

DRAFT SCOPING REPORT:

**THE DEVELOPMENT OF THE
KLARINET INTEGRATED HOUSING
PROJECT PHASE 2 AND
ASSOCIATED INFRASTRUCTURE, EMALAHLENI**

Report prepared for: Absa Development Company Holding (Pty) Ltd.

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PROJECT INFORMATION SUMMARY

PROJECT TITLE	The development of the Klarinet Integrated Housing Project Phase 2 and associated infrastructure, eMalahleni
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1. INTRODUCTION

The project applicant, Absa Property Development (Pty) Ltd, intends to develop of a new residential area and associated infrastructure on various portions of the farm Blesboklaagte 296 JS as well as a portion of Erf 5017 Klarinet x7, eMalahleni. The said site is approximately 275 hectares in extent and located adjacent to the existing Klarinet x6, x7 and x8 residential areas (Figure 3.1).

In essence, the said project involves the development of integrated (mixed mode) sustainable housing (i.e. subsidised and entry level bonded houses, social amenities and commercial facilities) within the Klarinet area as identified in the eMalahleni Local Municipality's Spatial Development Framework. Services (water, sewer, roads, electricity, etc.) will be provided as part of the project. In addition, the existing OR Tambo Road will be extended in order to connect to the Verena/Zaaihoek roads.

This project (Klarinet Integrated Housing Project Phase 2) forms part of the Klarinet Integrated Housing Project which is jointly implemented by the Mpumalanga Department of Human Settlements, eMalahleni Local Municipality, Absa Devco and the National Department of Human Settlements.

The Klarinet Integrated Housing Project will when completed provide housing with the associated amenities to about 12 000 families. The project was declared a National Priority Project and is implemented in support of the Government's Breaking New Ground Strategy.

The Minister of Environmental and Water Affairs listed in terms of Sections 24(2) and 24D of the National Environmental Management Act, 1998 (Act No. 107 of 1998), a number of activities that require an environmental impact assessment (either a Basic Assessment or a full Environmental Impact Assessment) before undertaking these activities.

The proposed development would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

GN R544 – LISTING NOTICE 1 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
Listed activity 9	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres per second or more, excluding where: a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.
Listed activity 11	The construction of: (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square metres in size; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size; or (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse,

GN R544 – LISTING NOTICE 1 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
	excluding where such construction will occur behind the development setback line.
Listed activity 18	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 from (i) a watercourse (ii) the sea (iii) the seashore (iv) 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 (i) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (ii) occurs behind the development setback line.

GN R545 – LISTING NOTICE 2 (REQUIRES A FULL EIA)	
Listed Activity	Description
Listed activity 15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply (listed activity 15 of Listing Notice 2).

GN R546 – LISTING NOTICE 3 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
	Listing Notice No. 3 becomes applicable if the site is located within a specific geographical area (e.g. endangered ecosystems or critical biodiversity areas). <i>Some of the houses and infrastructure will be located within an area identified in the Mpumalanga Biodiversity Sector Plan (2013) as a 'Critical Biodiversity Area'. Listing Notice No. 3 would thus be applicable in terms of the following listed activities:</i>
Listed Activity 12	The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.
Listed Activity 13	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: (1) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental: Waste Act, 2008, in which case the activity is regarded to be excluded from this list; (2) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010.
Listed Activity 14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for 1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes; 2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from the list; 3) the undertaking of a linear activity falling below the thresholds in notice 544 of 2010.
Listed	The route determination of roads and design of associated physical

GN R546 – LISTING NOTICE 3 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
Activity 18	infrastructure, including roads that have not yet been built for which routes have been determined before 03 July 2006 and which have not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 or 2009, made under section 24(5) of the Act and published in Government Notice No. R.385 of 2006, - (i) it is a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998); (ii) it is a road administered by a provincial authority; (iii) the road reserve is wider than 30 metres; or (iv) the road will cater for more than one lane of traffic in both directions.

In order to obtain environmental authorisation, a Scoping Report and an Environmental Impact Assessment Report must be compiled as described in Regulations 26 to 35 of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

Clean Stream Environmental Services was appointed as independent environmental consultant to conduct the required environmental impact assessment and compile the necessary documentation.

This scoping report provides:

- an overview of the proposed project,
- an overview of the environmental features of the proposed site and immediate surrounding area,
- an indication of the interested and affected parties (I&APs) identified to date,
- an indication of issues of concern/comments received from interested and affected parties (I&APs) to date;
- an indication of potential environmental impacts that could take place as a result of the proposed project.

In addition, this scoping report provides an indication of what specialist studies (including further public participation) are required as part of the Environmental Impact Assessment (EIA) phase of the project.

2. DESCRIPTION OF THE ACTIVITY

2.1 Details of the project applicant and environmental consultant

Name and address of applicant: Absa Development Company Holding (Pty) Ltd. P.O. Box 1132 Johannesburg 2000	
Contact person:	Mr. Lee Hutchinson
Telephone number:	011 – 895 6817
Cell number:	071 364 6492
e-mail address:	Lee.Hutchinson@absacapital.com

Name and address of environmental consultant: Clean Stream Environmental Services P.O. Box 647 Witbank 1035	
Contact persons:	Mrs. A. Erasmus <i>Pr. Sci. Nat.</i> Ms. R. Janse van Rensburg
Cell number:	083 271 8260
Telephone number:	(013) 697 5021
Fax number:	(013) 697 5021
e-mail address:	adie@cleanstreams.co.za riana@cleanstreams.co.za

A copy of the completed application form and the declaration of independence by the applicant and environmental consultant are provided in Appendix 1.

A copy of the Curriculum Vitae of both Mrs. A. Erasmus and Ms. R. Janse van Rensburg are provided in Appendix 2 together with a list of projects completed to date.

2.2 Nature of the activity/development

The project applicant, Absa Property Development (Pty) Ltd, intends to develop of a new residential area and associated infrastructure on various portions of the farm Blesboklaagte 296 JS as well as a portion of Erf 5017 Klarinet x7, eMalahleni. The said site is approximately 275 hectares in extent and located adjacent to the existing Klarinet x6, x7 and x8 residential areas (Figure 3.1).

The proposed development would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

GN R544 – LISTING NOTICE 1 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
Listed activity 9	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres per second or more, excluding where: a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.
Listed activity 11	The construction of: (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square metres in size; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size; or (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.
Listed activity 18	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 from (i) a watercourse (ii) the sea (iii) the seashore (iv) 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 (i) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (ii) occurs behind the development setback line.

GN R545 – LISTING NOTICE 2 (REQUIRES A FULL EIA)	
Listed Activity	Description
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GN R546 – LISTING NOTICE 3 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
Listing Notice No. 3 becomes applicable if the site is located within a specific geographical area (e.g. endangered ecosystems or critical biodiversity areas). <i>Some of the houses and infrastructure will be located within an area identified in the Mpumalanga Biodiversity Sector Plan (2013) as a 'Critical Biodiversity Area'. Listing Notice No. 3 would thus be applicable in terms of the following listed activities:</i>	
Listed Activity 12	The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.
Listed Activity 13	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: (1) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National

GN R546 – LISTING NOTICE 3 (REQUIRES A BASIC ASSESSMENT)	
Listed Activity	Description
	Environmental: Waste Act, 2008, in which case the activity is regarded to be excluded from this list. (2) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010.
Listed Activity 14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for 1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes; 2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from the list; 3) the undertaking of a linear activity falling below the thresholds in notice 544 of 2010.
Listed Activity 18	The route determination of roads and design of associated physical infrastructure, including roads that have not yet been built for which routes have been determined before 03 July 2006 and which have not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 or 2009, made under section 24(5) of the Act and published in Government Notice No. R.385 of 2006, - (i) it is a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998); (ii) it is a road administered by a provincial authority; (iii) the road reserve is wider than 30 metres; or (iv) the road will cater for more than one lane of traffic in both directions.

In order to obtain environmental authorisation, a Scoping Report and an Environmental Impact Assessment Report must be compiled as described in Regulations 26 to 35 of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2.3 Reason for project

The Klarinet Integrated Housing Development is in line with the Breaking New Ground (BNG) principles and was implemented as the first large scale housing project in Mpumalanga. The said project was declared a National Priority Project.

The Klarinet Integrated Housing Phase 2 Project (referred to as Klarinet Phase 2) forms part of the above-mentioned Klarinet Integrated Housing Development which is jointly implemented by the Mpumalanga Department of Human Settlements, eMalahleni Local Municipality, Absa Devco and the National Department of Human Settlements.

In essence, the said project involves the development of integrated (mixed mode) sustainable housing (i.e. subsidised and entry level bonded houses, social amenities and commercial facilities) within the Klarinet area as identified in the eMalahleni Local Municipality's Spatial Development Framework. Services (water, sewer, roads, electricity, etc.) are also provided as part of the project.

Phase 1 (i.e. Klarinet x6, x7 and x8), of which almost all the housing structures and some community structures have already been built, provided 2272 fully subsidised BNG units, 1103 affordable bonded units, 1200 institutional units as well as supporting social and community facilities.

Phase 2 (i.e. proposed Klarinet x10, x11 and x12) will be developed to the east of Phase 1 and will consist of subsidised BNG units, institutional units, affordable bonded housing units with supporting social and community facilities.

The Klarinet Integrated Housing Development will when completed provide housing with the associated amenities to about 12 000 families. As indicated, the project was declared a National Priority Project and is implemented in support of the Government's Breaking New Ground Strategy.

2.4 Detailed description of the development and all relevant components

The proposed residential development will take place on the following portions of the farm Blesboklaagte 296 JS: Portion 26; Remainder of Portion 98; Remainder of Portion 153; Remainder of Portion 154; Portion 171; Portion 172; Remainder of Portion 188; Remainder of Portion 189; Portions 199, 200, 201, 202, 203, 204; Remainder of Portion 210; Remainder of Portion 226 and Erf 5017. Most of these properties are registered in the name of Absa Property Development Proprietary (Ltd). Three are however, registered in the name of the eMalahleni Local Municipality (see Table 3.1). The total area is 323.1934 hectares of which only approximately 271.52 ha will be developed. Figure 3.1 provides an indication of the location of the Klarinet Phase 2 site in relation to Klarinet x6, x7 and x8.

A portion of the main access road to the proposed township will traverse a portion of Portion 56 of the farm Blesboklaagte 296 JS and a right of way servitude will be registered over this portion in favour of the development, since it is owned by a private company.

The Klarinet Phase 2 development will entail the development of the proposed Klarinet x10, x11 and x12 residential areas. A copy of the Township Establishment Memorandum compiled by Urban Dynamics Inc. (2014) is provided in Appendix 3. Figure 2.1 provides an indication of the proposed layout plan designed by Urban Dynamics Inc. (2014).

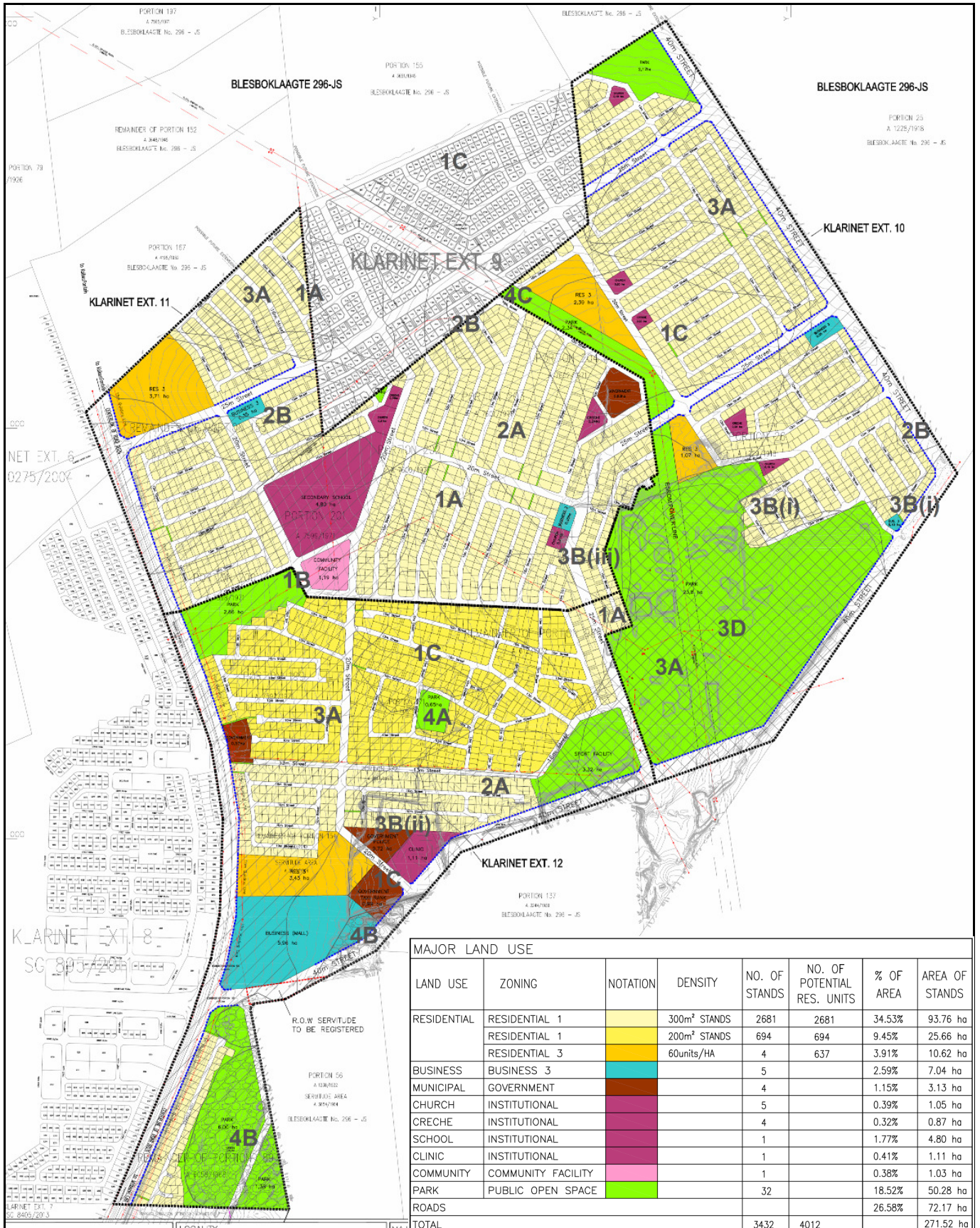


Figure 2.1: Proposed layout plan w.r.t. Klarinet x10, x11 and x12 (Urban Dynamics, 2014)

Table 2.1 provides an indication of the proposed land uses/zonings with regards to the proposed 3 phases (namely Klarinet x10, x 11 and x12) of the Klarinet Phase 2 development.

Table 2.1: Proposed land uses/zonings for the total Klarinet Phase 2 development (taken from Urban Dynamics, 2014).

OVERALL KLARINET PHASE 2 DEVELOPMENT (Klarinet x10, x11 & x12)				
ZONING/LAND USE	NUMBER OF STANDS			
	OVERALL	X10	X11	X12
Residential 1 – 300m ² stands	2681	1010	1367	304
Residential 1 – 200m ² stands (in-situ)	694	0	0	694
Residential 3 – potential of 637 units @ 60 units/ha	4	2	1	1
Business 3	5	2	2	1 (proposed mall)
Institutional – church	5	3	2	0
Institutional – crèche	4	2	2	0
Institutional – secondary school	1	0	1	0
Institutional – clinic	1	0	0	1
Community facility	1	0	1	0
Government (municipal)	4	0	1	3
Park	32	As shown on plan		
Streets	As shown on plan			
TOTAL	3432	1027	1389	1012

It should be noted that the rezoning and subdivision of the Government (Municipal) stand in Klarinet x7 (i.e. Erf 5017) forms part of the Klarinet Phase 2 development. This rezoning and subdivision would potentially add an additional 268 Residential 1 stands and 1 Business stand once approved.

The existing MNS informal settlement (an 'in-situ' component) and the approved Klarinet x9 (located to the north of the proposed development area; Figure 2.1) had to be taken into account in terms of the proposed layout plan.

Residential land use (Figure 2.1)

As indicated in Table 2.1, a total of 3375 'Residential 1' stands are proposed of which the stand sizes would be 300m² (i.e. in line with the Klarinet Phase 1 stand sizes (i.e. Klarinet x6, x7 and x8)). This includes 694 'in-situ stands' representing the MNS informal settlement.

It should be noted that in some cases the stand sizes are between 400m² and 500m² in size due to building lines along the major roads that had to be taken into account.

With regards to the MNS informal settlement area, the municipality indicated that a minimum stand size of 200m² for this 'in-situ' area should be provided in view of the fact that the settlement already exists and that the minimum existing stand sizes are approximately 200m².

It should however, be noted that a formal decision by the eMalahleni Local Municipality regarding the incorporation of the MNS informal settlement must still be taken. Therefore, the proposed layout plan (Figure 2.1) may change.

A total of 4 'Residential 3' stands (Table 2.1; Figure 2.1) are proposed that could provide 637 units (i.e. based on a 60 units per hectare density).

Therefore, a total of 4012 residential stands, of different sizes and typology, would be provided that would cater for the total residential market.

According to Urban Dynamics (2014), the following typologies in accordance with the Breaking New Ground (BNG) principles will be provided:

- Bonded units, approximately 15% of the residential stock,
- Fully subsidised units, approximately 60% of the residential stock,
- Institutional/rental units, approximately 25% of the residential stock.



Example of houses built in Klarinet Phase 1 (taken from Urban Dynamics, 2014)

Business land use (Figure 2.1)

The proposed layout plan (Figure 2.1) makes provision for 5 'Business 3' stands of which one has been identified for a future mall. The mall is proposed at the intersection with the southern entrance of Klarinet Phase 2 and Klarinet x8 (i.e. adjacent to the Zaaihoek (D1126) road). This intersection was identified in the Klarinet SDF as a secondary node for multi-purpose land uses. According to Urban Dynamics (2014), it will also tie in with the existing business node in Klarinet x8 and therefore complete the functionality of this important intersection.

Institutional facilities (Figure 2.1)

The proposed layout plan (Figure 2.1) has made provision for 5 church sites, 4 creche' sites, a clinic site and a secondary school site (Table 2.1).

It should be noted that only one site was reserved for a school in view of the fact that school sites were provided as part of the Klarinet Phase 1 development.

According to Urban Dynamics (2014), the multi-purpose node leans itself towards the provision of a mixture of uses which includes a clinic site as

requested by the local municipality. Other essential uses are also provided at the node that will give effect to the approved Klarinet SDF.

Government/Municipal (Figure 2.1)

Four (4) Government/Municipal stands are provided in the proposed layout plan as indicated in Figure 2.1. These sites will be used for the new Intake Substation, the existing substation and a taxi rank (close to proposed mall site).

Provision has been made for a Police Station (Figure 2.1) as requested by the eMalahleni Local Municipality as the development of the area necessitates the need for a local police station.

Community Facility (Figure 2.1)

As indicated in Figure 2.1, one 'Community Facility' is provided that is centrally situated for easy access to all residents.

Park (Figure 2.1)

As indicated in Figure 2.1, a number of 'Park' sites are provided as part of the layout plan. These 'Park' sites are proposed to accommodate the storm water drainage and attenuation ponds due to the fact that the site drains in two separate directions.

According to Urban Dynamics (2014), 3 m wide storm water servitudes (zoned 'Park'; Figure 2.1) were placed at strategic locations to accommodate potential storm water run-off and direct the said water to the attenuation ponds. These servitudes will also contribute to pedestrian movement within the proposed development.

In addition, the Eskom servitude and areas previously undermined (that are not developable) were also zoned 'Park' (Figure 2.1).

Urban Dynamics (2014) indicated that the proposed open space system links up with the open space system of the Phase 1 development creating a continuous open space system throughout the integrated development.

2.5 Services required

The level of services for the Klarinet Phase 2 development will be at the same standard as that of Phase 1 (i.e. Klarinet x6, x7 and x8). The provision of services forms part of the total integrated housing development.

A copy of the Klarinet Phase 2 Engineering Services Outline Scheme Report (prepared by the engineers, Bigen Africa) is provided in Appendix 4.

According to this report and Urban Dynamics (2014), the following services will be provided:

- Electricity supply to every stand with a metered connection;
- Water supply to every stand with a metered connection;
- Waterborne sanitation to every residential unit;
- Kerbed, bitumen surfaced road network;
- Underground stormwater management and drainage infrastructure;
- Storm water attenuation facilities (i.e. attenuation ponds).

The link services (roads and electricity), internal reticulation (water, sewer, electricity, streets and street lighting) and storm water control measures of the development will be done by the developer to the satisfaction of the eMalahleni Local Municipality. After installation, the services will be handed over to and maintained by the eMalahleni Local Municipality.

2.5.1 Electricity

Currently, no electrical reticulation services exist in the proposed Klarinet Phase 2 site.

An Eskom transmission line and servitude traverse the proposed development area which have been zoned as 'Park' in the layout plan (Figure 2.1).

Bulk infrastructure

For the proposed Klarinet Phase 2 development, a new Intake Substation is planned and will be accommodated on a separate 'Municipal' stand (Figure 2.1) close to the Eskom servitude.

According to the Engineering Report (Appendix 4), the eMalahleni Local Municipality will engage with Eskom to ensure the availability of the newly proposed substation by the end of 2018.

Provision was therefore made to accommodate the electrical demand that will be generated by the proposed development.

Link services

According to Urban Dynamics (2014), each stand will be supplied with electricity and provided with a metered connection.

More detailed information w.r.t. electricity will be provided in the Environmental Impact Report.

2.5.2 Water

Currently, no internal water supply or link water supply exists in the proposed Klarinet Phase 2 site.

According to Urban Dynamics (2014), water will be supplied to every stand and will be provided with a metered connection.

Bulk water supply

The Klarinet Phase 2 site falls within the water supply zone of the Point A Reservoir that also supplies the existing Klarinet residential areas (x3, x4, x5, x6, x7, x8), Klarinet light industrial area, Pine Ridge and Paxton Prison.

According to the Engineering Report (Appendix 4), the proposed Klarinet Phase 2 Project would have an Annual Average Daily Demand (AADD) of 4.7 MI/day.

The Water Master Plan (2007) proposed that separate storage capacity be provided for the new Klarinet developments (i.e. Klarinet Phase 1 and 2) as well as other proposed developments in view of the fact that the water demand would exceed (by 8.92 MI/day) the storage capacity of the reservoirs at Point A.

According to the Engineering Report (Appendix 4), a new 30MI/day reservoir would be required for the proposed developments. This new reservoir would

be supplied from Point A through a dedicated 600mm diameter feeder main from the Water Treatment (Purification) Works.

Water pipelines

According to the Engineering Report (Appendix 4), the following bulk water pipelines will be required in order to accommodate the peak flow (1,300lt/s) and the AADD of 28.2 MI/day:

- A 1300mm ND pipeline (2km) connecting to the new 30MI/day reservoir.
- A 900mm ND pipeline (2.5km) connecting to the 1300mm ND at Zaaihoek/Verena intersection.
- An allowance for a future 900mm ND connection to the 1300mm ND pipe at the Zaaihoek/Verena intersection.
- A 600mm diameter feeder main to the proposed 30MI/d Klarinet Reservoir.

The 900mm ND pipeline mentioned above will connect the proposed link water pipelines required for Klarinet Phase 2 to complete the ring feed for the Klarinet Integrated Housing Development.

Figure 3.1 provides an indication of the proposed reservoir site as well as the required water pipelines that will not be located within the Klarinet Phase 2 site.

More detailed information w.r.t. water supply will be provided in the Environmental Impact Report.

2.5.3 Sewage

Currently, no internal sewer or link sewer exists within the proposed Klarinet Phase 2 site.

According to Urban Dynamics (2014), waterborne sanitation will be provided.

Bulk sewers

According to the Engineering Report (Appendix 4), all sewage generated by the Klarinet residential areas (Klarinet x3, x4, x5, x6, x7, x8) is treated at the Klipspruit and Riverview Sewer Treatment Works (STW) via a series of pump stations.

Riverview STW is located north of Highveld Park and has a design capacity of 12MI/day. It is currently operating beyond its design capacity.

Klipspruit STW is located approximately 3km north of KwaGuqa and has a design capacity of 10MI/day. It is currently operating beyond its design capacity.

According to the Engineering Report (Appendix 4), the following three (3) bulk sewer options were investigated:

- Option 1: Pumping raw sewerage from Pine Ridge to Klipspruit STW;
- Option 2: Gravity sewer from Pine Ridge to Klipspruit STW;
- Option 3: Gravity sewer from Pine Ridge to a new Regional STW north of Pine Ridge.

The above-mentioned Option 2 is the preferred option according to the Engineering Report (Appendix 4). The Klipspruit STW is proposed to be a regional plant receiving effluent from Ferrobank, the Klarinet developments

and other adjacent developments (Nkanini and Hlalanikahle). The Klarinet developments will require 20MI/d treatment capacity whereas the transfer of Ferrobank flow (20MI/d) and the allowance of other developments (20MI/d) will eventually require a total treatment capacity of 60MI/d at Klipspruit STW.

The ELM is currently upgrading Klipspruit STW from 10MI/d to a 30MI/d plant to accommodate the current and future flows from the Klarinet area and adjacent development of Nkanini and Hlalanikahle. Once the Klipspruit STW has been upgraded to a 30MI/d plant, it will be able to accommodate its current flows, the future Klarinet development flows including Klarinet Phase 2.

A further upgrade of 30MI/d of the Klipspruit STW will be required in order to allow the transfer of flow from Ferrobank (20MI/d) and to accommodate future flows from potential Klarinet Phase 3 (6-10MI/d).

Further details in terms of the above-mentioned options are provided in Section 5 of this report.

Proposed outfall sewers

A large portion of the Klarinet Phase 2 project site drains in a westerly direction towards the Blesbokspruit while smaller portions of the site drain toward the north and the south.

According to the Engineering Report (Appendix 4), the eMalahleni Local Municipality constructed a bulk outfall sewer to accommodate the sewerage flows from Klarinet Phase 1 and 2 parallel with the Blesbokspruit. Link sewers from Phase 2 will connect to this outfall sewer via the existing Phase 1 link sewers.

Phase 1 link sewers were designed and installed to accommodate sewerage flows from Phase 2 of the development. According to the Engineering Report (Appendix 4), the portion of the site draining south will be drained through a link sewer connecting to the existing sewer infrastructure of Jackaroo Park. Figure 3.1 provides an indication of the location of this proposed sewer line.

According to the Engineering Report (Appendix 4), the Klarinet Phase 2 link sewers and their routes were identified to drain towards existing outfall sewers. Three (3) alternatives in this regard were investigated namely:

- Option 1: A non-gravity system on the eastern and northern boundary of Klarinet Phase 2;
- Option 2: A gravity system on the eastern and northern boundary of Klarinet Phase 2;
- Option 3: A gravity system following the natural draining along the eastern and northern boundary of Klarinet Phase 2 (outside of the township boundary).

Option 3 was indicated in the Engineering Report (Appendix 4) as the preferred option in view of the following:

- allows for optimal depths;
- eliminates the need for pumping;
- can be maintained with ease;
- can be implemented with cost effective conventional methods.

Figure 3.1 provides an indication of the location of the proposed sewer lines that will extend onto adjacent properties in order to accommodate the proposed system.

Further details in terms of the above-mentioned options are provided in Section 5 of this report.

More detailed information w.r.t. the sewer network will be provided in the Environmental Impact Report.

2.5.4 Waste Disposal

The refuse will be collected by the eMalahleni Local Municipality's refuse removal unit and will be disposed of at the registered Leeuwoort Waste Disposal Site.

2.5.5 Access road

According to Urban Dynamics (2014), an integrated road network is proposed that fits in with the overall road network and traffic distribution between Klarinet Phase 1 and Phase 2.

A 40m road reserve is proposed for the functional link between Klarinet x8 that will also serve as a link for future development to the north and east of the site. A 25m road reserve is proposed as connection point with the same road reserve in Klarinet x6 which will therefore continue the functionality of the existing road system.

The proposed 20m and 25m road reserves that connect to the higher order roads were necessary to connect the development of Klarinet x9 with the rest of the Klarinet Phase 2 development (Figure 2.1).

A major factor that had to be considered as part of the road design was the potential storm water drainage of the area due to the fact that it drains in two separate directions.

A series of smaller road reserves (including 16m, 13m and 10m reserves) were utilised to connect to the higher order roads in order to distribute potential traffic evenly throughout the layout design (Figure 2.1).

In the 'in situ' area (i.e. the MNS informal settlement area), the minimum road reserve for collector roads are indicated as 10m in order to allow for the engineers to design proper services for the area. In some cases, an access way of 8m had to be introduced where the space between existing units was too narrow.

2.5.6 Storm water control measures

According to Urban Dynamics (2014), storm water generated from the proposed Klarinet Phase 2 development will be channelled to strategically placed attenuation ponds (Figure 2.1) prior to discharge off site.

Bulk storm water culverts, canals and erosion protection will be required and sized to accommodate post development runoff for the 1:100 storm recurrence interval generated by the proposed development.

Figure 3.1 provides an indication of the location of storm water control measures that will extent onto adjacent properties.

More detailed information w.r.t. the storm water control measures to be implemented will be provided in the Environmental Impact Report.

2.5.7 Fire fighting

All fire-fighting controls will be in accordance with the National Building Regulations, the SANS Code of Practice (related to Community Protection against Fire) and with "Red Book" standards.

2.6 Applicable legislation, policies and/or guidelines

The table below provides an indication of legislation, policies and/or guidelines applicable to the said project.

Applicable legislation, policies and/or guidelines

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)	Department of Justice and Constitutional Development	To establish a Constitution with a Bill of Rights for the RSA. It sets out of a number of fundamental environmental rights (Section 24).
Development Facilitation Act, 1995 (Act 67 of 1995) and amendments	Department of Rural Development and Land Reform	To provide for planning and development.
Environment Conservation Act, 1989 (Act 73 of 1989) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To control environmental conservation.
National Environmental Management Act, 1998 (Act 107 Of 1998) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To provide for the integrated management of the environment.
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African Biodiversity Institute; and for matters connected therewith.
National Environmental Management: Waste Act, 2008 (Act 59 of 2008) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To reform the law regulating waste management in order to protect health and the environment by providing for the prevention of pollution and ecological degradation and for securing ecologically sustainable development.
Environmental Impact Assessment	Department of Agriculture,	Regulations pertaining to environmental

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
Regulations, 2010 (Government Gazette No. 33306 of 18 June 2010) and amendments	Rural Development, Land and Environmental Affairs	impact assessments.
National Water Act, 1998 (Act 36 of 1998) and amendments	Department of Water and Sanitation	To control water management aspects.
National Veld and Forest Fire Act, 1998 (Act 101 of 1998) and amendments	Department of Agriculture, Forestry and Fisheries	To prevent and combat veld, forest and mountain fires throughout South Africa.
National Heritage Resources Act, 1999 (Act 25 of 1999) and amendments	South African Heritage Resources Agency	This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations.
Protection of Personal Information Act, 2013 (Act 4 of 2013)	Department of Justice and Constitutional Development	The purpose of this act is to give effect to the constitutional right to privacy by safeguarding personal information and to regulate the manner in which personal information may be processed.
Promotion of Access to Information Act, 2000 (Act 2 of 2000) and amendments	Department of Justice and Constitutional Development	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith.
Promotion of Administrative Justice Act, 2000 (Act 3 of 2000) and amendments	Department of Justice and Constitutional Development	The Act aims to make the administration (e.g. Government and Parastatals) effective and accountable to people for its actions.
Conservation of the Agricultural Resources Act, 1983 (Act 43 of 1989) and amendments	Department of Agriculture, Forestry and Fisheries	To provide control over the utilization of the natural resources of the Republic in order to promote the conservation of soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.
Occupational Health and Safety Act, 1993 (Act 85 of 1993) and amendments	Department of Labour	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.
Health Act, 1977 (Act 63 of 1977) and amendments	Department of Health	To promote public health.
Mpumalanga Nature Conservation Act, 1998 (Act 10 of 1998) and amendments	Mpumalanga Tourism and Parks Agency	To control nature conservation.
National Building Regulations and Standards Act, 1977 (Act 103 of 1977) and amendments	Department of Trade and Industry	To provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards; and for matters connected therewith.
Various by-laws of the eMalahleni Local Municipality, e.g.: <ul style="list-style-type: none"> o Inflammable liquids; o Refuse and solid waste; o Waste; o Noise; o Rates. 	eMalahleni Local Municipality	To regulate land use with the eMalahleni Local Municipal area.
Integrated Development Plan for the eMalahleni Local Municipality	eMalahleni Local Municipality	Broad spatial framework guidelines for the eMalahleni Local Municipality.
Spatial Development Framework for the eMalahleni Local Municipality	eMalahleni Local Municipality	Spatially based policy guidelines whereby changes, needs and growth in the region can be managed to benefit the whole community.
Integrated Environmental Management Guideline Series (Guideline 5 – 10 October	Department of Economic Development,	To provide clarity on the processes to be followed when applying for an

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
2012) – Companion to the Environmental Impact Assessment Regulations, 2010	Environment and Tourism	environmental authorisation in terms of the EIA Regulations and gives a comprehensive interpretation of the listed activities.
Nkangala District Municipality Climate Change Response Strategy	Nkangala District Municipality	A strategy in response to climate change.
Nkangala District Municipality Integrated Waste Management Strategy	Nkangala District Municipality	A strategy dealing with waste.

2.7 Phases of development

According to Urban Dynamics (2014), the Klarinet Phase 2 development will be developed in three phases (namely Klarinet x10, Klarinet x11 and Klarinet x12). Details with regards to the implementation of these phases will be provided in the Environmental Impact Report.

2.7.1 Estimated start and completion dates of construction

Construction will commence after all the relevant approvals have been obtained.

2.7.2 Construction phase

The construction phase would involve the provision of services (water, sewage, electricity, roads, etc.) and the construction of the various buildings on the said erven.

A contractor will be responsible for the construction of all infrastructure as well as the overall management of the construction site and construction activities. The contractor will be responsible for providing suitable accommodation for construction personnel.

Once the stands are serviced and sold, individual contractors will be utilized for the construction of the various houses.

2.7.3 Operational phase

The operational phase would involve the utilization of the area for residential, business and institutional purposes.

2.7.4 Decommissioning phase:

If the situation of decommissioning does arise, an Environmental Management Plan (EMP) will need to be compiled in order to manage the activities associated with the decommissioning of the site.

3. BIOPHYSICAL DESCRIPTION OF THE PROPOSED SITE

3.1 Location of the site

The development of a new residential area and associated infrastructure on various portions of the farm Blesboklaagte 296 JS and a portion of Erf 5017 Klarinet X7, eMalahleni, is proposed. The said site is approximately 275 hectares in extent and located adjacent to the existing Klarinet X6, X7 and X8 residential areas (Figure 3.1).

The centre co-ordinates of the Klarinet Phase 2 site are:

- 25° 49' 25.99"S; 29° 13' 54.52"E

The Surveyor-General 21 digit site reference numbers for the proposed project are as follows:

Klarinet Phase 2 residential development site:																					
Portion	SG 21 Digit Code																				
Blesboklaagte 296 JS																					
Portion 26	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	2	6
Portion 56	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	5	6
Portion 98	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	9	8
RE/153	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	5	3
RE/154	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	5	4
Portion 171	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	7	1
Portion 172	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	7	2
RE/188	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	8	8
RE/189	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	8	9
Portion 199	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	9	9
Portion 200	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	0	0
Portion 201	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	0	1
Portion 202	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	0	2
Portion 203	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	0	3
Portion 204	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	0	4
RE/210	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	1	0
RE/226	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	2	6
Klarinet X7																					
Erf 5017	E	R	F	5	0	1	7	-	n	o	n	e									

Bulk services:																					
Portion	SG 21 Digit Code																				
Blesboklaagte 296 JS																					
Portion 21	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	2	1
Portion 25	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	2	5
Portion 53	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	5	3
Portion 55	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	5	5
Portion 79	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	0	7	9
Portion 105	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	0	5
Portion 136	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	3	6
Portion 152	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	5	2
Portion 155	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	5	5
Portion 161	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	6	1
Portion 162	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	6	2
Portion 167	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	6	7
Portion 192	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	9	2
Portion 198	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	1	9	8
Portion 216	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	1	6
Portion 232	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	3	2
Portion 235	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	3	5
Portion 236	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	6	0	0	2	3	6
Kromdraai 292 JS																					
Portion 2	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	0	0	2

Bulk services:																				
Portion	SG 21 Digit Code																			
Portion 16	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	1	6
Portion 18	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	1	8
Portion 105	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	1	5
Portion 159	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	1	9
Kalbasfontein 284 JS																				
Portion 3	T	O	J	S	0	0	0	0	0	0	0	0	0	2	8	4	0	0	0	3
Portion 11	T	O	J	S	0	0	0	0	0	0	0	0	0	2	9	2	0	0	1	1
Joubertsrus 310 JS																				
Portion 29	T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	0	0	0	2	9
Other																				
R544 road servitude																				

3.2 Climate

The climate is typically “Highveld”, with summer temperatures ranging from 9°C to 32°C and winter temperatures from -6°C to 22°C.

The site falls in the summer rainfall region, which is characterized by thunderstorm activity and relatively low average rainfall. The mean annual rainfall is 735 mm compared to the mean annual potential evaporation of 1500 mm.

Being located on the Highveld, the area is prone to extreme weather on a regular basis. These weather conditions include droughts, floods and strong gusty winds prior to and during thunderstorms. Frost also occurs on an average of 120 to 150 days between April and September.

3.3 Geology

According to the 1:250 000 geology map (2528 Pretoria), the southern portion of the proposed development site is underlain by the Ecca Formation of the Karoo Sequence which consists of shale, shaly sandstone, grit, sandstone and conglomerate. Coal is indicated to be present in places near the base and the top. These coal seams were deposited right at the fringe of the Karoo basin (DWAF, 2000).

The central-north-easterly portion of the proposed development site is underlain by older tillite of the Dwyka Formation while the northerly and north-westerly portions are underlain by sandstone, conglomerate and quartzite of the Wilgerivier Formation, Waterberg Group.

No dolomites are indicated to be present within the said area.

Historically the area to the south of the proposed development site was mined for coal using underground mining methods. These areas were not rehabilitated. Subsidence and sinkholes are present in these areas. Underground fires are also known to be present within this area while acid mine drainage is also a problem. In recent years, portions of this area have been mined by opencast mining methods. In cases, rehabilitation has not taken place.

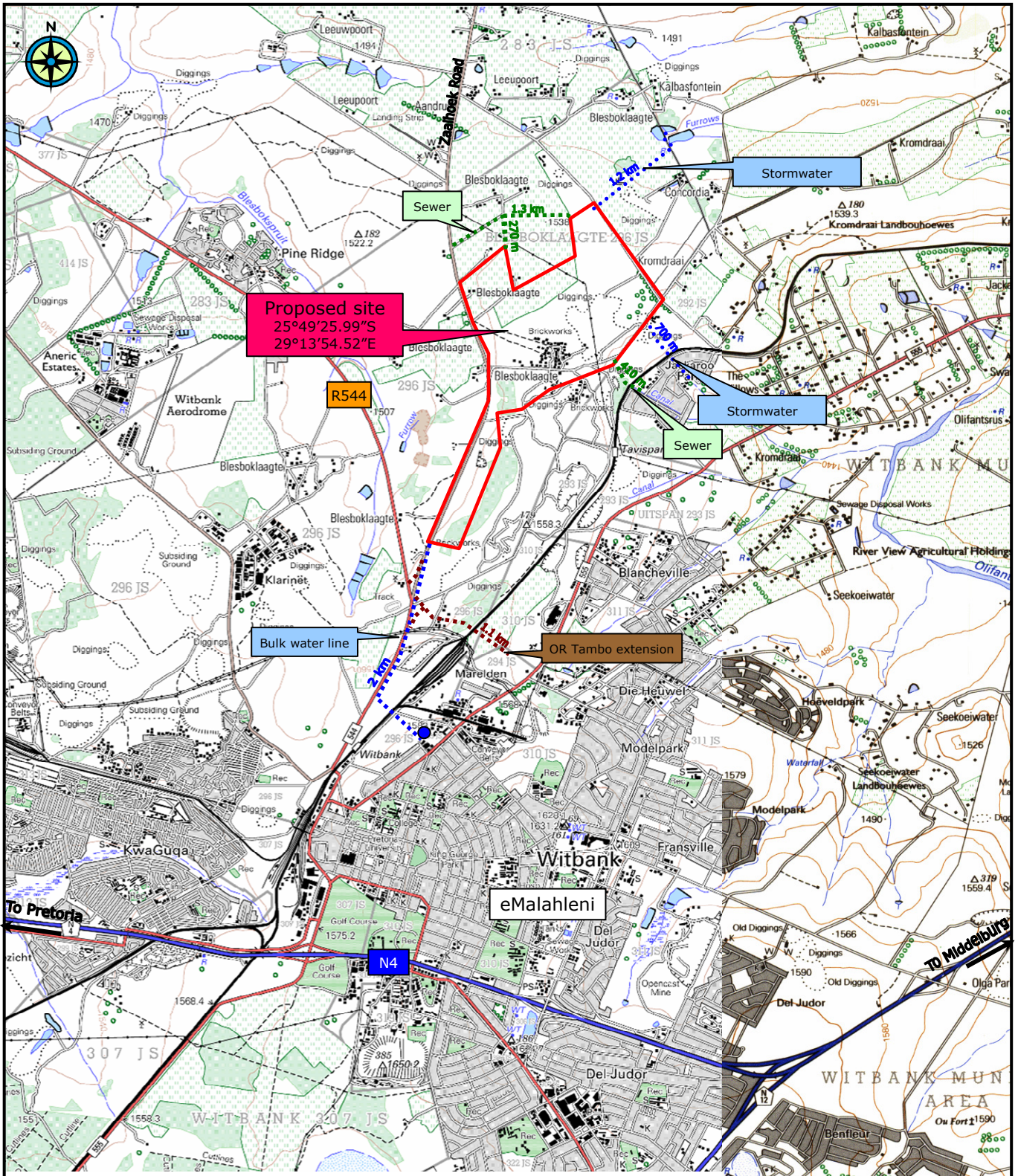


Figure 3.1: Location of site (taken from 1: 50 000 2529CC and 2529 CD)

Clay quarries (e.g. Quality Bricks; Khula/Khaya Bricks) and various sand works are also known to have been present in the area to the south of the proposed development site.

Mining rights:

It was recently learnt that Witbank Brickworks has applied for a mining right to mine the area to the south of the proposed development site. Witbank Brickworks intends to mine the area by opencast methods and then to rehabilitate the said area. According to Witbank Brickworks, this would assist in reducing the environmental impact (e.g. unrehabilitated areas; acid mine drainage; underground fires, etc.) as a result of the historical mining of the said area.

In addition, it was discovered that a mining permit had been issued to Vandu Mining to mine a portion of land to the south of the proposed development site.

The status and potential impact of both these mining operations as well as other issued mining/prospecting rights/permits on the proposed residential development would have to be investigated.

Klarinet Phase 2 residential area:

The old Blesboklaagte Colliery is located in the eastern corner of the proposed development site (i.e. on Portion 26 and the Remainder of Portion 98 of the farm Blesboklaagte 296 JS). This opencast mine has not been rehabilitated resulting in open voids and bare ground being present within this area. Over the past few years, two companies operated coal washing plants on site resulting in the construction of slurry ponds and the open voids being filled with discard. In areas, burning discard/coal is evident. To date, no rehabilitation of this area has taken place. Acid mine drainage (AMD) emanates from the site and drains towards Jackaroo Park.

The southern portion of the site (including Erf 5017) could have been previously undermined. Subsidence and sinkholes are present in these areas. Underground fires are also known to be present within this area while acid mine drainage is also a problem.

The extent of undermining and/or opencast mining would have to be determined.

Northern sewer line and stormwater trench (Figure 3.1):

The properties to the north of the proposed residential area (i.e. where the sewer line and stormwater trench will be installed) have not been affected by mining activities.

Eastern sewer line and stormwater trench (to Jackaroo Park) (Figure 3.1):

The proposed routes have not been directly affected by mining activities but are located adjacent to old mining activities (i.e. old Blesboklaagte Colliery).

Bulk waterline and proposed reservoir site (Figure 3.1):

Historically this area could also have been undermined. The extent of undermining would have to be determined.

OR Tambo extension (Figure 3.1):

Part of the proposed OR Tambo extension route was mined by opencast methods. It is also possible that a portion of the proposed route was previously undermined. The extent of undermining and/or opencast mining would have to be determined.

3.4 Topography

Figure 3.1 provides an indication of the topography of the said site. No drainage lines, streams or rivers have their origin within the proposed development site (Figure 3.1). It should however, be noted that the proposed site appears to be located on a catchment divide with a portion draining towards the Blesbokspruit and a portion towards a tributary of the Olifants River.

According to the AGIS Comprehensive Map drafted by the Department of Agriculture, Forestry and Fisheries, the terrain type of the majority of the site is indicated as level plains with some relief (Figure 3.2). However, plains with open low hills or ridges are indicated for the northern corner of the site (Figure 3.2).

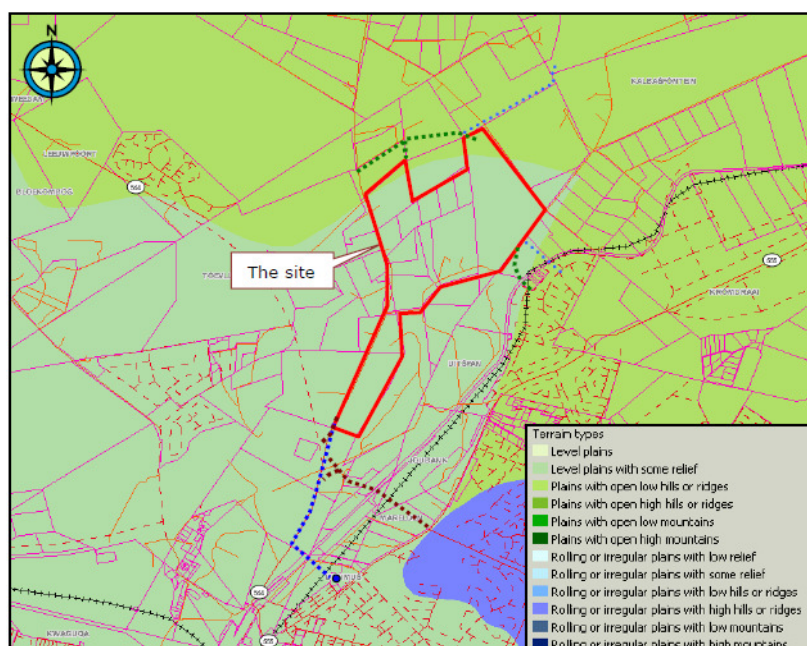


Figure 3.2: Terrain type of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

Klarinet Phase 2 residential area:

The topography of the site has been impacted in terms of the development of the MNS informal settlement (± 1100 structures) in the central portion of the site, various gravel roads, Eskom power line, past agricultural (northern portion) and mining activities (eastern portion).

Steep slopes and open voids are however, associated with the unrehabilitated opencast mining area of the old Blesboklaagte Colliery. Over the past few years, two companies operated coal washing plants on site resulting in the construction of slurry ponds and the open voids being filled with discard. These activities have impacted severely on the topography of the said area resulting in this area not being suitable for development purposes.

The southern portion of the site (including Erf 5017) could have been previously undermined. Subsidence and sinkholes are present in these areas which would have impacted on the topography of the area.

Northern sewer line and stormwater trench (Figure 3.1):

Limited impact (e.g. gravel roads, etc.) on the topography of the properties to the north of the proposed residential area (i.e. where the sewer line and stormwater trench will be installed) has taken place. The said area however, drains towards a tributary of the Olifants River.

Eastern sewer line and stormwater trench (to Jackaroo Park) (Figure 3.1):

The proposed routes have not been directly affected by mining activities but are located adjacent to old mining activities (i.e. old Blesboklaagte Colliery) that has impacted on the topography of the area. A gravel road and the railway line have also impacted on the topography as well as the drainage of the area. This area drains towards Jackaroo Park and the tributary of the Olifants River extending through this residential area.

Bulk waterline and proposed reservoir site (Figure 3.1):

Historically this area could also have been undermined resulting in possible subsidence. The topography has also been impacted in terms of gravel roads, the R544 provincial road, Eskom powerlines, the Transnet rail line and associated infrastructure.

OR Tambo extension (Figure 3.1):

Part of the proposed OR Tambo extension route was mined by opencast methods. It is also possible that a portion of the proposed route was previously undermined. The topography of this area has also been impacted in terms of gravel roads, Eskom powerlines, houses/ruins, the Transnet rail line and associated infrastructure.

3.5 Soils/land capability/agricultural potential

Soils

According to the AGIS Comprehensive Map drafted by the Department of Agriculture, Forestry and Fisheries, the soil of the site is indicated as red, yellow and/or greyish soils with low to medium base status (PT1; Figure 3.3).

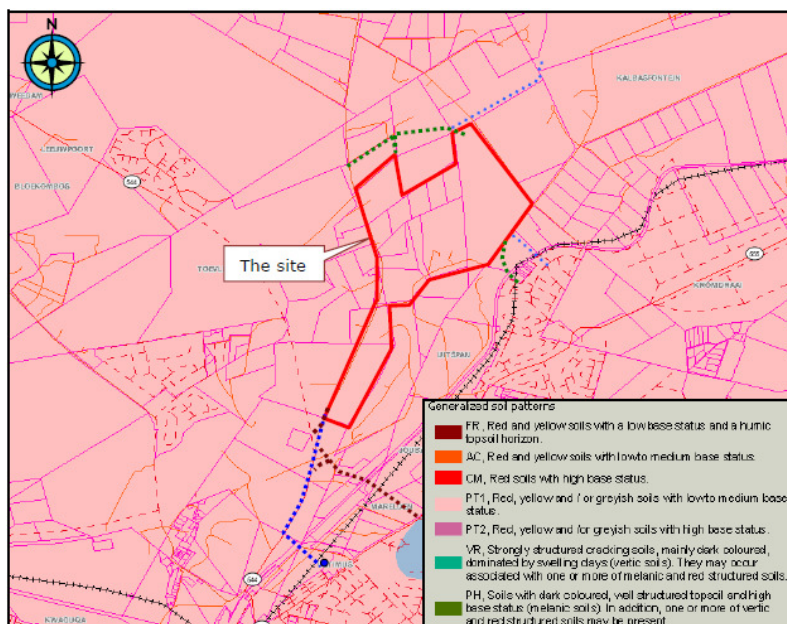


Figure 3.3: Generalised soil patterns of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

According to the AGIS Comprehensive Map drafted by the Department of Agriculture, Forestry and Fisheries, the majority of the site is indicated as of the Bb13 land type while a small portion in the north is indicated as of the Bb11 land type (Figure 3.4). Both these land types are characterised by a plinthic catena where upland duplex and marginalitic soils are rare. Red soils are not widespread.

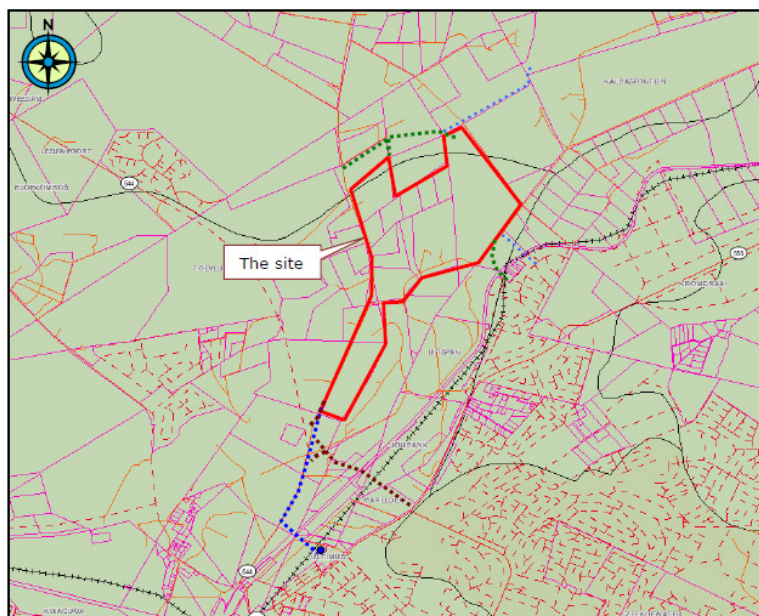


Figure 3.4: Land type associated with the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

Agricultural potential/land capability

According to the AGIS Comprehensive Map drafted by the Department of Agriculture, Forestry and Fisheries, the majority of the site is indicated as of Moderate potential arable land (Figure 3.5). A small portion in the northern part of the site is indicated as High potential arable land (Figure 3.5).

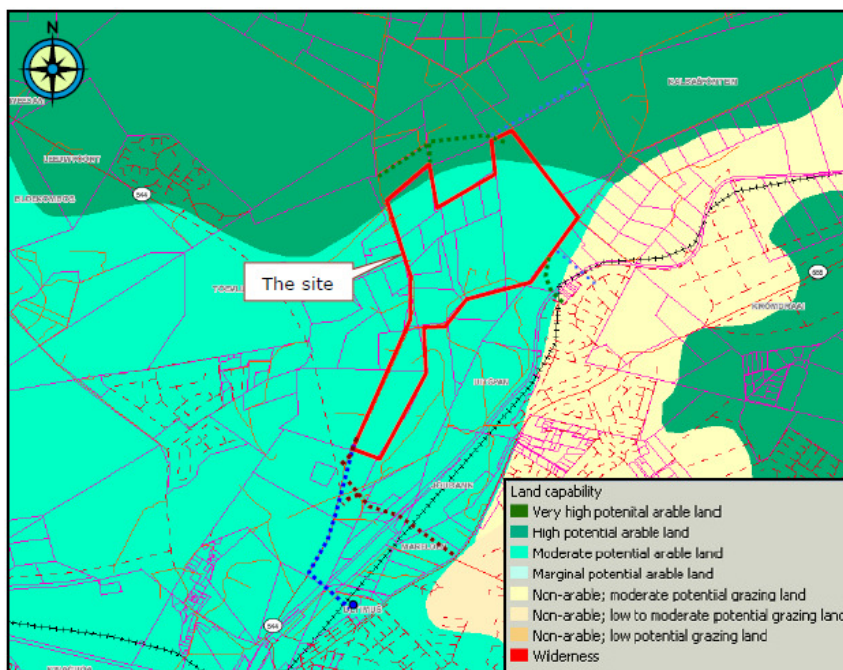


Figure 3.5: Land capability of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

As indicated in Figure 3.6, the majority of the site is indicated as Transformed Rangeland. However, the central northern portion of the site (Figure 3.6) is indicated as having a grazing capacity of 8-10 hectares per animal unit.

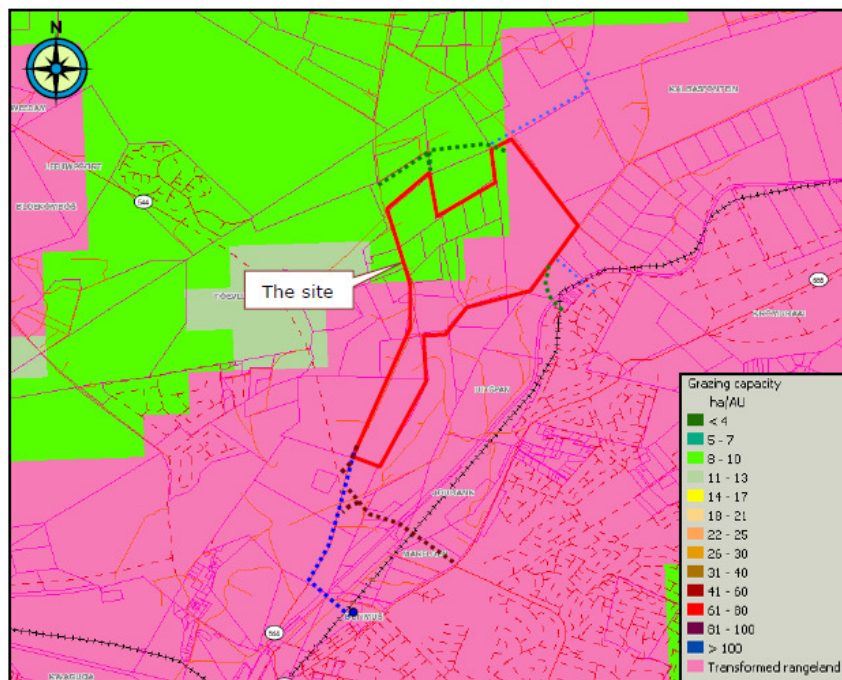


Figure 3.6: Grazing capacity of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

Klarinet Phase 2 residential area:

The soil, agricultural potential and land capability of the site has been impacted in terms of the development of the MNS informal settlement (± 1100 structures and associated pit latrines) in the central portion of the site, various gravel roads, the Eskom power line, as well as past agricultural (northern portion) and mining activities (eastern portion).

Rehab Green Monitoring Consultants cc. (2004) indicated that the proposed development site is dominated by shallow to moderately deep (300 – 700mm in depth) yellow soils (SY). Very little red soils occur. Dominant soil forms in this unit are Clovelly 14, Avalon 14 and 16, Glencoe 14 and Wasbank 21.

It is possible that areas of shallow rocky soils (SR) could also be present within the said area. This soil unit consists of shallow soils (100 – 400mm) of the Mispah (Mispah 10 and 11) and Clovelly (Clovelly 14) forms. Surface rock and stones occur frequently. The soils have a grazing land capability and can be utilised for livestock farming. These soils have a low agricultural potential.

Only a small portion of the site (northern portion) was cultivated in the past. Here, moderately deep to deep (700 – 1500mm) yellow and red soils (MYR) may be present where cultivated lands were present. Dominant soil forms in this unit are Clovelly 14, Avalon 14 and 16, Glencoe 14, Hutton 14 and 16. These soils have a moderate to high agricultural potential.

No wetland soils (e.g. Wasbank 21 and 31, Longlands 21 and 31, Avalon 14, Glencoe 14, Kroonstad 14, Katspruit 10 and Fernwood 31) were indicated for the site due to the absence of drainage lines, streams, rivers and wetlands.

According to Rehab Green Monitoring Consultants cc. (2004), the previous mining activities (old Blesboklaagte Colliery) appear to have been located within the MYR soil unit, which has resulted in severe impacts on this soil unit. This area was indicated as disturbed land. This opencast mine has not been rehabilitated resulting in open voids and bare ground being present within this area. Over the past few years, two companies operated coal washing plants on site resulting in the construction of slurry ponds and the open voids being filled with discard. In areas, burning discard/coal is evident. To date, no rehabilitation of this area has taken place. Acid mine drainage (AMD) emanates from the site and drains towards Jackaroo Park. The soils, agricultural potential and land capability of this area has been impacted as a result of these activities.

The area to the south of the site was previously undermined. Portion 189 and the southern portion of the site (i.e. area to the south of the gravel entrance road to old Blesboklaagte Colliery) could be affected by this undermining. Subsidence and sinkholes are present in these areas which has affected the soils, agricultural potential and land capability of the said area.

Northern sewer line and stormwater trench (Figure 3.1):

Limited impact (e.g. gravel roads, etc.) on the soil, agricultural potential and land capability of the properties to the north of the proposed residential area (i.e. where the sewer line and stormwater trench will be installed) has taken place.

Eastern sewer line and stormwater trench (to Jackaroo Park) (Figure 3.1):

The proposed routes have not been directly affected by mining activities but are located adjacent to old mining activities (i.e. old Blesboklaagte Colliery) that has impacted on the soil, agricultural potential and land capability of the area. Acid mine drainage (AMD) emanates from the site and drains towards Jackaroo Park and affects the soil, agricultural potential and land capability of the said area. A gravel road and the railway line have also impacted on the soil, agricultural potential and land capability of the area.

Bulk waterline and proposed reservoir site (Figure 3.1):

Historically this area could also have been undermined resulting in possible subsidence. The soil, agricultural potential and land capability has also been impacted in terms of gravel roads, R544 provincial road, Eskom powerlines, the Transnet rail line and associated infrastructure.

OR Tambo extension (Figure 3.1):

The soil, agricultural potential and land capability of the part of the proposed OR Tambo extension route was impacted by opencast and underground mining methods. In addition it has also been impacted in terms of gravel roads, Eskom powerlines, houses/ruins, the Transnet rail line and associated infrastructure.

3.6 Land use

3.6.1 Zoning of the site

As indicated in Table 3.1, properties associated with the Klarinet Phase 2 residential development site are currently zoned 'Agriculture'. Erf 5017 that forms part of Klarinet x7 is zoned 'Municipal'.

Table 3.1: Zoning of proposed Klarinet Phase 2 residential development site

Klarinet Phase 2 residential development site:			
Portion	Owner	Zoning	Intended Use
Blesboklaagte 296 JS			
Portion 26	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 56	Khula Brick & Sand (Pty) Ltd.	Agriculture	Road & Water
Portion 98	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
RE/153	Emalahleni Local Municipality	Agriculture	Klarinet Phase 2
RE/154	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 171	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 172	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
RE/188	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
RE/189	Emalahleni Local Municipality	Agriculture	Klarinet Phase 2
Portion 199	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 200	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 201	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 202	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 203	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Portion 204	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
RE/210	Emalahleni Local Municipal Council	Agriculture	Klarinet Phase 2
RE/226	Absa Prop Development (Pty) Ltd.	Agriculture	Klarinet Phase 2
Klarinet X7			
Erf 5017	Emalahleni Local Municipality	Municipal	Klarinet Phase 2

As indicated in Table 3.2, adjacent properties that could be affected by infrastructure (sewer, storm water, water, roads) are currently also zoned 'Agriculture'.

Table 3.2: Zoning of adjacent properties that could be affected by proposed infrastructure

BULK SERVICES			
Portion	Owner	Zoning	Intended Use
Blesboklaagte 296 JS			
Portion 21	Ingwe Surface Holdings Ltd.	Agriculture	Road
Portion 25	LAGC de Jonckheere	Agriculture	Sewer, Storm water
Portion 53	Ingwe Surface Holdings Ltd	Agriculture	Water
Portion 55	Jumbo van der Merwe Trust	Agriculture	Water
Portion 79	Sarovic Investments cc	Agriculture	Sewer
Portion 105	Hilkru Family Trust	Agriculture	Road
Portion 136	Transitional Local Council of Witbank	Agriculture	Road
Portion 152	EM Marabe	Agriculture	Sewer
Portion 155	MM Khumalo	Agriculture	Sewer
Portion 161	JF Barnard	Agriculture	Road
Portion 162	K Singh	Agriculture	Road
Portion 167	JDS Paterson	Agriculture	Sewer
Portion 192	GM Lambrechts	Agriculture	Sewer, Storm water
Portion 198	SE van Zyl	Agriculture	Road
Portion 216	Sudden Impact Inv 76 (Pty) Ltd.	Agriculture	Water
Portion 232	Transnet Ltd.	Agriculture	Water
Portion 235	Transnet Ltd.	Agriculture	Road
Portion 236	Transnet Ltd.	Agriculture	Road
Kromdraai 292 JS			
Portion 2	FJ du Preez	Agriculture	Sewer
Portion 16	Highveld Association for the Physically Disabled	Agriculture	Sewer
Portion 18	Grobler Familie Trust	Agriculture	Sewer, Stormwater
Portion 105	MJ Grobler	Agriculture	Sewer, Storm water
Portion 159	Transnet Ltd.	Railway line	Sewer, Storm water
Kalbasfontein 284 JS			
Portion 3	Dithebe Communal Prop Association	Agriculture	Storm water
Portion 11	Span Kalbasfontein Trust	Agriculture	Storm water
Joubertsrus 310 JS			
Portion 29	Transitional Local Council of Witbank	Agriculture	Road
Other			
R544 road servitude			Water

3.6.2 Land ownership

Most of the properties belong to the project applicant, Absa Property Development (Pty) Ltd, except for Portion 56 that is registered to Khula Brick & Sand (Pty) Ltd. and Portions 153, 189 and 210 that belong to the eMalahleni Local Municipality (Table 3.1).

Some of the services (sewer and water pipelines, stormwater trenches and road extensions; Figure 3.1) will extend onto adjacent privately owned property (e.g. adjacent portions of the farm Blesboklaagte 296 JS, Kromdraai 292 JS, Kalbasfontein 284 JS and Joubertsrus 310 JS) as indicated in Table 3.2.

3.6.3 Servitudes

According to Urban Dynamics (2014), an Eskom servitude (LG nr A882/73) extends through Portions 26, 203 and 204 and will restrict development as the conditions of the servitude will have to be complied with.

Right of way servitudes are also registered against some of the properties which provide access to the existing farm portions. These will no longer be necessary once the development has taken place and will be cancelled.

3.6.4 Major existing infrastructure

Figure 3.7 provides an aerial view of the said site and immediate surroundings.

Klarinet Phase 2 residential area:

An informal settlement, consisting of approximately 1100 structures (MNS settlement; Figure 3.7), is present in the central portion of the site adjacent to the gravel entrance road to the old Blesboklaagte Colliery (Figure 3.7).

Coal washing plants (Figure 3.7) are also located in close proximity thereof as well as the old Blesboklaagte Colliery site (Figure 3.7). The impact of these operations are clearly evident on the aerial view (Figure 3.7).

Various gravel roads extend through the proposed development site (Figure 3.7). Domestic and garden waste is being dumped next to the main gravel roads.

An Eskom power line also extends through the site.

Northern sewer line and stormwater trench (Figure 3.1):

Very little infrastructure (e.g. gravel roads; farmworkers houses, etc.) is present on the properties to the north of the proposed residential area (i.e. where the sewer line and stormwater trench will be installed).

Eastern sewer line and stormwater trench (to Jackaroo Park) (Figure 3.1):

Acid mine drainage (AMD) emanates from the old Blesboklaagte site and drains towards Jackaroo Park and affects land use of this area. A gravel road, the railway line and the residential area of Jackaroo Park are also present in this area.

Bulk waterline and proposed reservoir site (Figure 3.1):

Historically this area could also have been undermined resulting in possible subsidence that affects the land use of the said area. Gravel roads, Eskom powerlines, the Transnet rail line and associated infrastructure are also present.

OR Tambo extension (Figure 3.1):

Part of the proposed OR Tambo extension route was mined by opencast methods. It is also possible that a portion of the proposed route was previously undermined. Gravel roads, Eskom powerlines, houses/ruins, the Transnet rail line and associated infrastructure are also present along the proposed route (Figure 3.8).



Figure 3.7: Aerial view of site (Google Earth, January 2014)



Figure 3.8: Aerial view of the proposed OR Tambo extension (yellow dotted line)

3.6.5 Surrounding land uses

The proposed development site is located adjacent to the tarred Zaaihoek Road (D1126) (Figure 3.7) and directly opposite the recently developed Klarinet x6, x7 and x8 residential areas (Figure 3.7).

The residential area of Jackaroo Park is located to the east of the proposed site (Figure 3.7), adjacent to the Transnet railway line (Figure 3.7) that extends through the said area.

The impact of past mining activities (underground and opencast) on the area located to the south of the proposed development site is clearly evident from the aerial view (Figure 3.7).

Agricultural smallholdings (Kromdraai Smalholdings; Figure 3.7) are located to the north east of the proposed development site. Various activities (e.g. residential, agricultural, light industrial, etc.) take place on the said properties.

The majority of the surrounding area is used for agriculture either for crop or livestock production. The major agricultural activities in the area are cattle farming with sheep and dry land production (maize and green fodder) as secondary activities. However, vegetable production is practiced on a large scale on the smallholdings. Although these agricultural areas are notably smaller than the commercial grain and livestock farms, production methods

are highly specialized and the available surface areas are used optimally for economically viable operations.

The eMalahleni Local Municipality is currently busy establishing a cemetery on Portion 197 of the farm Blesboklaagte 292 JS while a township establishment on Portion 156 of the farm Blesboklaagte 292 JS (Klarinet x9; Figures 2.1 and 3.7) has been approved to the north of the development site.

Inyanda Coal Mine is located further north along the Zaaihoek (D1126) Road.

3.7 Natural vegetation

According to the 'The vegetation of South Africa, Lesotho and Swaziland', the majority of the proposed site falls within the Eastern Highveld Grassland (GM12; Figure 3.11) with a small portion of the northern area indicated as Rand Highveld Grassland (veld type Gm11; Figure 3.11) (Mucina & Rutherford, 2006).

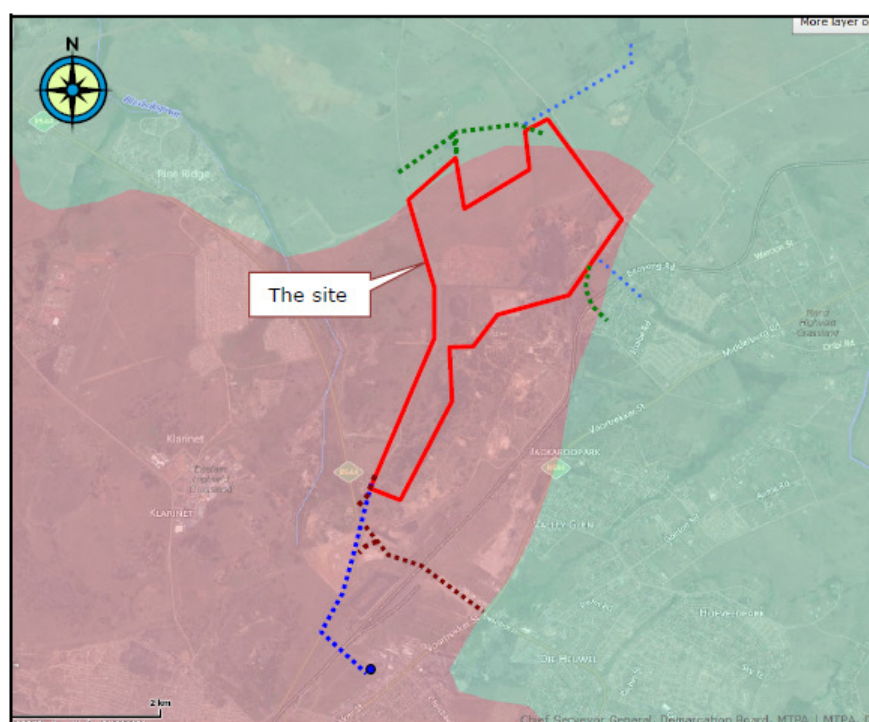


Figure 3.9: Vegetation type of the proposed site (taken from Mucina and Rutherford, 2006)

The vegetation type was previously referred to by Low and Rebelo (1998) as Moist Sandy Highveld Grassland (38) and Rocky Highveld Grassland (34) and by Acocks (1953) as Bankenveld (61).

The said project area does not fall within a phyto centre or phyto region of endemism according to the Mpumalanga Biobase (Emery et al., 2002).

According to the Mpumalanga Biodiversity Sector Plan (MBSP, 2013), the majority of the site falls within the category – Moderately Modified (old lands) (Figure 3.10) and Heavily Modified (Figure 3.10). Other Natural Areas (Figure 3.10) are also indicated to be present. In addition, CBA (Critical Biodiversity Area) Irreplaceable is also indicated for the proposed residential site as well

as the proposed OR Tambo Extension (Figure 3.10). The proposed water pipeline will extend through areas classified as CBA Irreplaceable and CBA Optimal (Figure 3.10). The proposed reservoir site will also be located within the said area.

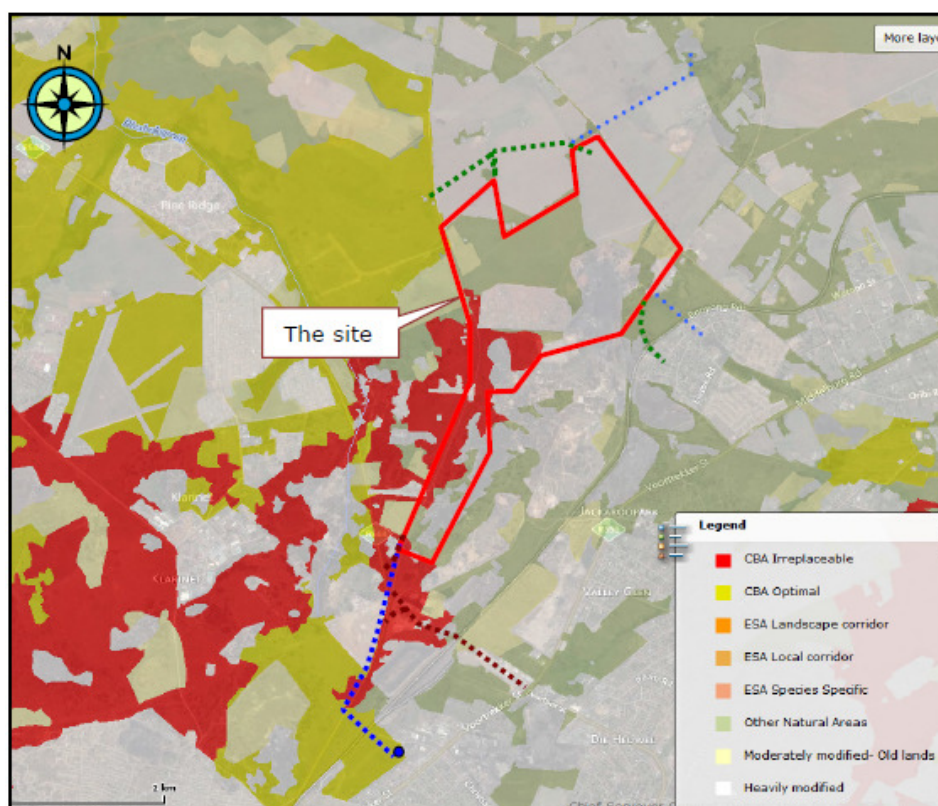


Figure 3.10: Terrestrial biodiversity assessment (taken from the Mpumalanga Biodiversity Sector Plan, 2013)

Klarinet Phase 2 residential area:

The natural vegetation of the site has been impacted in terms of the development of the informal settlement (\pm 1100 structures) in the central portion of the site, various gravel roads, the Eskom power line, the dumping of waste, as well as past agricultural and mining activities (Figure 3.7).

De Castro and Brits (2004) indicated the following vegetation units to be present within the proposed development site:

- Secondary/ Disturbed Grassland;
- Cultivation;
- Alien Woodlots (plantations of alien tree species).

According to De Castro and Brits (2004), the proposed development site falls within an area of low sensitivity and is thus of low conservation importance. This is due to the high degree of disturbance that has taken place.

Secondary/disturbed grassland is present in the western, northern, central and northwestern sections of the proposed development site. The secondary plant communities comprising this vegetation unit occur on previously ploughed soils and areas of severe disturbance. Most of these areas are in a relatively advanced state of secondary succession and are dominated by perennial grasses. The dominant perennial grasses are *Cynodon dactylon* and *Perotis patens*. Other common species include *Hyparrhenia hirta*, *Eragrostis*

plana, *Sporobolus africanus*, *Eragrostis curvula*, *Eragrostis chloromelas*, *Eragrostis gummiflua* and *Melinis repens*.

Due to the potential presence of rocky outcrops within this secondary/disturbed grassland area, it is possible that the Rocky Grassland vegetation unit could also be present.

Only a small portion of the site was cultivated in the past. These cultivated areas have little ecological sensitivity and have low conservation importance.

Where mining activities have taken place (i.e. in the eastern and southeastern sections of the site; Figure 3.7), the natural vegetation has been severely impacted upon and is dominated by Alien Woodlots (De Castro and Brits, 2004). This vegetation unit has the lowest conservation importance of any of the vegetation units identified within the study area.

No wetland soils were indicated for the site due to the absence of drainage lines, streams, rivers and wetlands. The Marsh Wetland vegetation unit is therefore not likely to be present within the proposed development site. Marneweck and Batchelor (2004) did not identify any natural wetlands within the proposed development site.

Northern sewer line and stormwater trench (Figure 3.1):

Natural vegetation in this area has been impacted as a result of agricultural activities, gravel roads; farmworkers houses, etc. Alien woodlots are also present where disturbance has taken place.

Eastern sewer line and stormwater trench (to Jackaroo Park) (Figure 3.1):

Acid mine drainage (AMD) emanates from the old Blesboklaagte site and drains towards Jackaroo Park and affects the natural vegetation of the area. The natural vegetation has also been affected by a gravel road and the railway line.

Bulk waterline and proposed reservoir site (Figure 3.1):

The natural vegetation of the area has been impacted due to previous mining activities, gravel roads, Eskom powerlines, the R544 provincial road, the Transnet rail line and associated infrastructure.

OR Tambo Extension (Figure 3.1):

The natural vegetation along the proposed OR Tambo extension route was impacted by opencast and underground mining methods. In addition it has also been impacted in terms of gravel roads, Eskom powerlines, houses/ruins, the Transnet rail line and associated infrastructure.

3.8 Animal life

As indicated in Section 3.7 and Figure 3.7, the natural vegetation of the site (including properties where services will be installed) has been impacted in terms of the development of the informal settlement in the central portion of the site, various gravel roads, the Eskom power line, as well as past agricultural and mining activities (Figure 3.7). In view of this disturbance, natural animal habitats would also have been impacted upon.

Natural animal habitats could however, be associated with the Secondary/Disturbed Grassland vegetation unit present in the western, northern, central and northwestern sections of the proposed development site. The rocky outcrops present within this area could provide natural animal habitats especially for reptiles, which could be of conservation importance.

Where mining activities have taken place (i.e. in the eastern and southeastern sections of the site), the natural vegetation has been severely impacted upon and is dominated by Alien Woodlots that could provide artificial habitats for animal species (e.g. birds). In addition, open voids filled with water could provide artificial animal habitats especially for birds.

Various species of alien trees have also been planted around homesteads and cultivated lands as windbreaks and for ornamental purposes. These areas could provide artificial habitats for various animals (e.g. birds).

No drainage lines, streams, rivers or wetlands are present within the proposed development site (including properties where services will be installed). Natural aquatic habitats are therefore not present.

3.9 Surface water

No drainage lines, streams or rivers have their origin within the proposed development site (Figure 3.1). Marneweck and Batchelor (2004) also did not identify any natural wetlands within the proposed development site. The proposed development (including the provision of services) will therefore not impact directly on any surface water environments (i.e. drainage lines, streams, rivers, wetlands).

However, the proposed development site is located on a catchment divide with a portion draining towards:

- the Blesbokspruit – quaternary catchment B11K (Figure 3.11);
- tributaries of the Olifants River extending through Jackaroo Park and the nearby Kromdraai smallholding area – quaternary catchment B11J (Figure 3.11).

Both quaternary catchments – B11K and B11J (Figure 3.11) – are located within the overall Olifants River catchment area/management area and more specifically the Upper Olifants Water Management Area.

The water quality of the Blesbokspruit is known to be of poor quality. The start of the Blesbokspruit is located to the north east of the defunct Station Colliery and has been highly impacted upon by acid mine water draining from the old mines. The Department of Water Affairs built pollution control dams within this system in order to try and contain this acidic water. However, these ponds overflow into the Blesbokspruit resulting in the said area being devoid of vegetation due to the acidic nature of the water.

Surface water runoff from the proposed development site is currently affected by the unrehabilitated open cast/coal washing plant area associated with the old Blesboklaagte Colliery site (Figure 3.7). During times of heavy rainfall, surface water accumulates within the voids creating artificial surface water environments. Here, surface water runoff is contaminated due to the presence of coal/coal discard/slurry and the lack of proper surface water management measures around the coal washing plant area. Acid mine

drainage emanating from this unrehabilitated area also impacts on the quality of surface water runoff from this site which drains towards Jackaroo Park. A tributary of the Olifants River extends through Jackaroo Park which could be impacted upon. Any stormwater runoff from the development site could thus indirectly impact on this tributary.

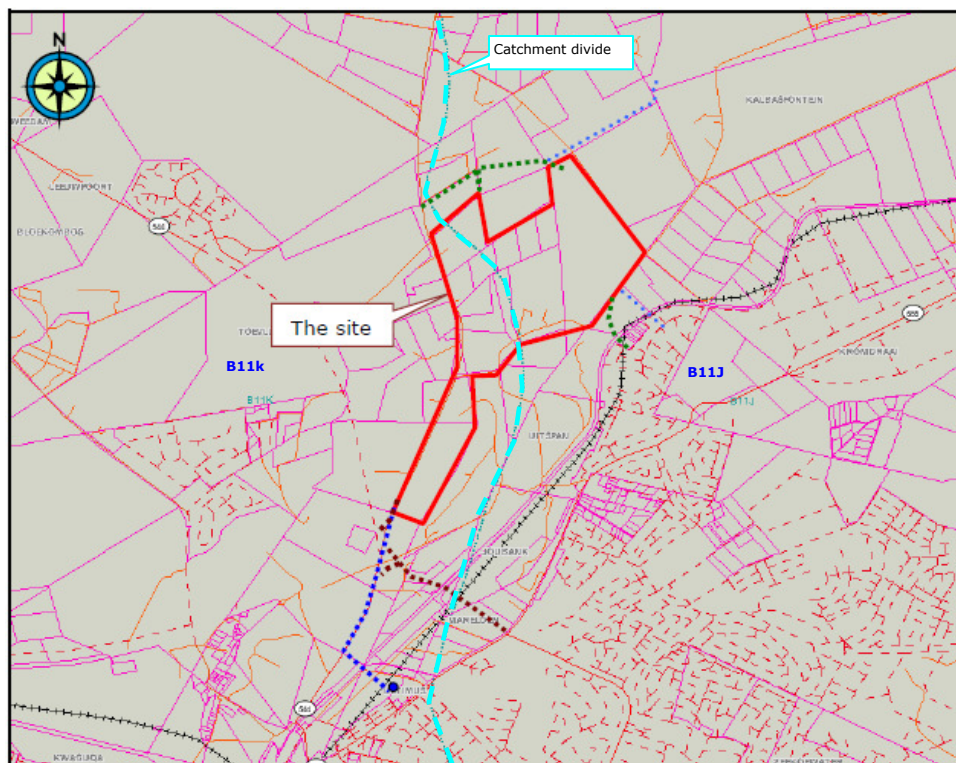


Figure 3.11: Tertiary Catchments (taken from Department of Agriculture, Forestry and Fisheries)

Stormwater runoff from the proposed development site could also indirectly impact on a tributary of the Olifants River located downstream of the site within the Kromdraai smallholding area. This could impact on the possible wetlands and aquatic life associated with this system as well as the water quality. Farm dams located within this system could also be impacted upon as well as the associated agricultural activities.

According to the Mpumalanga Biodiversity Sector Plan (MBSP, 2013), the proposed development site (including properties where services will be installed) falls within the category 'Other Natural Areas' in terms of the freshwater assessment (Figure 3.12). It should be noted that the MBSP freshwater assessment includes information obtained from the National Freshwater Ecosystem Priority Areas (NFEPA) and threatened freshwater ecosystems databases (National Biodiversity Assessment 2011).

No critical biodiversity areas (CBA's) for aquatic species, ecological support areas (ESA's) for fish or important wetlands/wetland clusters are present on site (Figure 3.12).

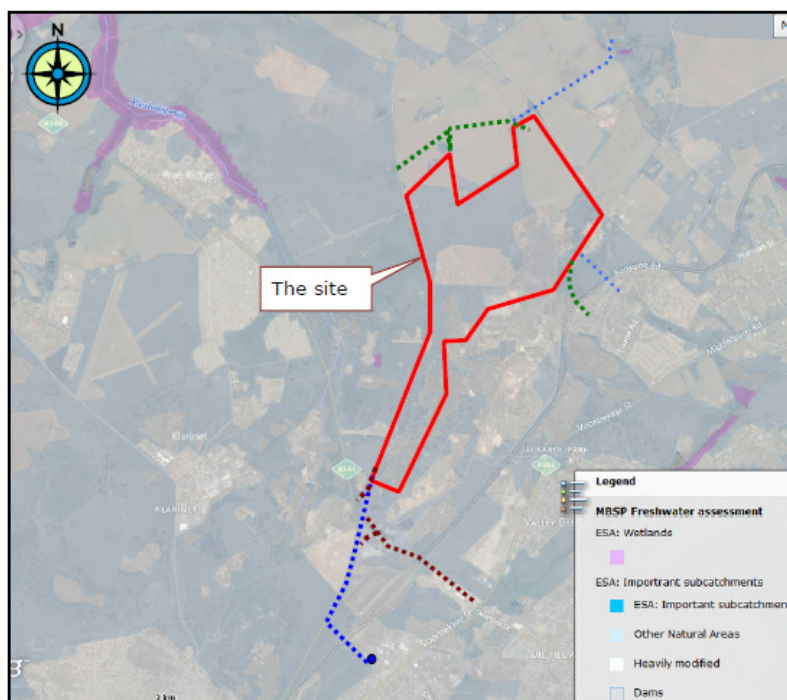


Figure 3.12: Mpumalanga Biodiversity Sector Plan freshwater assessment (taken from MBSP, 2013)

3.10 Groundwater

Groundwater would be associated with drainage lines, streams, rivers and wetlands. However, as indicated in Section 3.10 these systems are not present within the proposed development site and therefore the associated groundwater would not be directly impacted upon as a result of the said proposed development (including installation of services on adjacent properties).

The previous underground and open cast mining activities located in the southern, eastern and southeastern sections of the proposed development site (Figure 3.7) would have impacted on both the shallow and deep aquifers and therefore the groundwater of the proposed development site and immediate surrounding area.

It is known that the groundwater associated with the Blesbokspruit and surrounding area has already been impacted upon as a result of the previous mining activities which destroyed the groundwater aquifers and impacted on the groundwater quality.

Significant surface seepage of acid mine drainage (AMD) originating from the abandoned mines in the Blesbokspruit catchment occurs at three seepage spots (DWAF, 2000) namely: northeast of Station Colliery; west of Tavistock Colliery and east of Uitspan Colliery (into the eastern catchment).

The seepage is controlled by the following (DWAF, 2000):

- Surface topography;
- No. 2 seam coal floor elevation;
- Coal seam and coal seam contacts;
- Hydraulic conductivity of the aquifer, including areas of high hydraulic conductivity as a result of open cast mining.

The general ground water flow directions (DWAF, 2000) are largely topographically controlled and are:

- From south to north;
- Towards the Blesbokspruit.

There is a known decant point on the northern edge of the defunct Station Colliery where the acidic water flows into the Blesbokspruit. The Department of Water Affairs built pollution control dams within this system in order to try and contain this acidic water. However, these ponds overflow into the Blesbokspruit resulting in the said area being devoid of vegetation.

Within the Klarinet x7 and x8 sites, acid mine drainage also seeps into the Blesbokspruit. Marneweck and Batchelor (2004) identified an isolated hillslope seepage wetland due to acid mine drainage within this area. A pollution control dam was constructed on site by the then Department of Water Affairs. However, the acid mine drainage flows past this dam into the Blesbokspruit.

The unrehabilitated mines will continue to impact on the overall poor water quality of the Blesbokspruit, the downstream water environments and users, if the said mines are not rehabilitated.

From the site visits, it is evident that there is an acid mine drainage problem within the proposed development site (i.e. associated with the old Blesboklaagte Colliery site; Figure 3.7). This acid mine drainage is as a result of a combination of factors i.e.:

- Previous opencast mining on the said site (old Blesboklaagte Colliery) and immediate surrounding area;
- Previous underground mining in the surrounding area;
- Activities associated with the coal washing operation, e.g. disposal of discard and slurry into the previously opencast mine workings (no lining of these facilities provided).

This acid mine drainage problem has been aggravated by the lack of rehabilitation of the previously mined areas as well as the lack of proper surface water management measures for the said site. This acid mine water drains towards Jackaroo Park and the adjacent downstream properties. Contaminated ground water seepage was noted decanting in the drainage line (a tributary of the Olifants River) extending through the nearby residential area of Jackaroo Park.

An acid mine drainage pond is also located in the northeastern corner of the proposed development site that drains onto the adjacent property and flows down towards the railway line and Jackaroo Park (Figure 3.12).

Surrounding smallholders and farmers are reliant on groundwater as a water supply due to the lack of municipal services and perennial streams. Groundwater quality is therefore very important to landowners/users. Numerous boreholes will thus be present within the surrounding area.



Figure 3.13: View of acid mine drainage pond and acid mine drainage flowing onto the adjacent property.

3.11 Air quality

The eMalahleni area form part of a national air pollution hotspot known as the Highveld Priority Area (HPA; Republic of South Africa, 2011). This Priority Area comprises the eastern part of Gauteng and the western part of Mpumalanga and covers an area of 31.106 km². This Priority Area was declared in terms of Section 18(1) of the National Environmental Management: Air Quality Act 2004 (Act 39 of 2004) due to poor air quality and associated health risks.

The proposed development site is located in the eMalahleni air quality hot spot, which extends to Arnot in the east. This is an area where measured or modelled concentrations exceed, or are predicted to exceed, ambient air quality standards as identified in the Air Quality Management Plan for the Highveld Priority Area.

Exceedances do not occur throughout the hotspot, but in three nodes. In the Middelburg node the modelled and monitored PM₁₀ concentrations, as well as modelled SO₂ concentrations, exceed the ambient standard. Exceedances of the SO₂ standard occur in the Arnot node, but are few.

The air quality of the proposed development site is predominately governed by the various industrial and mining activities in and around eMalahleni. The following could impact upon the air quality of the proposed development site:

- Dust generated as a result of trucks and other vehicles utilizing the gravel road leading to the old Blesboklaagte Colliery and the other gravel roads in the area;
- Coal dust generated as a result of the coal washing operation and associated activities at the old Blesboklaagte Colliery site;
- Coal dust generated as a result of other coal washing operations south of the site;
- Dust generated due to the unrehabilitated mining area of the old Blesboklaagte Colliery as well as other clay quarries and sand works in the surrounding area;
- Smoke emitted from coal and wood fires used by the residents of the on-site informal settlement;
- Smoke emitted as a result of burning coal discard at the old Blesboklaagte Colliery;

- Emissions from vehicles traveling on the various roads in the area;
- Blocked sewer drains of the nearby Klarinet x6, x7 and x8 residential areas.
- Dust generated as a result of agricultural activities in the surrounding area.

3.12 Noise

The following could impact upon the ambient noise level of the proposed development site:

- Noise generated as a result of trucks and other vehicles utilizing the gravel road leading to the old Blesboklaagte Colliery area and the other gravel roads in the area;
- Noise generated as a result of the coal washing operation and associated activities at the old Blesboklaagte Colliery area as well as the other clay quarries and sand works in the surrounding area;
- Noise generated as a result of other coal washing operations south of the site;
- Blasting as a result of new mining activities in the area as well as Inyanda Coal Mine;
- Noise generated as a result of the activities associated with the MNS informal settlement;
- Noise generated as a result of agricultural activities in the surrounding area (including domestic and farm noise especially noise from animals e.g. dogs, sheep, etc.);
- Noise generated by vehicles utilizing the tarred Zaaihoek Road;
- Noise generated by trains travelling on the railway line east of the site;
- Aircraft flying at high altitude as well as aircraft in the circuit above the Witbank Aerodrome - during the day and over the weekend period;
- Low flying microlight aircraft also contribute to the ambient noise level of the area;
- Noise generated as a result of activities associated with the nearby Klarinet x6, x7 and x8 residential areas.

3.13 Sites of archaeological and cultural interest

Archaeology and cultural sensitivity:

Graves are known to be present on Portion 26 of the farm Blesboklaagte (i.e. old Blesboklaagte Colliery site) as indicated in Figure 3.14.

It is currently not known if any sites of archaeological and cultural interest (including graves) are located along the proposed water pipeline routes, at the proposed reservoir site, along the proposed sewer line routes and the proposed OR Tambo extension route (Figure 3.?).

The presence of any sites of archaeological and cultural interest (including graves) will be determined through the Phase I Heritage Impact Assessment to be conducted as part of the Environmental Impact Assessment.



Figure 3.14: Graves located on Portion 26 of the farm Blesboklaagte

Palaeontological sensitivity:

According to the palaeontological map supplied by the South African Heritage Resources Agency (SAHRA, 2014), the palaeontological sensitivity is deemed to range from very high (area indicated in red; Figure 3.15) to moderate (area indicated in green; Figure 3.15). In view of this, a desktop study, field assessment and protocol are required as indicated in Figure 3.15. This would also be applicable in terms of the water pipeline routes, proposed reservoir site, sewer line routes and the proposed OR Tambo extension route (Figure 3.15).

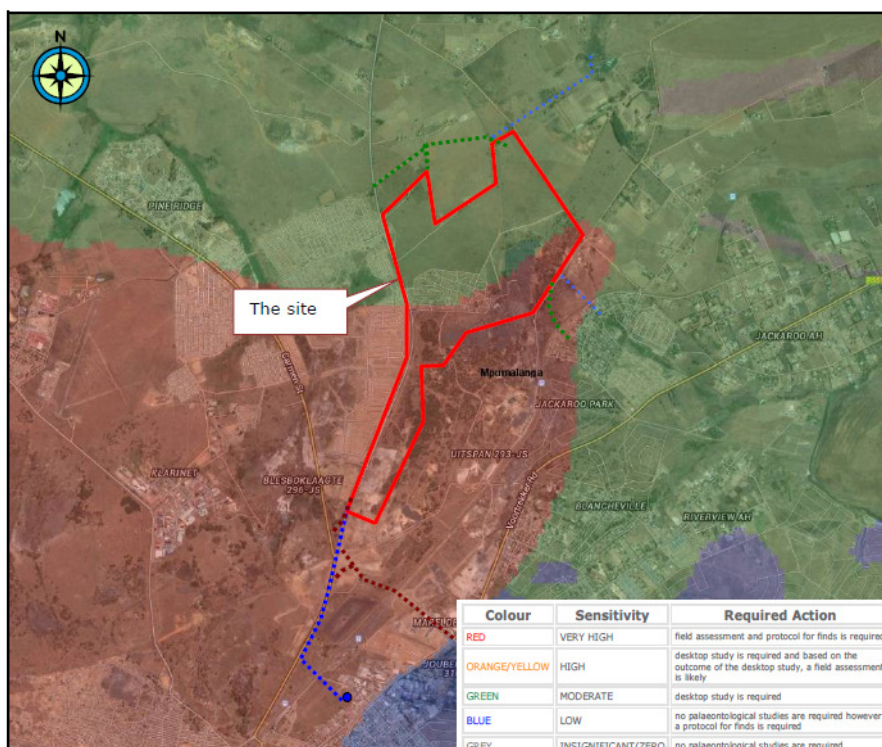


Figure 3.15: Requirement for palaeontological study (taken from SAHRA, 2014)

The required palaeontological study will be conducted as part of the Environmental Impact Assessment.

3.14 Sensitive landscapes

Marneweck and Batchelor (2004) did not identify any wetlands for the said development site. No drainage lines, streams or rivers have their origin within the proposed development site. No sensitive landscapes are therefore known to be present within the proposed site.

3.15 Visual aspects

In general, the proposed site is visible from the tarred Zaaihoek Road, the adjacent agricultural holdings and the various gravel roads that extend through the area (Figure 3.7).

The visibility of the various properties depends on the location thereof in relation to these above-mentioned features and would have to be determined on a more site specific basis. The Alien Woodlots present in the southern, eastern and southeastern sections of the site however, provide screening.

3.16 Traffic

The Zaaihoek Road (Figure 3.7), a partly tarred district road, provides access to the residential areas of Klarinet x6, x7 and x8, MNS settlement, old Blesboklaagte Colliery site and coal washing plant areas, the surrounding agricultural holdings and farms. In addition, it provides access to Inyanda Coal Mine. Heavy vehicles (trucks) currently transport coal from Inyanda Coal Mine to Blackhill Siding using this road.

To the south of the development area, the Zaaihoek Road merges with the provincial Verena Road (R544) and then crosses the Transnet railway line to the central district business area of eMalahleni.

A gravel road extending from the Zaaihoek Road provides access to the old Blesboklaagte Colliery site and nearby coal washing plants (Figure 3.7). This road extends adjacent to the MNS settlement (Figure 3.7) and is used by heavy vehicles on a daily basis. This is a safety risk since no fencing is present resulting in easy access to this busy road.

Various gravel/farm roads extend through the proposed development site and surrounding area and are mainly used by landowners for their specific activities. Further north, a gravel road extends from the Zaaihoek Road linking with the residential area of Jackaroo Park. This road crosses the Transnet railway line (Figure 3.7).

3.17 Sense of place

The proposed development site is located adjacent to the tarred Zaaihoek Road (D1126) (Figure 3.7) and directly opposite the recently developed Klarinet x6, x7 and x8 residential areas (Figure 3.7).

The residential area of Jackaroo Park is located to the east of the proposed site (Figure 3.7), adjacent to the Transnet railway line (Figure 3.7) that extends through the said area.

Agricultural smallholdings (Kromdraai Smalholdings; Figure 3.7) are located to the north east of the proposed development site. Various activities (e.g. residential, agricultural, light industrial, etc.) take place on the said properties.

The majority of the surrounding area is used for agriculture either for crop or livestock production.

Inyanda Coal Mine is located further north along the Zaaihoek (D1126) Road.

According to the latest review of the Spatial Development Framework of eMalaheni, the proposed site is situated in an area earmarked for future residential development (Figure 3.16).

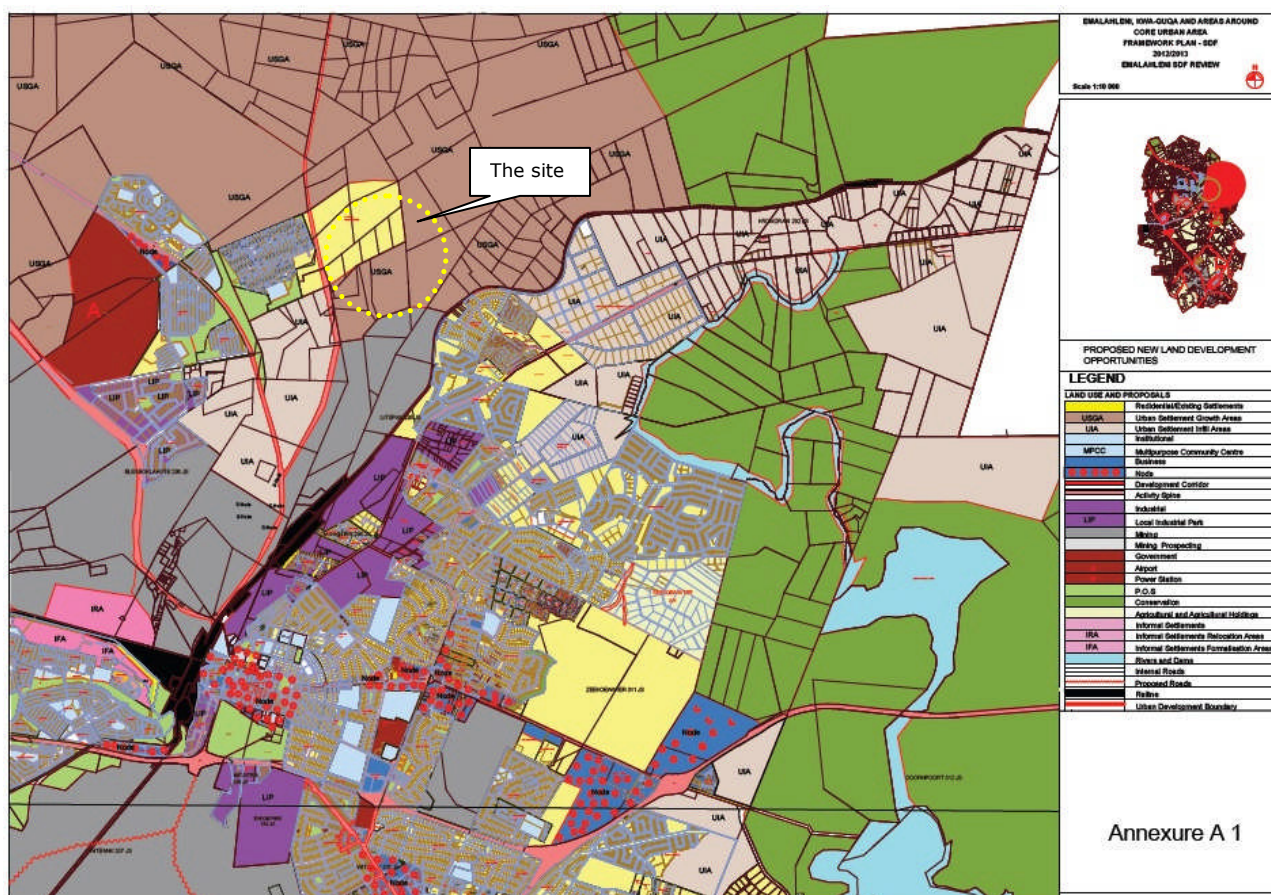


Figure 3.16: eMalaheni Spatial Development Framework

Urban Dynamics (2014) further indicated that a localized Klarinet Spatial Development Framework (Figure 3.17) was also approved for the area and includes the proposed phase 2 development confirming the desirability of the township establishment application.

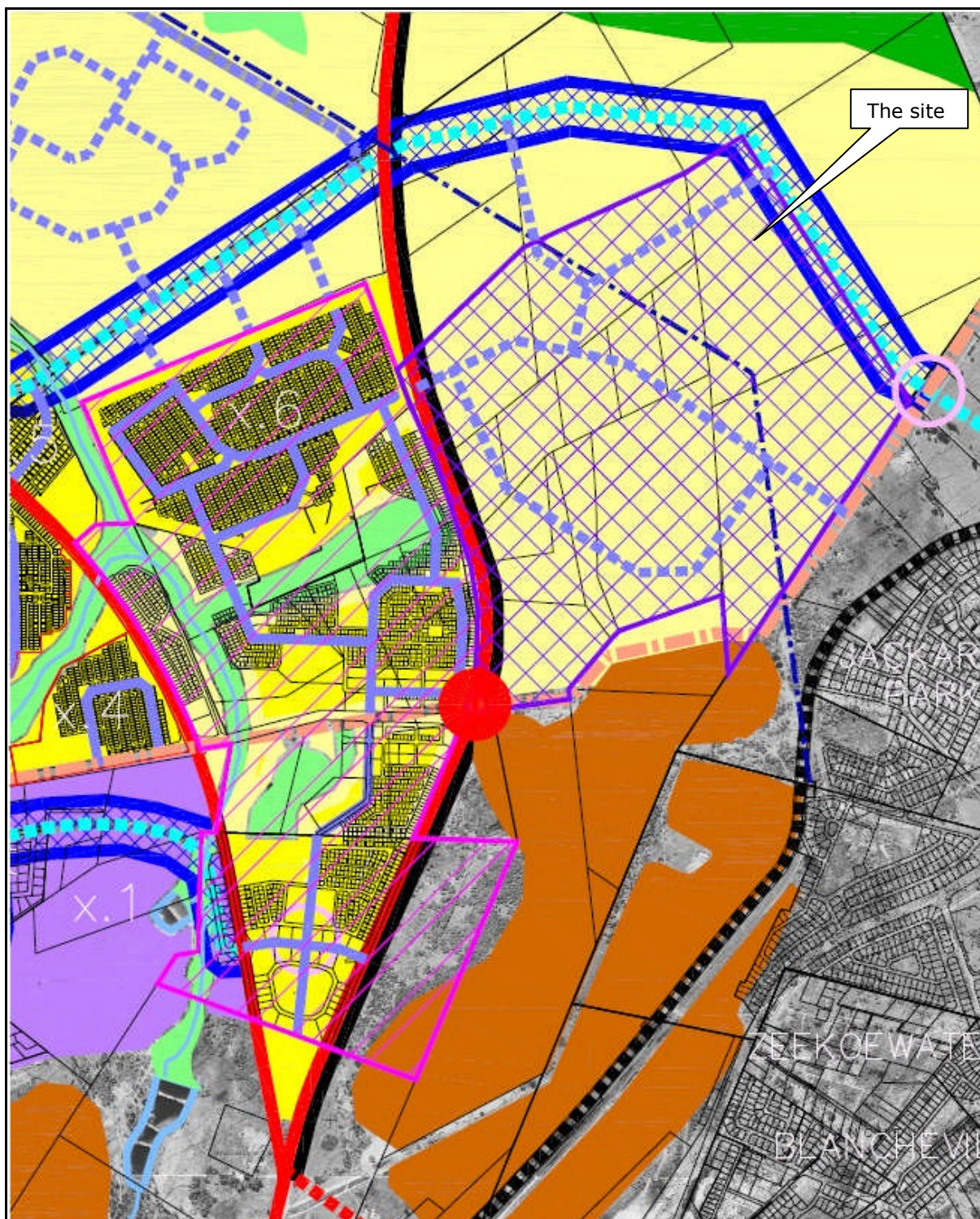


Figure 3.17: The proposed site and the localised Klarinet Spatial Development Framework

4. DESCRIPTION OF PUBLIC PARTICIPATION PROCESS

4.1 Advertising of the project

4.1.1 Press advertising

A block advert (150mm x 95mm), according to the Environmental Impact Assessment Regulations, 2010, was placed in the Witbank News, on Friday, 27 February 2015 in English and Zulu. Copies of the adverts are provided in Appendix 5.

4.1.2 On-site advertising

Notices (in English and Zulu) according to the Environmental Impact Assessment Regulations, 2010, were placed at the following locations:

- Onsite (western boundary) at the substation located adjacent to the Zaaihoek provincial road next to the MNS informal settlement (A1 size; English and Zulu; Figure 4.1, Photo 1);
- Onsite (western boundary) adjacent to the Zaaihoek provincial road opposite the entrance to Klarinet x6 (A1 size; English and Zulu; Figure 4.1; Photo 2)
- Onsite (northern boundary) adjacent to the Kromdraai-Jackaroo gravel road (A1 size; English and Zulu; Figure 4.1; Photo 3);
- On the noticeboard at the Jackaroo Mini Supermarket in Eileen Street, Jackaroo Park (A3 size; English; Figure 4.1; Photo 4);
- On the noticeboard at the eMalahleni (Witbank) Public Library (A3 size; English and Zulu; Figure 4.1; Photo 5).
- A copy of the notice was also loaded onto the company website: www.cleanstreamsa.co.za.

These notices were displayed from Thursday, 26 February 2015, for the duration of the scoping phase. A copy of the notices is provided in Appendix 5.

As indicated in Section 5, no alternative site was identified for this proposed development. No notices were thus placed on an alternative site.

4.1.3 Informing I&APs via the internet

Interested and affected parties were also informed via the above-mentioned adverts and notices that a copy of the following documentation could be downloaded from the Clean Stream Environmental Services website (www.cleanstreamsa.co.za) from Friday, 27 February 2015:

- ◆ Copy of the notice (English and Zulu);
- ◆ Background Information Document (BID; English and Zulu) (Appendix 6).

This information was available on the website for the duration of the scoping phase. A copy of the webpage printouts is provided in Appendix 5.



Photo 1: Onsite (western boundary) at the substation located adjacent to the Zaaihoek provincial road next to the MNS informal settlement.



Photo 2: Onsite (western boundary) adjacent to the Zaaihoek provincial road opposite the entrance to Klarinet x6.



Photo 3: Onsite (northern boundary) adjacent to the Kromdraai-Jackaroo gravel road.



Photo 4: On the noticeboard at the Jackaroo Mini Supermarket in Eileen Street, Jackaroo Park.



Photo 5: On the noticeboard at the eMalahleni (Witbank) Public Library

Figure 4.1: Placement of notices

4.1.4 Feedback from advertising process

Only two persons registered as interested and affected parties in terms of the advertising process (site and newspaper advertising) within the 30 day registration period provided namely:

Henk van Zyl (Ivubu Investments)	Email (dated: 5 March 2015) to register Galactic Minerals (Pty) Ltd.	Completed comment sheet (dated: 15 March 2015). <i>No comments just particulars of the</i>
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		<i>company.</i>
Belinda Jacobs (Impact Opencast Services)	Email (dated: 5 March 2015) requesting a Background Information Document. Email from CSES (dated: 5 March 2015) forwarding the Background Information Document.	<i>No comments received.</i>

An email (dated: 1 April 2015; Appendix 1) was forwarded to the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) w.r.t. the advertising of the project.

4.1.5 Public meeting

As indicated in Section 4.1.4, only two interested and affected parties registered in terms of the above-mentioned advertising process. A public meeting was therefore not required as part of the scoping phase of this project.

4.2 Relevant authorities and stakeholders

4.2.1 Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA)

The Department of Agriculture, Rural Development, Land and Environmental Affairs was consulted with regards to the proposed development.

The following documentation (Appendix 1) was submitted to the Department (Witbank Office) on 23 September 2014:

- Application for authorisation in terms of the National Environmental Management Act, 1998 (Act. No. 107 of 1998), (as amended) and the Environmental Impact Assessment Regulations, 2010.

A request for deviation from Regulations 15(1) and 15(3) was also requested in the cover letter (dated: 23 September 2014; Ref: EIA 2014/02; Appendix 1).

Subsequently, a letter was received from the Department (dated: 2 October 2014; Ref: 17/2/3N-397; Appendix 1) acknowledging receipt of the application form.

The Department granted permission to deviate from Regulation 15(1) and 15(3) in the letter (dated: 24 February 2015; Ref: 17/2/3N-397; Appendix 1).

A pre-application meeting and site visit were held on Thursday, 9 April 2015, which was attended by the following persons:

- ❖ Ms. R. van Rensburg – Clean Stream Environmental Services;
- ❖ Ms. O. Fakude – Department of Agriculture, Rural Development, Land and Environmental Affairs.

The following issues of concern were raised by the Department:

ISSUES RECORDED
<ul style="list-style-type: none">• Traffic – A traffic impact study must be commissioned to investigate the potential impact of the development on traffic along the Zaaihoek Road, OR Tambo and Voortrekker Road and through Jackaroo Park.
<ul style="list-style-type: none">• Crime – How will a potential increase in crime in the area be mitigated/managed? Will a satellite police station be established in the area?
<ul style="list-style-type: none">• Acid Mine Drainage (AMD) – The existing AMD on site is an issue of concern. How will the site be rehabilitated and who will be responsible for the rehabilitation? No AMD is allowed to flow into streams and to the Olifants River as a result of the proposed storm water channel.
<ul style="list-style-type: none">• MNS settlement – What are the plans from the eMalahleni Local Municipality regarding the existing MNS informal settlement? What will happen to the people that do not qualify for RDP houses? Will they be vacated, relocated?
<ul style="list-style-type: none">• OR Tambo Road extension – How will the owner of the directly affected property (Mr Singh) be located and consulted?
<ul style="list-style-type: none">• Specialist studies – It is agreed that the following specialist studies must be commissioned: traffic, geotechnical, vegetation and animal life, archaeological, palaeontological and socio-economic.

An email (dated: 10 April 2015; Appendix 1) was forwarded to the Department confirming the issues raised during the site visit. Subsequently, an email from the Department (dated: 10 April 2015; Appendix 1) was received indicating agreement with the issues recorded on site.

4.2.2 Department of Water and Sanitation

A Background Information Document and comment sheet (email dated: 3 March 2015; Appendix 7) were sent to the Department of Water and Sanitation (official – A. Rambuda) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comments have been received.**

4.2.3 Department of Agriculture, Rural Development and Land Administration - Directorate: Land Use and Soil Management

A Background Information Document and comment sheet were forwarded (e-mail dated: 3 March 2015; Appendix 7) to the Department of Agriculture, Rural Development and Land Administration – Directorate: Land Use and Soil Management (official – Mr. J. Venter) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comments have been received.**

4.2.4 Department of Agriculture, Forestry and Fisheries

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were forwarded to the Department of Agriculture, Forestry and Fisheries (official – F. Mashabela) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.5 Department of Co-operative Governance and Traditional Affairs (COGTA)

A Background Information Document and comment sheet were forwarded (email dated: 3 March 2015; Appendix 7) to the Department of Co-operative Governance and Traditional Affairs (COGTA) (official – M. Looek) in order to

obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.6 Department of Mineral Resources

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Department of Mineral Resources (official – M. Mokonyane) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

In view of the fact that mining activity has taken place on site and within the surrounding area, Urban Dynamics submitted a Section 53 Application to the Department of Mineral Resources via their internet portal on 26 September 2014 and obtained the following reference number (Ref: MP30/5/4/2/11026SU). **To date, no comment has been received.**

4.2.7 Department of Public Works, Roads and Transport

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Department of Public Works, Roads and Transport (official – B. Viljoen) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.8 Department of Culture, Sports and Recreation

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Department of Culture, Sports and Recreation (Director – Mr. S. Singh) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.9 Department of Rural Development and Land Reform (Commission on Restitution of Land Rights)

An email (dated: 3 March 2015; Appendix 7) was forwarded to the Department of Rural Development and Land Reform (officials – ND Nkambule; GN Mathonsi; T. Mkhabela) with regards to any land claims registered against the farm Blesboklaagte 296 JS.

A letter (dated: 16 April 2015; Ref: 1107; Appendix 7) was received indicating that **a claim has been lodged against the farm Blesboklaagte 296 JS. Currently, the said claim is being researched.**

4.2.10 South African Heritage Resources Agency (SAHRA)

The Background Information Document (Appendix 6) was loaded onto the SAHRIS website on Tuesday, 3 March 2015 (Appendix 7). **To date, no comment has been received.**

4.2.11 Department of Education

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Department of Education (K.R. Morena) in order to obtain the Department's concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.12 Mpumalanga Tourism and Parks Agency (MTPA)

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Mpumalanga Tourism and Parks Agency (MTPA) (K. Narasoo) in order to obtain their concerns with regards to the proposed project. **To date, no comment has been received.**

4.2.13 South African National Roads Agency Limited (SANRAL)

A Background Information Document and comment sheet (facsimile dated: 3 March 2015; Appendix 7) were sent to the South African National Roads Agency (M. Yorke-Hart) in order to obtain their issues of concern since the proposed development would be located a few kilometers west of the old Middelburg Road that falls under their jurisdiction. **To date, no comment has been received.**

4.2.14 Trans African Concession (Pty) Ltd. (TRAC)

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to Trans African Concessions (R. Nkosi) in order to obtain their issues of concern since the old Middelburg Road that falls under their jurisdiction is located a few kilometres to the east of the proposed development. **To date, no comment has been received.**

4.2.15 Eskom

A Background Information Document and comment sheet were forwarded (e-mail dated: 3 March 2015; Appendix 7) to Eskom (Transmission – E. Lennox; N. Maake and L. Motsisi; Mpumalanga Land and Rights – M. Moloko) in order to obtain their concerns with regards to the proposed project.

A letter from the Eskom Asset Management and Execution Division (dated: 7 April 2015; Appendix 7) was subsequently received indicating the following:

*I refer to your document dated 27 February 2015 and wish to inform you that Eskom Transmissions (Tx) Duvha-Vulcan 400 kV power line will be affected by the proposed development.
Eskom Tx will raise no objection to the development provided that Eskom Tx's rights and services are acknowledged and respected at all times and the following terms and conditions must be complied with:*

Eighteen (18) conditions are indicated in the said letter (Appendix 7) that must be adhered to by the developer.

In addition, it was indicated that the Background Information Document be forwarded to the Land Development Manager (Eskom Distribution).

4.2.16 Telkom

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to Telkom (J. Smit) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.17 Wildlife and Environment Society of South Africa

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Wildlife and Environment Society of South Africa (L. Betha) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.18 Transvaal Landbou Unie

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Transvaal Landbou Unie (D. du Plessis) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.19 Mpumalanga Agriculture

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 6) were sent to Mpumalanga Agriculture (H. Laas) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.20 Nkangala District Municipality

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Nkangala District Municipality (Development and Planning – S. Links) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.21 Mpumalanga Wetland Forum

A Background Information Document and comment sheet (e-mail dated: 3 March 2015; Appendix 7) were sent to the Mpumalanga Wetland Forum (H. Marais) in order to obtain their issues of concern. **To date, no comment has been received.**

4.2.22 Sasol Gas

A Background Information Document and comment sheet (e-mail dated: 5 March 2015; Appendix 7) were sent to Sasol Gas (B. van den Heuvel) in order to obtain their issues of concern. The Sasol Gas pipeline could be affected by the proposed reservoir and water pipeline. **To date, no comment has been received.**

4.3 Directly affected and surrounding land owners/users

A Deeds search was conducted via the WinDeed system of the Deeds Office of South Africa. The Deeds Search Template provides information pertaining to land ownership, size and land value of each of the properties.

Figure 4.2 provides an indication of the location of the directly affected and surrounding landowners in relation to the proposed site.

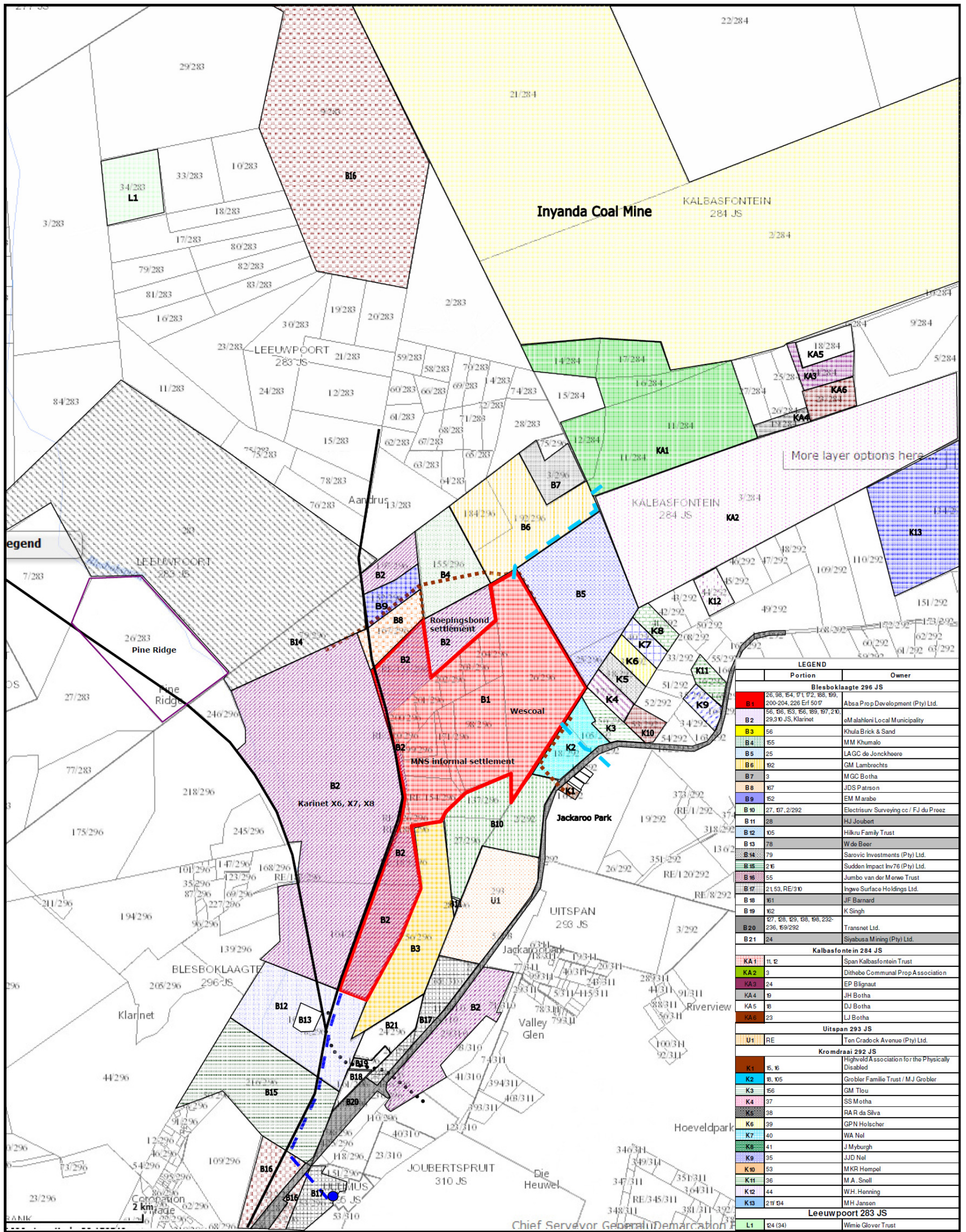


Figure 4.2: Directly affected and surrounding land owners/users

4.3.1 Directly affected land owners/users

4.3.1.1 Residential development area

As indicated in Table 4.1 and Figure 4.2, the majority of the site belongs to the project applicant, Absa Prop Development (Pty) Ltd., with 4 portions belonging to the eMalahleni Local Municipality.

Table 4.1: Directly affected landowners in terms of the Klarinet Phase 2 residential development

Klarinet Phase 2 residential development site:		
Portion	Owner	Intended Use
Blesboklaagte 296 JS		
Portion 26	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 56	Khula Brick & Sand (Pty) Ltd.	Road & Water
Portion 98	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
RE/153	Emalahleni Local Municipality	Klarinet Phase 2
RE/154	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 171	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 172	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
RE/188	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
RE/189	Emalahleni Local Municipality	Klarinet Phase 2
Portion 199	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 200	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 201	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 202	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 203	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Portion 204	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
RE/210	Emalahleni Local Municipal Council	Klarinet Phase 2
RE/226	Absa Prop Development (Pty) Ltd.	Klarinet Phase 2
Klarinet X7		
Erf 5017	Emalahleni Local Municipality	Klarinet Phase 2

Emalahleni Local Municipality (land owner)

A Background Information Document and comment sheet were forwarded (e-mail dated: 3 March 2015; Appendix 7; email dated: 5 March 2015; Appendix 8) to the Emalahleni Local Municipality (T. Buthelezi; E. Nkabinde) in order to obtain their concerns with regards to the proposed project. **To date, no comment has been received.**

It should be noted that eMalahleni Local Municipality forms part of the project team with regards to the proposed residential development.

Khula Brick and Sand (Pty) Ltd. (land owner; Figure 4.2)

Khula Brick and Sand (Pty) Ltd, owner of Portion 56, will be directly impacted in terms of a proposed road and water pipeline (Table 4.1).

An email (dated: 26 February 2015; Appendix 8) informing the company of the proposed project and the potential impact on their property was forwarded together with an official letter from Clean Stream Environmental Services (dated: 26 February 2015; Appendix 8).

Subsequently, an email (dated: 27 February 2015; Appendix 8) was received indicating the following:

'I suggest you meet with Adie or Riana and discuss timelines, potential impacts etc. Also point out that it is likely that our area, together with that of Witbank Brickworks will be mined in due course. This is imperative to rehabilitate the area and alleviate water pollution'.

A meeting was held with Jacques van Bruwaene (Khula Brick and Sand (Pty) Ltd.) on 24 March 2015. During the said meeting, the following was indicated:

- Witbank Brickworks plans to mine the entire area (even Frans du Preez's property) – it may even include sections of the proposed residential development area;
- Recommend that a meeting is scheduled with Wouter van Deventer (Witbank Brickworks) in order to obtain a map of the proposed mining area;
- Khula Bricks and Sand would be relocated to another property – negotiations in this regard still underway;
- No objections at the moment;
- One request: developers would have to keep the 100m buffer zone in mine and take into account blasting, etc.

Wescoal Mining (land user - leasing Portion 26)

Wescoal Mining leases Portion 26 of the farm Blesboklaagte 296 JS (i.e. old Blesboklaagte Colliery site) from the landowner, Absa Property Development (Pty) Ltd. Over the years, coal washing has taken place on the said site as indicated in Section 3 of this report. The lease expired at the end of September 2014 and all activities on site were to cease so that the rehabilitation of the site could be initiated. An addendum to the lease was recently signed to extend the lease period (by another year) in order to enable Wescoal to rehabilitate the leased and abutting areas. Wescoal Mining is presently preparing a Closure and Rehabilitation Plan for the affected area as per the lease agreement.

A Background Information Document and comment sheet (e-mail dated: 13 March 2015; Appendix 8) were sent to Wescoal Mining (Morne du Plessis) in order to obtain their concerns with regards to the proposed project. **To date, no comment has been received.**

MNS informal settlement (Figure 3.7)

As indicated in Figure 3.7, the MNS informal settlement is located in the central portion of the site.

Witbank News (28 February 2014)

A newspaper article appeared in the Witbank News on 28 February 2014 (Appendix 10) regarding the protest that took place on Tuesday, 18 February 2014, regarding the poor living conditions at MNS informal settlement.

The following issues of concern of the MNS Community were indicated the said article:

- Improvement of living conditions at MNS informal settlement is required;
- Poor living conditions include lack of water, sanitation, waste management, electricity, roads and security.

It was further indicated in the said article that *'the protest was resolved in a constructive manner with the establishment of a committee elected by the community members of the informal settlement. The committee will be interacting with Emalahleni Local Municipality, Department of Human Settlements and Department of Cooperative Governance on a monthly basis to discuss progress'*.

'The community through its committee will assist with information, records of people staying there and assisting with information on people qualifying as priority for housing subsidies'.

'He (Theo van Vuuren) said this is one of the areas already identified for formalization and the current negotiations on land purchasing and development will continue'.

The following short term interventions were indicated in the said newspaper article:

- *'Identification of areas where stand pipes can be placed, as there are pipes available adjacent to the property and locations for additional JoJo tanks, ensuring the improvement of the current tanker services management to ensure better reliability in supply'*,
- *'Cleaning of the dumping with local labour and placing skips to ensure we keep the area clean'*;
- *'Strengthening law enforcement to attend to the high crime rate and also to ensure that further illegal dumping is prevented'*;
- *'Provision of temporary relive in respect of chemical toilets for pit latrines (agreeing that sanitation can only be fully attended to once the area is formalized)'*;
- *'Improvement of the main access road and also discussing this with the main user of the road, a mine, whose trucks cause dust pollution and'*
- *'Agreeing that electricity at this stage cannot be provided until the formalization process has been started and approved'*.

Meetings with Emalahleni Local Municipality

6 November 2014

In view of the above-mentioned newspaper article, a meeting with the eMalahleni Local Municipality was requested before commencing with the public participation process in order to determine the correct way forward in terms of consulting with the MNS Community.

A meeting was held on 6 November 2014 which was attended by Councilor LM Nhlapo, Nomsa Nxumalo (ELM), Steyn van Blerk (Bigen Africa), T. Tsoali (Absa) and Adie Erasmus (Clean Stream Environmental Services).

It was indicated that a Council Resolution was required before consultation with the MNS Community could take place. (The next council meeting was scheduled for 26 – 28 November 2014).

Once the Council Resolution was taken, then a meeting with the MNS Committee could be scheduled (during the week) after which a community meeting could be called (on a Saturday).

It was further indicated that a socio-economic study had commenced in order to determine who lives within the MNS informal settlement and who would qualify for a house.

Committee Meeting (13 February 2014)

A meeting with the Committee was attended on 13 February 2015 at the eMalahleni Local Municipality. This meeting was chaired by Councilor LM Nhlapo. A copy of the agenda and attendance register is provided in Appendix 10. The Councilor for Ward 12 (Taylor Pookgoadi) and the MNS Ward Committee Member (Petros Sibiya) attended this meeting.

During the meeting, the environmental impact assessment with regards to the Klarinet Phase 2 Project was discussed and committee members informed. It was then indicated that a Ward 12 Committee meeting would be scheduled after which a MNS Community Meeting would take place. Meetings would be coordinated by the Ward 12 Councilor (Taylor Pookgoadi).

Progress in terms of the socio-economic study of the MNS informal settlement was also discussed during the said meeting.

Ward 12 Committee Meeting (17 February 2015)

The Ward Councilor for Ward 12 – Taylor Pookgoadi – invited Clean Stream to attend and inform the Ward 12 Committee (that includes the MNS Community Representative) about the Klarinet Phase 2 project. This committee comprises representatives from Klarinet, MNS Community, Pine Ridge, Ferrobank, hostel area, a small part of Ackerville and the surrounding farming area.

The Ward 12 Committee Meeting (17 February 2015) was chaired by Taylor Pookgoadi and attended by 12 persons. An attendance register is provided in Appendix 10.

The committee members were informed by the chair that Clean Stream Environmental Services had been appointed to conduct the Environmental Impact Assessment with regards to the Klarinet Phase 2 Project. This project would involve the development of a residential area that would overlap with the MNS informal settlement. The chair further indicated that Clean Stream first needed to inform the Ward 12 Committee of the project before talking to the MNS Community.

A brief overview of the project was provided indicating that the proposed project would be in line with the existing Klarinet x6, x7 and x8 residential areas. Committee members were provided with a copy of the notice (English and Zulu) that was to be placed in the newspaper on 27 February 2015 as well as a map indicating the location of the site and the proposed layout plan. It was indicated that onsite notices would be displayed on site from 27 February 2015 regarding the said development.

The only question that was asked (O. Mashiyane) was regarding when the development would start. It was indicated that the required approvals were first required (e.g. EIA approval, townplanning, etc.) before any construction can commence. A rough estimate of 18 – 24 months before construction would start was given.

MNS Community Meeting (23 February 2015)

The Ward 12 Councilor (Taylor Pookgoadi) arranged a MNS Community Meeting on Monday, 23 February 2015. The MNS representative, Petros Sibiya, was also present. Appendix 10 provides a signed declaration by the Ward Councilor and the MNS Community representative that the meeting with the community took place.

The community was informed by the chair (Taylor Pookgoadi) that Clean Stream Environmental Services had been appointed to conduct the Environmental Impact Assessment with regards to the Klarinet Phase 2 Project. This project would involve the development of a residential area that would overlap with the MNS informal settlement.

A brief overview of the project was provided indicating that the proposed project would be line with the existing Klarinet x6, x7 and x8 residential areas. The following was made available: a copy of the notice (English and Zulu) that was to be placed in the newspaper on 27 February 2015 as well as a map indicating the location of the site and the proposed layout plan. It was indicated that onsite notices would be displayed on site from 27 February 2015 regarding the said development. The presentation was translated into Zulu by the ward councilor.

The following issues were raised by the MNS Community:

- The MNS Community previously provided their issues of concern to the ELM and other government departments (even toy-toyed regarding these issues) but nothing was done. Do we think we shall be able to make a difference and address their issues?
- The 1.5 to 2 years indicated that the project will take – it is only for research or will it include development?
- Personal hygiene and health issues (presently at MNS) and the impact on the children due to the lack of facilities e.g. sewage, impact of dust, etc.
- It was indicated that the process should proceed speedily as some of the members have been living there for 10 years and cannot wait for another 10 years for things to happen. They are struggling under the present conditions.
- Will they demolish the existing houses as they construct the new houses and infrastructure or how will it work?

After the meeting, a community member, Donald, indicated that there is a MNS Community Committee. He indicated that he would coordinate the community concerns and forward to Clean Stream. To date, this information has not been received.

The MNS Ward Committee member, Petros Sibiya, was contacted telephonically (23 March 2015) in order to determine if written comments from the community would be forwarded as indicated. The following was indicated:

- Comments raised during the community meeting (23 February 2015) must be taken as comment from the community. They have no other issues.
- The main issues are:
 - Lack of water;
 - Health related issues as a result of dust from trucks driving on the gravel road.

- How long will the project take as some of the members are very old and would like to live in an RDP house before they pass away?
- Community very pleased about the project.

Ward Councilor for Ward 12

The Ward Councilor for Ward 12 (T. Pookgoadi) was provided with a Background Information Document (emails dated: 3 March 2015; Appendix 7) in order to obtain issues of concern and/or objections on behalf of the residents of the area. **To date, no comment has been received.**

4.3.1.2 Bulk services areas

As previously indicated, services (water pipeline, sewer line, storm water trench, proposed OR Tambo extension, Figure 4.2) would extend onto adjacent properties belonging to private landowners.

As indicated in Table 4.2, an official letter was forwarded (by email, fax, hand delivered) to the identified land owners. Table 4.2 also provides an indication if comment was subsequently received while Table 4.3 provides further detail regarding the comment received.

Table 4.2: Directly affected landowners in terms of the proposed bulk services

BULK SERVICES				
Portion	Owner	Intended Use	Informed of project	Comment received
Blesboklaagte 296 JS				
Portion 21	Ingwe Surface Holdings Ltd. (Mr. Dhanooklal) BHP Mine Closure (Phillip Lombard)	Road (OR Tambo extension)	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8. Email (dated: 3 March 2015) – Appendix 9.	No.
Portion 25	LAGC de Jonckheere (L. de Jonckheere & R. Lennox)	Sewer, Storm water	Official letter (dated: 26 February 2015) – hand delivered (Appendix 8).	Yes. Completed comment sheet (dated: 15 March 2015) – Appendix 8).
Portion 53	Ingwe Surface Holdings Ltd (Mr. Dhanooklal) BHP Mine Closure (Phillip Lombard)	Water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8. Email (dated: 3 March 2015) – Appendix 9.	No.
Portion 55	Jumbo van der Merwe Trust (Mr. J van der Merwe)	Water	Official letter (dated: 26 February 2015) – hand delivered (Appendix 8).	No.
Portion 79	Sarovic Investments cc (S. Cholich; R. Sarovic)	Sewer	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	No.
Portion 105	Hilkru Family Trust (Mr. Hilmer Kruger)	Road	Email (dated: 26 February 2015) including official letter	Yes (Meeting of 15 April 2015).

BULK SERVICES				
Portion	Owner	Intended Use	Informed of project	Comment received
			(dated: 26 February 2015) – Appendix 8.	
Portion 136	Transitional Local Council of Witbank (eMalahleni Local Municipality) (T. Buthelezi; E. Nkabinde)	Road	Email (dated: 3 March 2015; 5 March 2015) – Appendix 7 & 8.	No.
Portion 152	EM Marabe	Sewer	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	No.
Portion 155	MM Khumalo (Mr. and Mrs. Khumalo)	Sewer	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Yes. See below for further details.
Yes. Email (dated: 27 February, 2, 7, 15, 16 March 2015) – Appendix 8. Meeting held on 4 March 2015. An email (dated: 7 March 2015; Appendix 8) was received requesting a map indicating the proposed sewer line route. Subsequently, an email (dated: 16 March 2015; Appendix 8) was forwarded indicating the proposed location of the sewer line. To date, a copy of the prospecting right has not been received by Clean Stream Environmental Services as requested in the email (dated: 5 March 2015; Appendix 8).				
Portion 161	JF Barnard	Road	No contact details.	No contact details.
Portion 162	K Singh (Gwen Mungai)	Road	A BID was hand delivered on 15 April 2015.	No.
Portion 167	JDS Paterson (S. Paterson)	Sewer	Official letter (dated: 26 February 2015) – hand delivered (Appendix 8).	No.
Portion 192	GM Lambrechts (H. Lambrechts)	Sewer, Storm water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Yes – meeting held on 24 March 2015.
Portion 216	Sudden Impact Inv 76 (Pty) Ltd. (Mr. Botha; Mr. Vermeulen)	Water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	No.
Portion 232	Transnet Ltd. (T. Mavulwana)	Water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Yes – Completed comment sheet (dated: 27 February 2015) – Appendix 8.
Portion 235		Road		
Portion 236		Road		
Kromdraai 292 JS				
Portion 2	FJ du Preez	Sewer	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	No.
Portion 16	Highveld Association for the Physically Disabled (Mr. HD Grobler)	Sewer	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8. Also hand delivered a copy of the letter (left	No.

BULK SERVICES				
Portion	Owner	Intended Use	Informed of project	Comment received
			in gate) on 24 March 2015.	
Portion 18	Grobler Familie Trust (M. Grobler)	Sewer, Storm water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Email (dated: 17 March 2015) – Appendix 8.
Portion 105	MJ Grobler (M. Grobler)	Sewer, Storm water		
Portion 159	Transnet Ltd. (T. Mavulwana)	Sewer, Storm water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Yes – Completed comment sheet (dated: 27 February 2015) – Appendix 8.
Kalbasfontein 284 JS				
Portion 3	Dithebe Communal Prop Association (Andries Dithebe Makunyane)	Storm water	No contact details. Left a copy of the Background Information Document in the gate on 24 March 2015.	Yes – Completed comment sheet (dated: 30 March 2015) – Appendix 8.
Portion 11	Span Kalbasfontein Trust	Storm water	Email (dated: 26 February 2015) including official letter (dated: 26 February 2015) – Appendix 8.	Yes - See below.
Letter from Johan Coetzee Incorporated (dated: 17 March 2015) – Appendix 8. Email (dated: 30 March 2015) from Riaan Muller and completed comment sheet (dated: 30 March 2015) – Appendix 8. A letter from Clean Stream Environmental Services (dated: 18 March 2015; Appendix 8) was forwarded indicating that Span Kalbasfontein Trust was registered as an interested and affected party. The said letter also indicated how the issues of concern would be addressed. Completed comment sheet (dated: 30 March 2015; Appendix 8) from R. Muller.				
Joubertsrus 310 JS				
Portion 29	Transitional Local Council of Witbank (eMalahleni Local Municipality) (T. Buthelezi; E. Nkabinde)	Road	Email (dated: 3 March 2015; 5 March 2015) – Appendix 7 & 8.	No.
Other				
R544 road servitude	Department of Public Works, Roads and Transport (B. Viljoen)	Water	Email (dated: 3 March 2015) – Appendix 7.	No.

Table 4.3: Comments received from landowners potentially directly affected by bulk services

TABLE 4.3: COMMENTS RECEIVED FROM LANDOWNERS POTENTIALLY DIRECTLY AFFECTED BY BULK SERVICES	
PROPERTY AND LAND OWNER	COMMENTS
BLESBOKLAAGTE 292 JS	
Portion 25: LAGC de Jonckheere (L. de Jonckheere & R. Lennox)	<p>A: Proposed Storm Water Trench:</p> <ul style="list-style-type: none"> As depicted on Figure 1: Location of site – the storm water trench is drawn on the farm boundary South West to North East. What is the exact distance from the boundary fence? What is envisaged regarding the proposed stormwater trench? Is this a Trench that is dug and left open or is there a pipe column laid to convey the stormwater? Existing farm labours housing facility is situated alongside the route. Paddock grazing facility for livestock has been erected alongside the proposed route. The North Eastern corner is ecologically sensitive regarding sub-terranean drainage system – has this been considered for the proposed stormwater trench? The Main Farm dam flood control is controlled via valve systems feeding into sub-terranean drainage canals into a concrete reservoir – situated in the North Eastern corner of the above property – has this been considered for the proposed stormwater trench? <p>B: Road and Entrance:</p> <ul style="list-style-type: none"> The existing main gravel road running from Jackaroo Park in a South Easterly to a North Westerly direction will this road remain in situ? Will the farm entrance be affected in any way? Due to the vast increase in traffic will there be additional roadways constructed? Will this road be maintained by the local municipality? <p>C: Sewage:</p> <ul style="list-style-type: none"> The farm lying downstream of residential development will sewage effluent and raw sewage not contaminate the natural water course of the farm and create a hygienic/health problem? <p>D: Security:</p> <ul style="list-style-type: none"> With the sudden increase of people has the security and safety of existing farm dwellers been considered? Will the new proposed Klarinet (Phase 2) development suburb be security fence/concrete enclosed? <p>In addition to the above-mentioned, it was verbally indicated that the owner of the property is 90 years old and in ill health. Power of attorney has not been delegated in terms of decision making and signing documentation. This could impact on the negotiations regarding the said servitudes. In view of this, it was indicated that the pipelines should rather be placed on the adjacent property.</p>
Portion 105: Hilkrui Family Trust (Hilmer Kruger)	<ul style="list-style-type: none"> Intends to develop his property on the corner/intersection of the Zaaihoek and Verena Roads for business purposes. Requested a detailed layout plan of the proposed OR Tambo Road extension for further planning purposes. Requested that the water pipeline to be installed along the Zaaihoek Road be installed on the right hand side of the road (i.e. looking north)
Portion 155: MM Khumalo (Mr. and Mrs. Khumalo)	<ul style="list-style-type: none"> Where will the access roads be located? Where will the water pipelines be located? Will their property only be impacted by the proposed sewer line? What advantages will the development have for the community in general and the adjacent landowners? Who will be allowed to use/build on the commercial/business properties? The said property can no longer be used for agricultural purposes since it is located too close to a built up area. Also thinking of rezoning and developing the said property. Perhaps Absa can make an offer to purchase? The applicant must contact them as soon as possible to start negotiations with regards to the sewer pipeline that will cross their property. Details are required regarding the proposed location of the pipeline for their development plans. How wide will the servitude be? Will they be allowed to construct houses on the sewer line? How will the RDP housing development impact on their property value? Crime has increased dramatically in the area since the MNS informal settlement and the Klarinet development started. The development must include a satellite police station to combat crime in the area. People may not want to buy the bonded houses as a result of the crime in the area. It is not sensible to mix RDP and bonded houses. People who are able to pay for their properties may not want to live next to RDP houses (people living in RDP houses are usually jobless, they make a lot of noise at night and do not look after their properties). How long will it take before construction starts? There is a prospecting right (Inyosi Mining) on Portions 155, 26, 137 and 127 of the farm Blesboklaagte (i.e. portions of the Klarinet Phase 2 development site). Absa was consulted in this regard. They should be allowed to mine the coal first before the area is developed. The coal underneath the area and Klarinet is burning. The removal of the coal will make the area safe again.
Portion 192: GM Lambrechts (H. Lambrechts)	<ul style="list-style-type: none"> Has lived on the property since 1982. The area was quiet then. Now it is busy and no longer safe. Concerned about crime in the area. Crime in the area is already a big issue. His property has been vandalized, many things stolen. They even tried to attack him. Would be interested in selling the property, but would have to get enough to relocate to somewhere else. Housing Development Agency (HDA) has already contacted him with regards to buying his property. Will not help to indicate issues of concern as the project will still go ahead. Indicated that Portion 184 also belongs to him.
Portion 232; 235 and 236: Transnet Ltd. (T. Mavulwana)	<ul style="list-style-type: none"> The proposed development may trigger illegal crossing of the railway line and illegal waste dumping. Kindly address this two issues in your EIA report.

TABLE 4.3: COMMENTS RECEIVED FROM LANDOWNERS POTENTIALLY DIRECTLY AFFECTED BY BULK SERVICES	
PROPERTY AND LAND OWNER	COMMENTS
KROMDRAAI 292 JS	
Portion 18: Grobler Familie Trust (M. Grobler)	<ul style="list-style-type: none"> I have received your mail regarding the developments of the housing project in the Klarinet area. With this mail I just want to bring it under your attention that I have my property R105 and R18 given up for sale, should Absa and the City Council be interested.
Portion 105: MJ Grobler (M. Grobler)	
Portion 159: Transnet Ltd. (T. Mavulwana)	<ul style="list-style-type: none"> The proposed development may trigger illegal crossing of the railway line and illegal waste dumping. Kindly address this two issues in your EIA report.
KALBASFONTEIN 284 JS	
Portion 3: Dithebe Communal Prop Association (Andries Dithebe Makunyane)	<ul style="list-style-type: none"> Dithebe Community Property Association suggest that the bulk pipe system must be installed at least about 500m away from the natural dam. It is designated for structural development for a hotel from Portion 2 of the farm. Palisade fence should be installed as it will protect animal, crops and other business activities on Portion 1, 2 and 3 of the farm. Notification of any development, contractual agreement had to be reached from time to time. The abovementioned business proposal is already forwarded to potential investors including the existing animals in the farm.
Portion 11: Span Kalbasfontein Trust (PC Muller, Riaan Muller, YR Muller, LI Fourie and others living on Portion 11, 12, 14, 16 and 17 of Kalbasfontein 284 JS)	<ul style="list-style-type: none"> Note that we act on behalf of the Span Kalbasfontein Trust and refer to your correspondence addressed to our client on 26 February 2015; Kindly register our client as an interested and affected party as, according to your correspondence, some of the proposed bulk services (sewer and water pipelines, stormwater trenches and road extensions) will extend across adjacent privately owned property, which include our client's property known as Portion 11 of the farm Kalbasfontein 284 JS. Our client wishes to raise the following concerns: <ul style="list-style-type: none"> The property is mainly used as a game farm which is fenced accordingly – how will the stormwater pipes be installed without damaging the fence and causing a nuisance to the animals? The installation of the stormwater infrastructure will probably cause garbage to be dumped over a portion of our client's property which will inter alia cause stench and pollution. There is a creek running over the property which may cause water pollution. Kindly confirm that our client is registered as an interested and affected party as per clause 3 above and also advise how the above concerns will be addressed to have the minimum impact on our client's property. We have been living on the farm 284 Kalbasfontein since 1991. We use borehole water, how is the 'project' that is scheduled to be built above our farm going to affect our water supply and the cleanliness/purity of it? Storm water drains that are going to impact and flood our dams, going to 'split' our farm in half and obstruct our mobility on the farm and bust dam walls. We have game on the farm, how secure and safe are we going to be from any additional poaching? If strikes were to occur from residents of the Klarinet Housing projects we are stranded on our farm as access roads will be blocked. How is the security of our location going to be impacted? We have wild roaming game on our farm and indigenous wildlife, how will they be impacted? As is already the case our roads are carrying a lot of additional traffic without maintenance.

4.3.2 Surrounding landowners/users

Inyanda Stakeholder Engagement Forum

As indicated in Section 3 of this scoping report, Inyanda Coal Mine is located further north of the proposed residential site along the Zaaihoek Road.

On a quarterly basis, this mine hosts a forum – Inyanda Stakeholder Engagement Forum – in order to inform the surrounding landowners/users, local authorities, government departments, etc. of their mining operation, monitoring results and measures put in place to mitigate impacts. Other stakeholders are also encouraged to inform the forum of projects, etc.

Interested and affected parties attending this forum were informed of the proposed Klarinet Phase 2 Project at the meeting of 23 October 2014 and 12 March 2015. Minutes of these forum meetings are provided in Appendix 11.

During the meeting of 12 March 2015, it was indicated that the existing Klarinet area will be expanded. Clean Stream Environmental Services was appointed to conduct the Environmental Impact Assessment.

An overview of the Klarinet Integrated Housing Phase 2 project was provided indicating that the said site is approximately 275 hectares in extent and located adjacent to the existing Klarinet X6, X7 and X8 residential areas (slide 88 of presentation). In essence, the said project involves the development of integrated (mixed mode) sustainable housing as identified in the eMalahleni Local Municipality's Spatial Development Framework. The applicant is Absa Property Development (Pty) Ltd.

During this meeting the following issues were noted:

- EJ Visagie wanted to know whether the gravel road to Jackaroo Park will be diverted.
- H de Beer enquired about the future of Wescoal.
- W Botha wanted to know whether the MNS informal settlement will be moved.
- B Glover indicated that the MNS community is not happy with the municipality because they feel that they are not being treated properly. This causes problems for the surrounding landowners since the gravel roads are blockaded and they are forced to pay toll fees to town and back. The municipality must investigate and resolve this issue as soon as possible. The surrounding landowners are tired of these issues.

Those present were provided with a Background Information Document regarding the proposed development and encouraged to participate in the process and help identify potential issues of concern.

CPF Sector 1 Kalbasfontein-Kromdraai

A Background Information Document and comment sheet were forwarded (e-mail dated: 24 March 2015; Appendix 9) to the Secretary: Sector 1 CPF Kalbasfontein-Kromdraai in order to inform them of the proposed project. This CPF is active in the Klarinet, Kalbasfontein, MNS and Kromdraai areas.

As indicated in Table 4.4, a completed comment sheet (dated: 29 March 2015; Appendix 9) from the Chairman of the CPF (Willem Botha) was received indicating the following:

- The said community is against the proposed development as they have been farming in this area for years. The proposed housing development will impact on their farming.
- It does not matter what you plan, we say no.
- We want to keep our properties and continue to farm and live on the said properties.
- Waste and sewage from the proposed development will impact on our ecological farms and that just for the sake of making money.
- We do not want to stop our farming activities or mess up the ecological system.

Jackaroo Park CPF

Mrs. H. Jacobs (representative of Jackaroo Park) was telephonically contacted on 16 March 2015 in order to obtain the contact person for the Jackaroo Park CPF.

The following was indicated:

- CPF in Jackaroo is no longer active.
- Mrs. Jacobs indicated that she co-ordinates information (regarding mining, development, etc.) and meetings pertinent to Jackaroo.
- Had meeting with Wouter van Deventer (Witbank Brickworks), his lawyer (Hilmer Kruger) and a blasting person regarding their plans for the area. It was indicated that they intend to mine the area and then rehabilitate. This will sort out many of the problems in the area. They may hold a public meeting in April/May.
- There are also plans on the table to erect a security complex next to Jackaroo where the coal dumps are currently burning. Also talks of a mall?

A Background Information Document and comment sheet were forwarded (e-mail dated: 26 March 2015; Appendix 9) to the representative of Jackaroo Park (Mrs. H. Jacobs) in order to inform them of the proposed project. Subsequently, a completed comment sheet from MJ Jacobs and H Jacobs was received providing their issues of concern as indicated in Table 4.4.

Ward Councilor – Ward 10

The Ward Councilor for Ward 10 (R. Cronje) was provided with a Background Information Document (emails dated: 26 March 2015; Appendix 7) in order to obtain issues of concern and/or objections on behalf of the residents of the Jackaroo Park area. An email (dated: 29 March 2015; Appendix 7) was received requesting to be registered as an interested and affected party and information regarding any planned public participation meetings. An email from Clean Stream Environmental Services (dated: 30 March 2015; Appendix 7) was forwarded indicating registration as I&As and that a date for a public meeting has not been set. Mr. Cronje was requested to forward any preliminary comments regarding the said project. **To date, no comment has been received.**

Comments from surrounding landowners

Table 4.4 provides comment received from land owners/users of the surrounding properties – Blesboklaagte 292 JS, Kromdraai 292 JS, Kalbasfontein 284 JS, Leeuwpoort 283 JS – as well as Jackaroo Park. Figure 4.2 provides an indication of the location of the various properties.

It should be noted that the comments written in the completed comment sheet were retyped as is so that Interested and Affected Parties can ensure that their comments have been recorded correctly.

It should be noted that Background Information Documents and comments were also emailed to the following persons in order to inform them of the proposed project and obtain their input:

- T. Botha (Portion 3, Blesboklaagte 292 JS) – email dated: 3 March 2015 (Appendix 9);
- C. Snell (Plot 36, Kromdraai) – email dated: 3 March 2015 (Appendix 9).

To date, no comment has been received.

Table 4.4: Comments received from surrounding landowners/users

TABLE 4.4: COMMENTS RECEIVED FROM SURROUNDING LAND OWNERS/USERS	
PROPERTY AND LAND OWNER/USER	COMMENTS
KROMDRAAI 292 JS (SMALLHOLDINGS AND FARMING AREA)	
Kromdraai 30, Plot 39 (GPN Holscher) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> We are against this development of the area. Due to the new buildings, the infrastructure is not ready for the kind of development. Die siektes en stank wat saam met die riool kom wat deur die storm waterpype in die spruit gaan beland. Lugbesoedeling, geraas van mense en voertuie tydens die konstruksie proses. Hier is skaars diere en voels wat sal sterf. Ons is baie bekommerd oor ons veiligheid, hier is bitter min diefstal/aanvalle/moord. Ons bly al 50 jaar lank hier dus is dit 'n hele leeftyd se opbou en bestaan voer.
Kromdraai 30, Plot 39 (Johanna Holscher) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> Die siektes en stank wat saam met die riool kom wat deur die storm waterpype in die spruit gaan beland. Lugbesoedeling, geraas van mense en voertuie tydens die konstruksie proses. Hier is skaars diere en voels wat sal sterf. Ons is baie bekommerd oor ons veiligheid, hier is bitter min diefstal/aanvalle/moord. Ons bly al 50 jaar lank hier dus is dit 'n hele leeftyd se opbou en bestaan voer. Ek wil geen pype deur my grond he nie.
Kromdraai 30, Plot 39 (Rithea Holscher) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> Die siektes en stank wat saam met die riool kom wat deur die storm waterpype in die spruit gaan beland. Lugbesoedeling, geraas van mense en voertuie tydens die konstruksie proses. Hier is skaars diere en voels wat sal sterf as gevolg van mense en masjiene. Ons is baie bekommerd oor ons veiligheid, hier is bitter min diefstal/aanvalle/moord. Ons bly al 50 jaar lank hier dus is dit 'n hele leeftyd se opbou en bestaan voer. Ek bly al my hele lewe lank hier en ek wil geen pype deur my grond he nie.
Kromdraai, Plot 53 (Mike Hempel) (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> I have bought this plot with the idea of having a payed up place to go on pension with. This plot has been payed up for more than 10 years. I do not want to relocate to another place. I do not have the finance to buy or build anywhere else, that is equivalent or better than what I have. I have after I acquired this plot built another house where my children stay in, they do not have the finance to acquire another place. I have a third house that I hire out to be able to employ one person to assist on the plot. This place is fully payed. I do not have finace to buy another place.
Kromdraai 292, Plot 38 (Rui Alexandre R Da Silva) (completed comment sheet dated: 3 April 2015; Appendix 9)	<ul style="list-style-type: none"> No comments at this stage.
Kromdraai 292 JS, Portion 211 of Portion 134 (Martinus Hermanus Jansen) (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> Ter wille van ons boerdery wat groente tuine, lewende hawe insluit (melkery en voerkraal), praat ons nie die beplande woongebied goed nie. x wooneenhede wat vir ons inkomste genereer, se inkomste is ook in gedrang omdat huurders nie seker is van hulle veiligheid wanneer hulle langs die nuwe woongebied sal moet verby ry nie. Diefstal vind reeds van tyd tot tyd plaas vanuit MNS tydelike woongebied, hoeveel te meer vanuit die nuwe beplande gebied wat soveel nader aan ons kom. Ons wil nie graag he dat die boere van hulle grond verdryf word nie, om sodoende te sorg dat die landbou nie ten gronde gaan nie. My stukkie grond is vir my baie kosbaar.
Kromdraai 292 JS, Portion 211 of Portion 134 (Maria Magdalene Jansen) (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> Ons boerdery waarby ek betrokke is, gaan te naby wees aan die beplande woongebied wat wes van ons sal le, en ek kom te staan teen die tot standkoming daarvan. Die netheid van die omgewing asook die prag van die natuur, gaan daaronder ly. Ons veiligheid gaan nog meer bedreig word aangesien hier tans alreeds snags baie beweging is. Ons wil graag vir ons kinders 'n veilige landbou-nalatenskap verseker. Die grond le my na aan die hart en hier wil ons graag rustig en veilig woon.
Kromdraai Plot 44 (Willem Henning) (Completed comment sheet dated: 7 April 2015; Appendix 9)	<p>Ek is teen die ontwikkeling weens die volgende redes:</p> <ul style="list-style-type: none"> Ek is 'n bestaansboer vir jare op my eiendom. As ontwikkeling sou plaasvind gaan almal in die omgewing se grondwaarde val. As ons eiendomme hier uitgekoop word gaan die eienaars genoeg vir hulle eiendom kry om iewers anders grond te kan koop en waar in die omgewing is grond nog beskikbaar? Ons in die omgewing gaan 'n baie groter teiken wees vir diefstal, inbrake ensovoorts Die stormwater kanale gaan op die lang termien ons spruit in die omgewing besoedel die plaas damme in die spruit tot in die Olifantsrivier en op eindig in Loskopdam, die boere wat teen die spruit boer se diere gaan die besoedelde water drink, die bietjie watervoels wat nog hier rond is gaan daar onder ly. Die riool gaan ook 'n problem word. Ons almal wat inwoners van Witbank en omgewing is weet dat daar kort kort riool in ons spruite, Olifantsrivier en Witbankdam gaan. Ons in die omgewing is gelukkig om nog so nou en dan 'n duiker, vlakvark, jakkals, ensovoorts te sien. Hulle gaan gejag word met honde so hulle gaan ook uitgeroei word. Ons almal in die omgewing se rus en vrede gaan iets van die verlede wees. Almal weet die watersuiweringsaanleg van Witbank is te klein die rioolplase is nie effektief genoeg nie nou wil mense die impak nog groter maak vir die dorp met die ontwikkeling. Jackaropark wat teen die beplande ontwikkeling is se inwoners gaan ook met van die probleme sit wat ons gaan he naamlik groter inbrake, diefstal, ensovoorts. So ek vra mense kyk bietjie op die einde van die dag na die bietjie natuur net buite die dorp wat vernietig gaan word.
Kromdraai (Spook Henning) (Completed)	<p>Ek is teen die ontwikkeling weens die volgende redes:</p> <ul style="list-style-type: none"> My man is 'n bestaansboer op ons grond wat vir hom als beteken.

TABLE 4.4: COMMENTS RECEIVED FROM SURROUNDING LAND OWNERS/USERS	
PROPERTY AND LAND OWNER/USER	COMMENTS
comment sheet dated: 7 April 2015; Appendix 9)	<ul style="list-style-type: none"> Gaan die grond eienaars wat uit gekoop word genoeg geld kry om ander grond te kan koop en waar in ons omgewing is nog grond beskikbaar om te koop. Ons in die omgewing is gelukkig om darem so nou en dan ystervark, duiker, kolgans en kodus te sien wat beslis gejaag gaan word met honde of in strikke gevang gaan word so daar is uitwissing sigbaar vir hulle. Ons gaan 'n groter teiken word vir inbrake en diefstal.
Kromdraai (Hannes Henning) (completed comment sheet dated: undated; Appendix 9)	<p>Ek is teen die ontwikkeling weens die volgende redes:</p> <ul style="list-style-type: none"> Ons gaan 'n groter teiken word vir diefstal inbrake ensovoorts. Die stormwaterkanale gaan op die langtermyn ons spruit in die omgewing besoedel die plaasdamme in die spruit wat die Olifants in Loskopdam. Die riool gaan ook op die einde van die dag ons omgewing besoedel. Ons in die omgewing is gelukkig om so nou en dan nog 'n kolgans, vlakvark, duikers ensovoorts te sien wat op die einde van die dag deur honde gejaag gaan word en so uigeroei gaan word.
Kromdraai, Plot 44 (Jan Adriaan Henning) (completed comment sheet dated: 30 March 2015; Appendix 9)	<p>Ek is gekant teen die ontwikkeling weens die volgende redes:</p> <ul style="list-style-type: none"> Inbrake en diefstal gaan toeneem. Die vrouens wat bedags alleen tuis is se veiligheid is ingevaar. Die stormwaterkanaal gaan in 'n skoon natuurlike spruit afloop wat in damme inloop waar diere water drink en wat in rivier inloop. Die bietjie wild wat vernietig gaan word deur strikke, honde, slagysters. Die riool wat 'n problem kan word en in spruite kan loop en besoedel. Die plot is 'n erfstuk. My pa is 'n bestaansboer op ons plot en ek wil graag ook eendag 'n bestaansboer op ons plot word. Die natuurlike watertafel gaan besoedel word weens riool stormwater en uitputting en die natuurlike bedreigde spesie die wilde protea.
Kromdraai Plot 44 (Joanne Dreyer) (completed comment sheet dated: 30 March 2015; Appendix 9)	<p>Ek is gekant teen die ontwikkeling weens die volgende redes:</p> <ul style="list-style-type: none"> Dat ons water gaan besoedel word Ons stormwater gaan ook daar onder ly As ons die plot moet verloor sal ons oit genoeg geld kry om ons gesin te kan onderhou. Niemand kan ons veiligheid waarborg nie. Diefstal en inbrake gaan in neem. Die riool kan ook 'n probleem raak.
Kromdraai (Hermina Venter) – 10 Hermanst Blancheville (completed comment sheet dated: 7 April 2015; Appendix 9)	<p>Ek is gekant teen die ontwikkeling en my redes as volg:</p> <ul style="list-style-type: none"> Riool alreeds groot probleem in area Veiligheid van inwoners in die omgewing van Blancheville en Jackaropark Diefstal en inbrake wat gaan toeneem Vroue en kinders bedags alleen by die huis se veiligheid Verstopte dreine wat baie vliee gaan lok. Vullis wat by die hope gestort gaan word op kante van wonings en pes aanlok soos muise, rotte en ander gediertes wat kinders se gesondheid gaan knou. Ons is gehi-jack half-eeen die middag helder oor dag en baie sleg aangerand en beroof.
Kromdraai (Jan Venter) – 10 Hermanst Blancheville (completed comment sheet dated: 7 April 2015; Appendix 9)	<p>Ons is gekant teen ontwikkeling:</p> <ul style="list-style-type: none"> Stank van verstopte dreine Paaie wat verspoel word deur vuil water. Kinders wat daarin gaan speel se gesondheid. Baie kieme sal in groot area versprei. Inbrake Paaie wat versper gaan word sal groot kommer wek en baie spanning. Vrot water sal die hele omgewing omsit in siektes veral vir ou mense en kinders. Mense met 'n bietjie diere sal geplunder word. Wat van vroue en kleinkinders wat heeldag alleen tuis bly sal geduring in vrees bly vir kwaaddoeners.
Kromdraai (Dawie Pearson)- 15 Hardekoolst (completed comment sheet dated: 7 April 2015; Appendix 9)	<ul style="list-style-type: none"> Nee vir ontwikkeling Ons gaan naweke plaas toe om perd te ry ensovoorts Ons het ook plaasdiere op die plaas wat my oom hulle na kyk, omdat ons in die dorp gevestig is. Ons kry ons melk en eiers van die plaas af. So ja ons gaan nie ingee nie as dit nie die moeite werd sal wees nie.
Kromdraai (Cariena Pearson) – 15 Hardekoolst (completed comment sheet dated: 7 April 2015; Appendix 9)	<ul style="list-style-type: none"> Ons beoog ook om 'n huis op die plaas vir onself te bou. Dit is 'n lekker plekkie naweke waar ons gaan rustig wees Ons sal dit baie waardeer as ons kinders en klein kinders ook die plekkie kan sien wat ons so deur die jare opgebou het. So ja ons sal baklei tot die einde toe.
Kromdraai, Plot 35 (Sofia Nel) (Deelgrond Landgoed cc & JJD Nel) (telephone call 30 March 2015)	<ul style="list-style-type: none"> Registered as an I&AP. Heard about the project at the CPF meeting held on Wednesday, 25 March 2015. Indicated that they own a couple of properties in the area (some registered to Deelgrond Landgoed cc). They purchased these properties for retirement and are currently building houses on the said properties. Closest property is about 2 km from site. Wanted to know how the development would impact on them.
Kromdraai 292 JS, Portion 35 (Jan Jeremia Daniel Nel) (completed comment sheet dated: 7 April 2015; Appendix 9)	<ul style="list-style-type: none"> Ek voel dit is nie reg om die RDP huise hier te bou nie. Ek het die plot 10 jaar terug gekoop vir my aftree dag en as ek te sterfte kom vir my kinders as 'n heenkome. Ek boer met beeste, skape en varke. Ek sal nie weer 'n plot kry vir al die harde werk, tyd en geld wat ek in die plot ingesit het nie. As julle die huise hier bou het ons geen privaatheid en dink aan al die rommel wat die strate en velde gaan rond le. Ons drade sal naderhand afgesteel word en verkoop word. Hulle gaan ook 'n deurloop van my plot maak. Ons almal bly op die oomblik in vrede met mekaar maar ek dink ons veiligheid is vir ons van groot belang want ons het my hele familie op die plot wat hier bly bv. broers en susters en ma en ons kinders. Waar moet ons gaan as julle ons plek wil vat. Nee dankie.

TABLE 4.4: COMMENTS RECEIVED FROM SURROUNDING LAND OWNERS/USERS	
PROPERTY AND LAND OWNER/USER	COMMENTS
Kromdraai, Portion 156 (George Michael Tlou) (discussion with Didi Tlou 24 March 2015)	<ul style="list-style-type: none"> • They moved out of the township to get away from the crime. • There is already an increase in crime in the area. A lot of their stuff has already been stolen. • It is not safe on the property anymore. They have to keep the doors locked all the time and don't sleep well. • The Klarinet project will probably lead to an increase in crime and more security issues in the area. However, since it is a political project it will proceed no matter what.
LEEUWPOORT 283 JS (SMALLHOLDINGS AND FARMING AREA)	
Leeuwpoot, Plot 34 (Betsie Glover) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • Die bestuur van projek. • Die infrastruktuur moet reeds voorsien wees voordat mense huise betrek. Volgens werkers by ons is daar by die huidige woonhuise steeds nie water en elektrisiteit tot almal se beskikking nie. • Periodieke stakings vind plaas wat meebring dat die toegangspad (pad verby huidige Klarinet) ontoeganklik is. Werkers mag nie kom werk nie en moet van allerhande ompaaie gebruik maak wat meebring dat ons besigheid tot 90 minute later as gewoonlik begin en kliente tot 'n minimum beperk word aangesien hulle vir hulle lewens vrees. Die minimum werkers daag op vir werk aangesien hulle in 'n gevaarsituasie is. Kinders wat na skole vervoer moet word word benadeel. Hoewel dit nie altyd duidelik is waarom stakings gaan nie was ekself die slagoffer van baie ontevrede inwoners van MNS-behuising wie baie ontevrede is oor die munisipaliteit se dienste. Hulle blok die pad en moet die voertuie geld betaal om deur te gaan. Ander persone in die omgewing het dit bevestig asook kliente van ons besigheid. • Die pad wat almal gebruik is nie meer geskik vir alle tipe verbruikers nie. Daar is konstruksie voertuie wat teen 40km per uur beweeg en opeenhoping veroorsaak, mense wat padreels totaal verontagsaam en dikwels 'n bottelnek by die treinspoor. Daar is voetgangers en diere op die pad en mense maak hulle eie afdraai en indraai-paaie sonder om ander padverbruikers in ag te neem. • Mense van waar weet ek nie gooi hulle vullis langs die paaie. Die situasie is onooglik en gevaarlik vir mens en dier. • Dit is belangrik dat 'n projek van beplanningsfase af reeds behoorlik bestuur moet word.
Leeuwpoot, Plot 74 (Rassie Visagie) (telephone call 17 March 2015)	<ul style="list-style-type: none"> • Registered as I&AP. • Informed us that our notices along the gravel road has been removed.
KALBASFONTEIN 284 JS (SMALLHOLDINGS AND FARMING AREA)	
Die Inwoners (Sector 1 Kalbasfontein Kromdraai CPF) (Willem Botha) (completed comment sheet dated: 29 March 2015; Appendix 9)	<p>Namens die gemeenskap:</p> <ul style="list-style-type: none"> • Ons almal staan die ontwikkeling teen. Vir jare, nee dekades, doen ons boerdery hier. Nou moet alles met behuising kom verontsuur word. Maak nie saak wat julle beplan ons se nee. Ons wil ons gronde behou en aanhou boer en leef. Vat weg al die sleg wat saam met die ontwikkeling kom. Al die rommel, riool en wat nog kom net ons ekologiese plase ontsuur en dit net om geld te maak. Ons will nie ons boerdery staak en ekologiese sisteem op neuk nie.
Kalbasfontein, Plot 23 (Willem Botha) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • Wat 'n mense regte skending. Nou moet ons 'n wonderlike ekologiese sisteem met alle soorte wilde diere, dassie, koggelmanners, jakkalse, bokke, paddas, deur vooruitgang laat dood maak. Werklik dink ek daar kan na ander gebiede gekyk word. • Ons staan al die ontwikkeling tee. • En dan ook die misdaad en inbrake wat daarmee saam kom. • Daar is seker 'n ander plek. • Doen navorsing oor alles wat hier voorkom. • En ek bly my hele lewe lank hier. • Ek staan alles teen. • Ekologiese sisteem wat net besoedel gaan word en onskuldige diere wat weereens onder die mens moet buk.
Kalbasfontein, Plot 19 (Jan Botha) (completed comment sheet dated: 29 March 2015; Appendix 9)	<p>Our major concerns:</p> <ul style="list-style-type: none"> • Sewerage – the proposed sewerage line will definitely impact my water supply for my animals as well as that of my neighbours. The fact that they want to run it through the waterfloor to the river is not only unexceptable but also not healthy. • Secondly it will also mean that we wont be able to use water in the spruit for irrigation of our fields.
Kalbasfontein, Plot 19 (L. Breedt) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • Our main concern is the sewerage line which as per their plan will have a major effect on our water resource for our animals as well as for our neighbours animals. Also we have a major concern of all the traffic going to flow through Jackaroo. Tar roads are already over used and thus will be a bigger problem.
Kalbasfontein, Plot 19 (Japie Breedt) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • Our concern is the fact that they want to run to sewerage pipe through our vlei. This will effect our animals water supply as well as our water to irrigation. The fact that there will be no control means the sewerage will be pumped directly into the spruit and then will flow to the river and Loskopdam. We need to stop this urgently. Also the flow of traffic will not be easily directed through Jackaroo Park as these roads can barely sustain the traffic as it is.
Kalbasfontein, Plot 19 (Japie Breedt) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • We are worried about the sewerage flow that will be directed through our ground. We do not want this as it will negatively affect the water quality for my animals as well as those of the wildlife and my neighbours cattle. We are also warned if by their suggestion that the sewerage will have to flow to the river and to Loskopdam. This will have a negetative effect on all animal lives.
Kalbasfontein, Plot 19 (Ronald Wayne Robinson) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> • We are against the development due to the fact that the water will be infected due to the refuse of all the people that will be here. We are also concerned about the traffic and the crime rate.
Kalbasfontein 284/18 (Dirk Botha) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> • Riool wat in die stormwaterpyp gaan afloop na die spruit wat deur my grond loop en 'n groot bron van water vir my is. • Lugbesoedeling, geraas van mense en die geraas van die konstruksie proses. • Kriminele aspek sal absoluut met 100% toeneem. • Hier is heelwat skaars dier en voel soorte in ons omgewing en sal heeltemal verdwyn met al die beweging van mense en voertuie en sal gevang word vir verkoop en eet. • Ek bly op my plaas omdat dit vir my rustig/veilig is en ek hier groot geword het en wil nie hier weggaan nie want die plaas bring vir my 'n inkomste met dit wat ek hier doen.
Kalbasfontein 18/284 (Jani Botha)	<ul style="list-style-type: none"> • Die rede hoekom ek nie die behuising naby ons wil he nie is, dat al die rommel wat gaan rond le en rond waai.

TABLE 4.4: COMMENTS RECEIVED FROM SURROUNDING LAND OWNERS/USERS	
PROPERTY AND LAND OWNER/USER	COMMENTS
(completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> Die rioolwater gaan in ons vlei af loop en ons diere en ons self maak gebruik van die water om ons plante en groente te besproei. Ons gaan nie ons privaatheid he nie, want almal gaan hier rondloop en oor ons grond loop. Ons wild wat op die plek is gaan gevang word en dit is diere en voels wat ons graag wil beskerm omrede daar klaar so min diere oor is. En dan ook ons veediefstal en plaasmoorde wat ons altyd van hoor.
Kalbasfontein 18/284 (Danie Botha) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> Ek wil nie die behuising naby my he nie. Al ons wild en plaaslewe gaan vernietig word. Ons stilte gaan ook daarmee vernietig word. Ons water gaan besoedel word met al die swart en gryswater. Die diefstal gaan met 100% opgaan en ons stil rustige lewe gaan nie meer so wees nie. Maar hoofpunt ons dierelewe soos wild en waterlewe en water gaan onherstelbaar vernietig word.
Kalbasfontein 18/284 (Elna Botha) (completed comment sheet dated: 28 March 2015; Appendix 9)	<ul style="list-style-type: none"> Die stank en siektes wat saam met die riool kom wat deur die stormwaterpype in die spruit gaan beland. Die spruit loop deur ons plaas en is 'n groot bron van water vir ons. Lugbesoedeling, geraas van mense en voertuie teidens die konstruksie proses. Hier is heelwat skaars diere en voelsoorte wat beslis sal sterf as hier mense en konstruksie kom. Ons is bekommerd oor ons veiligheid – op die oomblik het ons nie diefstal/aanvalle/moord nie – minimum diefstal – dit sal beslis toeneem. Ons bly al 23 jaar hier – my skoonouers en hulle kinders is al meer as 50 jaar hier gevestig – so dit is 'n hele leeftyd se opbou en bestaanvoer.
Kalbasfontein 19 (Elizna Breedt) (completed comment sheet dated: 29 March 2015; Appendix 9)	<ul style="list-style-type: none"> We are against the development of the area. Due to the new buildings, the infrastructure is not ready for the kind of development. The sewerage will be in the drinking water and all the nature will be infected. The traffic in the area will be high as well. The crime rate will also be involved.
Kalbasfontein (Portion 24 of Portion 18) (Ernst Blignault) (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> I am afraid of the development. It will have an influence of the cleanness of the stream which flows through my place. The borehole can also be infected because it is well known the sewage works are not well managed in RSA. The development is a concern for small land owners because in such a big development the chances for crimes on small holdings and farms will increase.
Kalbasfontein, Plot 19 (Edith Jurgenson) (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> Our main concern will be the water that will be affected by the pipeline suggested to be lain through our ground. This will have a negative effect on the wildlife, birds and animals as well as the fishes – all the way to the Loskopdam.
Kalbasfontein, Plot 19 David Jurgenson (completed comment sheet dated: 30 March 2015; Appendix 9)	<ul style="list-style-type: none"> Concern: Water to be affected by the pipeline that will run through the vlei. This will impact our water quality and in the interim will affect the wildlife, animals as well as the birdlife. The fishes will also be affected all the way to Loskopdam.
JACKAROO PARK (RESIDENTIAL AREA)	
Jackaroo Park – 12 Booyongstraat (Marthinus J. Jacobs; Henryette Jacobs) (phone call 16 March 2015; completed comment sheet dated: 1 April 2015; Appendix 9)	<ul style="list-style-type: none"> Infrastruktuur gaan skade ly. Jackaroo Park is die enigste area wat nog 'n pragtige plaas en natuurlewe het. Beloftes is ook gemaak dat daar 'n waterplant by Clearwater opgesit gaan word, niks sover. Swaar vragmotors wat alreeds ons paaie op ry. Myne en wasplant aanleg wat onwettig is in ons area alreeds 'Wescoal en Slatercoal. Geen rehabilitasie is nog gedoen nie. Inwoners word nie vergoed vir skade gely deur ontploffings en suurmyn water. Huise wat kraak van suurmynwater, ons gesondheid en besoedeling van ons lug met steenkool walms. Regering wil ons nie help met ons probleem met historiese myne wat tans brand onder Jackaroo Park nie. Maar hul wil geld uitsit vir goedkoop behuising. Waarde van ons eiendom gaan skerp daal. Aanloop van mense wat nie in ons area bly nie. MNS is klaar 'n problem met diefstal en onwettige dwelm verkope. Ou Middelburg-pad kan nie meer die stand van verkeer hartig nie. En daar word nog 'n residensiele gebied beplan. En langs die RDP huise gaan daar nog 'n plakkerskamp wees, omrede die eienaars dit gaan uit huur vir inkomste en dan bly in die plakkerskamp. Regering gaan nie hul beloftes nakom nie. En wil maak of hul net die beste vir die omgewing en inwoners wil he. Jackaroo Park en kleinhoues wat kos voorsien gaan uitgeroei word 'diefstal van plaasdiere'. Dit is ons 'humanright' om ons besittings en eiendom te beskerm. Nee Nee Nee vir die projek van die regering, vir goedkoop behuising? In bogenoemde grond. 'NB waarom is die projek nie ordentlik en op tyd in die koerant geplaas nie. Nie in die klein agterste gedeelte in die koerant nie. Wie lees in elk geval die nonsens van environmental studies. Ons as inwoners het nooit 'n stem nie, die regering doen in elk geval wat hul wil, al is daar nie geld daarvoor nie.
BLESBOKLAAGTE 296 JS	
Blesboklaagte 296 JS (Portion 156 & 157): Salome and Hendrik Jones (telephone call 31 March 2015)	<ul style="list-style-type: none"> Reside on Portions 156 and 157 Blesboklaagte. Property registered to the ELM but they have a contract/liferight on the property. Victim Support Centre used to operate from the property. Now they use it for charity work. Place/NGO is referred to as Roepingsbond/Uitkoms. They house 45 impoverished white people at any one time and help them to get back on their feet. They also provide food packages to about 500 people in town. Three churches in Witbank recently helped them to fix the houses (tiling, etc.). They receive donations from various sources. There are talks that the Victim Support Group also wants to erect a school on the property.

TABLE 4.4: COMMENTS RECEIVED FROM SURROUNDING LAND OWNERS/USERS	
PROPERTY AND LAND OWNER/USER	COMMENTS
	<ul style="list-style-type: none"> • Concerned about the pollution of their groundwater as a result of sewer/waste from development. • They had the water tested and the quality is very good. They rely on the borehole and have no other water source. • They would like to attend public meetings. • A temporary transit camp on the site would not be a problem as they currently reside adjacent to the MNS informal settlement in any case. They currently provide food and clothes to members of the MNS informal settlement.

Witbank Brickworks

Based on the information received during the public participation process, Witbank Brickworks (located on the Remaining Extent of the farm Uitspan 293 JS) is planning to mine the historically mined area adjacent to the proposed residential area (Figure 3.7).

A Background Information Document and comment sheet were forwarded (e-mail dated: 23 March 2015; Appendix 9; email dated: 26 March 2015; Appendix 9) to Witbank Brickworks in order to inform them of the proposed project.

Subsequently, a meeting was scheduled (15 April 2015) with Mr. W van Deventer and attended by the following persons: Wouter van Deventer, Neil Jacobs, Hilmer Kruger, Eric Brink of Witbank Brickworks; Adie Erasmus and Riana van Rensburg of Clean Stream Environmental Services.

During the said meeting, the following was indicated:

- Intent on mining entire area that was previously undermined in order to solve current problems (e.g. burning, subsidence, AMD, etc). Plan to put up a reverse osmosis plant to deal with the acid water that is present within the old workings (estimated at 4.5 million m³ with a pH of 2.5). Provided a copy of the water quality result of the water currently present within the underground workings.
- Submitted their mining right application in this regard and expect the approval by 16 April 2015.
- Provided a plan indicating their mining right application area as well as the area to be mined. The previously undermined area also indicated on the said area.
- Mining right area might overlap with certain portions of the proposed residential development area.
- Also plan to mine area earmarked for the OR Tambo extension. This area is currently undermined and subsiding.
- Have had meetings with Jackaroo Park regarding proposed mining proposal.

Journalist from Witbank News

Zita Goldswain (journalist of Witbank News) telephonically (7 April 2015) contacted Clean Stream Environmental Services regarding the said project after being contacted by Mrs. H. Jacobs of Jackaroo Park.

The following issues of concern were raised:

- Blasting is taking place resulting in houses in Jackaroo Park cracking and roof tiles moving.
- Will the proposed Klarinet houses be built on undermined areas resulting in a major catastrophe in the future?
- Worried about the services;
- Worried about the acid mine drainage;
- Indicated that no one reads the small legal notices placed at the back of the newspaper – she would like to place an article in the Witbank News regarding the said project.

4.4 Summary of comments received

4.4.1 Authorities and stakeholders

As indicated in Section 4.2, comments were only received from the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA), Eskom and the Commission on Restitution of Land Rights.

In summary, the main issues of concern included the following:

- traffic,
- crime,
- acid mine drainage (AMD),
- future of MNS settlement;
- the impact of the OR Tambo extension on a landowner
- specialist studies to be undertaken during the EIA phase.
- land claim has been lodged against the farm Blesboklaagte 292 JS. Currently, the said claim is being researched.
- Potential impact on the Duvha-Vulcan 400 KV power line if Eskom Tx's rights and services are acknowledged and respected at all times and that the stipulated terms and conditions are complied with.

4.4.2 Directly affected landowners/users i.t.o. residential development area

As indicated in Table 4.1 and Figure 4.2, the majority of the site belongs to the project applicant, Absa Prop Development (Pty) Ltd., with 4 portions belonging to the Emalahleni Local Municipality, who forms part of the project team with regards to the proposed residential development.

No objections in terms of the development were raised by Khula Brick and Sand (Pty) Ltd, Wescoal or the MNS informal settlement.

In summary, the main issues of concern included the following:

- Potential impact on the proposed residential development and the OR Tambo extension regarding the proposed mining of the area by Witbank Brickworks;
- Lack of water at the MNS informal settlement;
- Health related issues as a result of dust from trucks driving on the gravel road adjacent to the MNS informal settlement.
- Timing of project and its impact on residents from the MNS informal settlement.

4.4.3 Directly affected land owners/users i.t.o. bulk services

As previously indicated, services (water pipeline, sewer line, storm water trench, proposed OR Tambo extension, Figure 4.2) would extend onto adjacent properties belonging to private landowners as indicated in Table 4.2.

Comment was only received from 8 landowners as indicated in Table 4.2 and 4.3. Landowners requested detailed plans indicating exactly where the proposed services would be located in order to determine the impact on their property and associated activities (existing and proposed). As indicated in Table 4.4, other surrounding landowners expressed concern that services would extend across their properties, which is not the case.

In summary, the main issues of concern included the following:

- Impact of northern storm water trench: on existing infrastructure and activities on properties; impact on wetland system associated with drainage line in terms of water pollution (sewage) and waste; impact on livestock watering (including game);
- Impact on gravel road to Jackaroo Park: maintenance of road due to increased traffic; would road be diverted and possible impact on existing farm entrances.
- Impact on Transnet railway line: could result in the illegal crossing of the nearby Transnet railway line.

Two landowners indicated that they would be willing to sell their properties should the developer be interested.

Other issues of concern recorded in Table 4.3 will be investigated as part of the EIA phase.

4.4.4 Surrounding landowners/users

There is a perception that properties will be bought/taken for the purpose of the proposed development. However, this is not the case.

As indicated in Section 4.1, most of the properties where the development will take place belongs to the project applicant. **No properties will be bought or taken in order to facilitate the proposed residential development.**

Where services (water pipelines, sewer lines, etc.) will extend onto adjacent properties, negotiations will take place in order to register a servitude across the said properties for the purposes of the said services i.e. depending on the outcome of the EIA.

As indicated in Section 4.4 and Table 4.4, **the surrounding landowners/users are against (objected) the proposed development** as they feel that the development will impact on their existing way of life (i.e. a safe, quiet rural lifestyle) and their agricultural/farming activities (including their farm animals, produce, etc.). It was indicated that an alternative site should be investigated for the said development.

Interested and affected parties of Jackaroo Park also indicated that they are against (objected) the proposed residential development.

In summary, the main issues of concern included the following:

- Impact on surrounding properties used mostly for agricultural and associated activities;
- Impact on the Jackaroo Park residential area and existing municipal services;
- Increase in crime and its impact on the safety and security of residents;
- Increase in strikes by residents of the proposed residential area and its impact on surrounding landowners/users
- Increase in traffic and its impact on the existing road network
- Impact as a result of sewage spills
- Impact as a result of illegal dumping of waste
- Impact on the natural environment/ecology of the area

- Impact of the proposed mining on the residential area and the OR Tambo extension
- Overall management of the project

Issues of concern raised through the public participation process will be addressed during the EIA phase of the project.

5. DESCRIPTION OF ALTERNATIVES IDENTIFIED

This section provides an indication of alternatives that will be investigated as part of the Environmental Impact Assessment (EIA) phase of the project. Further details will be provided in the Environmental Impact Assessment Report (EIAR).

5.1 Development site

The following alternatives have been identified:

- ❖ Proposed site as indicated in Section 2.4;
- ❖ Alternative site(s);
- ❖ No project option.

Proposed site

As indicated in Section 2.4, the proposed residential development will take place on the following portions of the farm Blesboklaagte 296 JS: Portion 26; Remainder of Portion 98; Remainder of Portion 153; Remainder of Portion 154; Portion 171; Portion 172; Remainder of Portion 188; Remainder of Portion 189; Portions 199, 200, 201, 202, 203, 204; Remainder of Portion 210; Remainder of Portion 226 and Erf 5017.

Most of these properties are registered in the name of Absa Property Development Proprietary (Ltd). Three are however, registered in the name of the eMalahleni Local Municipality (see Table 3.1).

The total area is 323.1934 hectares of which only approximately 271.52 ha will be developed. Figure 3.1 provides an indication of the location of the Klarinet Phase 2 site in relation to Klarinet x6, x7 and x8.

In view of the following, the applicant decided upon the development of the proposed site:

- ◆ The proposed site forms part of an area earmarked in the Klarinet Local Spatial Development Framework and the eMalahleni Spatial Development Framework for residential purposes.
- ◆ The proposed site is located opposite the residential areas of Klarinet x6, x7 and x8 (which formed part of the Klarinet Phase 1 Project).
- ◆ Having being involved in the development of the Klarinet Phase 1 Project and with the knowledge that housing is required in the eMalahleni area, the applicant bought the proposed development site properties in order to develop the Klarinet Phase 2 Project as the development thereof would be a natural expansion of the existing residential areas.
- ◆ Most of the proposed site belongs to the applicant.

As indicated in Section 2.3, the Klarinet Integrated Housing Development is in line with the Breaking New Ground (BNG) principles and was implemented as the first large scale housing project in Mpumalanga. The said project was declared a National Priority Project.

Further details in terms of the need and desirability of the project will be provided in the Environmental Impact Report.

Alternative site(s)

No alternative sites were identified for the proposed development since the applicant bought the proposed development site properties in order to develop the Klarinet Phase 2 Project as indicated above.

No project option

See Section 5.9 for further details in this regard.

5.2 Site layouts

The following alternatives have been identified:

- ❖ Alternative layout 1: 'In-situ' upgrading (proposed layout plan as provided in Section 2.4 and Figure 2.1);
- ❖ Alternative layout 2: No provision for 'in-situ' upgrading (Figure 5.1)
- ❖ Alternative layout 3: Depending on outcome of EIA
- ❖ No project option.

Alternative layout 1: 'In-situ' upgrading (Figure 2.1)

The Alternative 1 layout plan (Figure 2.1) makes provision for the 'in-situ' upgrading of the MNS informal settlement that exists within the proposed development site as indicated in Figure 3.7.

Figure 2.1 provides an indication of the proposed site layout (i.e. Alternative 1: 'In-situ' upgrading). Table 2.1 provides an indication of the proposed land uses/zonings with regards to Alternative 1: 'In-situ' upgrading. Further details are provided in Section 2.4.

Alternative layout 2: No provision for 'in-situ' upgrading (Figure 5.1)

The Alternative 2 layout plan (Figure 5.1) does not provide for the 'in-situ' upgrading of the MNS informal settlement present on site. In this option, residents would temporarily be relocated to a 'transit camp' (Portion 156 of the farm Blesboklaagte 296 JS (Klarinet x9); Figure 2.1) until the development has taken place.

Figure 5.1 provides the layout plan with regards to Alternative 2, which would also make provision for the following zonings/land uses:

- Residential 1 stands;
- Residential 3 stands;
- Business 3 stands;
- Institutional stands – church, creche', secondary school; clinic;
- Community facility;
- Government (municipal) stand;
- Parks (public open space).

With this layout plan, the development would provide the following:

- 3 299 units of subsidized housing – low cost free standing Residential 1 stands;
- 1 113 units institutional housing (@ density 80 units/ha) – apartments (multi-storey units); medium low to medium cost bonded apartments and rental stock;
- 660 bonded housing units – medium low to medium high cost free standing Residential 1 stands.

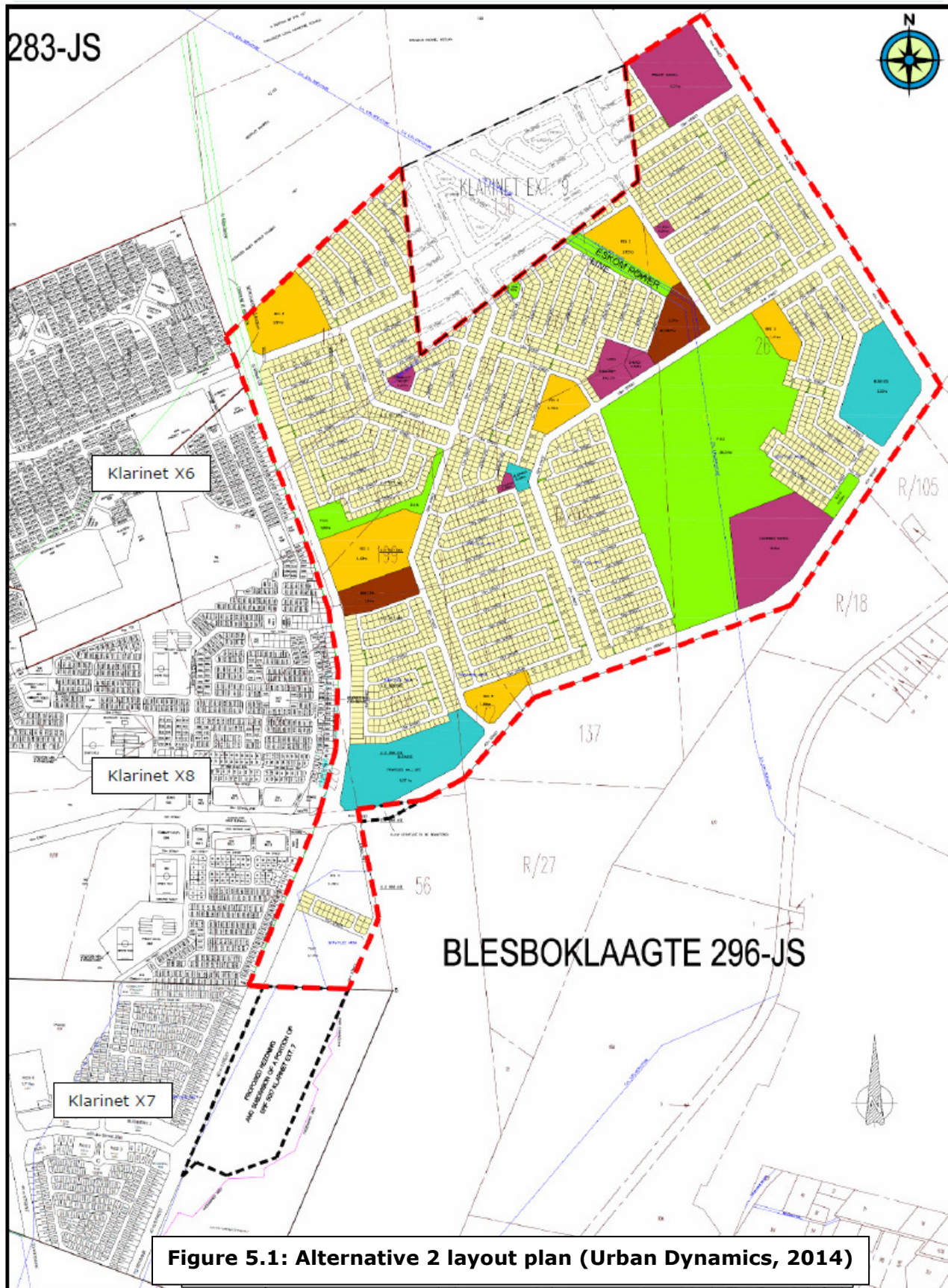


Figure 5.1: Alternative 2 layout plan (Urban Dynamics, 2014)

Alternative layout 3: Depending on outcome of EIA

Depending on the outcome of the specialist studies and public participation to be conducted during the EIA phase of the project, alternative layout plans may be required. It would also depend on the final decision by eMalahleni Local Municipality with regards to the MNS informal settlement. Further details in this regard would be provided in the Environmental Impact Report.

Alternative layout 4: No project option

See Section 5.9 for further details in this regard.

5.3 Level of services

As indicated in Section 2.5, the provision of services forms part of the total integrated housing development and it is thus understood that funding therefore is available. It is further understood that the level of services for the Klarinet Phase 2 development will be at the same level as that of Phase 1 (i.e. Klarinet x6, x7 and x8).

The following alternatives in terms of level of services have been identified:

- ❖ Alternative 1: Level of services in line with Klarinet Phase 1 Project.
- ❖ Alternative 2: Level of services as per the minimum essential standards for low cost township establishment.
- ❖ Alternative 3: Level of services comprising a combination of Alternative 1 and Alternative 2.
- ❖ Alternative 4: Level of service depending on outcome of EIA.
- ❖ Alternative 5: No project option.

Alternative 1: Level of services in line with Klarinet Phase 1 Project

Alternative 1 would involve supplying the following services as indicated in Section 2.5:

- Electricity supply to every stand with a metered connection;
- Water supply to every stand with a metered connection;
- Waterborne sanitation to every residential unit;
- Kerbed, bitumen surfaced road network;
- Underground stormwater management and drainage infrastructure;
- Storm water attenuation facilities (i.e. attenuation ponds).

Alternative 2: Level of services as per minimum essential standards for low cost township establishment

Alternative 2 would be based on the minimum essential standards for low cost township establishment and would include the provision of pillar taps at regular intervals and a biological toilet system.

Alternative 3: Level of services comprising a combination of Alternative 1 and Alternative 2

Alternative 3 would comprise a possible combination of Alternative 1 and Alternative 2 until such time that services to the overall development could be provided.

Alternative 4: Level of services depending on the outcome of the EIA

Alternative 4 in terms of level of services would depend on the outcome of the specialist studies and public participation to be conducted (especially with regards to services being installed on adjacent privately owned properties)

during the EIA phase of the project. It would also depend on the availability of the various services in order to provide the said development.

Further details in this regard would be provided in the Environmental Impact Report.

Alternative 5: No project option

See Section 5.9 for further details.

5.4 Water

Currently, no internal water supply or link water supply exists in the proposed Klarinet Phase 2 project site.

Water for the Klarinet Phase 2 Project will be obtained from the eMalahleni Local Municipality. The use of boreholes (groundwater) in order to supply water was not considered in view of the size of the said development as well as the acid mine drainage problem in the area.

The following alternatives in terms of water supply have been identified and will be further investigated as part of the EIA phase:

- | |
|--|
| <ul style="list-style-type: none">❖ Alternative 1: Water from eMalahleni Local Municipality;❖ Alternative 2: No project option. |
|--|

Alternative 1: Water from eMalahleni Local Municipality

The municipality has a water abstraction permit for the Witbank Dam. The abstracted water is pumped to the Witbank Water Treatment (Purification) Works where it is purified before being distributed to the residents.

The Klarinet Phase 2 project site falls within the supply zone of the Point A Reservoir (located behind Saveway Crescent Shopping Centre) that also supplies the existing Klarinet residential areas (x3, x4, x5, x6, x7, x8), Klarinet light industrial area, Pine Ridge and Paxton Prison.

According to the Engineering Report (Appendix 4), the proposed Klarinet Phase 2 Project would have an Annual Average Daily Demand (AADD) of 4.7 MI/day.

The Water Master Plan (2007) proposed that separate storage capacity be provided for the new Klarinet developments (i.e. Klarinet Phase 1 and 2) as well as other proposed developments in view of the fact that the water demand would exceed the storage requirements of the reservoirs at Point A by 8.92 MI/day.

A new 30MI/day reservoir (at 24 hours of AADD) would be required for the proposed developments. This new reservoir would be supplied from Point A through a dedicated 600mm diameter feeder main from the Water Treatment (Purification) Works.

According to the Services Report (Appendix 4), the following bulk water pipelines are required in order to accommodate the peak flow (1,300lt/s) and the AADD of 28.2 MI/day:

- A 1300mm ND pipeline (2km) connecting to the new 30MI/day reservoir. The bulk pipeline will traverse from the reservoir towards

Klarinet Phase 2 along Zaaihoek Road and terminate at the intersection of Zaaihoek and Verena Roads (Figure 3.1);

- A 900mm ND pipeline (2.5km) connecting to the 1300mm ND at Zaaihoek/Verena intersection. The pipeline will traverse north towards Klarinet Phase 2 and terminate at the southwestern corner of Phase 2 (Figure 3.1) with an allowance for a future connection. This pipeline will supply peak flows to Klarinet Phase 2 as well as future developments.
- An allowance for a future 900mm ND connection to the 1300mm ND pipe at the Zaaihoek/Verena intersection.
- A 600mm diameter feeder main to the proposed 30MI/d Klarinet Reservoir (Figure 3.1).

The 900mm ND pipeline mentioned above will connect the proposed link water pipelines required for Klarinet Phase 2 to complete the ring feed for the Klarinet Integrated Housing Development.

The final route and location of these water pipelines as well as the location of the proposed reservoir would depend on the outcome of the specialist studies and public participation to be conducted (especially with regards to services being installed on adjacent privately owned properties) during the EIA phase of the project. It would also depend on the availability of water in order to provide the said development. Further details in this regard would be provided in the Environmental Impact Report.

Alternative 2: No project option

See Section 5.9 for further details.

5.5 Sewage

Currently, no internal sewer or link sewer exists within the proposed Klarinet Phase 2 Project site. The MNS informal settlement currently utilizes pit latrines.

Sewage generated by the development will be treated by the eMalehleni Local Municipality.

According to the Services Report (Appendix 4), all sewage generated by the Klarinet residential areas (Klarinet x3, x4, x5, x6, x7, x8) is being treated at the Klipspruit and Riverview Sewer Treatment Works (STW) via a series of pump stations.

Currently, sewerage generated by Klarinet x3, x4, x5, x6, x7 and Pine Ridge (107l/s peak flow) is collected at the northern corner of Klarinet x6 via an existing 400mm diameter outfall sewer. It is then gravitated to Pine Ridge and pumped from Pine Ridge Pump Station to Klipspruit STW through an existing 315mm diameter pumping main. The 400mm outfall sewer was recently upgraded to a 700mm diameter sewer in order to accommodate additional flows from the residential areas and the Klarinet light industrial area.

According to the Services Report (Appendix 4), the eMalahleni Local Municipality constructed a bulk outfall sewer to accommodate the sewerage flows from Klarinet Phase 1 and 2 parallel with the Blesbokspruit. Link sewers from Phase 2 will connect to this outfall sewer via the existing Phase 1 link sewers.

Phase 1 link sewers were designed and installed to accommodate sewerage flows from Phase 2 of the development.

5.5.1 Bulk sewer options

According to the Engineering Services Report (Appendix 4), the following bulk sewer alternatives were considered and will be further investigated as part of the EIA phase:

- Alternative 1: Pumping raw sewerage from Pine Ridge to Klipspruit STW.
- Alternative 2: Gravity sewer from Pine Ridge to Klipspruit.
- Alternative 3: Gravity sewer from Pine Ridge to a new Regional STW north of Pine Ridge
- Alternative 4: No project option

Alternative 1: Pumping raw sewerage from Pine Ridge to Klipspruit STW

According to the Services Report (Appendix 4), the existing Pine Ridge Pump Station has a capacity of 120l/s which is sufficient for pumping its existing flows (107l/s) to the Klipspruit STW. It has a spare capacity of 13l/s.

However, Alternative 1 will require the existing Pine Ridge Pump Station to be upgraded from its current capacity of 120l/s to 612l/s. The existing 300mm ND pumping main must be augmented with a 800mm ND pumping line, installed parallel to the existing pump main. Klipspruit STW must be upgraded to accommodate an additional flow of 20MI/day.

This alternative is not preferable due to the maintenance and operational requirements of pump stations which the eMalahleni Local Municipality (ELM) does not support and is battling to manage currently.

Alternative 2: Gravity sewer from Pine Ridge to Klipspruit STW

Klipspruit STW is located approximately 3km north of KwaGuqa and has a design capacity of 10MI/day. It is currently operating beyond its design capacity.

Alternative 2 requires the installation of a 15km long, 900mm ND gravity sewer from Pine Ridge to Klipspruit STW. Klipspruit STW must also be upgraded to accommodate an additional flow of 20MI/day.

This alternative is preferred due to its ability to eliminate pumping of raw sewerage. It is also in line with the ELM's proposed plan of supplying the industrial areas with treated effluent and in turn releasing the freshwater to industries like Highveld Steel (20MI/d) for domestic use.

Alternative 3: Gravity sewer from Pine Ridge to a new Regional STW north of Pine Ridge

Alternative 3 requires the installation of a 7.5km long, 900mm ND gravity sewer from Pine Ridge to the new sewer treatment works. A new 20MI/day Sewer Treatment Works must be constructed to treat effluent from the Klarinet Phase 2 Project site as well as other proposed developments.

This is the second preferred alternative. However, it requires raw sewerage to be pumped from Ferrobank to its current location should the regional treatment and effluent distribution plant be located in this plant. Pumping of

raw sewerage is not favoured by ELM due to lack of operation and maintenance (O&M) on their current pump stations.

Alternative 4: No project option

See Section 5.9 for further details.

5.5.2 Proposed link sewers

According to Urban Dynamics (2014), a large portion of the Klarinet Phase 2 development area drains in a westerly direction towards the Blesbokspruit and a smaller portion of the site drains to the north and southerly area towards Jackaroo Park.

According to the Services Report (Appendix 4), the Klarinet Phase 2 Project link sewers and their routes were identified to drain towards existing outfall sewers. The following bulk sewer alternatives were considered and will be further investigated as part of the EIA phase:

- Alternative 1: A non-gravity system on the eastern and northern boundary of Klarinet Phase 2
- Alternative 2: A gravity system on the eastern and northern boundary of Klarinet Phase 2
- Alternative 3: A gravity system following the natural draining along the eastern and northern boundary of Klarinet Phase 2 (outside of the township boundary)
- Alternative 4: No project option

Alternative 1: A non-gravity system on the eastern and northern boundary of Klarinet Phase 2

Alternative 1 would avoid encroachment of private properties. However, it would require pumping of sewerage from the eastern boundary up to the watershed along the northern boundary and then gravitate to the existing link sewers in Phase 1 of Klarinet. This alternative is not preferred due to a lack of proper operation and maintenance of pump stations which results in negative impacts on the environment.

Alternative 2: A gravity system on the eastern and northern boundary of Klarinet Phase 2

A gravity sewer along the eastern and northern boundary of Klarinet Phase 2, without encroaching on private properties would result in an impractical solution of sewers more than 8m deep. This option is not preferred due to health and safety risks during installation and maintenance/repairs. Installation of deep sewers will require unconventional construction methods which are not cost effective.

Alternative 3: A gravity system following the natural draining along the eastern and northern boundary of Klarinet Phase 2 (outside of the township boundary)

Alternative 3 would involve a gravity system following the natural drainage along the eastern and northern boundary of the Klarinet Phase 2 site (i.e. extending onto adjacent properties as indicated in Figure 3.1). This alternative is preferred as it:

- allows for optimal depths;
- eliminates the need for pumping;
- can be maintained with ease;
- can be implemented with cost effective conventional methods.

It would however involve connecting to the existing sewer in Jackaroo Park which flows to the Riverview STW which is located north of Highveld Park and has a design capacity of 12MI/day. It is currently operating beyond its design capacity.

More detailed information w.r.t. the sewer network will be provided in the Environmental Impact Report.

Alternative 4: No project option

See Section 5.9 for further details.

5.6 Access roads

As indicated in Section 5.2, Alternative layout 1 (Figure 2.1) and Alternative layout 2 (Figure 5.1) provide an indication of the proposed access roads to the Klarinet Phase 2 Project site as well as the internal road network.

A portion of the main access road to the proposed township will traverse a portion of Portion 56 of the farm Blesboklaagte 296 JS and a right of way servitude will be registered over this portion in favour of the development, since it is owned by a private company.

Depending on the outcome of the specialist studies (including traffic study) and public participation (consultation with relevant landowner) to be conducted during the EIA phase of the project, alternative layout plans with regards to the proposed access roads may be required. It would also depend on the final decision by eMalahleni Local Municipality with regards to the MNS informal settlement.

Further details regarding possible alternatives (including the No project option) will be provided in the Environmental Impact Report.

5.7 Storm water control measures

As previously indicated, the northern and eastern storm water trench would extend onto adjacent properties (Figure 4.2) belonging to private landowners.

Only one proposed location and route with regards to the northern storm water trench was provided as indicated in Figure 3.1. As indicated in Section 4.4.4 and Table 4.3 and Table 4.4 various issues of concern with regards to the location of the northern storm water trench was raised during the public participation process. These issues of concern will have to be addressed during the EIA phase. If necessary, an alternative location and/design with regards to this structure would have to be investigated.

With regards to the eastern storm water trench, only one proposed location and route was provided as indicated in Figure 3.1. This trench would also extend onto adjacent privately owned property and would impact on an area where acid mine drainage flows from the old Blesboklaagte Colliery site towards the railway line and Jackaroo Park. The location of this storm water trench would have to be investigated in further detail during the EIA phase of the project in order to avoid impact on the existing residential area of Jackaroo Park as well as the existing storm water management system of this

area. If necessary, an alternative location and/design with regards to this structure would have to be investigated.

More detailed information w.r.t. the storm water control measures to be implemented will be provided in the Environmental Impact Report.

5.8 OR Tambo extension

The existing OR Tambo Road will be extended in order to connect to the Verena/Zaaihoek roads as indicated in Figure 3.1. Only one location and route with regards to this proposed route was provided.

The proposed extension would however extend across previously undermined areas as well as areas previously mined by opencast method. During the public participation process, it was also indicated that the said area will be mined by Witbank Brickworks.

A geotechnical study would have to be conducted in order to determine if the proposed road route could be utilized. In addition, permission from the Department of Mineral Resources would also have to be obtained.

This issue will be further investigated in the EIA phase of the project and if necessary, alternative road routes (including the No project option) will be proposed.

5.9 The 'No Project Option'

The 'no project option' is the alternative of not going ahead with the proposed development. The 'no project option' is only considered if it is found that the development will have significant negative impacts on the environment, which cannot be mitigated or managed.

If the 'no project option' in terms of the proposed development was exercised, it would mean that a new site would have to be investigated, the potential impacts on the environment determined, the interested and affected parties consulted and a new layout would have to be designed. Other uses for the site would also have to be investigated.

No project impacts would result in the project applicant having to find another site for the proposed development or continue managing the site as required in terms of the approved zoning of the site.

6. DISCUSSION AND CONCLUSION

6.1 Public participation

Section 4 provides an indication of the public participation process followed to date.

As indicated in Section 4.1.4, only two persons registered as interested and affected parties in terms of the advertising process (site and newspaper advertising) within the 30 day registration. No comment was however, received. A public meeting was therefore not required as part of the scoping phase of the project.

6.1.1 Issues of concern raised by the authorities and stakeholders

Various stakeholders and government departments were consulted during the public participation process as indicated in Section 4.2 and 4.4 of this report.

To date, no comment has been received from the following authorities/stakeholders:

- Department of Water and Sanitation;
- Department of Agriculture, Rural Development and Land Administration – Directorate: Land Use and Soil Management;
- Department of Agriculture, Forestry and Fisheries;
- Department of Co-operative Governance and Traditional Affairs;
- Department of Minerals Resources;
- Department of Public Works, Roads and Transport;
- Department of Culture, Sports and Recreation;
- South African Heritage Resources Agency;
- Department of Education;
- Mpumalanga Tourism and Parks Agency;
- South African National Roads Agency;
- Trans African Concession (Pty) Ltd;
- Telkom;
- Wildlife and Environment Society of South Africa;
- Transvaal Landbou Unie;
- Mpumalanga Agriculture;
- Nkangala District Municipality;
- Mpumalanga Wetland Forum;
- Sasol Gas.

Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA)

The following issues of concern were raised:

- ◆ Traffic – A traffic impact study must be commissioned to investigate the potential impact of the development on traffic along the Zaaihoek Road, OR Tambo and Voortrekker Road and through Jackaroo Park.
- ◆ Crime – How will a potential increase in crime in the area be mitigated/managed? Will a satellite police station be established in the area?
- ◆ Acid Mine Drainage (AMD) – The existing AMD on site is an issue of concern. How will the site be rehabilitated and who will be responsible for the rehabilitation? No AMD is allowed to flow into streams and to the Olifants River as a result of the proposed storm water channel.
- ◆ MNS settlement – What are the plans from the eMalahleni Local Municipality regarding the existing MNS informal settlement? What will

happen to the people that do not qualify for RDP houses? Will they be vacated, relocated?

- ◆ OR Tambo Road extension – How will the owner of the directly affected property (Mr. Singh) be located and consulted?
- ◆ Specialist studies – It is agreed that the following specialist studies must be commissioned: traffic, geotechnical, vegetation and animal life, archaeological, palaeontological and socio-economic.

The issues raised by the Department of Agriculture, Rural Development, Land and Environmental Affairs will be addressed in the EIA phase of this project.

Department of Rural Development and Land Reform (Commission on Restitution of Land Rights)

According to the Department of Rural Development and Land Reform, a claim has been lodged against the farm Blesboklaagte 292 JS. Currently, the said claim is being researched.

This information would have to be verified by the applicant before proceeding with the development.

Eskom

Eskom (Asset Management and Execution Division) indicated the project would impact on the Duvha-Vulcan 400 KV power line. Eskom indicated the following:

Eskom Tx will raise no objection to the development provided that Eskom Tx's rights and services are acknowledged and respected at all times and the following terms and conditions must be complied with.

Eighteen (18) conditions are indicated in the said letter (Appendix 7) that must be adhered to by the developer. These conditions will be included as part of the EIA phase of the project.

6.1.2 Issues raised by directly affected landowners/users i.t.o. residential development area

As indicated in Table 4.1 and Figure 4.2, the majority of the site belongs to the project applicant, Absa Prop Development (Pty) Ltd., with 4 portions belonging to the eMalahleni Local Municipality, who forms part of the project team with regards to the proposed residential development.

Khula Brick and Sand (Pty) Ltd, owner of Portion 56, will be directly impacted in terms of a proposed road and water pipeline (Table 4.1). At this stage, the said company has no objections with regards to the proposed project. The company recommended that contact be made with Witbank Brickworks regarding the proposed mining of the area.

Wescoal Mining leases Portion 26 of the farm Blesboklaagte 296 JS (i.e. old Blesboklaagte Colliery site) from the landowner, Absa Property Development (Pty) Ltd. As indicated, Wescoal Mining is presently preparing a Closure and Rehabilitation Plan for the affected area as per the lease agreement. Further details in this regard will be obtained during the EIA phase.

The MNS informal settlement is located in the central portion of the site and will be directly impacted in terms of the proposed development. As indicated, the MNS Community is very pleased about the project and the prospect of houses. Their main issues of concern are:

- Lack of water;

- Health related issues as a result of dust from trucks driving on the gravel road.
- Timing of project.

6.1.3 Issues raised by directly affected landowners/users i.t.o. bulk services

As previously indicated, services (water pipeline, sewer line, stormwater trench, proposed OR Tambo extension, Figure 4.2) would extend onto adjacent properties belonging to private landowners as indicated in Table 4.2.

Comment was only received from 8 landowners as indicated in Table 4.2 and 4.3. Landowners requested detailed plans indicating exactly where the proposed services would be located in order to determine the impact on their property and associated activities (existing and proposed). As indicated in Table 4.4, other surrounding landowners expressed concern that services would extend across their properties, which is not the case.

In terms of the northern stormwater trench, concern was raised about the potential impact thereof on worker's houses located on Portion 25 of the farm Blesboklaagte 296 JS. It was also indicated that the proposed trench would impact on a wetland system connected to a drainage area that extends through Portion 11 of the farm Kalbasfontein 284 JS. Waste and polluted water (sewage) from the residential development could impact on this system and its associated aquatic life (including birds). It was indicated that this impact could extend to the nearby Olifants River and finally the Loskop Dam. The impact on water quality of this drainage area would impact on livestock watering (including game). It should be noted that this issue of concern regarding this stormwater trench was also voiced by other surrounding landowners/users as indicated in Table 4.4.

The maintenance of the gravel road to Jackaroo Park was also raised as an issue of concern especially in view of the increased traffic. The question was asked if the said road would be diverted and if this would affect farm entrances.

Transnet indicated that the proposed project could result in the illegal crossing of the nearby Transnet railway line.

Two landowners indicated that they would be willing to sell their properties should the developer be interested.

Other issues of concern recorded in Table 4.3 will be investigated as part of the EIA phase.

6.1.4 Issues raised by surrounding landowners/users

There is a perception that properties will be bought/taken for the purpose of the proposed development. However, this is not the case.

As indicated in Section 4.1, most of the properties where the development will take place belongs to the project applicant. **No properties will be bought or taken in order to facilitate the proposed residential development.**

Where services (water pipelines, sewer lines, etc.) will extend onto adjacent properties, negotiations will take place in order to register a servitude across

the said properties for the purposes of the said services i.e. depending on the outcome of the EIA.

As indicated in Section 4.4 and Table 4.4, **the surrounding landowners/users are against (objected) the proposed development** as they feel that the development will impact on their existing way of life (i.e. a safe, quiet rural lifestyle) and their agricultural/farming activities (including their farm animals, produce, etc.). It was indicated that an alternative site should be investigated for the said development.

Most of the surrounding properties are used for agricultural activities providing the landowner/user with a place to stay and an income from the agricultural activities (i.e. subsistence farmers). Many of the landowners/users have lived on the said properties for many years (in some cases, their entire lives) and have invested in the said properties in terms of the provision of infrastructure, etc. In many cases, more than one family lives on the said property. In other cases, the said properties were bought with retirement in mind. Properties are also used as weekend retreats (e.g. quiet getaway place; horse riding; etc.). The said properties are therefore very valuable to these landowners/users.

The farmers indicated that they do not want to be chased off their properties as this would impact on agriculture. They would like to continue living safely and quietly on their properties and would like to leave their children a safe agricultural heritage.

It was indicated that the proposed development could impact on the Jackaroo Park residential area in terms of decreased property values. In addition, it was indicated that the proposed residential development could impact on the existing services (water, sewage, etc.) of Jackaroo Park if connected to this system. **Interested and affected parties of Jackaroo Park indicated that they are also against (objected) the proposed residential development.**

The potential increase in crime and the impact on the safety and security of residents (including the loss of privacy) were the two major issues of concern raised by surrounding landowners/users (Table 4.3 and Table 4.4). The proposed development would result in an influx of people to the area with more people wandering in the surrounding area, across private properties as well as through the residential area of Jackaroo Park. Of specific concern is the safety of women and children alone at home during the day.

Concern was also expressed regarding the potential impact of striking residents from the proposed residential area on surrounding landowners/users. This has been experienced in the past by landowners/users when residents of the MNS informal settlement barricaded roads. This could escalate with the proposed development.

An increase in traffic along the Zaaihoek Road, the gravel road leading to Jackaroo Park as well as through Jackaroo Park and the old Middelburg Road can be expected as a result of the proposed residential development. These roads are already over utilized and the condition of the said roads would be affected. Traffic along these roads could also be impacted in terms of increased pedestrians and animals.

Sewage was indicated as another major issue of concern in terms of surface water and groundwater (borehole) pollution. Mention was made of possible sicknesses/diseases, odour/smell (air pollution), etc. that could result due to uncontrolled sewage spillage. This could also impact on the condition of roads.

The illegal dumping of waste in the surrounding area and the impact on the environment was also indicated as an issue of concern which could result in pests (rats, etc.) and disease.

The impact on the natural environment/ecology of the area especially in terms of pollution (illegal dumping of waste; sewage/water pollution) and poaching (wild animals and game) was expressed as an issue of concern. As indicated in Section 4.4.3, it was indicated that the impact in terms of water pollution could eventually extend to the Olifants River and Loskop Dam.

Interested and affected parties indicated that they have a right to protect their belongings. They feel that government does not keep its promises and wants to make out they want the best for the environment and its residents.

One interested and affected party indicated that the overall management of the project is very important and that the project must be managed properly from the planning phase.

Through the public participation process, it was indicated that Witbank Brickworks plans to mine the historic mining area located adjacent to the proposed residential area. It is possible that the proposed mining right area could overlap with a portion of the proposed residential area as well as the proposed OR Tambo extension. This will have to be investigated as part of the EIA phase.

Issues of concern raised through the public participation process will be addressed through the socio-economic study to be commissioned as part of the EIA phase of the project.

In addition, landowners/users who did not provide comment (Table 4.2) or could not be traced during the scoping phase will again be contacted during the EIA phase in order to obtain their comments with regards to the said project.

6.2 Potential environmental impacts identified

An indication of the environmental features present on site is provided in Section 3 of this report.

As indicated in Figure 3.7, the proposed development site has already been impacted in terms of the development of the MNS informal settlement (± 1100 structures and associated pit latrines) in the central portion of the site, various gravel roads, the Eskom power line, as well as past agricultural (northern portion) and mining activities (eastern portion).

Historically the area to the south of the proposed development site was mined for coal using underground mining methods. These areas were not rehabilitated. Subsidence and sinkholes are present in these areas. Underground fires are also known to be present within this area while acid

mine drainage is also a problem. In recent years, portions of this area have been mined by opencast mining methods. In cases, rehabilitation has not taken place.

The old Blesboklaagte Colliery is located in the eastern corner of the proposed development site (i.e. on Portion 26 and the Remainder of Portion 98 of the farm Blesboklaagte 296 JS). This opencast mine has not been rehabilitated resulting in open voids and bare ground being present within this area. Over the past few years, two companies operated coal washing plants on site resulting in the construction of slurry ponds and the open voids being filled with discard. In areas, burning discard/coal is evident. To date, no rehabilitation of this area has taken place. Acid mine drainage (AMD) emanates from the site and drains towards Jackaroo Park.

The southern portion of the site (including Erf 5017) could have been previously undermined. Subsidence and sinkholes are present in these areas. Underground fires are also known to be present within this area while acid mine drainage is also a problem.

Historically the area where the proposed reservoir and bulk water pipeline will be located could also have been undermined. The extent of undermining would have to be determined.

Part of the proposed OR Tambo extension route was mined by opencast methods. It is also possible that a portion of the proposed route was previously undermined. According to Witbank Brickworks, this area falls within their mining right area and will be mined.

The extent of undermining and/or opencast mining would have to be determined. The potential impact of underground fires on the residential development would also have to be determined. *An independent geotechnical study conducted during the townplanning process will be reviewed as part of the EIA process in order to determine if the said issues of concern were investigated. According to the townplanner, the proposed layout plans (Figure 2.1 & Figure 5.1) take these factors into account. This will however, be reviewed as part of the EIA phase.*

It was recently learnt that Witbank Brickworks has applied for a mining right to mine the area to the south of the proposed development site. Witbank Brickworks intends to mine the area by opencast methods and then to rehabilitate the said area. According to Witbank Brickworks, this would assist in reducing the environmental impact (e.g. unrehabilitated areas; acid mine drainage; underground fires, etc.) as a result of the historical mining of the said area.

In addition, it was discovered that a mining permit had been issued to Vandu Mining to mine a portion of land to the south of the proposed development site.

The status and potential impact of both these mining operations as well as other issued mining/prospecting rights/permits on the proposed residential development and associated services would have to be investigated.

The natural vegetation of the site has been impacted in terms of the development of the informal settlement (\pm 1100 structures) in the central

portion of the site, various gravel roads, the Eskom power line, the dumping of waste, as well as past agricultural and mining activities (Figure 3.7).

Natural animal habitats could however, be associated with the Secondary/Disturbed Grassland vegetation unit present in the western, northern, central and northwestern sections of the proposed development site (Figure 3.7). The rocky outcrops present within this area could provide natural animal habitats especially for reptiles, which could be of conservation importance. *A biodiversity study (vegetation/flora and fauna/animal life) will be undertaken during the EIA phase of the project in order to determine the status of the biodiversity (vegetation and animal life) within the proposed development site as well as the adjacent properties where the services will be installed.*

No drainage lines, streams or rivers have their origin within the proposed development site. Marneweck and Batchelor (2004) also did not identify any natural wetlands within the proposed development site. The proposed development (including the provision of services) will therefore not impact directly on any surface water environments (i.e. drainage lines, streams, rivers, wetlands).

A wetland delineation study will however, be commissioned as part of the EIA phase of the project in order to determine whether any wetlands occur within the proposed development site as well as the adjacent properties where the services will be installed. This is in view of the fact that the requirements in terms of the National Water Act, 1998 (Act 36 of 1998) has changed tremendously since 2004 and the presence of a wetland could have a huge impact on the proposed layout plan.

The proposed development site is located on a catchment divide with a portion draining towards the Blesbokspruit (quaternary catchment B11K) and a portion towards tributaries of the Olifants River extending through Jackaroo Park and the nearby Kromdraai smallholding area (quaternary catchment B11J). This could impact in terms of the provision of services in terms of the overall project.

Surface water runoff from the proposed development site is currently affected by the unrehabilitated open cast/coal washing plant area associated with the old Blesboklaagte Colliery site. During times of heavy rainfall, surface water accumulates within the voids creating artificial surface water environments. Here, surface water runoff is contaminated due to the presence of coal/coal discard/slurry and the lack of proper surface water management measures around the coal washing plant area. Acid mine drainage emanating from this unrehabilitated area also impacts on the quality of surface water runoff from this site which drains towards Jackaroo Park. A tributary of the Olifants River extends through Jackaroo Park which could be impacted upon. Any stormwater runoff from the development site could thus indirectly impact on this tributary. As indicated, a Closure and Rehabilitation Plan is currently being compiled in order to rehabilitate the said area and address these problems.

Stormwater runoff from the proposed development site could also indirectly impact on a tributary of the Olifants River located downstream of the site within the Kromdraai smallholding area. This could impact on the possible wetlands and aquatic life associated with this system as well as the water quality. Farm dams located within this system could also be impacted upon as

well as the associated agricultural activities. Concerns in this regard were raised by interested and affected parties during the public participation process. *Alternatives in this regard would have to be investigated as part of the EIA phase as indicated in Section 5.7.*

It is evident that there is an acid mine drainage problem within the proposed development site (i.e. associated with the old Blesboklaagte Colliery site). As indicated this acid mine drainage is as a result of a combination of factors and has been aggravated by the lack of rehabilitation of the previously mined areas as well as the lack of proper surface water management measures for the said site. This acid mine water drains towards Jackaroo Park and the adjacent downstream properties. Contaminated groundwater seepage was noted decanting in the drainage line (a tributary of the Olifants River) extending through the nearby residential area of Jackaroo Park.

An acid mine drainage pond is also located in the northeastern corner of the proposed development site that drains onto the adjacent property and flows down towards the railway line and Jackaroo Park. This would impact on the proposed eastern storm water trench. *Alternatives in this regard would have to be investigated as part of the EIA phase as indicated in Section 5.7.*

Graves are known to be present on Portion 26 of the farm Blesboklaagte 296 JS. It is currently not known if any sites of archaeological and cultural interest (including graves) are located along the proposed water pipeline routes, at the proposed reservoir site, along the proposed sewer line routes and the proposed OR Tambo extension route. *The presence of any sites of archaeological and cultural interest (including graves) will be determined through the Phase I Heritage Impact Assessment to be conducted as part of the Environmental Impact Assessment. A palaeontological study will be conducted as part of the Environmental Impact Assessment as required by the South African Heritage Resources Agency.*

As indicated in Section 3.16 various roads extend through the said area which would be impacted upon in terms of the proposed development in view of increased traffic. This was raised as an issue of concern during the public participation process as the current road networks are already overloaded. *In view of this, a traffic impact study will be conducted as part of the EIA phase of the project.*

As already indicated, a socio-economic study will be commissioned as part of the EIA phase in order to address potential impacts on landowners/users and existing land uses in terms of the proposed project. This will include an evaluation of the issues of concern raised during the public participation process since objections in terms of the said project were received from various surrounding landowners/users.

6.3 Conclusion

Through the scoping phase, it is evident that various issues require further investigation before the proposed development can be approved. As indicated in Section 5, various alternatives in terms of the project must also be investigated especially in terms of service provision. The project is thus to proceed to the Environmental Impact Assessment phase. Section 7 of the scoping report provides an indication of the tasks to be completed and the specialist studies to be commissioned during the Environmental Impact Assessment (EIA) phase.

7. Plan of Study for EIA

The aim of the environmental impact assessment phase will be as follows:

- To supplement information contained in the Scoping Report regarding the natural and social environments of the site to be affected by the proposed development;
- To assess the potential impacts of the proposed development on the environment;
- To identify and recommend mitigation measures to minimize the potential impact of the development on the environment;
- To compile an Environmental Management Plan (EMP), which will include the recommended mitigation measures;
- To provide the Department of Agriculture, Rural Development, Land and Environmental Affairs with sufficient information to make an informed decision regarding the proposed development.

7.1 Evaluation of the Scoping Report

The draft Scoping Report (dated: April 2015) will be submitted to the Department of Agriculture, Rural Development, Land and Environmental Affairs for evaluation purposes. A hard copy of the document will also be forwarded to the following authorities for evaluation (40-day period):

- Department of Water and Sanitation;
- Mpumalanga Tourism and Parks Agency;
- eMalahleni Local Municipality.

An electronic copy of the Scoping Report will be made available during the above-mentioned period to the interested and affected parties and stakeholders consulted and/or registered as part of the scoping process (see Section 4 of this report).

The various departments, stakeholders and interested and affected parties will be requested to forward any comments on the report to the consultant within the 40 day period provided. A register will be kept of all comments received in terms of the evaluation of the report. These comments will then be included and addressed in a final Scoping Report.

The final Scoping Report will once again be made available to interested and affected parties and stakeholders for comment (21-day period), whereafter it will be submitted to the Department of Agriculture, Rural Development, Land and Environmental Affairs.

A hard copy of the Draft and Final Scoping Reports will be left at the eMalahleni (Witbank) Public Library. An electronic version will be made available on the company website (www.cleanstreams.co.za) and on cd (on request).

An advertisement in this regard will also be placed in the Witbank News in order to inform I&APs of availability of the Scoping Report for evaluation purposes.

The Environmental Impact Report will be compiled once the Final Scoping Report has been approved by the Department of Agriculture, Rural Development, Land and Environmental Affairs.

7.2 Additional public participation during EIA phase

As indicated in Section 6.1, landowners/users who did not provide comment (Table 4.2) or could not be traced during the scoping phase will again be contacted during the EIA phase in order to obtain their comments with regards to the said project.

If necessary, focus group meetings will take place with the following identified groups in order to provide feedback to interested and affected parties regarding the findings of the various specialist studies:

- representatives of the MNS informal settlement (working through the Ward 12 Councilor);
- residents of the surrounding small holdings (Kromdraai-Kalbasfontein area);
- residents of Jackaroo Park.

Identified interested and affected parties will be informed and invited to the focus group meetings. Minutes of the meeting will be taken and included as part of the Environmental Impact Report.

7.3 Specialist studies

It is envisaged that the following specialist studies will be commissioned:

- Heritage Impact Assessment;
- Palaeontological Impact Assessment;
- Biodiversity study (vegetation and animal life);
- Wetland delineation study;
- Traffic study;
- Geotechnical study;
- Socio-economic study.

7.3.1 Heritage Impact Assessment

A Heritage Impact Assessment (as required in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999)) will be conducted in order to determine whether any sites of archaeological and/or cultural interest are located on or near the said site. Dr. Anton van Vollenhoven, an accredited archaeologist, will conduct the assessment.

The scope of work will entail the following:

- Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property.
- Study background information on the area to be developed.
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value.
- Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

- Review applicable legislative requirements.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

7.3.2 Palaeontological Desktop Impact Assessment

A Palaeontological Impact Assessment (as required in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) will be conducted. Dr. Heidi Fourie, an accredited palaeontologist, will conduct the assessment.

The scope of work will entail the following:

- Document palaeontological resources in the area to be developed by utilizing geological maps, scientific literature, institutional fossil collections, satellite images, aerial maps and topographical maps;
- Provide an assessment of observed or inferred palaeontological heritage within the proposed development site;
- Make recommendations (if any) for protection, mitigation or monitoring of palaeontological resources identified.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

7.3.3 Biodiversity study (Vegetation and animal life)

A biodiversity study (vegetation/flora and fauna/animal life) will be undertaken by Tony de Castro and Warren McClelland of De Castro and Brits Ecological Consultants in order to determine the status of the biodiversity (vegetation and animal life) within the proposed development site as well as the adjacent properties where the services will be installed.

The scope of work will include the following:

Vegetation study:

- Determination of the Vegetation Type/Types in accordance with existing national vegetation maps (Mucina & Rutherford, 2006) and local vegetation studies, as well as proximity and relationship to any Centre of Endemism (van Wyk and Smith 2001). A description of the regional biodiversity context using all existing information (e.g. C-plans and NPAES mapping) will be provided.
- Broad-scale structural classification of the vegetation into homogenous units following the approach of Edwards (1983). A description of the dominant and characteristic species identified within the broad-scale plant communities comprising each of these units, will also be provided. These descriptions will be based on visual estimates of cover/abundance and density following established vegetation survey techniques (Mueller-Dombois & Ellenberger 1974 and Kent & Coker 1993). The number of sites will be limited by the relatively short duration of the available time for fieldwork.
- Each identified vegetation unit/habitat will be briefly described in terms of its sensitivity, biodiversity value and conservation importance.
- Compilation of a species list (to provide an accurate indication of the floristic diversity) according to latest taxonomic treatments used by the National Herbarium (<http://posa.sanbi.org>). Alien invasive species, according to the Alien and Invasive Species Regulation 2014 (under the Biodiversity Act of 2004), will be highlighted and discussed. Plant species

that are protected in terms of provincial and national legislation, will also be highlighted.

- Determination of the occurrence, or possible occurrence, of plant 'species of conservation concern' (Raimondo *et al.*, 2009 and <http://redlist.sanbi.org>) and plant communities, on the basis of field surveys, historical distribution records obtained from the PRECIS database of SANBI, the MTPA threatened species database, and available literature.

Faunal (animal life) study:

Determination of the occurrence, or possible occurrence, of threatened and/or sensitive vertebrate fauna (mammals, birds, reptiles and amphibians), based on the MTPA threatened species database, data from the second Southern African Bird Atlas Project (<http://sabap2.adu.org.za>) and the current South African Reptile Conservation Assessment (<http://vmus.adu.org.za>), Friedmann & Daly (2004), Minter *et al* (2004), and limited field surveys which will be conducted as follows:

- Fieldwork will be conducted to coincide with the peak periods of breeding activity for many species, i.e. middle to late wet season (Dec-Mar). While all species seen and heard will be recorded, the approach will be to search specifically for conservation-important species and to provide an accurate assessment of habitat quality for potentially occurring conservation-important species.
- Mammals will be recorded along the same transects and at the same points at which birds are sampled. Visual sightings will be supplemented with indirect evidence such as spoor or dung, as well as limited audio confirmation. Nine Bushnell Trophy Cam motion-triggered cameras will be placed at various points in the study area where appropriate (i.e. medium and larger mammals are thought to be present). Conversations with resident farmers will also provide additional information regarding large mammals present in the study area and their seasonal movements.
- Bird surveys will focus on the first three hours of daylight when bird activity is at its highest. Species heard calling only will also be included. The sampling technique is Timed-Species Counts (Pomeroy & Tenengecho, 1983), which will involve spending an hour at each site and recording observations within ten minute segments. Additional incidental observations will be made during the less productive time of the day while covering as much of the study area as possible.
- Reptiles and frogs will be searched for during the day by visual scanning of likely habitat, investigating potential refuges such as under logs, beneath old bark on dead trees, leaf litter, etc. Frogs will also be sampled through recording calls at acoustical monitoring points. No trapping exercises will be undertaken.
- Further botanical and zoological assessments regarded as necessary will also be identified and 'Terms of Reference' for these assessments will be recommended. Such further assessments may include additional searches for potentially occurring threatened plant species that where not in flower at the time of the field surveys conducted for this study.

Based on the above-mentioned vegetation and the faunal studies, a biodiversity report will be provided that will include an assessment of envisaged impacts to biodiversity and habitats associated with the proposed development will be provided, as will appropriate mitigation measures for any identified plant or animal 'species of conservation importance' (*sensu* Raimondo *et al.*, 2009) and sensitive habitats.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

7.3.4 Wetland delineation survey

A wetland delineation study will be undertaken by Retief Grobler and Tony de Castro of De Castro and Brits Ecological Consultants in order to determine whether any wetlands occur within the proposed development site as well as the adjacent properties where the services will be installed.

The scope of work will include the following:

- Desktop analysis and literature review of existing wetland-related information, including available recent and historic aerial photographs.
- A field survey that will investigate and delineate wetlands and other watercourses according to the DWA method (DWAF 2005). The site visit will be undertaken with the vegetation specialist/ecologist to enable the integration of wetlands and other watercourses with mapped vegetation types where possible.
- The delineation of wetland areas, including other non-wetland watercourses, will focus on the study area, specifically the proposed development footprints, while areas affected by the proposed linear alignments will be surveyed in a narrow corridor (± 50 m wide). Surrounding wetland areas located in a 500 m radius around the proposed development footprints will be delineated at a secondary level of detail through a site survey and desktop approach to meet criteria from the Department of Water and Sanitation (DWS) for a Water Use License Application regarding water use activities present within a 500 m radius from any wetland system (DWA 2009).
- A classification of identified wetland areas into appropriate hydro-geomorphic units according to the National Wetland Classification System for South Africa (Ollis et al., 2013).
- Description of identified wetland and related watercourse indicators; these include soil, plant, and terrain indicators, as well as others published in literature (e.g. Nobel et al. 2005). Apart from wetlands, other types of watercourses will also be delineated and described, these include riparian areas, dams and natural channels (e.g. headwater drainage lines), as defined in the National Water Act (NWA), Act Nr. 36 of 1998. All watercourses are also subject to Section 21 (c) and (i) Water Use License Applications, as well as listed activities in terms of the National Environmental Management Act (NEMA), Act No. 107 of 1998 and the EIA Regulations of 2010 and thereafter.
- Assessments of the Present Ecological State (PES) and the Ecological Importance and Sensitivity (EIS) of delineated wetlands according to the most applicable method developed by either DWS or the WRC [DWA 1999; DWA 2007; Macfarlane et al., 2008; Rountree (in prep)]. The accuracy and level of confidence of these assessments will be improved through a wet season survey (approximately November to May) rather than a dry season survey. PES & EIS values are also of relevance for a possible Water Use License Application (WULA) that may be required.
- A description of existing and expected project-related impacts that could affect demarcated wetlands and other watercourses.
- The identification of potential project-related watercourse impacts, and the provision of related impact mitigation measures.
- The creation of a watercourse sensitivity map for use during the environmental planning phase of the project, so as to design an acceptable layout design that avoid impacts as far as possible.

- An assessment of envisaged impacts to wetlands associated with the proposed development will also be provided.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

7.3.5 Traffic study

A traffic study will be commissioned and conducted by a traffic engineer.

The objective of the traffic impact study will be to:

- ◆ Determine the impact that the additional traffic generated by the proposed development will have on the surrounding road network (e.g. Zaaiohoek road, Verena Road, gravel road to Jackaroo Park, Jackaroo Park, old Middelburg Road, etc.);
- ◆ Determine the expected modal split, trip generation, distribution and assignment;
- ◆ Determine the access position and configuration to the proposed site;
- ◆ Determine the access and traffic impact of the proposed development;
- ◆ Determine the required road upgrading (if necessary) to accommodate the proposed development trips;
- ◆ Comment on the public transport issues.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

7.3.6 Geotechnical study

An independent geotechnical study was commissioned as part of the townplanning process with regards to the Klarinet Phase 2 project area. The said study was conducted by B.D. Celliers of Engeolab cc.

The objectives of this study were as follows:

- Where possible to identify the underlying geological formations and their near surface weathered bedrock, residuum and transported soils;
- Determine the soil and rock profile across the site and evaluate its engineering properties and influence on the design of light single storey structures;
- Evaluate the workability of the site materials with regard to their excavatability and compactibility;
- Comment on predicted safe bearing capacity values, expected heave and settlement of the different potential founding horizons and recommend founding depths;
- Assess the groundwater conditions, including surface run-off, ponding, seepage and perched or permanent water tables;
- Demarcate the site into various geotechnical zones with applicable NHBR site classes and appropriate building procedures.

This study will have to be reviewed as part of the EIA phase and if needed, revised in order to address the issues raised by interested and affected parties (e.g. undermining, underground fires, acid mine drainage, etc.).

A separate geotechnical study will be commissioned in terms of the proposed OR Tambo extension in view of the fact that a portion of the proposed route was previously mined (undermined and/or open cast).

7.3.7 Socio-economic study

A socio-economic impact assessment regarding the potential impact the establishment of the Klarinet Phase 2 Project would have on the surrounding landowners/users and the surrounding area will be conducted as part of the EIA phase of the project. This study will be conducted by T. Pretorius and H. Strydom of Plan Associates Town and Regional Planners Inc.

The study will entail the following:

- Analysis of the beneficiary community;
- Demographic profile of the renumerated area;
- Income and employment levels from Census 2011;
- Local and surrounding urban environment of existing human activities and facilities;
- Potential impact on surrounding properties;
- Indicative Land Use Budget.

Any policies and frameworks (e.g. Local Spatial Development Framework (SDF); Integrated Development Plan (IDP), etc.) relevant to the study will be incorporated into the study.

Comments obtained through the EIA public participation process (Section 4 of this report) will also be incorporated as part of this study.

The above-mentioned elements will be synthesised into opportunities and constraints. The results will be presented in a report for inclusion into the EIA Report.

Services (water, sewage, electricity, storm water, etc.)

The project engineers will be requested to provide detailed information with regard to the provision of water, electricity and the disposal of waste (solid and liquid).

7.4 Method of assessing issues and alternatives

7.4.1 Issues

Issues of concern will be identified by way of objections/concerns received, approvals granted (subject to certain conditions) and by consultation with various authorities and interested and affected parties as detailed in the preceding sections.

The identified 'environmental issues' will be defined as either:

- Definable issues e.g. air pollution
- The cause of an impact e.g. impacts as a result of construction; operational or decommissioning phases.
- A generally expressed concern e.g. social disruption of communities.

The relevant and important issues will be focused on.

Issues concerning the following project phases will also be identified:

- Construction phase
- Operational phase
- Decommissioning phase

7.4.2 Impacts

Potential impacts that could take place during both the construction and the operational phases will be identified by overlaying the proposed layout plans on the environmental sensitivity map for the site.

Evaluation of impacts

The evaluation of impacts will be conducted in terms of the following criteria:

- **Nature of impact** e.g. impact on surface water; groundwater; natural vegetation; etc.

- **Extent of impact**

Site	Effect limited to the site and its immediate surroundings
Local	Effect limited to within 3-5 km of the site
Regional	Effect will have an impact on a regional scale

- **Duration of impact**

Short	Effect lasts for a period 0 to 5 years
Medium	Effect continues for a period between 5 and 10 years
Long	Effect will cease after the operational life of the activity either because of natural process or by human intervention
Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient

- **Intensity of impact**

Low	The impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
Medium	Where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way
High	Where natural, cultural or social functions or processes are altered to the extent that it will temporarily or permanently cease

- **Probability**

Improbable	Less than 33% chance of occurrence
Probable	Between 33 and 66% chance of occurrence
Highly probable	Greater than 66% chance of occurrence
Definite	Will occur regardless of any prevention measures

- **Significance of impact**

Low	Where the impact will have a relatively small effect on the environment and will not have an influence on the decision
Medium	Where the impact can have an influence on the environment and the decision and should be mitigated
High	Where the impact definitely has an impact on the environment and the decision regardless of any possible mitigation

- **Status**

Positive	Impact will be beneficial to the environment
Negative	Impact will not be beneficial to the environment
Neutral	Positive and negative impact

- **Confidence**

Low	It is uncertain whether the impact will occur
Medium	It is likely that the impact will occur
High	It is relatively certain that the impact will occur

It must be noted that many of the potential negative consequences can be mitigated successfully. It will however, be necessary to make a thorough assessment of all possible impacts in order to ensure that environmental considerations are taken into account, in a balanced way, as far as possible, supporting the aim of creating a healthy and pleasant environment.

7.4.3 Alternatives

Alternatives to be investigated as part of the EIA phase of the project are indicated in Section 5 of this report.

If necessary, additional alternatives will be identified by way of discussion with authorities, interested and affected parties and the client.

Alternatives will also be identified by overlaying the proposed layout plans on the environmental sensitivity map for the site (i.e. once the specialist studies have been conducted). If necessary, alternative layouts to be considered by the applicant will be provided.

The 'No Project Option' will be included in the assessment. Not all alternatives will be investigated in the same degree of intensity – only the feasible ones. The EIA report will include a description of each alternative for the project as well as the advantages and disadvantages of each.

7.5 Evaluation of the Environmental Impact Report (EIR)

A copy of the draft and final Environmental Impact Reports will be made available for evaluation purposes. A period of 40 days will be provided for the evaluation of the draft report, whereas a period of 21 days will be provided for the evaluation of the final report.

7.6 Informing Interested and Affected Parties of the Record of Decision

On receipt of the Environmental Authorisation and Record of Decision (positive or negative decision), all identified interested and affected parties (see Section 4 of this report) will be informed by means of facsimile, e-mail or telephonically that the Environmental Authorisation and Record of Decision with regards to the project have been issued. Information w.r.t. the appeal procedure will also be provided.

An advertisement in this regard will also be placed in the Witbank News in order to inform I&APs of the decision.

A copy of the Environmental Authorisation and Record of Decision will be made available on the company website (www.cleanstreams.co.za).

REFERENCES

1: 250 000 Geological Series number 2528 Pretoria.

Acocks, J.P.H. 1988. Veld types of South Africa. Memoirs of the Botanical Survey of South Africa no. 57: 1 – 46. (An update of the first edition, published in 1953).

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Department of Water Affairs and Forestry, WQM/01/00, 2000. Blesbokspruit Catchment – Geohydrological Report for Acid Mine Drainage Collection and Conveyance System for Abandoned Mines.

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Mucina, L. & Rutherford, M. C. (eds). 2006. The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

Rehab Green Monitoring Consultants cc. 2004. Baseline soil assessment of the proposed Klarinet Expansion Project Phase I, II and III development areas. Report compiled by: Rehab Green Monitoring Consultants cc. Report dated: June 2004.

Urban Dynamics Mpumalanga (Pty) Ltd. 2014. Motivating Memorandum in Support of the Application for Township Establishment for the Proposed Klarinet Phase 2 Integrated Housing Development (Klarinet Extensions 10, 11 & 12) Situated on Portions 26, 98, 153, 154, 171, 172, 188, 189, 199-204, 210 and 226 of the Farm Blesboklaagte 296 JS. Report dated: November 2014. Report number: WIT160

APPENDIX 1:

APPLICATION FORM

- Letter from Clean Stream Environmental Services (CSES) (dated: 23 September 2014; Ref: EIA 2014/02) regarding the submission of the application form as well as the request for deviation from Regulations 15(1) and 15(3).
- Copy of application form.
- Letter from the Department of Rural Development, Land and Environmental Affairs (DARDLEA) (dated: 2 October 2014; Ref: 17/2/3N-397) acknowledging receipt of the application form.
- Letter from DARDLEA (dated: 24 February 2015; Ref: 17/2/3N-397) regarding the request for deviation from Regulations 15(1) and 15(3).
- E-mail from CSES (dated: 1 April 2015) to DARDLEA regarding the registration of Interested and Affected Parties.
- E-mail from DARDLEA (dated: 8 April 2015) regarding the registration of Interested and Affected Parties.
- E-mail from CSES (dated: 10 April 2015) regarding the site visit.
- E-mail from DARDLEA (dated: 10 April 2015) regarding the site visit.

APPENDIX 2:

CURRICULUM VITAE

- ❖ Mrs. A. Erasmus *Pr. Sci. Nat.*
- ❖ Ms. R. Janse van Rensburg
- ❖ List of projects

APPENDIX 3:

TOWNPLANNING MEMORANDUM

- ❖ Urban Dynamics Mpumalanga (Pty) Ltd. 2014. **Motivating Memorandum in Support of the Application for Township Establishment for the Proposed Klarinet Phase 2 Integrated Housing Development (Klarinet Extensions 10, 11 & 12) Situated on Portions 26, 98, 153, 154, 171, 172, 188, 189, 199-204, 210 and 226 of the Farm Blesboklaagte 296 JS.** Report dated: November 2014. Report number: WIT160

APPENDIX 4:

ENGINEERING SERVICES REPORT

- ❖ Bigen Africa Services (Pty) Ltd. 2014. **Klarinet Integrated Housing Development, Klarinet Phase 2, Engineering Services Outline Scheme Report.** Report dated: October 2014. Report number: 1037-00-00/IR02

APPENDIX 5:

ADVERTISING OF THE PROJECT

- ◆ A copy of the English and Zulu advertisement published in the Witbank News, 27 February 2015.
- ◆ A copy of the English and Zulu on-site notices.
- ◆ Printout of company website page www.cleanstreamsa.co.za – New Projects – Notices.
- ◆ Printout of company website page www.cleanstreamsa.co.za – New Projects – Background Information Documents.

APPENDIX 6:

**BACKGROUND INFORMATION DOCUMENT -
ENGLISH AND ZULU**

APPENDIX 7:

CORRESPONDENCE WITH GOVERNMENT DEPARTMENTS AND OTHER STAKEHOLDERS

- ◆ E-mail from Clean Stream Environmental Services (CSES) (dated: 3 March 2015) to the following:

L Betha	Wildlife and Environment Society of South Africa
T Buthelezi	eMalahleni Local Municipality
B Viljoen	Department of Public Works, Roads and Transport
D du Plessis	Transvaal Landbou Unie
H Laas	Mpumalanga Landbou
E Lennox	Eskom Transmission
S Links	Nkangala District Municipality
M Loock	Department of Co-operative Governance and Traditional Affairs
N Maake	Eskom Transmission
H Maree	Mpumalanga Wetland Forum
F Mashabela	Department of Agriculture, Forestry and Fisheries
M Mokonyane	Department of Mineral Resources
M Moloko	Eskom Mpumalanga Land and Rights
KR Morena	Department of Education
L Motsisi	Eskom Transmission
K Narasoo	Mpumalanga Tourism and Parks Agency
E Nkabinde	eMalahleni Local Municipality
R Nkosi	Trans African Concessions
A Rambuda	Department of Water and Sanitation
S Singh	Department of Culture, Sports and Recreation
J Smit	Telkom
J Venter	Department of Agriculture, Rural Development and Land Administration
M Yorke-Hart	South African National Roads Agency

- ◆ E-mail (dated: 3 March 2015) to the Department of Rural Development and Land Reform (Commission on Restitution of Land Rights) - officials: ND Nkambule, T Mkhabela and GM Mathonsi.
- ◆ Webpage printout from the South African Heritage Resources Information System.
- ◆ E-mails (dated: 3 March 2015) to the Ward Councillor of Ward 12.
- ◆ E-mail (dated: 26 March 2015) to Mr. Cronje (Ward Councillor Ward 20).
- ◆ E-mail (dated: 29 March 2015) from Mr. Cronje (Ward 20).
- ◆ E-mail from CSES (dated: 30 March 2015) to Mr. Cronje.
- ◆ Letter (dated: 31 March 2015) from Eskom.
- ◆ Letter from Commission on restitution of Land Rights (dated: 16 April 2015; Ref: 1107).
- ◆ E-mail from CSES (dated: 5 March 2015) to Sasol Gas (B van den Heuvel).

APPENDIX 8:

CORRESPONDENCE WITH THE DIRECTLY AFFECTED LANDOWNERS/USERS

- ◆ E-mail and letter from Clean Stream Environmental Services (CSES) (dated: 26 February 2015) to Khula Bricks and Sand (Pty) Ltd. (Mr. J van Bruwaene).
- ◆ E-mail from Khula Bricks and Sand (Pty) Ltd. (dated: 27 February 2015).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Ingwe Surface Holdings (Pty) Ltd. (Mr. V Dhanooklal).
- ◆ Letter from CSES (dated: 26 February 2015) to LAGC de Jonckheere.
- ◆ Completed comment sheet (dated: 15 March 2015) from L de Jonckheere.
- ◆ Letter from CSES (dated: 26 February 2015) to Jumbo van der Merwe Trust (Mr. J van der Merwe).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Sarovic Investments cc. (S Cholich and R Sarovic).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Hil kru Family Trust (Mr. H Kruger).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Mr. EM Marabe.
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Mr. MM Khumalo.
- ◆ E-mails from MM Khumalo (dated: 27 February, 2 March, 7 March, 15 March and 16 March 2015) to CSES.
- ◆ Letter from CSES (dated: 26 February 2015) to JDS Paterson.
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Mr. H Lambrechts.
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Sudden Impact Inv 76 (Pty) Ltd. (Messrs Botha and Vermeulen).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Transnet (Mr. T Mavulwana).
- ◆ Completed comment sheet from Transnet (T Mavulwana) (dated: 27 February 2015).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Mr. F du Preez.
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to the Highveld Association for the Physically Disable (Mr. HD Grobler).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Mr. M Grobler (Grobler Familie Trust / MJ Grobler).
- ◆ E-mail from Mr. M Grobler (dated: 17 March 2015).
- ◆ E-mail and letter from CSES (dated: 26 February 2015) to Span Kalbasfontein Trust (J Fourie and P Muller).
- ◆ Letter from Johan Coetzee Incorporated (dated: 17 March 2015) to CSES - sent on behalf of Span Kalbasfontein Trust.
- ◆ Letter from CSES (dated: 18 March 2015) to Johan Coetzee Incorporated.
- ◆ E-mail from Mr. R Muller (dated: 30 March 2015).
- ◆ Completed comment sheet from Mr. R Muller (dated: 30 March 2015).
- ◆ Completed comment sheet (dated: 30 March 2015) from Mr. AD Makunyane (Dithebe Community Property Association).
- ◆ E-mail from CSES (dated: 13 March 2015) to Wescoal Mining (M du Plessis).
- ◆ E-mail from CSES (dated: 5 March 2015) to the eMalahleni Local Municipality (E Nkabinde and T Buthelezi).

APPENDIX 9:

COMMENTS FROM SURROUNDING LANDOWNERS/USERS

- ◆ Completed comment sheets received from the following:

GPN Holscher	28 March 2015
J Holscher	28 March 2015
R Holscher	28 March 2015
M Hempel	30 March 2015
B Glover	29 March 2015
W Botha	29 March 2015
Kalbasfontein/Kromdraai CPF (W Botha)	29 March 2015
J Botha	29 March 2015
L Breedt	29 March 2015
J Breedt	29 March 2015
J Breedt	29 March 2015
RW Robinson	29 March 2015
D Botha	28 March 2015
J Botha	28 March 2015
D Botha	28 March 2015
E Botha	28 March 2015
E Breedt	29 March 2015
E Blignaut	30 March 2015
E Jurgenson	30 March 2015
D Jurgenson	30 March 2015
JJD Nel	7 April 2015
MJ Jacobs	1 April 2015
H Jacobs	1 April 2015
RAR da Silva	3 April 2015
MH Jansen	30 March 2015
MM Jansen	30 March 2015
W Henning	7 April 2015
S Henning	7 April 2015
H Henning	13 April 2015
A Henning	30 March 2015
J Dreyer	30 March 2015
C Pearson	7 April 2015
H Venter	7 April 2015
J Venter	7 April 2015
D Pearson	7 April 2015
C Pearson	7 April 2015

- ◆ E-mail from CSES (dated: 24 March 2015) to the Secretary, Sector 1 CPF Kalbasfontein/Kromdraai (Mrs. SW Botha).
- ◆ E-mail from CSES (dated: 26 March 2015) to the representative of Jackaroo Park (Mrs. H Jacobs).
- ◆ E-mail from CSES (dated: 23 March 2015) to Witbank Brickworks.
- ◆ E-mail from CSES (dated: 26 March 2015) to Witbank Brickworks (Mr. W van Deventer).
- ◆ E-mail from CSES (dated: 3 March 2015) to: T Botha, BHP-Mine Closure (Ingwe Surface Holdings - P Lombard) and C Snell (Plot 36, Kromdraai).

APPENDIX 10:

CONSULTATION WITH THE MNS COMMUNITY

- ◆ Article regarding the MNS Community placed in the Witbank News on 28 February 2014.
- ◆ Agenda and attendance register of Committee meeting - 13 February 2015.
- ◆ Attendance register of Ward 12 Committee meeting - 17 February 2015.
- ◆ Confirmation letter regarding the MNS Community meeting - 23 February 2015.

APPENDIX 11:

INYANDA STAKEHOLDER FORUM

- ◆ Extract of minutes of meeting - 23 October 2014.
- ◆ Extract of minutes of meeting - 12 March 2015.