

THE PROPOSED HOUSING DEVELOPMENT ON FARM UITKOMS NO. 463, PORTION 1, KURUMAN RD, KATHU, NORTHERN CAPE

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

EXECUTIVE SUMMARY



D:E&NC reference number: NC/EIA/09/JTG/GAM/KAT1/2014

JUNE 2017

SISHEN IRON ORE COMPANY (PTY) LTD

**PROPOSED HOUSING DEVELOPMENT ON FARM UITKOMS NO.
463, PORTION 1, KURUMAN RD
Kathu, Northern Cape**

D:E&NC Ref No.: NC/EIA/09/JTG/GAM/KAT1/2014

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EXECUTIVE SUMMARY

Introduction

Consideration is being given to the construction of a housing development, and associated infrastructure, on Portion 1 of the Farm Uitkoms No. 463, Kuruman RD., Kathu, Northern Cape. It is estimated that up to 172 properties will be developed, which includes 163 residential properties, open spaces, roads and associated infrastructure.

The applicant is Sishen Iron Ore Company (Pty) Ltd who will undertake the activity should it be approved. EnviroAfrica CC has been appointed as the independent environmental assessment practitioner (EAP) responsible for undertaking the relevant EIA and the Public Participation Process required in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA).

The Final Scoping Report and Plan of Study for EIA were submitted to the Department of Environment and Nature Conservation (DENC). The Scoping Report and Plan of Study for EIA were approved by DENC on the 23 August 2016 and EnviroAfrica were advised to proceed with the EIA process (**Appendix 1B**).

Environmental Requirements

The National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant authorities based on the findings of an environmental assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in the Northern Cape to the Department of Environment and Nature Conservation (DE&NC).

On the 18 June 2010 the Minister of Water and Environmental Affairs promulgated regulations in terms of Chapter 5 of the NEMA, namely the EIA Regulations 2010 (GN No. R. 543, R. 544 (Listing Notice 1), R. 545 (Listing Notice 2), R. 546 (Listing Notice 3) and R. 547 in Government Gazette No. 33306 of 18 June 2010). These regulations came into effect on the 2 August 2010. Listing Notice 1 and 3 are for a Basic Assessment and Listing Notice 2 for a full Environmental Impact Assessment.

According to the regulations of Section 24(5) of NEMA, authorisation is required for the following listed activities for the proposed housing development on Farm Uitkoms:

Government Notice R544 (Listing Notice 1) listed activities:

- 9** The **construction** of facilities or infrastructure exceeding 1000 meters in length for the bulk transportation of water, sewage or storm water –
- (i) With internal diameter of 0.36 meters or more; or
 - (ii) With a peak throughput of 120 liters per second or more,
- 22** The **construction** of a road, outside urban areas,
- (i) With a reserve wider than 13,5 meters or,
 - (ii) Where no reserve exists where the road is wider than 8 meters, or
 - (iii) For which an environmental authorization was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.

Government Notice R545 (Listing notice 2) listed activities:

- 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:

Government Notice R546 (Listing notice 3) listed activities:

- 4** The **construction** of a road wider than 4 metres with a reserve less than 13.5 metres.
- 13** The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation

In terms of the NEMA EIA Regulations 2014, and the Transitional Arrangements in Regulation 53 of GN No. R 326 of 07 April 2017, it must be noted that the following listed activities will be triggered:

Government Notice R327 (Listing Notice 1) listed activities:

- 24:** The development of;
- (i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or
 - (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;**

but excluding;

- (a) which are identified and included in activity 27 in Listing Notice 2 of 2014; or
 - (b) where the entire road falls within an urban area.
 - (c) which is 1 kilometer or shorter
- 27:** The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for;
- (i) the undertaking of a linear activity; or
 - (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Government Notice R325 (Listing Notice 2) listed activities:

- 15:** The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for;
- (i) the undertaking of a linear activity; or
 - (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Government Notice R324 (Listing Notice 3) listed activities:

- 12:** The clearance of an area of 300 square metres or more of **indigenous vegetation** except where such clearance of vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.

Need and Desirability

Currently, there is a significant housing need in Kathu, due to the population growth and mining activities in the town. The Applicant, as a major housing supplier in Kathu, has considered the development in-line with their need estimations in-line with the current expansion plans of the mine.

According to the Socio-economic Impact Assessment (**Appendix 6D**), the Gamagara Local Municipality Spatial Development Framework (SDF) notes that Kathu is the largest urban centre within Gamagara Municipality. The town is still expanding, and is expected to persist in its growth, as the mining operations continue to expand and intensify. Kathu can therefore be viewed as the Primary Urban Node within the Gamagara Municipality and should be considered the preferred growth point in the area.

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The site is located in close proximity to major transport arteries, including the N14, and has direct access from Frikkie Meyer Street. No constraints with regards to accessibility have therefore been identified. The Traffic Impact Assessment concluded that the development will not have a noticeable impact on any of the analysed intersections, although some improvements are required at the relevant intersections.

The site is also relatively near the mine, as well as other employment opportunities such as commercial developments and malls. According to the Socio-economic Impact Assessment (**Appendix 6D**), the proposed Uitkoms Residential Development is located in close proximity to the business node that is associated with the Kameeldoring and Heritage Square shopping centres located near the intersection with the N14 to the north east of Kathu's original CBD.

The development is located within the urban edge of Kathu, and can therefore also be considered to be infill development. Infill planning are contemporary principles to promote integration and to ensure optimum utilisation of available land. The desirability of the proposed development is further founded on the principle that it will ensure feasible residential development that could effectively be linked to the existing services infrastructure.

Although the site is classified for "Sports and Recreation" in the Kathu Spatial Development Framework (**Appendix 5**), the existing Kathu Equestrian Club will remain and the proposed development layout and theme will be integrated into the equestrian club.

The site is also bound by a low density residential development with a sport characteristic (golf club) to the west, and a medium density residential development to the south-east.

The overall character of the area will be maintained and the use proposal of the Kathu Spatial Development Framework will be maintained.

Site Description

The site of the proposed development is located on Farm Uitkoms No. 463, Portion 1, Kuruman RD, Kathu in the Northern Cape.

The property is located to the north-east of the town of Kathu, west of the Sishen Golf and Country Club. The site is bordered by the N14 to the east, and Frikkie Meyer Street to the south, with access to the site from Frikkie Meyer Street.

The site coordinates of the property boundary are as follows:

- Point 1 - S 27° 40' 32.84", E23° 03' 45.20".
- Point 2 - S 27° 40' 28.24", E23° 03' 55.09".
- Point 3 - S 27° 40' 56.53", E23° 04' 16.64".
- Point 4 - S 27° 40' 56.53", E23° 04' 24.18".
- Point 5 - S 27° 41' 03.99", E23° 04' 24.25".
- Point 6 - S 27° 41' 27.49", E23° 04' 03.82".
- Point 7 - S 27° 41' 26.40", E23° 03' 46.67".
- Point 8 - S 27° 41' 14.82", E23° 03' 59.06".

The proposed development is adjacent to the declared Kathu Forest, and as such, Camelthorns Trees are common. Please also refer to Figure 5 above and Figure 6 below. Parts of the Kathu Forest are within the proposed property; however, these areas have been excluded from the development footprint.

From the vegetation map (Figure 7 - SANBI BGIS), the site is located within the Kathu Bushveld, which is characterised by a medium-tall tree layer with *Acacia erioloba* in places, but mostly open and including *Boscia albitrunca* as the prominent trees

According to the National list of ecosystems that are threatened and in need of protection (GN. 1002 of 9 Dec. 2011), this vegetation type is classified as Least Threatened. However, the Camelthorn (*Acacia erioloba*) is a protected tree in terms of the National Forest Act of 1998.

No above ground freshwater resources were found or identified on the site. No vegetation associated with freshwater ecosystems were identified on the site.

According to the Heritage Impact Assessment (**Appendix 6B**), limited numbers of ESA, MSA and LSA lithics of low (Grade 3C) significance were recorded across the proposed development site.

An extremely high density of Acheulean ESA implements, comprising mainly large and smaller modified and unmodified flakes, large angular and flaked chunks, occasional retouched/utilized blades, round cores and incomplete bifaces (handaxes), in fine grained ironstone were recorded in the south western corner of the site alongside Frikkie Meyer Street.

No visible graves or typical grave markers were observed on the proposed development site. There are no old buildings, structures or historical features that will be impacted by the proposed development. Piles of (modern) building rubble from several ancillary buildings occur in the south-eastern portion of the property, close to the Kathu Horse Club obstacle course.

According to the Palaeontological Impact Assessment (**Appendix 6C**), a very important fossil assemblage of Pleistocene to Holocene mammal remains is recorded from unconsolidated doline (solution hollow) sediments at the well-known Kathu Pan site, located some 5.5 km northwest of Kathu. There are at present no obvious indications of comparable fossiliferous, tool-bearing solution hollow infills exposed at present within the study area but such sediments might conceivably be present but hidden beneath cover sands and calcretes along the Vlermuisleegte drainage line that runs along the north-eastern edge of the present study area. However, according to the proposed layout for the Uitkoms housing development, this potentially sensitive zone is unlikely to be directly impacted by the proposed development.

Existing information indicates that the Uitkoms site is underlain by Banded Iron Formation at shallow (10m or less) and to great depth (in excess of 142m). The site is located in the area not impacted by large scale groundwater abstraction. The site is not judged to be on dolomite land.

Alternatives

Alternative 1:

Alternative 1 (**Appendix 2A**) is the first concept layout proposed. This layout included 450 erven, which included:

- 438 residential properties (Residential Zone I)
- 2 residential properties (Residential Zone II)
- 8 Open Space I properties
- 1 Institutional Zone I property
- Public Streets (Transport Zone II)

This alternative is considered a viable option as it provides a sufficient number of housing opportunities, and importantly, has taken the sensitive archaeological area to the south-west of the site, and the protected Kathu Forest into account.

Alternative 2:

Alternative 2 (**Appendix 2B**) is the second concept layout proposed. This layout included 440 erven, which included:

- 416 residential properties (Residential Zone I)
- 2 residential properties (Residential Zone II)
- 20 Open Space I properties
- 1 Institutional Zone I property
- Public Streets (Transport Zone II)

This alternative is also considered a viable option, and as with Alternative 2 above, it provides a sufficient number of housing opportunities, and importantly, has taken the sensitive archaeological area to the south-west of the site, and the protected Kathu Forest and some of thick stands of Camelthorn Trees into account. Compared to Alternative 1, it provides more Open Spaces, and allowing for more natural vegetation and potentially more Camelthorn trees to be protected.

However, it is not preferred, as this layout (as well as Alternative 1) covered too much of the natural vegetation in the area. The area is also used by the horses at the Kathu Equestrian Club for grazing. It was then decided to include the majority of the area in the recreational zoning which includes the equestrian club.

Alternative 3 (Preferred alternative):

Alternative 3 (**Appendix 2C**) is the final concept layout proposed during the Scoping Phase. This layout included 172 erven, which included:

- 163 residential properties (Residential Zone I)
- 1 residential properties (Residential Zone II)
- Open Space I (Park) properties
- 1 Open Space II (Recreation) properties
- Open Space III (Conservation) properties
- 1 Institutional I (Worship) property
- Public Streets (Transport Zone II)

This alternative is also considered as a viable option, and is the Applicants preferred layout. Although it does not provide as many housing opportunities as Alternatives 1 and 2, it conforms more to the low-density development envisaged.

It importantly has still taken the sensitive archaeological area to the south-west of the site, and the protected Kathu Forest and some of thick stands of Camelthorn Trees into account, but has more land included in the Open Space Zone II units, therefore limiting development in those areas, and minimizing the natural vegetation disturbance as well as potential disturbance on Camelthorn Trees.

Open Space zoning will account for 78% of the property.

Final placement of the buildings on the Residential I and II properties will be done taking any Camelthorn trees into account, to avoid damaging or having to remove them.

No-Go Alternative:

This is the option of not developing the proposed residential development.

Currently no Agricultural activities are taking place on this site although it is zoned as Agricultural Zone I. However, the site is located adjacent to established residential developments.

Although the no-go development might result in no potential negative environmental impacts, especially on the vegetation on the development site, the direct and indirect socio-economic benefits of not constructing the residential development will not be realised. The need for additional housing opportunities in Kathu will not be realised.

According to the Socio-economic Impact Assessment (**Appendix 6D**), the no-development alternative would result in a lost opportunity for Sishen Iron Ore to provide quality accommodation required to attract well qualified, senior employees. The no-development option would also result in a lost opportunity for Sishen Iron Ore employees to purchase houses at a discounted price. The employment and business opportunities associated with the construction and operational phase would also be forgone, as would the rates and taxes generated for the Gamagara Local Municipality. The no-development option is therefore not supported.

According to the Botanical Impact Assessment (**Appendix 6A**), in the case of the 'No Go' option the residential development would not be pursued and the *status quo* would persist. The vegetation would remain much as it is. The No-Go alternative would result in a **Low negative** impact; it cannot be **Neutral** because there is a low to medium level of negative impact due to the equestrian use of the property and the grazing of horses.

Tasks to be undertaken during the EIA Phase

The following tasks must still be undertaken during the EIA phase of the process:

- Compile Draft Environmental Impact Report (EIR) for public comment based on specialist information
- Distribute and/or make the Draft EIR available to registered Interested and Affected Parties for viewing and comment
- Receive comments on Draft EIR. All comments received and responses to the comments will be incorporated into the Final Environmental Impact Report (EIR).
- Preparation of a FINAL EIR for submission to DENC for consideration and decision-making.

Specialist Studies

The following specialist studies were undertaken as part of this Environmental Impact Assessment:

- Botanical Impact Assessment
- Heritage Impact Assessment
- Palaeontological Impact Assessment
- Socio-economic Impact Assessment
- Geo-technical Assessment
- Traffic Impact Assessment

Conclusion

The specialist studies and the information provided within the EIA Report, indicates that the proposed Uitkoms Housing development does not pose any significant impacts and can be implemented with appropriate mitigation.

In terms of the need and desirability of the proposed residential development, there is currently a significant housing need in Kathu, due to the population growth and mining activities in the town. The Applicant, as a major housing supplier in Kathu, has considered the development in-line with their need estimations in-line with the current expansion plans of the mine.

According to the Socio-economic Impact Assessment, the SDF notes that the town is expected to experience significant growth over the next few years due to the expansion of the mining sector in the area. However, due to the decrease in the price of iron ore there is likely to be a delay in this future growth.

The proposed Uitkoms Residential Development is located within the urban edge as identified in the Gamagara Local Municipality SDF. The site has therefore been identified as suitable for development.

The area is thus deemed to be ideally situated within the local context for the envisaged housing project. The criteria that determined the desirability of the applicable location are based on the principles of integration by means of infill planning and the optimum utilisation of available land and resources, availability of bulk services, accessibility and proximity of employment opportunities.

In terms of alternatives, **Alternative 3** is the preferred alternative. This alternative is also considered as a viable option, and is the Applicants preferred layout. Although it does not provide as many housing opportunities as Alternatives 1 and 2, it conforms more to the low-density development envisaged.

It importantly has still taken the sensitive archaeological area to the south-west of the site, and the protected Kathu Forest and some of thick stands of Camelthorn Trees into account, but has more land included in the Open Space Zone II units, therefore limiting development in those areas, and minimizing the natural vegetation disturbance as well as potential disturbance on Camelthorn Trees. Open Space zoning will account for 78% of the property.

The “no-go” option, which is the option of not developing the proposed housing development on the property. Although the no-go development might result in no potential negative environmental impacts, especially on the vegetation on the development site, the direct and indirect socio-economic benefits of not constructing the residential development will not be realised. The need for additional housing opportunities in Kathu will not be realised.

According to the Socio-economic Impact Assessment, the no-development alternative would result in a lost opportunity for Sishen Iron Ore to provide quality accommodation required to attract well qualified, senior employees. The no-development option would also result in a lost opportunity for Sishen Iron Ore employees to purchase houses at a discounted price. The employment and business opportunities associated with the construction and operational phase would also be forgone, as would the rates and taxes generated for the Gamagara Local Municipality. The no-development option is therefore not supported.

According to the Botanical Impact Assessment, in the case of the ‘No Go’ option the residential development would not be pursued and the *status quo* would persist. The vegetation would remain much as it is. The No-Go alternative would result in a **Low negative** impact; it cannot be **Neutral** because there is a low to medium level of negative impact due to the equestrian use of the property and the grazing of horses.

According to the Botanical Impact Assessment, the Kathu Bushveld in the Uitkoms study area is Least Threatened and although there would be local loss of intact natural veld due to the proposed development, the housing development is supported without major constraints or need for cumbersome mitigation measures. The only mitigation measures recommended are firstly the planting of *Acacia erioloba* trees in ‘green spaces’ to compensate for any lost to the development and construction of houses and secondly, the ‘Search & Rescue’ of *Boophone disticha* (gifbol) plants that can be planted in the conservation area or any other area not earmarked for housing.

The *Acacia erioloba* (camelthorn) trees should be observed as a protected tree species. A permit would be required for any disturbance of these trees. A permit from the Department of Environment and Nature Conservation, Northern Cape Province would be required for the destruction of any natural vegetation.

According to the Socio-economic Impact Assessment, the proposed Uitkoms Residential Development is located inside the Kathu Urban Edge and therefore complies with and is supported by the local land use planning proposals for the area. The construction and operational phase of the proposed development will create a number of positive socio-economic benefits for the local community and the area as a whole. The development will also enable Sishen Iron Ore to provide quality accommodation required to attract well qualified, senior employees. The establishment of Alternative 3 of the proposed Uitkoms Residential Development is therefore supported by the findings of the SIA.

The findings of the SIA also indicate that the socio-economic benefits associated with the proposed development outweigh the negative impacts. All of the negative impacts can also be effectively mitigated. It is therefore recommended that Alternative 3 of the proposed Uitkoms Residential Development be supported, subject to the implementation of

According to the Heritage Impact Assessment, the proposed housing development will not have an impact of great significance on archaeological resources.

According to the Palaeontological Impact Assessment, the overall impact significance of the proposed Uitkoms housing development on palaeontological heritage resources is rated as LOW. Likewise, cumulative impacts are likely to be of LOW significance, given the scarcity of important fossils within the sedimentary rock units concerned as well as the huge outcrop area of the Kalahari Group as a whole. Due to the inferred low impact significance of the proposed housing development, as far as fossil heritage resources are concerned, no further specialist palaeontological studies or monitoring are recommended at this stage.

The Geo-technical Assessment found no limiting conditions of the site and is suitable to support the proposed structures with recommendations for foundations.

The Traffic Impact Assessment found that the development would not have a noticeable impact on any of the analysed intersections, but with normal traffic growth, some improvements are required at the relevant intersections.

Considering all the information, it is not envisaged that this proposed Uitkoms residential development will have a significant negative impact on the environment, and the socio-economic benefits are expected to greatly outweigh any negative impacts.

It is therefore recommended that the proposed Uitkoms Development (**Alternative 3**) be supported and be authorised with the necessary conditions of approval, subject to the implementation of the recommended enhancement and mitigation measures contained in Section 12.