IN TOUCH WITH THE AFRICAN LANDSCAPE

SEATON THOMSON & ASSOCIATES

TOURISM DEVELOPMENT, CONSERVATION & ENVIRONMENTAL PLANNING

FINAL BASIC ASSESSMENT REPORT

IN TERMS OF SECTION 24 (5) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NO. 107 OF 1998)

PROPOSED DEVELOPMENT OF HOLDING 87 NORTH RIDING AGRICULTURAL HOLDINGS: JOHANNESBURG

GDARD reference number: 002/17-18/E0021

June 2017

SEATON THOMSON & ASSOCIATES

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Gauteng Department of Agriculture and Rural Development (GDARD)

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, 2010 (Version 1)

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.

2. This application form is current as of 2 August 2010. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

3. **A draft Basic Assessment Report must be submitted to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.**

4. 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.

5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.

6. An incomplete report shall be rejected.

7. 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 rejection of the application as provided for in the regulations.

8. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.

9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.

10. 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.

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

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
18th floor Glen Cairn Building
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345
Department central telephone number: (011) 355 1900

(For official use only)

File Reference Number:						
Application Number:						
Date Received:						

* Submission to State Department (Number 3 above)

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

Is a list of State Departments referred to above been attached to this report? Yes

If no, state reasons for not attaching the list.

N/A

SECTION A: ACTIVITY INFORMATION

1. ACTIVITY DESCRIPTION

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

Proposed development of Holding 87 North Riding Agricultural Holdings: Proposed North Riding Extension 68, Johannesburg

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development	X	Other, specify	**Additional listed activities**

Describe the activity and associated infrastructure, which is being applied for, in detail

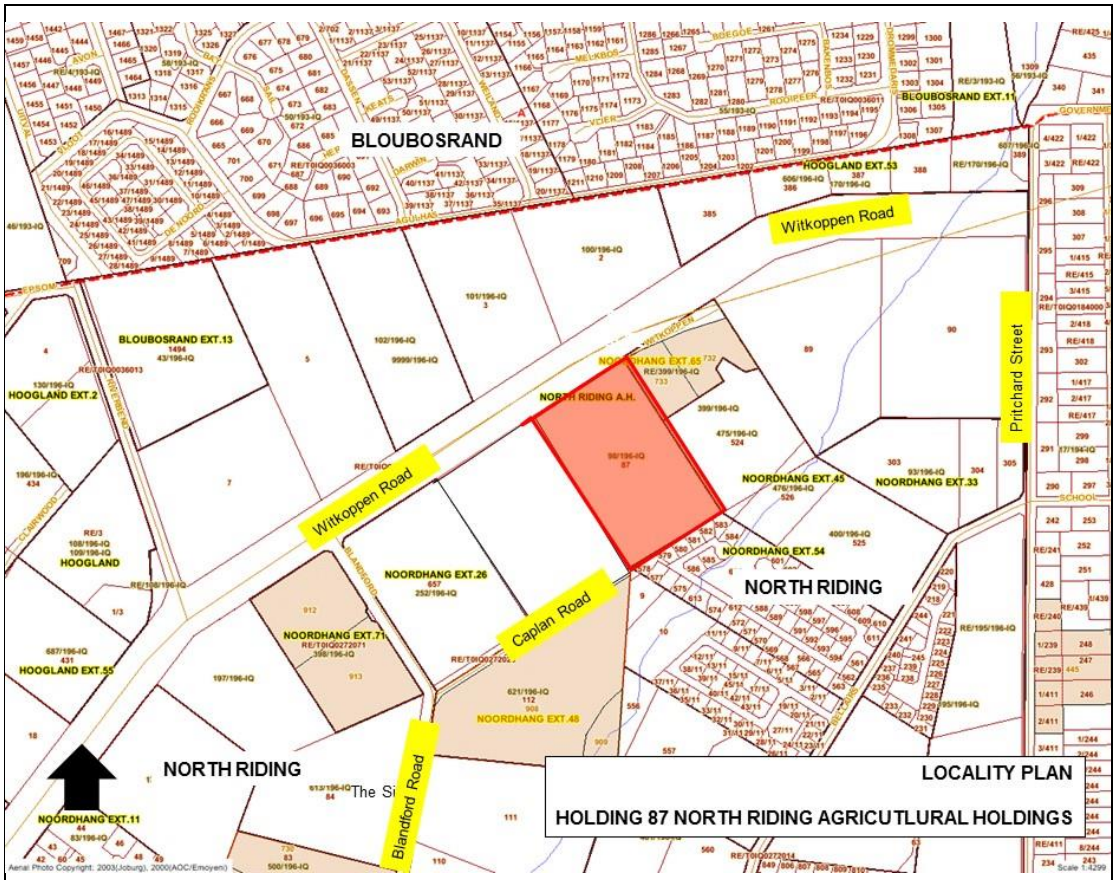
Location and Surrounding Land Uses

The site, Holding 87 North Riding Agricultural Holdings, which is 3.12 hectares in extent and is located in the North Riding Agricultural Holdings, with Witkoppen Road forming the northern boundary of the site. An approved residential development (Gaut 002/16-17/E0031), is to be located on the western boundary. Existing residential uses are present to the east and south of the site, which comprise medium density residential developments.

Further to the north across Witkoppen Road is some vacant undeveloped land, as well as some existing mixed business uses, as well as the further residential areas of Bloubosrand.

Part of the site consists of with exotic invaded natural grassland with scattered bushclumps consisting of a mixture of indigenous woody species. The entire central portion of the site contains years of accumulated dumping, comprising building rubble, waste and litter. There is a small wet area in the southern extremity of the site resulting from some natural seep and stormwater runoff from Witkoppen Road and which has become trapped on the site, due to the presence of a trench along the southern boundary, separating the site from the residential units to the south.

Access to the site will be taken from a proposed newly created intersection on Witkoppen Road, with a new road off Witkoppen on the western boundary of the site, (Caplan Road) as required by the JRA. One half of this road was approved in the Environmental Authorisation granted for Holding 86 North Riding (Gaut 002/16-17/E0031) on the western side of the site.



The Application

It should be noted that an application through the town planning process is being made as a single application for Holdings 2, 3, 4 and 87 North Riding Agricultural Holdings. However, <u>THIS application</u> is being made ONLY for <u>Holding 87 North Riding Agricultural Holdings</u> and Holdings 2, 3, 4 North Riding Agricultural Holdings will be the subject of a further separate application for Environmental Authorisation. It must therefore, be noted that some of the supportive documentation (Traffic Report, Services report) contained herein address the full, long term development of all 4 Holdings.

It is proposed that the site be developed for medium density residential uses and including internal roads, services and infrastructure, as indicated in the attached Services report.

The development will be based on approximately 80 units per hectare, with a maximum height of 4 storeys. This will result in ±200 units. The site will contain all parking on site with internal circulation roads. Access will be taken via a new JRA proposed access road to be constructed, to built along the western side of the site up to a new intersection on Witkoppen Road. There will be security controlled access. The ***JRA road reserve*** on the western boundary of the site and along Witkoppen Road, reduce the developable site area for residential units to 2.81 hectares.

There is a small wet area in the southern part of the site, which has been determined to be entirely created from stormwater runoff from Witkoppen Road and which has been “dammed” by the historic creation of a trench along the southern boundary and the establishment of the residential uses on the southern and eastern boundaries.

It is the intent of the applicant to utilise this area for the purposes of a sustainable urban water management system on the site, which would involve re-engineering of the accumulated stormwater area on site as part of a stormwater management system, to accommodate stormwater that will be generated by the proposed development of the study

area and from Witkoppen Road. The implementation of this system would achieve the following, as ***indicated and recommended*** by the wetland specialist

- accommodate and sufficiently attenuate stormwater inputs to ensure that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion.
- The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate.
- The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland.
- Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.
- Pathways/benches (or similar low impact recreational infrastructure) could be provided into the wetland system to ensure controlled, limited recreational use of the wetland system as an urban green space.

The following listed activities will be triggered by the proposed development:

Listed Activities

The Applicant is applying for authorisation in term of the National Environmental Management Act 107 of 1998, Environmental Impact Assessment ***Regulations 2014.***

Government Notice R983, Listing Notice 1, Activity 12:
"The development of-

(i) canals exceeding 100 square metres in size;
(ii) channels exceeding 100 square metres in size;
(iii) bridges exceeding 100 square metres in size;
(iv) dams, where the dam, including infrastructure and water surface area, exceeds 100 square metres in size;
(v) weirs, where the weir, including infrastructure and water surface area, exceeds 100 square metres in size;
(vi) bulk storm water outlet structures exceeding 100 square metres in size;
(vii) marinas exceeding 100 square metres in size;
(viii) jetties exceeding 100 square metres in size;
(ix) slipways exceeding 100 square metres in size;
(x) buildings exceeding 100 square metres in size;
(xi) boardwalks exceeding 100 square metres in size; or
(xii) infrastructure or structures with a physical footprint of 100 square metres or more;

where such development occurs-

(a) within a watercourse;
(b) in front of a development setback; or
(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; -

excluding-

(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;
(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;
(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;
(dd) where such development occurs within an urban area; or
(ee) where such development occurs within existing roads or road reserves.

Activity 12 is included as it is the intent of the applicant to implement a *sustainable urban water management system* within the degraded seep area in the southern part of the site, to provide for the JRA access road and access to the site

Government Notice R983, Listing Notice 1, Activity 19:
The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-

(i) a watercourse;
(ii) the seashore; or
(iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater,

But excluding where such infilling, depositing , dredging, excavation, removal or moving-
(a) will occur behind a development setback;
(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or
(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.

Activity 19 is included as it is the intent of the applicant to implement a *sustainable urban water management system* within the degraded seep area in the southern area of the site, to provide for the JRA access road and access to the site, which will require infill/ removal of soil

Government Notice R983, Listing Notice 1, Activity 27:
The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-

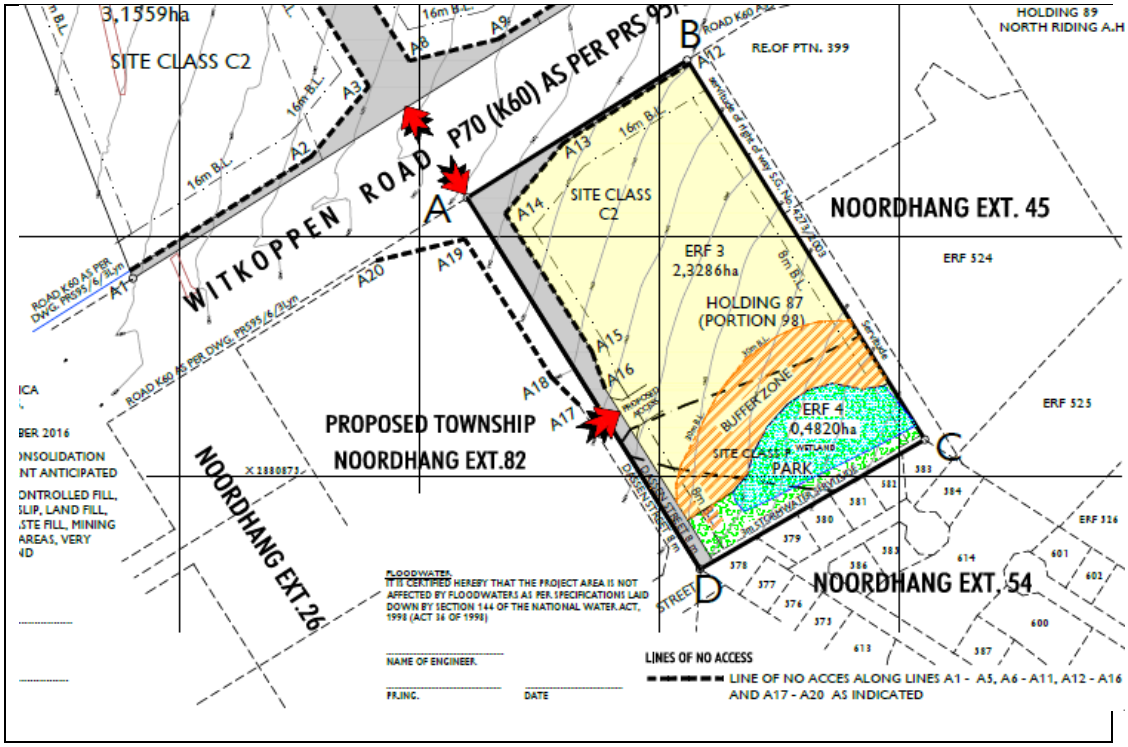
(i) the undertaking of a linear activity; or
(ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Activity 27 is included as it is the intent of the applicant to develop the site for medium to high density residential uses, which will result in the clearance of ± 3.1 ha of indigenous vegetation

Government Notice R985, Listing Notice 3, Activity 12:
The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.

(a) In Eastern Cape, Free State, Gauteng, Limpopo, North West and Western Cape provinces:
i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;
ii. Within critical biodiversity areas identified in bioregional management plan
iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or
iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.

Activity 27 is included as it is the intent of the applicant to develop the site for medium to high density residential uses, which will result in the clearance of ± 3.1 ha of indigenous vegetation.



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:

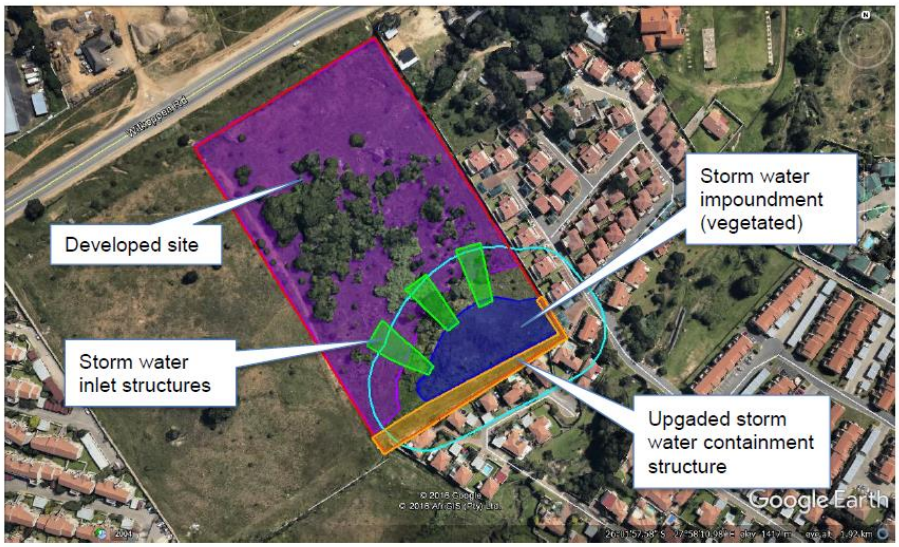
Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	National & Provincial	27 November 1998
Government Notice No. R982 of 2014 EIA Regulations	National & Provincial	2014
Government Notice No. R983 of 2014 Listing Notice 1	National & Provincial	2014
Gauteng Environmental Management Framework 2014	Provincial	2014
City of Johannesburg Regional Spatial Development Framework	Metropolitan	2014

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.
Provide a description of the alternatives considered

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, operational or other(provide details of "other")	**Description**
1	***Medium density*** residential development at 80 dwelling units per hectare.	It is proposed that the site be developed for medium density residential dwelling units, at a density of approximately 80 units per hectare, which will result in approximately 200 units. The complex will have a maximum height of 4 storeys. The development will also include internal roads, services and infrastructure, as indicated in the attached Services report. A JRA road which will form an intersection with Witkoppen Road will be built along the western boundary. It is proposed that a section of the 30 m buffer area be used for storm water mitigation and flow into the storm water containment area. The storm water management areas can be vegetated and stabilised against erosion pressures. It is proposed that the boundary wall and berm on the southern boundary be upgraded to attenuate and contain adequate storm water quantities and that this structure be allowed to release water at a slow enough rate so that damage is not caused to the downslope structures. It is proposed that the area be subject to a natural redesign which can be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of this area. This is in accordance with the wetland specialist recommendations:  **Figure 29** Proposed site development layout Example images of the concept envisaged are shown below

		  
2	Single residential	This alternative envisages is proposed that the site be developed with low density residential housing units, being freehold and of an rea of approximately

	development erven containing erven of 1000m²	1000m² each. This will result in approximately 30 residential homes, which is a very low density for this infill site. Residential development control rights would still permit a maximum height of 4 storeys. The development will also include internal roads, services and infrastructure, as indicated in the attached Services report. A JRA road which will form an intersection with Witkoppen Road will be built along the western boundary. It is proposed that a section of the 30 m buffer area be used for storm water mitigation and flow into the storm water containment area. The storm water management areas can be vegetated and stabilised against erosion pressures. It is proposed that the boundary wall and berm on the southern boundary be upgraded to attenuate and contain adequate storm water quantities and that this structure be allowed to release water at a slow enough rate so that damage is not caused to the downslope structures. It is proposed that the area be subject to a natural redesign which can be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of this area.
3	The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha.	This alternative is still aligned with the overall objective of establishing residential uses on the site, to meet the applicant's objective. This use envisages blocks of apartments on the site, the intent of achieving the same density as the overall main proposal The development will also include internal roads, services and infrastructure, as indicated in the attached Services report. A JRA road which will form an intersection with Witkoppen Road will be built along the western boundary. It is proposed that a section of the 30 m buffer area be used for storm water mitigation and flow into the storm water containment area. The storm water management areas can be vegetated and stabilised against erosion pressures. It is proposed that the boundary wall and berm on the southern boundary be upgraded to attenuate and contain adequate storm water quantities and that this structure be allowed to release water at a slow enough rate so that damage is not caused to the downslope structures. It is proposed that the area be subject to a natural redesign which can be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of this area.

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

Not applicable

NOTE: The numbering in the above table must be consistently applied throughout the application report and process

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:

	Size of the activity:
Proposed activity: ***Medium density*** residential development at 80 dwelling units per hectare	±3.1 Ha
Alternatives:	
Alternative 1 (if any) Single residential development erven containing erven of 1000m²	±3.1 Ha
Alternative 2 (if any) The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha	±3.1 Ha
	Ha/ m²

or, for linear activities:

	Length of the activity:
Proposed activity	-
Alternatives:	
Alternative 1 (if any)	-
Alternative 2 (if any)	-

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

	Size of the site/servitude:
Proposed activity: ***Medium density*** residential development at 80 dwelling units per hectare	±3.1 Ha
Alternatives:	
Alternative 1 (if any): Single residential development erven containing erven of 1000m²	±3.1 Ha
Alternative 2 (if any): The development of residential flats / apartment blocks	±3.1 Ha

Ha/m²

5. SITE ACCESS

Proposal: ***Medium density*** residential development at 80 dwelling units per hectare.

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

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

Describe the type of access road planned:

Access to the site will be taken from a proposed newly created intersection on Witkoppen Road, with a new road off Witkoppen on the western boundary of the site, (Caplan Road) as required by the JRA. One half of this road was approved in the Environmental Authorisation granted for Holding 86 North Riding (Gaut 002/16-17/E0031) on the western side of the site

Include the position of the access road on the site plan.

Alternative 1: Single residential development erven containing erven of 1000m²

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

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

Describe the type of access road planned:

Access to the site will be taken from a proposed newly created intersection on Witkoppen Road, with a new road off Witkoppen on the western boundary of the site, (Caplan Road) as required by the JRA. One half of this road was approved in the Environmental Authorisation granted for Holding 86 North Riding (Gaut 002/16-17/E0031) on the western side of the site

Include the position of the access road on the site plan.

Alternative 2: The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha.

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

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

Describe the type of access road planned:

Access to the site will be taken from a proposed newly created intersection on Witkoppen Road, with a new road off Witkoppen on the western boundary of the site, (Caplan Road) as required by the JRA. One half of this road was approved in the Environmental Authorisation granted for Holding 86 North Riding (Gaut 002/16-17/E0031) on the western side of the site

Include the position of the access road on the site plan.

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. SITE 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 as Appendix A to this document. The site or route plans must indicate the following:

- the scale of the plan, which must be at least a scale of 1:2000 (scale cannot be larger than 1:2000 i.e. scale can not be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m of the site;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application 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, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure;
- walls and fencing including details of the height and construction material;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites 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);
- for gentle slopes the 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- the positions from where photographs of the site were taken.
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32m position from the bank to be clearly indicated)

7. SITE PHOTOGRAPHS

Colour photographs from the centre 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)

Further:

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 | **0** | 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 alterative 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 | **0** | 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: (Farm name, portion etc.) Holding 87 North Riding Agricultural Holdings

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:	**Latitude (S):**	**Longitude (E):**
	26° 01’ 57.17”	27° 58’ 09.41”

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity	°	°
• Middle point of the activity	°	°
• End point of the activity	°	°

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 **n/a**

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
		X				

4. LOCATION IN LANDSCAPE

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

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hills	River front
				X		

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**
Dolomite, sinkhole or doline areas	YES	NO **X**
Seasonally wet soils (often close to water bodies)	YES	NO **X**
Unstable rocky slopes or steep slopes with loose soil	YES	NO **X**
Dispersive soils (soils that dissolve in water)	YES	NO **X**
Soils with high clay content (clay fraction more than 40%)	YES	NO **X**
Any other unstable soil or geological feature	YES	NO **X**
An area sensitive to erosion	YES	NO **X**

(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 3)?	YES	NO **X**

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

7. GROUNDCOVER

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

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	NO **X**

If YES, specify and explain:

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	NO **X**

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site?	YES	NO **X**

If YES, specify and explain:

Was a specialist consulted to assist with completing this section	YES **X**	NO

If yes complete specialist details

Vegetation Specialist			
Name of the specialist:	David Hoare		
Qualification(s) of the specialist:	Botanist		
Postal address:	Postnet Suite X025, Lynnwood Ridge		
Postal code:	0040		
Telephone:	012 804 2281	Cell:	
E-mail:	dbhoare@iburst.co.za	Fax:	086 550 2053

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: October 2016

Wetland Specialist			
Name of the specialist:	Johan van der Waals		
Qualification(s) of the specialist:	PhD Soil Science, Pr.Sci.Nat. 400106/08		
Postal address:	PO Box		
Postal code:			
Telephone:	012 993 0969	Cell:	082 570 1297
E-mail:	johan@terrasoil.co.za	Fax:	086 274 6653

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: See report Date: March 2017

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	35. Garage
Other land uses (describe):	36. Agricultural Industry			

NOTE: Each block represents an area of 250m X250m

NORTH

9	9	9	9	9
9,25	9,25	9,25	9,25	9,25
9	1,9		9	2,9
9	9	9	2, 9	2, 9
9	9	2, 9	2, 9	2, 9

WEST EAST

SOUTH

= Site

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	**X**

If yes indicate the type of reports below

1. Wetland assessment and delineation
2. Vegetation Assessment

Extract from Vegetation Assessment (Hoare, 2016)

The site is within one regional vegetation type, a grassland vegetation type called Egoli Granite Grassland. The Egoli Granite Grassland vegetation is classified as Endangered, and is listed in the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004), as Endangered.

The vegetation and habitat types identified on the site are as follows

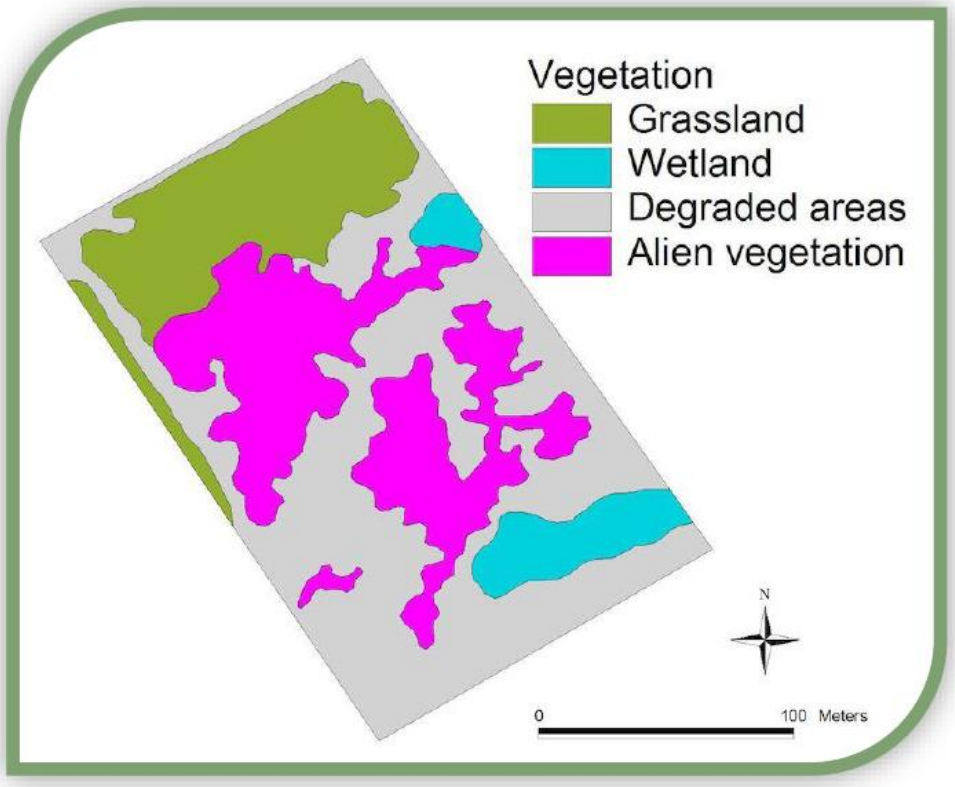
There is a small area of ***natural grassland*** in the northern part of the site. The species composition and structure was found to be typical of natural grassland on shallow, sandy soils in Gauteng. The species composition included a number of perennial species that in combination are typical of such grassland. The grassland on site is relatively isolated, connected only to grassland on the adjacent plot; there is a wall on the lower (southern) boundary of the site and the southern and western sides are existing high-density townships.

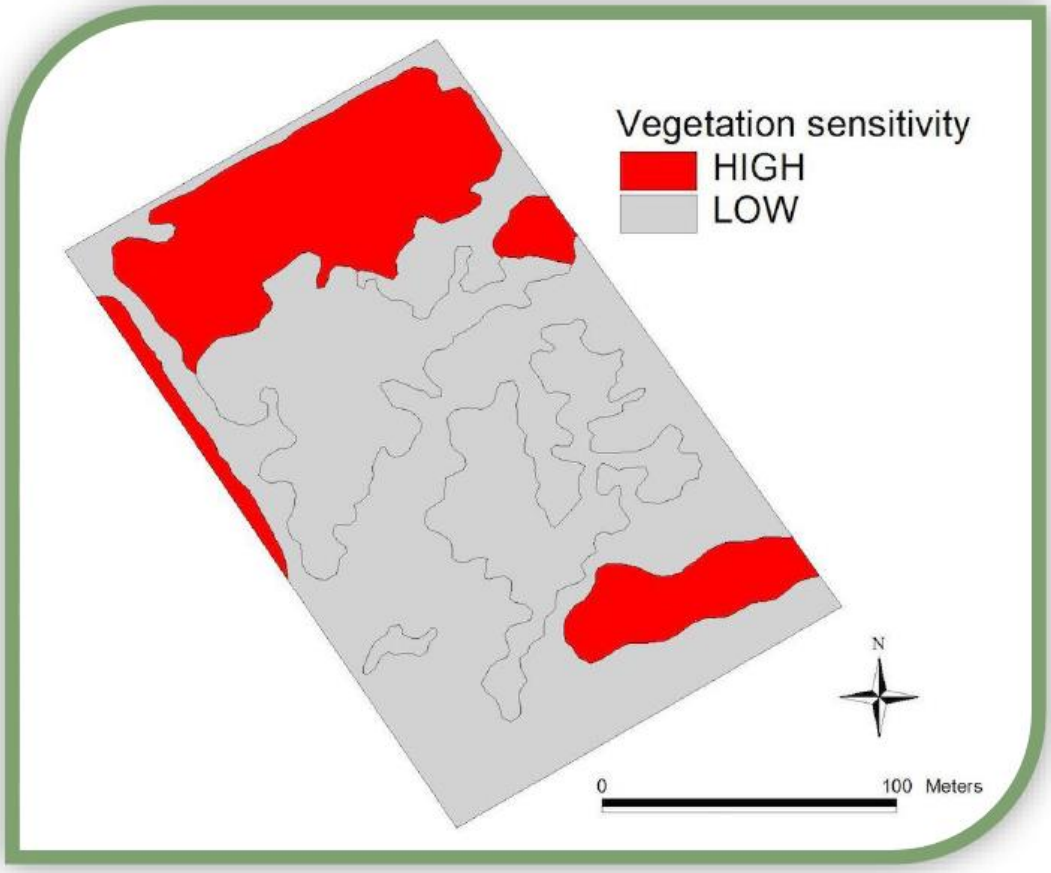
There is an area on the lower slopes at the southern end of the site where permanent wetlands were found to occur. The ***wetland*** on the bottom end of the site has probably also been enhanced by the presence of the berm placed there, which intercepts sub-surface water-flow to create boggy conditions. The vegetation in these areas is primarily a hygrophilous grassland. These areas contain obligate and facultative wetland species that are typically found in such habitats.

There is a band around the margin of the site that has been ***disturbed*** by activities on adjacent properties as well as due to a trench dug along the northern and southern boundaries of the site to limit vehicle access to the site. These areas contain species that are typically found in such habitats, including various weeds. The entire core area of the site consists of a mixture of alien trees, weeds and some indigenous shrubs

Despite the fact that the site is not mapped in any conservation priority area in C-Plan 3, it contains some natural grassland in a good condition, high indigenous species richness, moderately high habitat diversity for the size of the site and contains at least two species for which there is some conservation concern. However, the site is relatively small area (±3 hectares), is mostly disconnected from other natural areas and is surrounded by disturbance. The site itself is relatively badly disturbed. ***A general guideline is that any grassland area smaller than 100 ha is difficult to manage in such a way as to preserve natural ecological processes and drivers that maintain such habitat***. The long-term trend is therefore that smaller patches tend to progressively degrade.

A GIS calculation of the remaining area of natural vegetation on site produced a value of 0.807 hectares, which is less than the minimum area of clearing that triggers an EIA, according to the new EIA regulations.


Vegetation
Grassland
Wetland
Degraded areas
Alien vegetation
N
0
100 Meters


Vegetation sensitivity
HIGH
LOW
N
0
100 Meters

Extract from Wetland Identification and Hydropedology Assessment report (Terrasoil Science, 2017)

The report notes that from historical aerial photographs ranging from 1952 through 1991 a clear drainage feature (watercourse and wetland - Olienhoutspoortspruit) is present to the south of the site. The same general characteristics are indicated in various historic images with the difference that more extensive development has taken place within the surrounding site area and developments have intensified significantly within the headwaters area north of Witkoppen Road.

This resulted in a wetland signature as a result of the establishment of ***berms*** north of the downslope development, dumping of rubble and increased run-on and retention of storm water on the site, when developments to the south of the site were constructed, as shown in Figures 24 to 25 in the report. It is also noted that this is exacerbated by stormwater runoff from Witkoppen Road.

The investigation on the site revealed that there has been significant historical alteration of the site in the form of historical tillage, urban development of surrounding land with cut-and-fill operations and berm construction on the site, dumping of rubble on the site and the development of a wetland signature at the lowest point of the site from stormwater accumulation. The site is considered highly modified and the report notes this is from

- Historical tillage of the bulk of the site;
- Establishment, and subsequent removal of the bulk, of a woodlot on the site and on the edge of the watercourse/wetland of the Olienhoutspoortspruit
- Development of the downslope sites to the south and east resulting in an impoundment of storm and runoff water on the site through the establishment of an earth berm;
- Disposal of large volumes of rubble on the site with the effect that the surface runoff characteristics of the site has been altered to concentrate water flows and impoundments; and
- Increased urban development within the headwaters of the site leading to increased storm water flows onto and through the site.

The wetland that is evident on the site is a clear result of 1) the impoundment effect of the earthworks and fence and 2) the altered storm water runoff regime as a result of the activities within the headwaters of the low-lying area. The wetland vegetation area has a signature of a seasonal wetland – as is expected for a depression fed by rainfall runoff, as shown below.

The proposed delineation is shown below. A 30 m buffer is provided but is not supported as there is a large volume of rubble within the buffer area to the north. On the southern and eastern sides the buffer area consists of housing developments. The wetland identified on the site is classified as a man-induced storm water wetland that is sustained by the current storm water dynamics, water runoff from the site and rubble and the current retention structures.

It is imperative that any open soil areas be protected against increased erosion pressures through the implementation of the following:

- Adequate storm water mitigation throughout the construction site (from start to completion) to prevent large pulses in storm water
- Sediment containment structures throughout the site to prevent sediment runoff and accumulation in the wetland area.

The above aspects are considered to be the critical components of the storm water management plan for the site and should be included in the development plans as per engineering design. The points below indicate general considerations regarding storm water attenuation approaches and can, to lesser or larger degree, be implemented.

Figure 28 Proposed wetland delineation and 30 m buffer for the investigation site

Taking into account the large volume of rubble material that will have to be removed from site as well as in the buffer area, it is proposed that a section of the 30 m buffer area be used for storm water mitigation and flow into the storm water containment area

These storm water management areas can be vegetated and stabilised against erosion pressures. It is proposed that the boundary wall and berm on the southern boundary be upgraded to attenuate and contain adequate storm water quantities and that this structure be allowed to release water at a slow enough rate so that damage is not caused to the downslope structures.

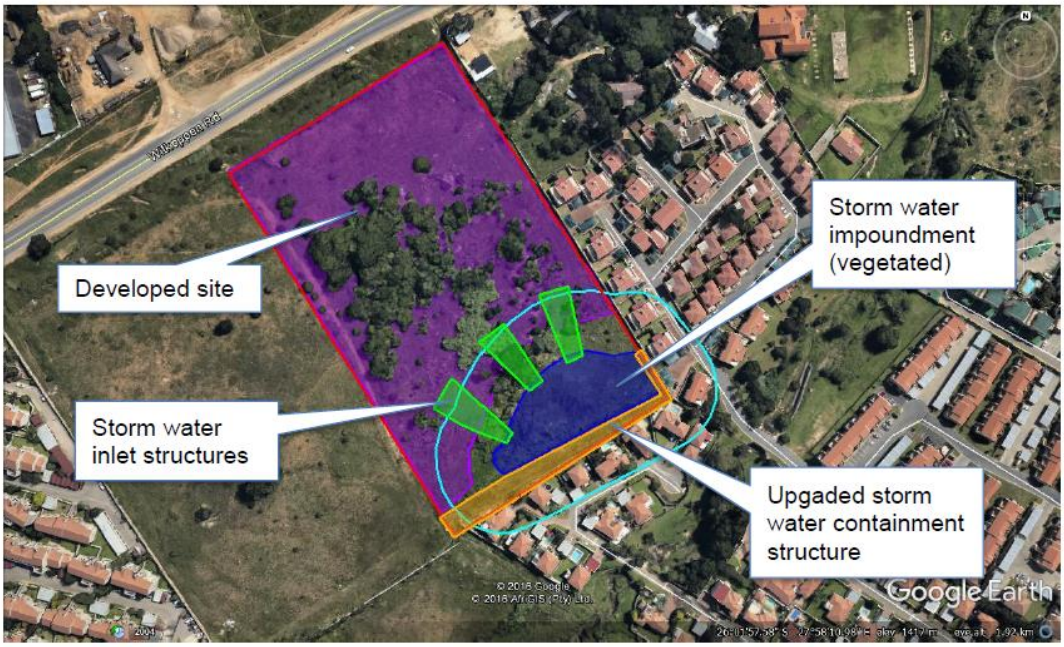


Figure 29 Proposed site development layout

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 is located within an enclave of land that is almost entirely surrounded by existing development of which the greater amount is residential in nature. It is characterized by low to middle to high density residential complexes and clusters, primarily of the middle and upper income levels of this area of northern Johannesburg. On all sides of the site, the area has become almost entirely development with medium density residential uses, whilst the site to the west, although vacant, has been granted an Environmental Authorisation (Holding 86 North Riding (Gaut 002/16-17/E0031). Further to the west is the wellestablished business/ industrial area of Kya Sands/ Hoogland. Further to the east is the established economic node of Fourways. The site adjoins Witkoppen Road which is a main east-west arterial and recognized as a mobility spine, which facilitates public transport facilities and where higher density residential uses and economic activities are encouraged.

The area is essentially of a mixed use nature, integrating extensive residential areas with nodes of social and community facilities and amenities, as well as areas of business with jobs and employment opportunities. The entire area is fully serviced with all essential services, including roads, water, sewerage and power.

The social nature and structure of the area, therefore, is that of a residential area, which supports the numerous surrounding nodes of economic activity. The site itself, forms an infill site in a primarily developed area, being one of the few remaining undeveloped agricultural holdings in this developed area, within the urban footprint.

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 alterantives, 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 specialist was appointed due to the small area of the site

Will any building or structure older than 60 years be affected in any way?	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	YES	NO **X**

11. NEED AND DESIRABILITY OF THE ACTIVITY

Motivate and explain the need and desirability of the activity (including demand for the activity):

The property forms an infill site in a primarily developed area, being one of the few remaining undeveloped agricultural holdings in this developed area, within the urban footprint. It is also an area already fully serviced with all essential services, including roads, water, sewerage and power. As such, the development of the site is both needed and desirable, as it contributes to infill and densification within the urban footprint, where the existing bulk infrastructure exists and can be more optimally utilized, therefore, reducing the need to expand into green belt and greenfield areas.

The residential use of the site will contribute to the provision of additional residential homes and units in an area that has an attractive and appealing environment, which is both safe and secure. The location of the site is in close proximity to existing main roads, providing good access to the Fourways node, as well as to the Sandton CBD. The development of this land will contribute to meeting the needs and demands of the population and communities, seeking a home and accommodation surrounded by a natural environment, but in close proximity to essential services and amenities.

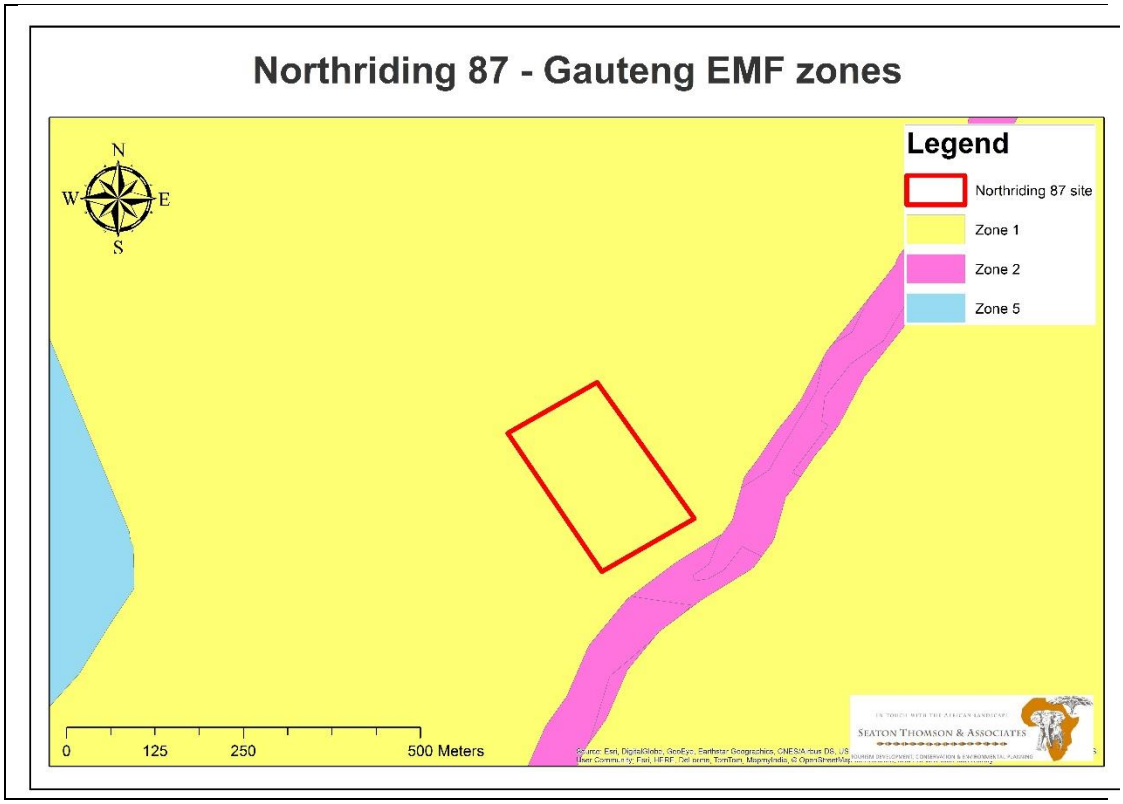
According to the City of Johannesburg Metropolitan Municipality's Regional Spatial Development Framework (RSDF), 2010/2011, (Region C, sub-Area 4), Witkoppen Road is classified as a "**Mobility Spine**", therefore the development guidelines applicable to a "Mobility Spine" will apply.

According to the RSDF, 2010/2011, a "**Mobility Spine**" can be defined as:
"an arterial along which through traffic flows with minimum interruption (optimal mobility). Development abutting the spine is in terms of specific policy criteria relating to the type of land use to be accommodated and to level of access" (RSDF Region C, page 32).

The RSDF development guidelines applicable along a "Mobility Spine" within Region 4 are summarized below as well as the applicability/relevance to the application site:
_ *"**Support up to 70 units/ha**;* - application is made for 70 units/ha
_ *No access directly onto the Mobility Spines; (*access will be taken from Caplan Street)
_ ***Variety of Housing typologies**; (*medium to higher density housing typologies will be introduced into the market)
_ ***Apply a minimum design and landscape standard**;* (Site- and Landscape Development Plans will be submitted prior to approval of building plans)
_ ***Provide social support services; and*** (due to the size of the site and the frequency of social support services within the area, no provision has been made for such services)
_ ***Stormwater Management*"** (stormwater attenuation will be addressed in the Roads

The nature of the development will contribute to significant investment in the area, as well as the creation of a number of jobs and employment opportunities during the construction and the long term operational phases.

According to the ***GDARD Environmental Management Framework***, development of the site is supported, as it falls into a Zone 1. The intention of development within Zone 1, is to streamline urban development activities 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 minimise urban sprawl into rural areas



Indicate any benefits that the activity will have for society in general:

The residential use of the site will contribute to the provision of additional residential homes and units in an area that has an attractive and appealing environment, which is both safe and secure. The location of the site is in close proximity to existing main roads, providing good access to the Fourways node, as well as to the Sandton CBD. The development of this land will contribute to meeting the needs and demands of the population and communities, seeking a home and accommodation surrounded by a natural environment, but in close proximity to essential services and amenities.

The nature of the development will contribute to significant investment in the area, as well as the creation of a number of jobs and employment opportunities during the construction and the long term operational phases.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

The residential use of the site will contribute to the provision of additional residential homes and units in an area that has an attractive and appealing environment, which is both safe and secure. The location of the site is in close proximity to existing main roads, providing good access to the Fourways node, as well as to the Sandton CBD. The development of this land will contribute to meeting the needs and demands of the population and communities, seeking a home and accommodation surrounded by a natural environment, but in close proximity to essential services and amenities.

The nature of the development will contribute to significant investment in the area, as well as the creation of a number of jobs and employment opportunities during the construction and the long term operational phases.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

1(a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;

1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;

1(c) inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;

1(d) inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;

1(e) inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and

1(f) inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and

1(g) place an advertisement in one local newspaper and any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

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 (GDARD).

Has any comment been received from the local authority?	YES	**X NO**

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

The authority was advised of the EIA process and requested to register. They often do not do so if the application is aligned with the RSDF. Copies of the BA will, however, be circulated to the authorities.

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 **X**	**NO**

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

The project was advertised from **22 September 2016**. There have been a number of registrations. The registrations have been captured in a database contained in Appendix E9 to this report.

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

n/a

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation 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 authorization it may have issued if it becomes apparent that the public participation process was inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application 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

Appendix 2 – Written notices issued to those persons detailed in 1(b) to 1(f) above

Appendix 3 – Proof of newspaper advertisements

Appendix 4 –Communications to and from persons detailed in Point 2 and 3 above

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

Appendix 6 - Comments and Responses Report

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

Appendix 8 –Comments from I&APs on amendments to the BA Report – not received

Appendix 9 – Copy of the register of I&APs

Appendix 10 – Comments from I&APs on the application

Appendix 11 - Other

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 alterative 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) **0** times

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

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

If yes, what estimated quantity will be produced per month? 1000 m^3

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

The construction waste will be disposed of at a licenced and registered municipal waste disposal site.

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

The construction waste will be disposed of at a licenced and registered municipal waste disposal site. The contractor will be responsible for disposing of the waste materials at the registered landfill site.

Will the activity produce solid waste during its operational phase? YES **X**

If yes, what estimated quantity will be produced per month? 1000m^3

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

The waste produced during the operational phase will be disposed of at a licenced and registered municipal waste disposal site. The waste produced will only be domestic, and it is expected that approximately 3-4 waste skips (of 6m^3) each will be filled per week.

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? NO X

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

The waste produced during the operational phase will be disposed of at a licenced and registered municipal waste disposal site. as per Pick- It-Up requirements.

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? 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? 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:

Recycling will be undertaken by the relevant tenants. Energy saving measures will be introduced as far as possible within the development to make it energy efficient.

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? NO **X**

If yes, what estimated quantity will be produced per month? m^3

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

Will the activity produce any effluent that will be treated and/or disposed of on site?	
If yes, what estimated quantity will be produced per month?	m^3

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?	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:

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	**YES X**
If yes, what estimated quantity will be produced per month?	±550 m3 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 X
Will the activity produce any effluent that will be treated and/or disposed of on site?	NO X

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

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	NO **X**

If yes, is it controlled by any legislation of any sphere of government?
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	Directly from water board	groundwater	River, stream, dam or lake	other	the activity will not use water
X					

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:	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 **X**

If yes, list the permits required

On approval and issuing of an Environmental Authorisation, the necessary water use licence will be required to create the sustainable water management system in the hillslope seep area

If yes, have you applied for the water use permit(s)?	NO **X**
If yes, have you received approval(s)? (attached in appropriate appendix)	

3. POWER SUPPLY

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

The power will be supplied by Eskom or the City of Joburg Municipality.

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

n/a

4. ENERGY EFFICIENCY

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

Energy efficient lighting within buildings where possible, energy efficient air conditioners and heating units.

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

No Alternative energy sources have been incorporated into the design at this stage.

5. STORMWATER MANAGEMENT

The specialist wetland consultant concluded in the wetland report the following

Taking into account the large volume of rubble material that will have to be removed from site as well as in the buffer area, it is proposed that a section of the 30 m buffer area be used for storm water mitigation and flow into the storm water containment area, as shown below.

These storm water management areas can be vegetated and stabilised against erosion pressures. It is proposed that the boundary wall and berm on the southern boundary be upgraded to attenuate and contain adequate storm water quantities and that this structure be allowed to release water at a slow enough rate so that damage is not caused to the downslope structures.

The above has benefit, due to the impacted state of the wetland on site and the recognition that the wetland forms only an ***isolated remnant*** of a much larger system, as well as the proposed change of landuse within the wetland catchment, the exclusion of this wetland with a buffer zone from the proposed development will achieve little in terms of protecting and improving the condition of the wetland on site, and will also not serve to protect the downstream water resources from impacts associated with existing and proposed developments within the catchment. An alternative approach would be to ***re-engineer the wetland system on site as part of a stormwater management system to accommodate stormwater*** that will be generated by the proposed development of the study area while at the same time maintaining some wetland habitat and re-establishing wetland functions. Key considerations of such a re-engineered wetland system would be the following:

- A re-engineered wetland system would need to accommodate and sufficiently attenuate stormwater inputs to ensure that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion.
- The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate.
- The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland.
- Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.
- Pathways/benches (or similar low impact recreational infrastructure) could be provided into the wetland system to ensure controlled, limited recreational use of the wetland system as an urban green space.

As such, it is proposed that the damaged and disturbed and isolated wet area will be subject to a natural redesign to form part of the stormwater management and attenuation system on site, while at the same time maintaining some wetland habitat and re-establishing wetland functions. This natural attenuation system can be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland.

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, 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.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarize the issues raised by interested and affected parties.

None

Summary of response from the practitioner to the issues raised by the interested and affected parties
(A full response must be provided in the Comments and Response Report that must be attached to this report):

NO issues raised, so no response required.

2. IMPACTS THAT MAY RESULT FROM CONSTRUCTION AND OPERATIONAL PHASE

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

To ensure uniformity, the assessment of potential impacts will be addressed in a standard manner so that a wide range of impacts is comparable. For this reason a clearly defined rating scale will be utilised to assess the impacts. Each impact identified will be assessed in terms of, **Nature, Extent, Duration, Intensity, probability, mitigation, enhancement (for a positive impact) and reversibility**. To enable a scientific approach to the determination of the impact significance (importance), a numerical value will be linked to each rating scale. The sum of the numerical values will define the significance by the use of formula. More details on the scoring system used in this impact rating procedure are provided in **Appendix I.**

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 Proposal – *Medium density* residential development at 80 dwelling units per hectare.

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
Traffic – noise and disturbance.	MODERATE	There will be additional noise and disturbance during construction phase in the immediate adjacent areas surrounding the site. Mitigation includes: • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance. • No work is to be undertaken on Sunday's and normal working hours of 6am to 6pm must be adhered to, to avoid disturbance outside of these times • Trucks and delivery vehicles must strictly obey speed limits within a 400m radius of the site to not cause additional noise from driving at high speed.	MODERATE

Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	LOW	• Regularly inspect and check all vehicles for any leaks. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	• There are no cultural or historical features on this site. • If any historical remains or archaeological features are found during construction, the ECO must be made aware of it straight away, and SAHRA may be called in to investigate.	NEGLIGIBLE
General noise disturbance – construction and operational noise	MODERATE	• Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance. • No work is to be undertaken on Sunday's and normal working hours of 7am to 5pm must be adhered to, to avoid disturbance outside of these times.	MODERATE
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	• There will be a cut to fill principle used on the site where necessary. • All geological and structural engineering standards must be adhered to. • Erosion control measures on all soil stockpiles must be put in place as per the EMP and enforced on the site. Soil catching structures and sand bags are to be used to curb erosion.	LOW
Wet area – impact of development on the hydrology	MODERATE	• The specialist notes that this area can be re-engineered and landscaped as part of a sustainable stormwater management system, to accommodate stormwater & retain some natural seep conditions, in order to: • Accommodate and sufficiently attenuate stormwater inputs to ensure	LOW

		that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion. • The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate. • The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland. • Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.	
Groundwater - quality	LOW	• There is no major impact on groundwater quality expected. • Only possible source of groundwater contamination may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages. • Oil and grease traps are to be installed at all stormwater collection points, so that all oil and grease can be trapped before the stormwater is released into the downstream channel environment	LOW
Groundwater - quantity	LOW	• There is no major impact on groundwater quantity expected. • No water will be drawn from groundwater for use by the development (during either construction or operation phases)	LOW
Surface water – quality	MODERATE	• There is no major impact on surface water ***quality*** expected. There may be an increase in some sand and sedimentation during construction.	LOW

		The use of sand bags and strict working controls would help to limit this impact. • Other possible sources of surface water **contamination** may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	
Surface water – quantity and stormwater management	MODERATE	• There is no major impact on surface water quantity expected. • No water will be drawn from surface water for use by the development (during either construction or operation phases) • Water quantity and stormwater will be managed in the re-engineered and landscaped seep area as part of a holistic sustainable stormwater management system	LOW
Air pollution due to dust and odours – construction and operational phases	MODERATE	• The only impact envisaged is that of dust from construction vehicles on the site. • Roads upgrades and access are proposed. • All roads on the construction site are to be damped down with a water bowser to prevent all dust	LOW
Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	MODERATE	• The relevant policing and security forces that are responsible for the area, must be approached and become involved in the monitoring of activities on the site. • The developer is also responsible to control access to the site and guard the site to reduce crime. • No construction personnel will be allowed to live on the site • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to	MODERATE

		reduce noise, dust, pollution and disturbance.	
Waste Management – general disposal of waste (including sewerage)	MODERATE	• All waste will be disposed of by the municipality, as agreed by the service agreements and bulk service contributions. • General waste generated by the development will be disposed of at a registered landfill site as agreed by the municipality • Sewerage will connect into the currently existing sewerage network in the area	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	MODERATE	• The visual nature of the site will completely change, mostly due to vacant land now becoming developed. • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance.	MODERATE
Fire - Destruction of veld and properties due to fire from construction site	LOW	• All firefighting equipment is to be onsite at all times • Any fire started intentionally or unintentionally from the site during construction will be the responsibility of the contractors and site developers	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity	LOW	• The site contains natural grassland in a mostly good condition, high indigenous species richness, moderately high habitat diversity • But the site area is too small to be sustainable and is disconnected from other natural areas and is surrounded by existing urban uses and disturbance. • The natural vegetation should be used for landscaping within the development	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	• The area around the site is already in the process of transformation and development activities and people occur on a daily basis. Most large mammals would have already left the site to conservation areas and larger open spaces further away.	LOW

		• No animals will be allowed to be trapped or killed during the construction phase of the development	
Services (impact to existing services – mainly during operational phase)	HIGH (positive)	• The various upgrades to service infrastructure in and around the site must be implemented before the construction can commence • All service agreements and bulk service contributions are to be paid before any connections are made	HIGH (Positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	HIGH (Positive)	• Jobs will be created during the construction phase of the development – for formal skilled jobs and informal jobs • The operation of the commercial activities will increase job opportunities in the area	HIGH (Positive)

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

Appendix F.01	Traffic Impact Study North Riding Ext 68, Mariteng Consulting Engineers, November 2016
Appendix F.02	Water and Sewer Report Noordhang Ext 68, KCE Consulting, April 2017
Appendix F.03	Roads and Stormwater Management Report Noordhang Ext 68, KCE Consulting, April 2017
Appendix G.01	Vegetation and Flora Assessment Holding 87 North Riding Agricultural Holdings, David Hoare Consulting CC, October 2015
Appendix G.02	Hydropedology and Wetland Identification Report, Terrasoil Science, March 2017

Alternative 1 – not preferred - Single residential development erven containing erven of 1000m²

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	MODERATE	There will be additional noise and disturbance during construction phase in the immediate adjacent areas surrounding the site. Mitigation includes: • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance.	LOW

		• No work is to be undertaken on Sunday's and normal working hours of 6am to 6pm must be adhered to, to avoid disturbance outside of these times • Trucks and delivery vehicles must strictly obey speed limits within a 400m radius of the site to not cause additional noise from driving at high speed.	
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	LOW	• Regularly inspect and check all vehicles for any leaks. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	• There are no cultural or historical features on this site. • If any historical remains of houses or are found during construction, the ECO must be made aware of it straight away, and SAHRA may be called in to investigate.	NEGLIGIBLE
General noise disturbance – construction and operational noise	MODERATE	• Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance. • No work is to be undertaken on Sunday's and normal working hours of 7am to 5pm must be adhered to, to avoid disturbance outside of these times.	LOW
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	• There will be a cut to fill principle used on the site where necessary. • All geological and structural engineering standards must be adhered to. • Erosion control measures on all soil stockpiles must be put in place as per the EMP and enforced on the	LOW

		site. Soil catching structures and sand bags are to be used to curb erosion.	
Wet area – impact of development on the hydrology	MODERATE	• The specialist notes that this area can be re-engineered and landscaped as part of a sustainable stormwater management system, to accommodate stormwater & retain some natural seep conditions, in order to: • Accommodate and sufficiently attenuate stormwater inputs to ensure that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion. • The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate. • The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland. • Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.	LOW
Groundwater - quality	LOW	• There is no major impact on groundwater quality expected. • Only possible source of groundwater contamination may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW

		• Oil and grease traps are to be installed at all stormwater collection points, so that all oil and grease can be trapped before the stormwater is released into the downstream channel environment	
Groundwater - quantity	LOW	• There is no major impact on groundwater quantity expected. • No water will be drawn from groundwater for use by the development (during either construction or operation phases)	LOW
Surface water – quality	LOW	• There is no major impact on surface water ***quality*** expected. There may be an increase in some sand and sedimentation during construction. The use of sand bags and strict working controls would help to limit this impact. • Other possible sources of surface water **contamination** may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW
Surface water – quantity and stormwater management	MODERATE	• There is no major impact on surface water quantity expected. • No water will be drawn from surface water for use by the development (during either construction or operation phases) • Water quantity and stormwater will be managed in the re-engineered and landscaped seep area as part of a holistic sustainable stormwater management system	LOW
Air pollution due to dust and odours – construction and operational phases	LOW	• The only impact envisaged is that of dust from construction vehicles on the site. • Roads upgrades and access are proposed.	LOW

		• All roads on the construction site are to be damped down with a water bowser to prevent all dust	
Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	MODERATE	• The relevant policing and security forces that are responsible for the area, must be approached and become involved in the monitoring of activities on the site. • The developer is also responsible to control access to the site and guard the site to reduce crime. • No construction personnel will be allowed to live on the site • Fence off and screen (using shade cloth) the boundary adjoining residential areas	LOW
Waste Management – general disposal of waste (including sewerage)	MODERATE	• All waste will be disposed of by the municipality, as agreed by the service agreements and bulk service contributions. • General waste generated by the development will be disposed of at a registered landfill site as agreed by the municipality • Sewerage will connect into the currently existing sewerage network in the area	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	MODERATE	• The visual nature of the site will completely change, mostly due to vacant land now becoming developed. • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance.	LOW
Fire - Destruction of veld and properties due to fire from construction site	LOW	• All firefighting equipment is to be onsite at all times • Any fire started intentionally or unintentionally from the site during construction will be the responsibility of the contractors and site developers	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity	LOW	• The site contains natural grassland in a mostly good condition, high indigenous species richness, moderately high habitat diversity	LOW

		• But the site area is too small to be sustainable and is disconnected from other natural areas and is surrounded by existing urban uses and disturbance. • The natural vegetation should be used for landscaping within the development	
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	• The area around the site is already in the process of transformation and development activities and people occur on a daily basis. Most large mammals would have already left the site to conservation areas and larger open spaces further away. • No animals will be allowed to be trapped or killed during the construction phase of the development	LOW
Service (impact to existing services – mainly during operational phase)	HIGH (positive)	• The various upgrades to service infrastructure in and around the site must be implemented before the construction can commence • All service agreement and bulk service contributions are to be paid before any connections are made	HIGH (Positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	MODERATE (Positive)	• The investment is only moderate as the number of units to be established is small in terms of an economic return, relative to the costs involved in infrastructure and services, etc • Jobs will be created during the construction phase of the development – for formal skilled jobs and informal jobs • The operation of the residential activities will only provide a few job opportunities in the area	MODERATE (Positive)

Alternative 2 – not preferred : The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha.

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	HIGH	There will be additional noise and disturbance during construction phase in the immediate adjacent areas surrounding the site. Mitigation includes: • Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to reduce noise, dust, pollution and disturbance.. • No work is to be undertaken on Sunday's and normal working hours of 6am to 6pm must be adhered to, to avoid disturbance outside of these times • Trucks and delivery vehicles must strictly obey speed limits within a 400m radius of the site to not cause additional noise from driving at high speed.	HIGH
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	MODERATE	• Regularly inspect and check all vehicles for any leaks. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	• There are no cultural or historical features on this site. • If any historical remains or archaeological features are found during construction, the ECO must be made aware of it straight away, and SAHRA may be called in to investigate.	NEGLIGIBLE
General noise disturbance – construction and operational noise	HIGH	• Fence off and screen (using shade cloth) the boundaries where there are existing residential uses, to	MODERATE

		reduce noise, dust, pollution and disturbance. • No work is to be undertaken on Sunday's and normal working hours of 7am to 5pm must be adhered to, to avoid disturbance outside of these times.	
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	• There will be a cut to fill principle used on the site where necessary. • All geological and structural engineering standards must be adhered to. • Erosion control measures on all soil stockpiles must be put in place as per the EMP and enforced on the site. Soil catching structures and sand bags are to be used to curb erosion.	LOW
Wet area – impact of development on the hydrology	MODERATE	• The specialist notes that this area can be re-engineered and landscaped as part of a sustainable stormwater management system, to accommodate stormwater & retain some natural seep conditions, in order to: • Accommodate and sufficiently attenuate stormwater inputs to ensure that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion. • The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate. • The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland. • Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.	MODERATE
Groundwater - quality	MODERATE	• There is no major impact on groundwater quality expected.	MODERATE

		• Only possible source of groundwater contamination may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages. • Oil and grease traps are to be installed at all stormwater collection points, so that all oil and grease can be trapped before the stormwater is released into the downstream channel environment	
Groundwater - quantity	MODERATE	• There is no major impact on groundwater quantity expected. • No water will be drawn from groundwater for use by the development (during either construction or operation phases)	MODERATE
Surface water – quality	MODERATE	• There is no major impact on surface water ***quality*** expected. There may be an increase in some sand and sedimentation during construction. The use of sand bags and strict working controls would help to limit this impact. • Other possible sources of surface water **contamination** may come from a diesel, oil or petrol spill. • Keep any oil, petrol or diesel in cement and brick bunded areas, Bunding must be 110% of the capacity of the storage container • Only minor maintenance to be done on the site, all major maintenance must be done at the contractor's workshop offsite to avoid any major spillages.	LOW

Surface water – quantity and stormwater management	MODERATE	• There is no major impact on surface water quantity expected. • No water will be drawn from surface water for use by the development (during either construction or operation phases) • Water quantity and stormwater will be managed in the re-engineered and landscaped seep area as part of a holistic sustainable stormwater management system	MODERATE
Air pollution due to dust and odours – construction and operational phases	MODERATE	• The only impact envisaged is that of dust from construction vehicles on the site. • Roads upgrades and access are proposed. • All roads on the construction site are to be damped down with a water bowser to prevent all dust	LOW
Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	MODERATE	• The relevant policing and security forces that are responsible for the area, must be approached and become involved in the monitoring of activities on the site. • The developer is also responsible to control access to the site and guard the site to reduce crime. • No construction personnel will be allowed to live on the site • Fence off and screen (using shade cloth) the boundary	MODERATE
Waste Management – general disposal of waste (including sewerage)	MODERATE	• All waste will be disposed of by the municipality, as agreed by the service agreements and bulk service contributions. • General waste generated by the development will be disposed of at a registered landfill site as agreed by the municipality • Sewerage will connect into the currently existing sewerage network in the area	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	HIGH	• The visual nature of the site will completely change, mostly due to vacant land now becoming developed. The nature of flats/ apartments would cause an incongruent change in the sense of	MODERATE

		place, as the nature of the residential differs from surrounding areas • Fence off and screen (using shade cloth) the boundary along Riverside Road.	
Fire - Destruction of veld and properties due to fire from construction site	LOW	• All firefighting equipment is to be onsite at all times • Any fire started intentionally or unintentionally from the site during construction will be the responsibility of the contractors and site developers	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity	LOW	• The site contains natural grassland in a mostly good condition, high indigenous species richness, moderately high habitat diversity • But the site area is too small to be sustainable and is disconnected from other natural areas and is surrounded by existing urban uses and disturbance. • The natural vegetation should be used for landscaping within the development	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	• The area around the site is already in the process of transformation and development activities and people occur on a daily basis. Most large mammals would have already left the site to conservation areas and larger open spaces further away. • No animals will be allowed to be trapped or killed during the construction phase of the development	LOW
Service (impact to existing services – mainly during operational phase)	HIGH (positive)	• The various upgrades to service infrastructure in and around the site must be implemented before the construction can commence • All service agreement and bulk service contributions are to be paid before any connections are made	HIGH (Positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	HIGH (Positive)	• Jobs will be created during the construction phase of the development – for formal skilled jobs and informal jobs • The operation of the commercial activities will increase job opportunities in the area	HIGH (Positive)

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

Appendix F.01	Traffic Impact Study North Riding Ext 68, Mariteng Consulting Engineers, November 2016
Appendix F.02	Water and Sewer Report Noordhang Ext 68, KCE Consulting, April 2017
Appendix F.03	Roads and Stormwater Management Report Noordhang Ext 68, KCE Consulting, April 2017
Appendix G.01	Vegetation and Flora Assessment Holding 87 North Riding Agricultural Holdings, David Hoare Consulting CC, October 2015
Appendix G.02	Hydropedology and Wetland Identification Report, Terrasoil Science, March 2017

3. IMPACTS THAT MAY RESULT FROM 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.

Proposal – *Medium density* residential development at 80 dwelling units per hectare.

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
Physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Bio-physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Social	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Economic	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low

Alternative 1 - Single residential development erven containing erven of 1000m²

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
Physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Bio-physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Social	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes	Low

		that will take place over time, which will subsequently render any mitigation discussed, void.	
Economic	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low

Alternative 2 - The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha.

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
Physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Bio-physical	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Social	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low
Economic	Low	This project has an extended lifespan period, and it is determined that decommissioning of the project will never happen. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that will take place over time, which will subsequently render any mitigation discussed, void.	Low

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

None.

4. CUMULATIVE IMPACTS OF PREFERRED ALTERNATIVE

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:

Cumulative Impacts – construction phase

The site will be transformed from its current state, and the wet area transformed into a re-engineered wetland system, to be vegetated with indigenous vegetation, which will provide a variety of habitats to maximise the biodiversity support function of the wetland. The cumulative impacts are considered to be moderate, as the site will be transformed from its current state, although the site contains natural grassland in a mostly good condition, it has been considered too small to be sustainable in both the short and long term, is disconnected from other natural areas and is surrounded by existing urban uses and disturbance. As such, the site is more suitable to be developed for desirable uses and become a further infill site in the urban edge.

The site forms an integral component of the RSDF where residential uses are envisaged, providing both residential and employment opportunities in this area. As such, the general wider area is not a greenfields area and sensitivities are low. The development of the site for the proposed uses will, therefore, not contribute to any significant loss of valuable open land, or areas of any important conservation value or even open space to the community, as the only remaining sensitive area, ie the hillslope, will be utilised for an ecologically designed sustainable urban stormwater management system.

The site is also recognised in the GDARD EMF for Zone 1 purposes, the intent of which is to streamline urban development activities 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 minimise urban sprawl into rural areas

There are, however, positive impacts, which will include the creation of jobs will during the construction phase of the development - for formal skilled jobs and informal jobs. The labour force would largely be recruited from the local previously disadvantaged communities, where ever possible, including skilled and semi-skilled positions. Labour intensive construction methods could be utilised to maximise the potential number of employment opportunities whilst mitigating impact on site of machinery. There is no doubt that this new development in the area will also mean that people living and working close by will find opportunities for employment during the construction phase

The focus should thus be to ensure that development activities do not impact negatively on the adjoining areas. It is believed that this is a feasible and economically viable use of this land, when land is becoming increasingly expensive in this infill area, close to a major economic node at Fourways.

It is however clear that during ***construction***, the negative impacts will outweigh the positive impacts, but with proper mitigation and management, these can be substantially reduced to minimise and mitigate potential impacts to adjoining land uses and residential complexes.

Cumulative impacts – operational phase

The development will add and contribute to the traffic on Witkoppen Drive, but the traffic impact study has noted that such increase can be adequately accommodated. The management of increased stormwater is a further cumulative impact, arising from the transformation of natural ground surface to hard surfaces. It should, however, be noted that provision has been made in the development layout for sustainable urban stormwater attenuation facilities within the degraded wet area, which will manage on-site stormwater, to ensure that the post-development flows do not exceed pre-development flows.

It is clear that during operational phase, the impact will be a net positive one, due to services provision and job creation.

There is no doubt however that the entire development, has the potential for further job creation and provision of accommodation by means of infill in the developed and serviced urban area footprint.

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.

Summary of predicted impacts during Construction and Operation

Preferred Alternative: ***Medium density*** residential development at 80 dwelling units per hectare.	**Significance rating of impacts:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	MODERATE	MODERATE
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	LOW	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	NEGLIGIBLE
General noise disturbance – construction and operational noise	MODERATE	MODERATE
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	LOW
Degraded wet area – impact of development on the hydrology	MODERATE	LOW
Groundwater - quality	LOW	LOW
Groundwater - quantity	LOW	LOW
Surface water – ***quality***	MODERATE	LOW
Surface water – quantity and stormwater management	MODERATE	LOW
Air pollution due to dust and odours – construction and operational phases	MODERATE	LOW

Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	MODERATE	MODERATE
Waste Management – general disposal of waste (including sewerage)	MODERATE	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	MODERATE	MODERATE
Fire - Destruction of veld and properties due to fire from construction site	LOW	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity –	LOW	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	LOW
Service (impact to existing services – mainly during operational phase)	HIGH (positive)	HIGH (positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	HIGH (Positive)	HIGH (Positive)

Alternative 1: Single residential development erven containing erven of 1000m²	**Significance rating of impacts:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	MODERATE	LOW
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	LOW	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	NEGLIGIBLE
General noise disturbance – construction and operational noise	MODERATE	LOW
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	LOW
Degraded wet area – impact of development on the hydrology	MODERATE	LOW
Groundwater - quality	LOW	LOW
Groundwater - quantity	LOW	LOW
Surface water – ***quality***	LOW	LOW
Surface water – quantity and stormwater management	MODERATE	LOW
Air pollution due to dust and odours – construction and operational phases	LOW	LOW
Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	MODERATE	LOW
Waste Management – general disposal of waste (including sewerage)	MODERATE	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	MODERATE	LOW
Fire - Destruction of veld and properties due to fire from construction site	LOW	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity –	LOW	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	LOW
Service (impact to existing services – mainly during operational phase)	HIGH (Positive)	HIGH (Positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	MODERATE	MODERATE

Alternative 2: The development of ***high density*** residential flats / apartment blocks at more than 100 units per ha.	**Significance rating of impacts:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	HIGH	HIGH
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	MODERATE	LOW
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NEGLIGIBLE	NEGLIGIBLE
General noise disturbance – construction and operational noise	HIGH	MODERATE
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	LOW	LOW
Degraded wet area – impact of development on the hydrology	MODERATE	MODERATE
Groundwater - quality	MODERATE	MODERATE
Groundwater - quantity	MODERATE	MODERATE
Surface water – ***quality***	MODERATE	LOW
Surface water – quantity and stormwater management	MODERATE	MODERATE
Air pollution due to dust and odours – construction and operational phases	MODERATE	LOW
Impacts on safety and security	MODERATE	MODERATE

Danger from earthmoving equipment, laborers on site, localized crime		
Waste Management – general disposal of waste (including sewerage)	MODERATE	LOW
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	HIGH	MODERATE
Fire - Destruction of veld and properties due to fire from construction site	LOW	NEGLIGIBLE
Vegetation (Flora) Loss of Vegetation / biodiversity	LOW	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	LOW
Service (impact to existing services – mainly during operational phase)	HIGH (Positive)	HIGH (Positive)
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	HIGH (Positive)	HIGH (Positive)

No-Go (compulsory)	**Significance rating of impacts:**	**Significance rating of impacts after mitigation:**
Traffic – noise and disturbance.	NIL	NIL
Petrol, diesel and oil spills from construction vehicles - caused by potential inadequate maintenance	NIL	NIL
Impact on or loss to any potential Cultural, Historic and Archaeological Features	NIL	NIL
General noise disturbance – construction and operational noise	NIL	NIL
Soils and geology - Changes to Soil Structure as a Result of Disturbance - Loss of topsoil due to erosion	NIL	NIL
Degraded wet area – impact of development on the hydrology	Nil	NIL
Groundwater - quality	NIL	NIL
Groundwater - quantity	NIL	NIL
Surface water – ***quality***	NIL	NIL
Surface water – quantity and stormwater management	NIL	NIL
Air pollution due to dust and odours – construction and operational phases	NIL	NIL
Impacts on safety and security Danger from earthmoving equipment, laborers on site, localized crime	LOW	LOW
Waste Management – general disposal of waste (including sewerage)	NIL	NIL
Visual - Decrease in aesthetic appeal of the area, and increase in visual obtrusiveness	NIL	NIL
Fire - Destruction of veld and properties due to fire from construction site	LOW	LOW
Vegetation (Flora) Loss of Vegetation / biodiversity – loss of trees on the site	LOW	LOW
Wildlife (fauna) - Disturbance to natural wildlife and/or loss of natural wildlife/ loss of habitat	LOW	LOW
Service (impact to existing services – mainly during operational phase)	NIL	NIL
Economic investment by the applicant in public roads and infrastructure and well as job creation (construction and operational phases)	NIL	NIL

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

Identify preferred proposal

The preferred alternative is for medium density residential uses and including internal roads, services and infrastructure. The development will be based on approximately 80 units per hectare, with a maximum height of 4 storeys. This will result in ±200 units. The site will contain all parking on site with internal circulation roads. Access will be taken via a new JRA proposed access road to be constructed, to be built along the western boundary of the site up to a new intersection of Witkoppen Road. There will be security controlled access.

There is a small area of degraded water accumulation in the south eastern corner of the site and it is proposed to utilise this area for the purposes of a sustainable urban water management system on the site, which would involve the area being transformed and created into an eco-engineered wetland attenuation system, to be vegetated with indigenous vegetation, to accommodate and attenuate stormwater that will be generated by the proposed development, while at the same time maintaining some wetland habitat and re-establishing wetland functions. The implementation of this system has been ***recommended*** by the wetland specialist as a more effective solution to water management on the site. He additionally notes that a 30 metre buffer will not achieve the same results.

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.

The preferred alternative is for medium density residential development at 80 units per hectare, with internal roads, services and infrastructure and a sustainable urban stormwater system is preferred on the basis of the following

1. The specific purpose and intent of this application is to obtain a residential development with this density, that will contribute to an economic investment and which provides for flexibility in accordance with market demands.

2. The wider area is in the process of transformation from its historic rural use and this site forms one of the last remaining undeveloped infill sites on the agricultural holdings in this area and within the urban footprint.

3. The proposed land uses for the site are in line with the strategies and development guidelines of the RSDF, particularly relating to density and adjoining the economic corridor along Witkoppen Road. The proposed development will contribute to residential infill and densification in the urban area.

4. Whilst there are some ecological elements of value, the vegetation specialist notes that the area is too small to be sustainable due to the small area and also that it is cut off from any linkages and connectivity. There is also a degraded wet area on the site, which will be re-engineered as part of a stormwater management system.

5. There is also a small area of degraded hillslope seep area on the site, which will be re-engineered for the purposes of a sustainable urban water management system on the site, while at the same time maintaining some wetland habitat and re-establishing wetland functions. The implementation of this system has been ***recommended*** by the wetland specialist to achieve the following:

    - accommodate and sufficiently attenuate stormwater inputs to ensure that discharges to the downstream environment do not significantly exceed pre-development discharge velocities and result in erosion.
    - The area required for the re-engineered wetland system will depend in part on the stormwater volumes that the system will need to accommodate and attenuate.
    - The re-engineered wetland system must be vegetated with indigenous vegetation and provide a variety of habitats to maximise the biodiversity support function of the wetland.
    - Through the creation of vegetated ponds that attenuate flows and increase retention time, water quality enhancement functions could be maintained/enhanced.
    - Pathways/benches (or similar low impact recreational infrastructure) could be provided into the wetland system to ensure controlled, limited recreational use of the wetland system as an urban green space.
    - The specialist indicates that a 30 metre buffer will serve no purpose to the management of water

6. The development will provide significant economic and capital investment in the area and create jobs, especially for unskilled and semi-skilled workers, both during the construction and the operational period.

7. RECOMMENDATION OF 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).	YES **X**

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

n/a

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorization that may be granted by the competent authority in respect of the application:

All possible mitigation measures for both construction and operation phases of the project have been fully discussed in the EMP which attached to this report as Appendix H

8. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

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:

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)
Appendix B: Photographs
Appendix C: Facility illustration(s)
Appendix D: Route position information
Appendix E: Public participation information

- Appendix E.1 – Proof of site notice
- Appendix E.2 – Written notices issued to Identified I&AP
- Appendix E.3 – Proof of newspaper advertisements
- Appendix E.4 –Communications with I&APs
- Appendix E.5 – Minutes of any public and or stakeholder meetings
- Appendix E.6 - Comments and Responses Report
- Appendix E.7 –Comments from I&APs on Basic Assessment (BA) Report
- Appendix E.8 –Comments from I&APs on amendments to the BA report
- Appendix E.9 – Copy of the register of I&APs
- Appendix E.10 – Comments from I&APs on the application
- Appendix E.11 – Other

Appendix F Water use license(s), SAHRA information, service letters from municipalities, water supply information
Appendix G: Specialist reports
Appendix H: EMP
Appendix I: Other information

CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed; and

APPENDIX A

A.01 LOCALITY PLAN
A.02 SITE PLAN
A.03 SENSITIVITY PLAN

A.01 LOCALITY PLAN

A.02 SITE PLAN

A.03 SENSITIVITY PLAN

APPENDIX B

PHOTOGRAPHS

APPENDIX C

FACILITY ILLUSTRATION(S)

APPENDIX D

ROUTE POSITION INFORMATION

Not applicable to this application

APPENDIX E

PUBLIC PARTICIPATION INFORMATION

APPENDIX E.1

PROOF OF SITE NOTICE

APPENDIX E.2

WRITTEN NOTICES ISSUED TO IDENTIFIED I&AP'S

APPENDIX E.3

PROOF OF NEWSPAPER ADVERTISEMENTS

APPENDIX E.4

COMMUNICATIONS TO AND FROM INTERESTED AND AFFECTED PARTIES

APPENDIX E.5

MINUTES OF ANY PUBLIC AND OR STAKEHOLDER MEETINGS

No meetings were held

APPENDIX E.6

COMMENTS AND RESPONSES REPORT

APPENDIX E.7

COMMENTS FROM I&APS ON BASIC ASSESSMENT (BA) REPORT

APPENDIX E.8

COMMENTS FROM I&APS ON AMENDMENTS TO THE BA REPORT

Not applicable

APPENDIX E.9

COPY OF THE REGISTER OF I&APS

State Departments administering a law affecting the environment:

State Departments administering a law affecting the environment:	**Johannesburg Metropolitan Municipality**		
Contact person:	N Maduse, City of Johannesburg Environmental Management		
Postal address:	P O Box 30733, BRAAMFONTEIN		
Postal code:	2017	**Cell:**	
Telephone:	011 407 6520	**Fax:**	011 339 1885
E-mail:			

State Departments administering a law affecting the environment:	**Department of Water Affairs** **Deputy Director: Water Quality - Crocodile (West) and Marico**		
Contact person:	Lilian Siwelane		
Postal address:	Private Bag X995, PRETORIA		
Postal code:	0001	**Cell:**	082 804 9817
Telephone:	012 392 1409	**Fax:**	
E-mail:			

APPENDIX E.10

COMMENTS FROM I&APS ON THE APPLICATION

APPENDIX E.11

OTHER

No other information

APPENDIX F

WATER USE LICENSE(S), SAHRA INFORMATION, SERVICE LETTERS FROM MUNICIPALITIES, WATER SUPPLY INFORMATION

Water Use License
This will not be required

City of Johannesburg
A copy of the draft BA will be circulated to the Environmental Management department

Appendix F.01	Traffic Impact Study North Riding Ext 68, Mariteng Consulting Engineers, November 2016
Appendix F.02	Water and Sewer Report Noordhang Ext 68, KCE Consulting, April 2017
Appendix F.03	Roads and Stormwater Management Report Noordhang Ext 68, KCE Consulting, April 2017

APPENDIX F.01

Traffic Impact Study North Riding Ext 68, Mariteng Consulting Engineers, November 2016

APPENDIX F.02

Water and Sewer Report Noordhang Ext 68, KCE Consulting,
April 2017

APPENDIX F.03

Roads and Stormwater Management Report Noordhang Ext 68, KCE Consulting, A
April 2017

APPENDIX G

SPECIALIST REPORTS

Appendix G.01	Vegetation and Flora Assessment Holding 87 North Riding Agricultural Holdings, David Hoare Consulting CC, October 2016
Appendix G.02	Hydropedology and Wetland Identification Report, Terrasoil Science, March 2017

APPENDIX G.01

Vegetation and Flora Assessment Holding 87 North Riding Agricultural Holdings, David Hoare Consulting CC, October 2016

APPENDIX G.02

Hydropedology and Wetland Identification Report,
Terrasoil Science, March 2017

APPENDIX H

EMP

APPENDIX I

OTHER INFORMATION

Impact Assessment Criteria

APPENDIX J

COMPANY PROFILE AND EAP INFORMATION