nearby watercourse.

Proposal

Potential impacts:	Significance rating of impacts(positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

Alternative 1

Potential impacts:	Significance rating of impacts(positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

Alternative 2

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

Not applicable.

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

Not applicable.

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Impacts on water resources: Due to the urban densification of the catchment in which the watercourse is situated, as well as related impacts of surface hardening, fragmentation of connectivity by linear structures like roads and urban runoff, the cumulative impacts of erosion, sedimentation and water quality degradation can temporarily be expected from this project during the construction phase, if mitigation measures are not implemented.

Impacts on habitat, vegetation & Orange-listed plants: Increasing pressures of informal settlement, informal recycling sorting areas and formal land use changes, the

cumulative impact may result in a decline of the extent of the Gauteng Shale Mountain Bushveld if mitigation measures are not implemented. However, if the status quo is maintained, further degradation in the form of annual wildfires will continue and the risk of unlawful occupation of land will increase.

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Preferred Alternative: Layout A

The project aligns with the goals of the GPEMF, Midvaal SDF and Walkerville Precinct Plan to streamline urban development activities and to promote development infill, densification and concentration of urban development within the urban development zones.

The goal of this project is to provide a low impact, sustainable self-storage facility to cater for the demand in the larger area between Johannesburg and Vereeniging, where urban development is expanding and easy access is provided from Fourth Road intersecting with the R82/K57. Easy access to the R59 is obtained via R550 and R557, both approximately 2km from the site in either direction on the R82/K57.

The impacts of the construction phase of the proposed project are expected to be temporary and minimal, and can be managed effectively through mitigation measures as provided in the EMP. Mitigation of impacts during the operational phase are minimal and will only pertain to the specimens of Orange listed plants to be moved to the Eskom servitude on site.

Vegetation & Orange-listed plants

Impacts: destruction and/or removal of plants prior to construction

Mitigation: relocation of Orange-listed plants to the Eskom servitude on site.

Fauna

Impacts: destruction of habitat, limiting of faunal movement

Mitigation: none required, no SCC expected to occur on site.

Heritage

Impacts: no heritage features occur on site and no Paleontology features (fossils) are expected to occur on site.

Mitigation: chance find protocol included in EMP.

Cumulative

Increasing pressures of informal settlement, informal recycling sorting areas and formal land use changes, the cumulative impact may result in a decline of the extent of the Gauteng Shale Mountain Bushveld if mitigation measures are not implemented. However, if the status quo is maintained, further degradation in the form of annual wildfires will continue and the risk of unlawful occupation of land will increase.

The overall impact of the proposed facility is expected to be minimal and can be mitigated by means of specific measures for relocation of the Orange listed plants, and by general construction mitigation measures.

Alternative 1: Layout B (landscape layout)

Main disadvantages

- Higher percentage internal road coverage
- Firefighting requirements (access for fire brigade) cannot be met

No-go (compulsory)

Should the site be left undeveloped, the current status quo will continue including:

- Uncontrolled fires
- Alien invasive vegetation spread
- Risk of unlawful occupation of land

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The impacts of the construction phase of the proposed project are expected to be temporary and minimal, and can be managed effectively through mitigation measures as provided in the EMP.

For alternative:

See section 5 (above)

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

Relocation of Orange-listed plant species to the Eskom servitude on site

SWMP will mitigate impacts of surface water runoff

EMP includes mitigation measures for all expected impacts

7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

A Geographic Information System (QGIS) was utilized to identify areas of biodiversity concern that may be affected by the proposed development. GDARD C-plan, GPEMF, Midvaal Spatial Development Framework, Walkerville Precinct Plan, as well as DEA Screening tool report were used to identify sensitivities and specialist studies required.

8. RECOMMENDATION OF THE PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).

YES x	NO
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If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

Refer to EMPr

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT (as per notice 792 of 2012, or the updated version of this guideline)

The table below provides a summary of the need and desirability considerations for this project (Table 1).

Table 10: Need and desirability considerations

NEED (TIMING)
QUESTION A1: Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority.

Yes X	Ne	There has been a steady growth in building plan approvals, subdivision, and rezoning applications. The anticipated development along the R59 and the expansion of Savanna City might contribute to growth in the construction sector. The R82 is a secondary route between Vereeniging and Johannesburg via Walkerville and De Deur. It runs parallel to the R59, earmarked as development / industrial corridors; and the N1 and attracts mixed use development, to which future direct access onto the N1 corridor will further expand development opportunities.
QUESTION A2: Should the development concerned, in terms of the land use (associated with the activity being applied for) occur here at this point in time?		
Yes X	Ne	The future growth of the municipality is dependent on its ability to attract new investment in the industrial and commercial sector as this will create sustainable employment opportunities in the entire value chain. The R82 has been the main arterial route between De Deur, Vereeniging and Johannesburg. This road has given rise to residential developments such as De Deur Estates, Ohenimuri, Walkerville and Tedderfield.
QUESTION A3: Does the community/area need the activity and the associated land use concerned (is it a societal priority)?		
Yes X	Ne	With the increase in urban development in the Walkerville and adjacent Midvaal areas, ancillary facilities such as self-storage facilities are in demand.
QUESTION A4: Are the necessary services with the adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?		
Yes X	No	Electricity and water connections are currently available in the access road, Fourth Avenue.
QUESTION A5: Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?		
Yes X	Ne	The water demand is very low and municipal provision is not foreseen to be a concern. Sewage disposal will take place into the conservancy tank that will be serviced by council approved contractors and discharged into a council approved facility.
QUESTION A6: Is this project part of a national programme to address an issue of national concern or importance?		
Yes	No X	Although this is an ancillary facility to residential developments, the provision of self-storage facilities is not identified as a national concern.
B) DESIRABILITY (PLACING)		
QUESTION B1: Is the development the best practicable environmental option for this land/site?		
Yes X	Ne	The impact on environmental resources will be minimal and can be mitigated.
QUESTION B2: Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities?		
Yes	No X	The area has been identified in the Walkerville Precinct Plan, as part of the SDF, to be earmarked for Business and Commercial Development.
QUESTION B3: Would the approval of this application compromise the integrity of the existing environmental management priorities of the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?		
Yes	No X	The project is aligned with Zone 1 of the Gauteng EMF, an urban development zone. The intention with Zone 1 is to streamline urban development activities in it and to promote development infill, densification and concentration of urban development within the urban development zones as defined in the Gauteng Spatial Development Framework (GSDF), in order to establish a more effective and efficient city region that will minimize urban sprawl into rural areas.
QUESTION B4: Do location factors favour this land use (associated with the activity applied for) at this place, etc.)?		

Yes X	No	Yes, the site is ideally located for the proposed facility due to the access from and connectivity with other nodes along, the R82/K57.
QUESTION B5: Will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?		
Yes	No X	No cultural resources are found on site. The impacts on the natural environment can be mitigated (measures are included in the EMP).
QUESTION B6: Will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?		
Yes	No X	The impact of the facility on health and wellbeing is expected to be low, as the resource use and waste and noise generation of this facility is very low and occasional during the operational phase.
QUESTION B7: Will the proposed land use result in unacceptable cumulative impacts?		
Yes	No X	Although densification can impact on stormwater velocities and volumes, the impact of the proposed development is mitigated by means of the SWMP that includes attenuating on site and discharging into the R82 stormwater channel that drains underneath the R82 by means of an erosion protected culvert.

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED
(CONSIDER WHEN THE ACITIVITY IS EXPECTED TO BE CONCLUDED)

10 years

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) (must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers "Yes" to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached

Yes

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s) – (must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)

A1: Master layout

A2: Layout B (Alternative 2)

A3: Vegetation sensitivity

Appendix B: Photographs – Photographic Report

Appendix C: Facility illustration(s)

Appendix D: Route position information – **N/A**

Appendix E: Public participation information (to be included in FBAR)

Annexure E1 – Proof of site notice

Annexure E2 – Written notices issued as required in terms of the regulations

Annexure E3 – Proof of newspaper advertisements

Annexure E4 – Communications to and from interested and affected parties

Annexure E5 – Minutes of any public and/or stakeholder meetings
Annexure E6 - Comments and Responses Report
Annexure E7 –Comments from I&APs on BA Report – **refer to E6**
Annexure E8 –Comments from I&APs on amendments to BAR – **N/A**
Annexure E9 – Copy of the register of I&APs
Annexure E10 – Comments from I&APs on the application – **in E6**

Appendix F: Water use license(s) authorisation, **SAHRA information**, service letters from municipalities, water supply information
SAHRA: online application proof of submission attached.

Appendix G: Specialist reports

Annexure G1: Vegetation and Fauna Assessment: Ecological Assessment
Annexure G2: Paleontology Assessment
Annexure G3: Outline Scheme Report
Annexure G4: Geotechnical Findings

Appendix H: EMPr