



DRAFT REPORT

GOLDEN MOLE MALL DEVELOPMENT

AMENDMENT IMPACT ASSESSMENT REPORT (DRAFT)

20-1104-SPS (GOLDEN MOLE MALL) PORTION 218 AND 220 OF THE FARM
TWEEFONTEIN 372JR




GDARD REF NR: GAUT 002/21-22/E0059

2 December 2021

VERSION CC



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DECLARATION OF INDEPENDENCE

I, Jane Mahaba, declare that;

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing:
 - o any decision to be taken with respect to the application by the competent authority; and
 - o the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



02/12/2021

Signature

Ms. Jane Mahaba

BSc Animal Plan and Environmental Sciences

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Cert.Sci.Nat 119631

Date



EXECUTIVE SUMMARY

BACKGROUND

Eco Elementum (Pty) Ltd as independent Environmental Assessment Practitioners (EAPs) have been requested by the client Cumamor (Pty) Ltd to evaluate the associated positive impacts and possible management/mitigation measures to lessen potential negative impacts, relating to the further extension of the approved Leoprop (Pty) Ltd Development on Portion 220 of the Farm Tweefontein 372JR in Pretoria East to the adjacent bordering property.

Leoprop (Pty) Ltd has been granted authorisation by the Gauteng Department of Agriculture and Rural Development (GDARD) on the 22nd of July 2014 with reference GAUT 002/10-11/E0082 for the application for environmental authorisation for the proposed township establishment: Leoprop on portion 220 of the farm Tweefontein 372JR, situated towards the east of Pretoria with the main access road to the development from the Struben / Graham Road (Lynnwood Road Extension) intersection. The authorisation has subsequently been extended for a further 5 years on the 9th of April 2018.

The current intention is to amend the details of the holder of Environmental Authorisation from Leoprop to Cumacor is to extend the approved shopping centre complex across the neighbouring property which has recently been acquired by the Cumacor but not covered under the current Environmental Authorisation.

POTENTIAL IMPACT SUMMARY

Impact	Phase	Category Rating				
		±	Significance without mitigation	±	Mitigation	Significance with mitigation
Heritage						
Demolition of Structures on site including two houses	Construction and Operation	Negative	Low	Negative	0,2	Low
Biodiversity						
Loss of Indigenous Vegetation due to alien invasive plant species outcompeting established vegetation.	Construction and Operation	Negative	Low	Negative	0,6	Low
Sedimentation and Erosion due to increased runoff	Construction Phase	Negative	Low	Negative	0,6	Low
Disturbance of Faunal Species due to vegetation clearance	Construction and Operation	Negative	Low-Med	Negative	0,6	Low
Golden Mole						
Habitat Destruction	Construction	Negative	Med	Negative	0,4	Low-Med
Habitat and movement limitation	Operation	Negative	Med	Negative	0,4	Low-Med
Social Economic						
Continued Economic input (Positive Impact) enlarging the area creates space for more shops, which provide additional job opportunities	Operation	Positive	Med-High	Positive	1	Med-High
Health and Safety concern	Operation	Negative	Med	Negative	0,6	Low-Med

CONCLUSION / RECOMMENDATION



Based on the impact assessment ; It is therefore the opinion of the EAP that the potential positive impacts related to the inclusion of the Phase 2 area would be to the benefit of the current approved conservation planning and enhance the protection status of the species as a whole whilst also contributing to the region from a socio-economic perspective. In order for the development to maintain low significance rating of impacts the following recommendations are proposed to be included in the Environmental Authorisation.

- Adhere to the conditions of the EMPr and the Specialist Recommendations
- Both the Environmental Management Plan and Ecological Management Plan should be signed by the developer, brought under the attention of all contractors and signed by all parties involved to ensure the commitment is formalised as the two aforementioned documents become legally binding.
- Appoint an Independent Environmental Control Officer
- Appoint an Ecological Specialist as soon as operations commence to implement the requirements of the Recommendations of Juliana's Golden Mole Study.
- During the site clearance, all tree stumps in the conservation area must be left to support the existing ecological habitat and increase insectivorous activity which in turn provide food to the golden moles
- Develop a detailed Storm water management plan to include both Portion 218 and 220 of the farm Tweefontein 372 JR



INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

The Environmental Impact Assessment (EIA) Regulations, promulgated in terms of the National Environmental Management Act (NEMA, Act no. 107 of 1998 as amended) dated 8th of December 2014, were amended on the 7th of April 2017. In terms of Section 32 of Chapter 5 of the EIA Regulations (2014 and subsequent 2017 amendments), an Amendment Report must accompany the application made in terms of Section 31 and must include –

CONTENTS OF THE PART 2 AMENDMENT REPORT	Section
32 (1) The applicant must within 90 days of receipt by the competent authority CHAPTER of the application made in terms of regulation 31, submit to the competent authority – (a) A report, reflecting –	
An assessment of all impacts related to the proposed change;	Section 6
Advantages and disadvantages associated with the proposed change;	Section 7
Measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and	Section 6
Any changes to the EMP	Section 3.3
Which report – aa. Had been subjected to a Public Participation Process (PPP), which had been agreed to by the competent authority, and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority, and	Section 4
bb. Reflects the incorporation of comments received, including any comments of the competent authority; or	Section 4
(b) A notification in writing that the report will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the report, which changes, or information was not contained in the report consulted on during the initial PPP contemplated in sub-regulation (1) (a) and that the revised report will be subjected to another PPP of at least 30 days.	N/A
32 (2) In the event where sub-regulation (1) (b) applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.	N/A



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1. BACKGROUND AND INTRODUCTION

Eco Elementum (Pty) Ltd as independent Environmental Assessment Practitioners (EAPs) have been requested by the client Cumamor (Pty) Ltd to evaluate the associated positive impacts and possible management/mitigation measures to lessen potential negative impacts, relating to the further extension of the approved Leoprop (Pty) Ltd Development on Portion 220 of the Farm Tweefontein 372JR in Pretoria East to the adjacent bordering property.

Leoprop (Pty) Ltd has been granted authorisation by the Gauteng Department of Agriculture and Rural Development (GDARD) on the 22nd of July 2014 with reference GAUT 002/10-11/E0082 for the application for environmental authorisation for a township establishment: Leoprop on portion 220 of the farm Tweefontein 372JR, situated towards the east of Pretoria with the main access road to the development from the Struben / Graham Road (Lynnwood Road Extension) intersection. The authorisation has subsequently been extended for a further 5 years on the 9th of April 2018.

The current intention is to amend the details of the holder of Environmental Authorisation from Leoprop to Cumacor is to extend the approved shopping centre complex across the neighbouring property which has recently been acquired by the Cumacor but not covered under the current Environmental Authorisation.

The current Environmental Authorisation is for mixed-use development of 7 169 square metres and will consist of :

- 313 parking bays
- 4 work bays
- Supermarket 1 318 square metres
- Shops x 4
- Restaurant x 3
- New showroom and service area 2 483 square metres
- Retail x 2
- Covered seating area x 2

In addition to the development a Mole conservation area of 6 126.78 square metres will be created.

1.1 SITE LOCALITY

The Authorised site is located on portion 220 of the farm Tweefontein 372JR. The proposed addition to the extent of the site is the adjacent property portion 218 Tweefontein 372 JR , located on the corner of Struben and Lynnwood road.



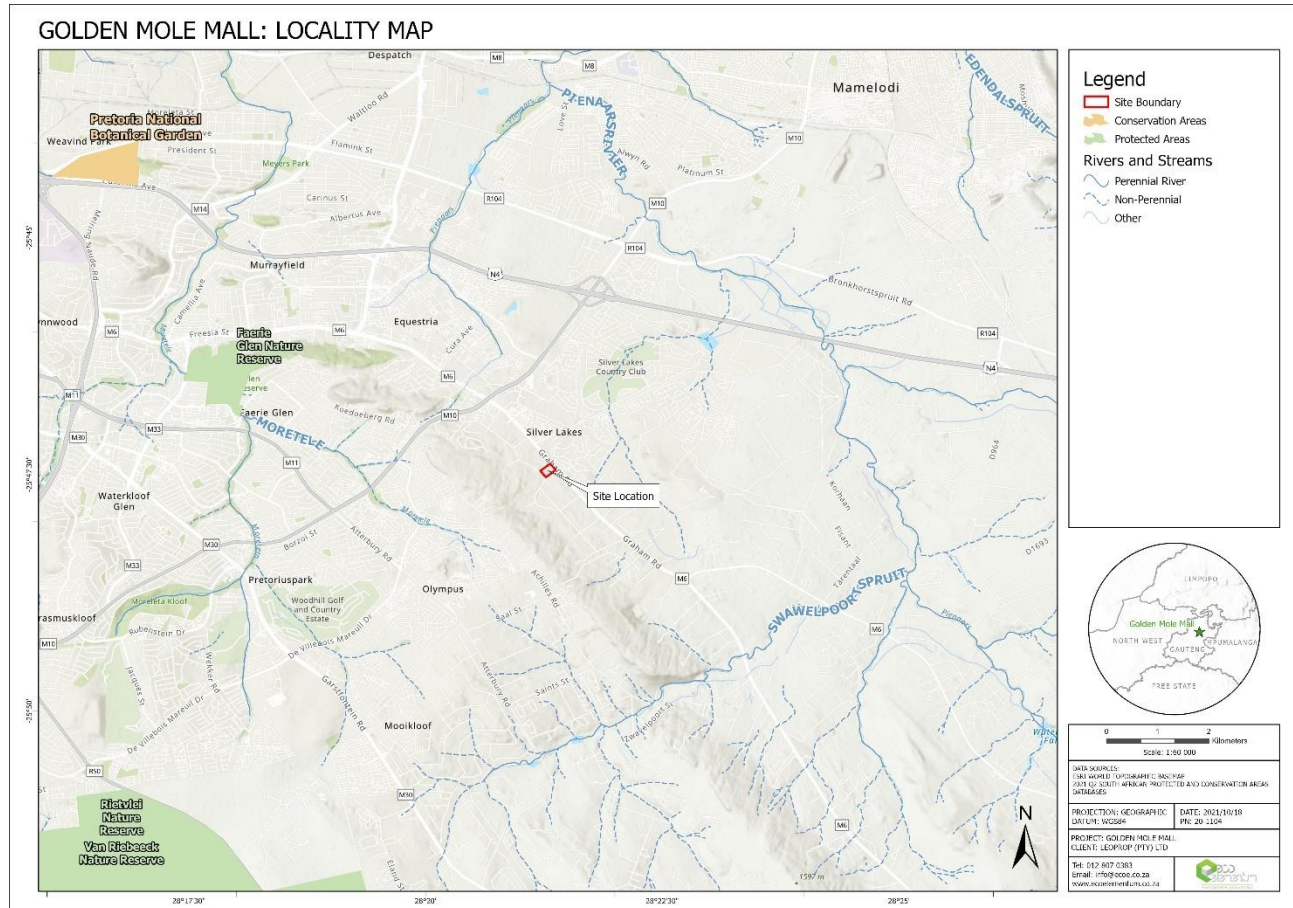


Figure 1-1: Locality Map

2. PROPOSED AMENDMENTS

2.1 PART 1 AMENDMENT

Leoprop Pty Ltd has sold the site and all the rights and authorisation on the property. Leoprop requests that the Department amend the Environmental Authorisation Holders details to the new owner, with the following details.

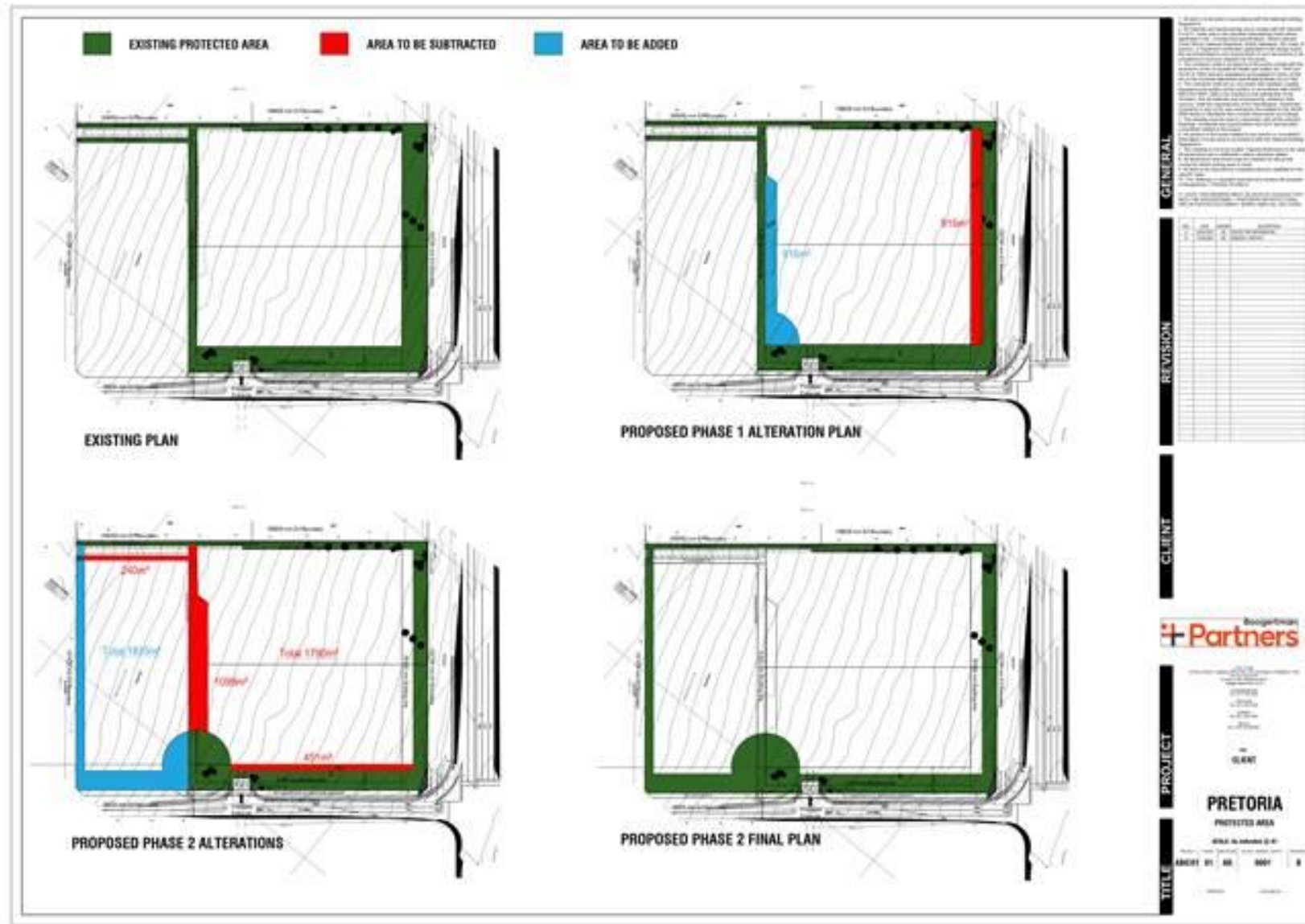
Table 2-1: Holder of the Authorisation

Current	Proposed Change
Leoprop (Pty) Ltd Address : P. O Box 12356, Hatfield 0028 Contact Person : Marius du Preez Tel : 012 663 4050 Email : marius@leohaese.co.za	Cumacor Investments (Pty) Ltd Address: 07 Avocet Corner, Hazeldean Office Park, Silverlakes, Pretoria 0081 Contact Person: Crystal van der Burgh Tel: 064 758 0587 Cell : 072 416 4350 Email: crystal@cumacor.co.za

2.2 AMENDMENT PART 2

The current intention is to extend the approved shopping centre complex across the neighbouring property which has recently been acquired by the client but not covered under the current Environmental Authorisation. The amendment will result in the changes in the layout of the shopping mall development. With the addition of the adjacent property the Golden Mole Conservation Corridor will also increase in extent (Figure 2-1)





Eco Elementum (Pty) Ltd | Office number: 012 807 0383 | Website: www.ecoe.co.za | Email: info@ecoe.co.za

Table 2-2: Proposed Amendments to the EA

Item	Current Authorised	Proposed Amendment	Reason
Property (Locality)	Portion 220 of the farm Tweefontein 372JR.	The inclusion of the adjacent property portion 218 Tweefontein 372 JR	Extension of the mall development and the conservation area.
Extent of the Site	Portion 220 is 2.4 ha in extent.	The total extent of the proposed development 4,29.	Addition of the 1.89 ha adjacent property to form part of the total development, making the proposed mall large and able to accommodate more shops which will increase the socio-economic impact of the development. The large area also allowed for an additional access to the site through Catherine Avenue, which provides for easier access and traffic management into the development.
Mole conservation area	Mole conservation area of 6 126.78 square metres)	Mole Conservation 6540 square metres and an additional green area of 1828 square metres	With the addition of Portion 218, the conservation area for Juliana's Golden Mole by 413,22 square metres
Development Details	7 169 square metres and will consist of : 313 parking bays 4 work bays Supermarket 1 318 square metres Shops x 4 Restaurant x 3 New showroom and service area 2 483 square metres Retail x 2 Covered seating area x 2	8951 square metres made up of two levels and will consist of : 700 parking bays (including taxi Bays) 4 work bays Shops x 25 (Including two supermarkets) Restaurants x15 Play Area Car wash	With the additional area allows for a less compacted type of development, making it easy and convenient for shoppers. This will likely draw people to the development. With the addition of Portion 218 more shops have been added which directly influence the amount of direct and indirect employment opportunities.



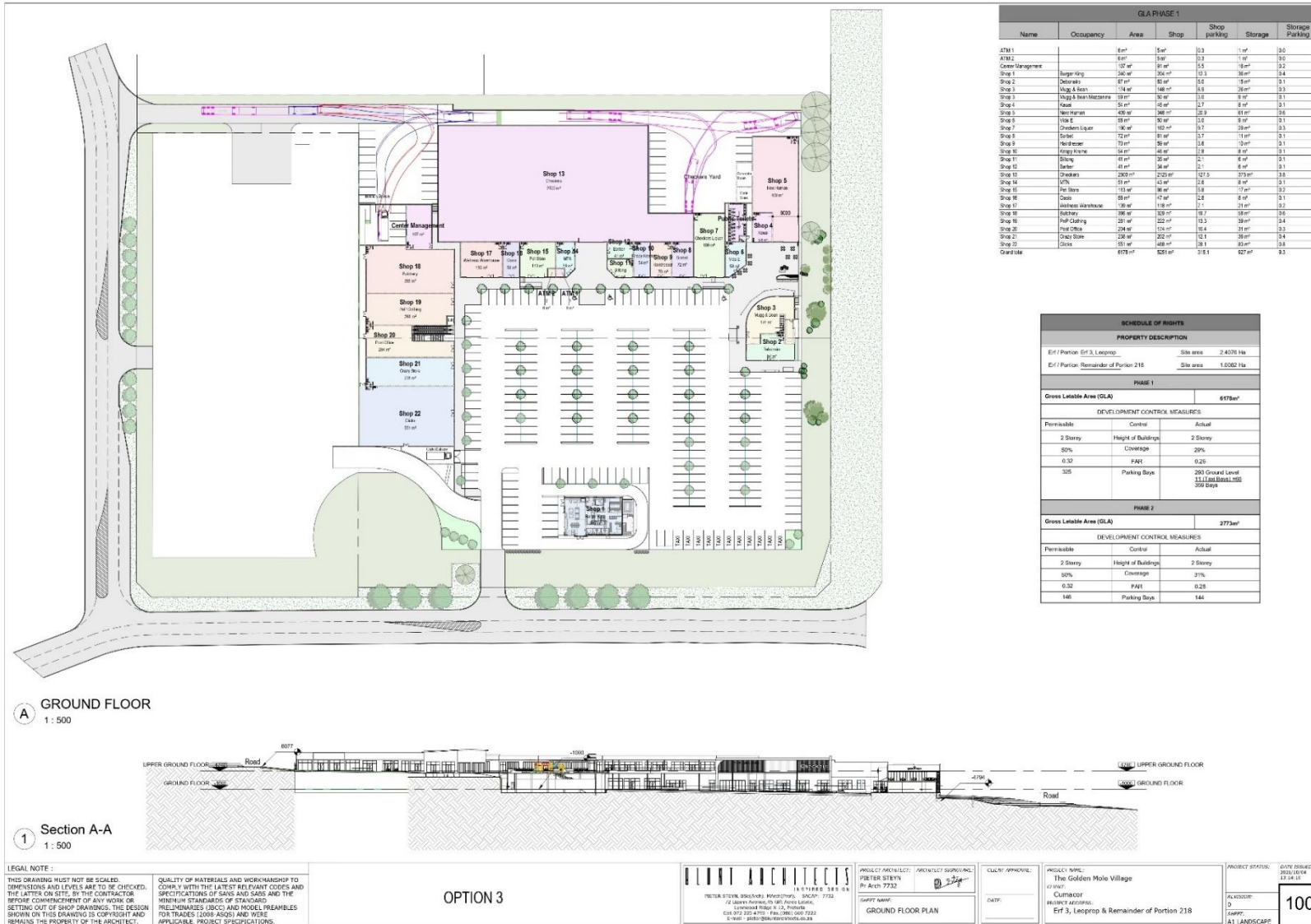


Figure 2-2: Detailed Layout (Ground floor)



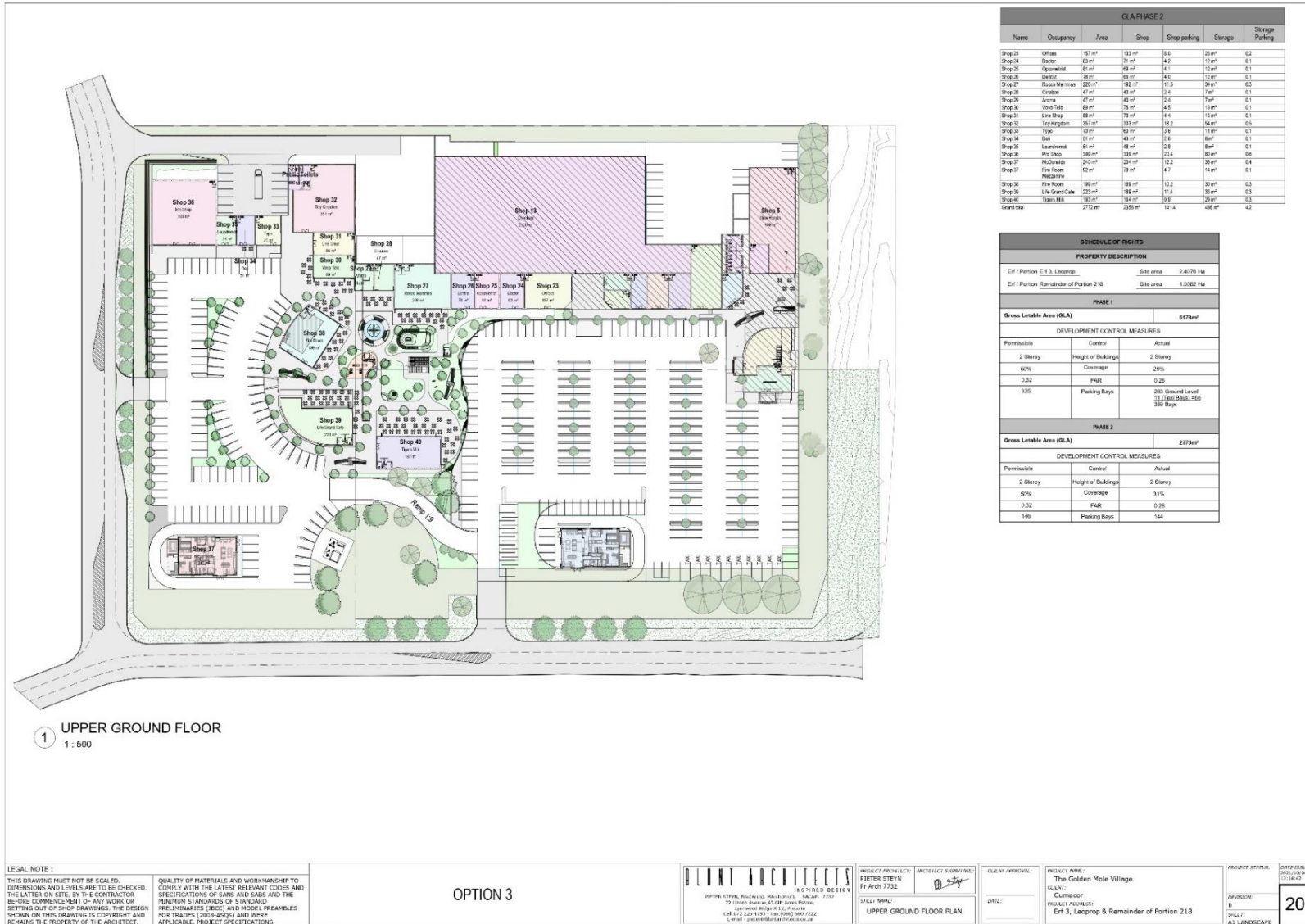


Figure 2-3: Detailed Layout (Upper Ground floor view)



2.2.1 Authorised Listed Activities

In the initial authorisation, the activities approved in terms of

Table 2-3: GNR 544 2010 EIA Regulations

Notice and No.	Activity No	Activity No
GNR 544 (Listing Notice 1	9 ((i)	The construction of facilities or infrastructure exceeding. 1 000 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
GNR 544 (Listing Notice 1	10 (ii)	The construction of facilities or infrastructure for the transmission and distribution of electricity – (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.

2.2.2 Changes to listed activities (201 vs 2014)

Table 2-4 Current and proposed listed activities

2010	2014
GNR 544 (Listing Notice 1 9 ((i) The construction of facilities or infrastructure exceeding. 1 000 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	GNR 327 (Listing Notice 1) 9 (i) The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of 0,36 metres or more; or
GNR 544 (Listing Notice 1 10 (ii) The construction of facilities or infrastructure for the transmission and distribution of electricity – (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.	GNR 327 11 (ii) The development of facilities or infrastructure for the transmission and distribution of electricity- (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more
No activity for clearance of vegetation.	GNR 327 (Listing Notice 1) 27 The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.

2.3 AMENDMENTS TO EMP

The EMPr has been amended to be in line with Appendix 4 of the NEMA EIA Regulations 2014 as amended. Refer to Appendix E for the EMPr.



3. MOTIVATION FOR AMENDMENT

3.1 AMENDMENTS TO CHANGE APPLICANT DETAILS

Cumacor Investments (Pty) Ltd has purchased the property as well as all the development from Leoprop (Pty) Ltd and therefore the amended Environmental Authorisation must also be transferred to Cumacor Investments as the new applicants/developer (See Appendix F for the proof of purchase).

3.2 AMENDMENT PART 2

The revised Conservation Area that has been planned ensures enhanced protection of the Juliana's Golden Mole habitat whilst ensuring ecological connectivity around the site, also including the now proposed Phase II extension of the Development. This enhanced connectivity is crucial to the survival of the species as it would now allow for free movement and connectivity to the larger Bronberg population which was not previously possible.

Phase 1 and Phase 2 areas are currently divided by a physical barrier in the form of a wall and foundation structure that does not allow for movement between the two areas. By removing this physical barrier and extending the conservation area around the entire proposed site adequate protection and conservation of the species can be ensured.

In addition the following list of positive impacts are associated with the Phase 2 extension;

- Development footprint
 - The Floor Area Ratio for the entire area including Phase 2 remains unchanged from the Phase 1 approvals
 - The floor area ratio is the relationship between the total amount of usable floor area that a building has, or has been permitted to have, and the total area of the property on which the building stands.
 - By including Phase 2 the entire project will be spread across a larger footprint area allowing for 'debulking' of the site and a less intensive development footprint with more green space
- Traffic
 - No additional change or impact on traffic
 - Inclusion of Phase 2 allows for better traffic flow and management
- Earthworks
 - Bulk earthworks will be less invasive with the inclusion of Phase 2 and overall better levelling of the site can be achieved with enhanced connectivity between the conservation areas
 - The initial Phase 1 approval allowed for a basement parking structure which will now be completely excluded with the addition of Phase 2
- Conservation area
 - The entire conservation area will be increased with the inclusion of Phase 2 and also now include the adjacent property which currently is not being managed to the benefit of the conservation of the species
 - The conservation area will therefore be increased, alien invasive plant species will be removed and replaced with suitable indigenous species and adequate protection status and management measures will allow for enhanced protection of the species
 - The artificial creation of additional conservation area inline with the Phase 1 approvals will ensure Phase 2 is also connected to the greater Bronberg conservation area
 - The construction of the conservation area can be completed prior to the development and by including Phase 2 the construction time period will be significantly reduced, immediately allow for free movement of the species and ensure an increased survival rate
 - A reduced construction period allows for a shorter timeframe of all construction related impacts, especially noise and vibration which would potentially disturb the species

The no-go alternative;

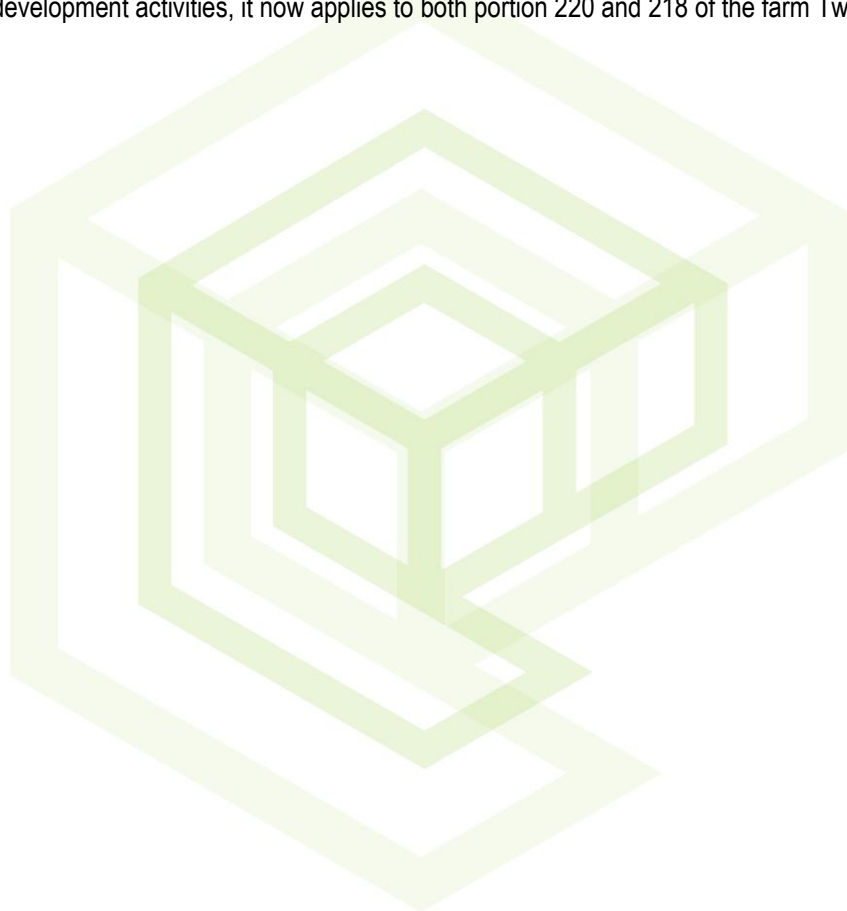


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- No increased protection and conservation of the species
- No complete and managed ecological connectivity to the larger Bronberg population due to the physical barrier wall dividing the area into two separate areas
- Current compacted soils which are not suitable habitat within the Phase 2 area would remain as-is and the species would not benefit from the artificial conservation area to be created.
- Smaller development footprint allows for less shops and parking and open areas for consumers.

3.3 AMENDMENTS TO EMPr

The approved EMP was outdated, and this was amended to ensure that it is inline with appendix 4 of NEMA EIA Regulation 2014. The EMPr is a dynamic document and where required must be updated to reflect changes to the project detail or where a condition is not applicable anymore it must be removed and/or replaced. All conditions in the previous EMPr are still relevant to the development activities, it now applies to both portion 220 and 218 of the farm Tweefontein 372JR.



4. PUBLIC PARTICIPATION

The proposed changes will have some impact of the surrounding environment, in order to ensure that all aspects of the proposed changes to the layout are assessed and managed, the following assessment methodology will be used:

A public participation process (PPP) will be conducted for 30 days. This will include notifying Interested and Affected Parties (I&APs) of the proposed changes and providing an opportunity to review the impact assessment.

4.1 NOTIFICATION

The following will be done in order to inform I&APs:

- a) notice board will be placed on site and around in visible areas
- b) written notification to a set list of I&APs via email and sms where contact details area available.
- c) a public notice placed in English in the Rekord Far East newspaper to be published on 03 December 2021

It is through this combination of mechanisms that the EAP will be able to establish the I&AP database. The application number will be included in all forms of communication with I&APs throughout the process, starting with the initial notification and Background Information Document (BID).

Details of the legal requirements pertaining to these mechanisms and additional guidance is provided below, along with insight into other options and tools, such as the BID and website upload.

4.2 PUBLIC OPEN DAY

A public open day has been arranged for 13 January 2022, all registre interested and affected parties will be rent a reminder closer to the date of the open day .

4.3 DRAFT REPORT

The Draft Assessment report and annexures will be made available to I&APs from 03 December 2021 to 23 January 2022 online on Eco Elementum's website <https://www.ecoelementum.co.za/downloads/> . The date takes into account the mandatory shutdown between 15 December 2021 and 05 January 2022This provides a very useful mechanism for the transfer of information and cuts down on the volumes of hardcopy material that is generated as I&APs can download the said documents for ease of viewing. The use of a public library is not ideal as a result of Covid-19. However, I&Aps can request an electronic copy of the report to be sent directly to them.

The report will also be made available to GDARD and the City of Tshwane in hard copy.



5. SPECIALIST OPINIONS ASSOCIATED WITH THE AMENDMENTS

5.1 ECOLOGICAL

According to the Critical Biodiversity Areas datasets provided by SANBI (2021); the entire application area does not overlap with any Ecological Important Areas as seen in Figure 5-1. The north-western area borders with a small portion of the Critical Biodiversity Area, however this is where a current plant nursery is established.

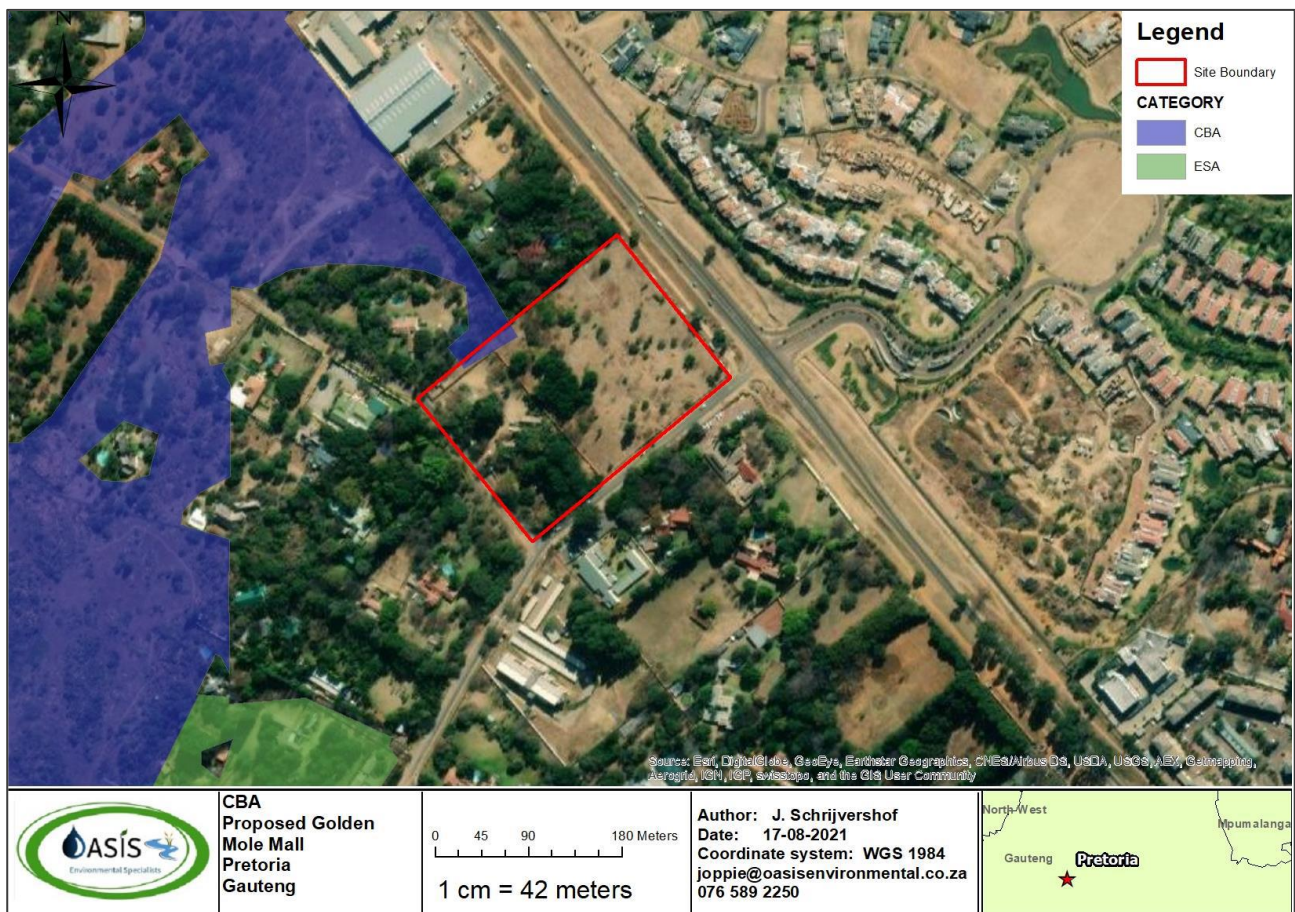


Figure 5-1: CBA Map

5.1.1 Vegetation

The majority of the study site consisted of alien vegetation within the transformed areas. The field survey was planned to include all the different habitat types and to target threatened species that may occur in the proposed project areas. Photographs of important features were taken and evaluated. No red listed flora species were identified for that specific area.

During the area survey on the 16th of August 2021, the area mainly comprised of transformed and disturbed grassland, with a very low diversity of grasses, forbs and herbaceous species as a result from anthropogenic activities. This habitat unit was overgrazed by horses limiting the identification of grass species. The trees were dominated by alien invasive Gumtree (*Eucalyptus spp.*); Yellow Elder (*Tecoma stans*); Black Wattle (*Acacia mearnsii*), Pine (*Pinus spp.*), China Berry (*Melia azedarach*) and Palm tree (*Washingtonia robusta*). Native species of plants included a Tiger aloe (*Gonialoe variegata*) and Cape-honeysuckle (*Tecoma capensis*). An avocado tree (*Persea americana*) and lemon tree (*Citrus limon*) were also observed onsite.



5.1.2 Fauna

Disturbance factors such as anthropogenic activities result in disturbances to the naturally occurring faunal species. The proposed project on site in the surrounding area, have already disturbed the local faunal population. Very few faunal species observations were made during the original site visit thus emphasis was rather placed on the desktop data in order to determine potential occurrence of species, although the species list for the 2528CD should be regarded with low confidence and the likelihood of these red listed species occurring within these areas is very unlikely.

Limited faunal species were observed during the site survey as a result of existing anthropogenic activities adjacent to the application area and included: *Bostrychia hagedash* (Hadedda Ibis), *Streptopelia senegalensis* (Laughing Dove), *Numida meleagris* (Helmeted Guinea fowl) and *Acridotheres tristis* (Indian Myna) were the only species identified. Sightings of Golden Mole species have been recorded for that specific area in the past.

A number of potential ecological impacts relating to proliferation of alien invasive species, loss of species of conservation concern, loss of indigenous vegetation, floral and faunal habitat and ecological structure, loss of floral diversity and ecological integrity. The significance of potential impacts on biodiversity within the area was rated as **a low significance with and without mitigation** as the proposed areas lies in a transformed area.

Should proposed development commence the following mitigation measures, aimed at minimising the afore-mentioned impacts, include (but are not limited to):

- Design and implementation of a suitable stormwater system;
- Construction of a conservation area;
- Rehabilitation of the disturbed areas;
- Limiting instream sedimentation; and
- Implement a programme for the clearing/eradication of alien species including long term control of such species.

5.2 HERITAGE

According to the Archaeological Impact Assessment (study conducted for the application for amendment). The eastern section of the study area is associated with contemporary building remains and rubble (Figure 5-2 – Figure 5-4), while the western section is characterised by several intact contemporary buildings that are mostly used as residences (Figure 5-5– Figure 5-7). According to historical aerial images and topographical maps, the earliest infrastructure on the demarcated study area was constructed between 1975 and 1976. Since the initial buildings, several buildings have been built and demolished.





Figure 5-2: Building remains on the eastern section of the study area.

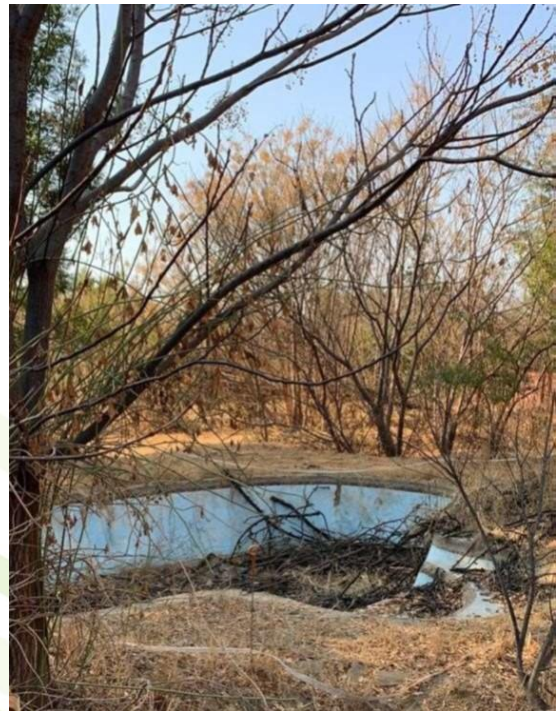


Figure 5-3: Pond on the eastern section of the study area



Figure 5-4: Building rubble on the eastern section of the study area.



Figure 5-5: Built environment associated with the western section of the study area.



Figure 5-6: Modern buildings on the western section of the study area.



Figure 5-7: Contemporary infrastructure on the western section of the study area.

No graves or burial sites were observed within the demarcated study area.

As can be seen from previous research done in the area, the general region is significant from a heritage perspective as LIA and historical sites have been identified.

On a local scale, however, no material of cultural significance was observed, and historical aerial imagery and topographical maps indicate the first infrastructure to date between 1975 and 1976. The buildings present within the demarcated portion therefore do not exceed 60 years of age. Subsequently, these structures are not protected under the NHRA 25 of 1999.

Since heritage sites, such as burial sites, are not always clearly identifiable due to disturbed/removed surface features and dense vegetation, care must be exercised during the development and construction phases. Due to the study area not being located in close proximity of a river and because no heritage sites were observed during the pedestrian survey or on historical aerial imagery and topographical maps, this area can be regarded as having a low sensitivity in terms of archaeological and cultural heritage, especially since large portions of the demarcated area have been disturbed by previous development.

5.3 JULIANA'S GOLDEN MOLE (*NEAMBLYSOMUS JULIANAE*)

Information in this section was obtained from the Juliana's Golden Mole study conducted by Dr. Sarita Maree.

Site inspections were undertaken on the subject property and the evidence of the presence of the Juliana's Golden Mole was detected on the subject property for the proposed development.

Golden Mole activity was identified on the three identified habitats as follows (Figure 5-8):

- Habitat A (Blue):

Transformed compacted and unsuitable habitat with golden mole activity on the outside borders of the area;

- Habitat B (Red):

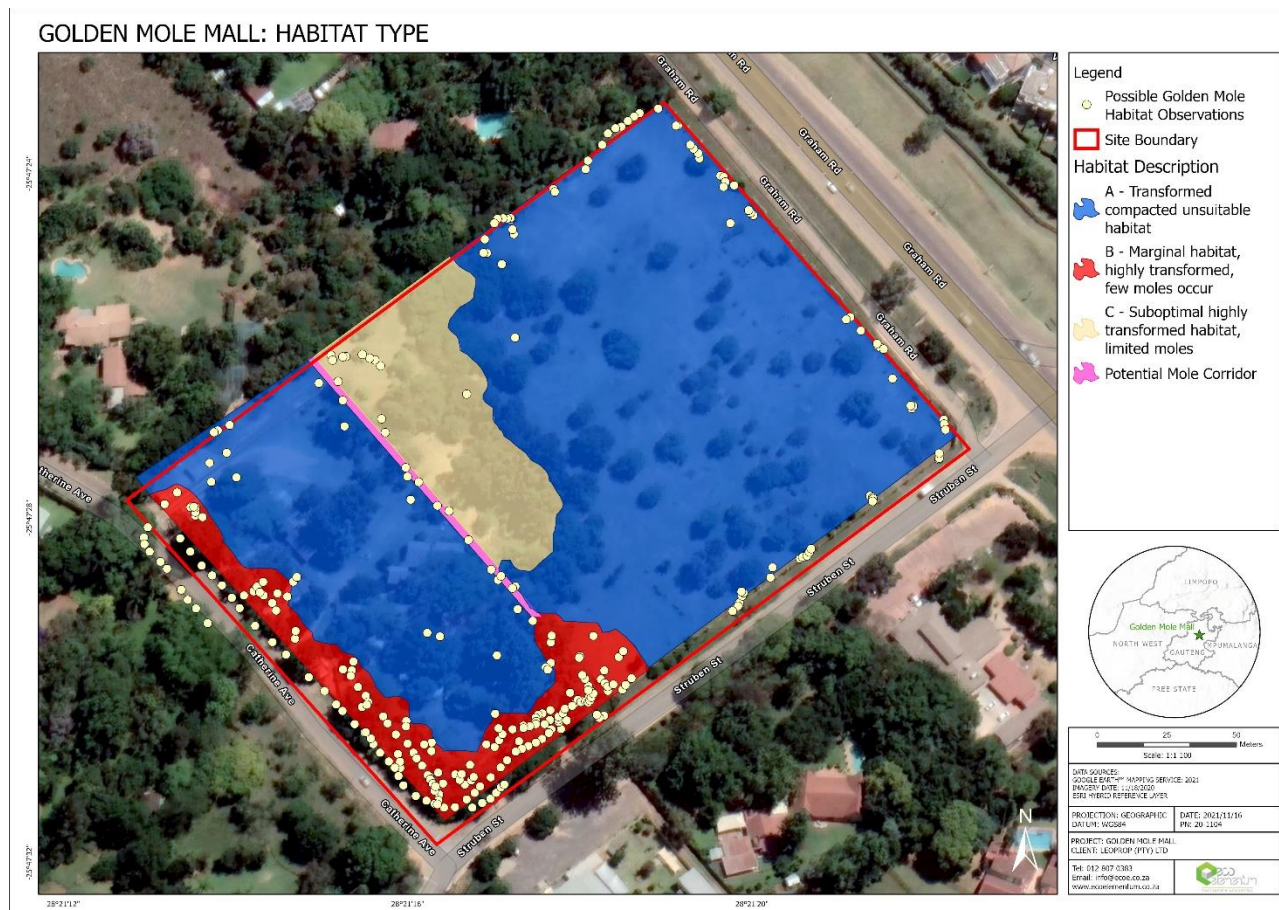
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Marginal habitat and highly transformed with golden moles occurring in this area;

- Habitat C (Brown):

Suboptimal highly transformed habitat with limited golden mole activity on the borders of the area.



By analysing the data in Figure 5-8 it is clear that the golden mole activity is limited mainly to the borders of the properties and the marginal habitat as the disturbance of the moles was limited in these areas.

The Proposed Development would have a medium impact on the Critically Endangered Juliana's Golden Mole known to occur in the Bronberg Ridge area, according to the results of a thorough field survey of their occurrence on the subject property.

From the site inspection limited evidence of the presence of the Juliana's Golden Mole were detected on the subject property for the proposed development

Site preparations and construction operations relating to the Proposed Development and the associated services and road infrastructure outlined on the Site Development Plan (Figure 5-9) will involve the use of trucks and other heavy equipment and once again impact heavily on the existing disturbed and altered vegetation and soil as well as the animals that currently occur there.

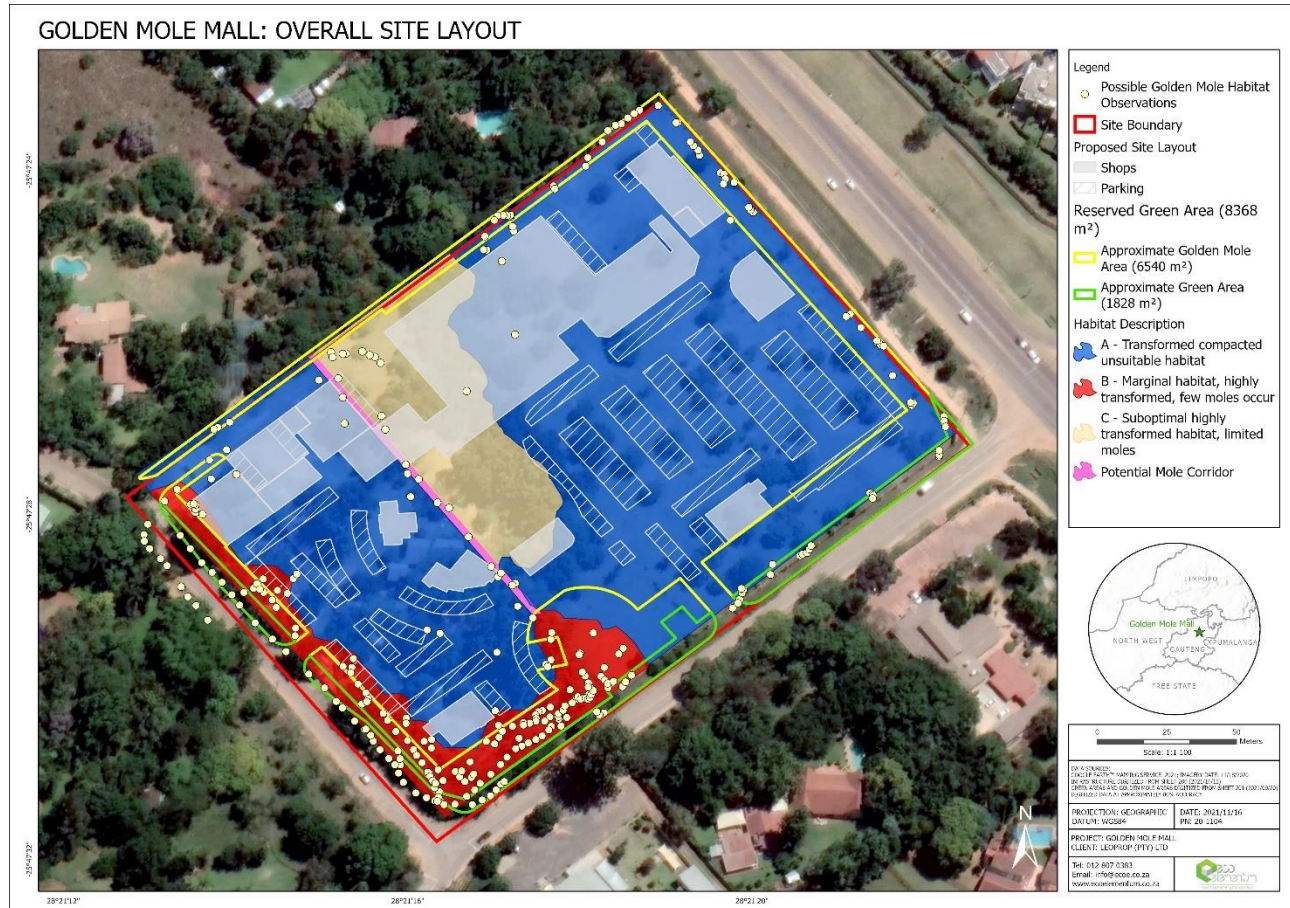


Figure 5-9: Site Development Plan (Mole habitat overlay)

The subject properties and the properties surrounding it are of extreme importance, not only for the many threatened animal and plant species that call the Bronberg Ridge home, but also for the preservation of the unique and ancient Bronberg ecosystem (Gauteng C-Plan v3-3, Compaan et al. 2011).



6. ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE AMENDMENTS

Environmental impacts that may result from the planning and design, construction, operational, decommissioning and closure phases as well as proposed management of identified impacts and proposed mitigation measures will be discussed. The anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the different phases, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment will be applied to all the identified alternatives to the activities identified in the report. The impacts associated with this project include Biodiversity (with a focus on the Golden Mole) Heritage, Noise, Ecological, Groundwater, Surface Water, Air Quality, Visual, and Social Economic impacts. These impacts will be assessed together with their activities. Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts. Mitigations for the identified impacts will be proposed.

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, inter alia: the purpose and need for the project; views and concerns of interested and affected parties; social and political norms, and public interest.

The methodology used for assessing impacts associated with the proposed project follows the philosophy of environmental impact assessments, as described in the booklet Impact Significance, Integrated Environmental Management Information Series 5 (DEAT, 2002b). The philosophy is summarised by the following extracts:

The impact magnitude [or intensity] and significance should as far as possible be determined by reference to legal requirements, accepted scientific standards or social acceptability. If no legislation or scientific standards are available, the EIA practitioner can evaluate impact magnitude based on clearly described criteria. Except for the exceeding of standards set by law or scientific knowledge, the description of significance is largely judgemental, subjective and variable. However, generic criteria can be used systematically to identify, predict, evaluate and determine the significance of impacts (DEAT, 2002b).

Determining significance [of impacts] is ultimately a judgement call. Judgemental factors can be applied rigorously and consistently by displaying information related to an issue in a standard worksheet format (Haug et al., 1984 taken from DEAT, 2002b).

The criteria and systematic approach to identify, describe and assess impacts are outlined below.

Impact Ranking Criteria

The criteria used for assessing the significance of the impacts are given in **Annexure 4**. Cognisance was given to both positive and negative impacts that could result from prospecting.

Although the criteria used for the assessment of impacts attempts to quantify the significance, it is important to note that the assessment is generally a qualitative process and therefore the application of these criteria is open to interpretation. The assessment thus largely relies on the experience of the EAP, and the information provided by specialists appointed to undertake studies for the EIA.

Where the consequence of an event is not known or cannot be determined, the precautionary principle is adhered to, and the worst-case scenario assumed. Where possible, mitigation measures to reduce the significance of negative impacts and to enhance positive impacts are recommended. The detailed actions, which are required to ensure that mitigation is successful, will be given in the EMPr which will form part of the BA report.



Consideration will be given to the phase of the project during which the impact occurs. This identification of the phase is provided to assist with the schedule for the implementation of the management measure.

Mitigation Measures

Mitigation measures were identified for significant impacts. The impacts were ranked before and after the implementation of the mitigation measures.

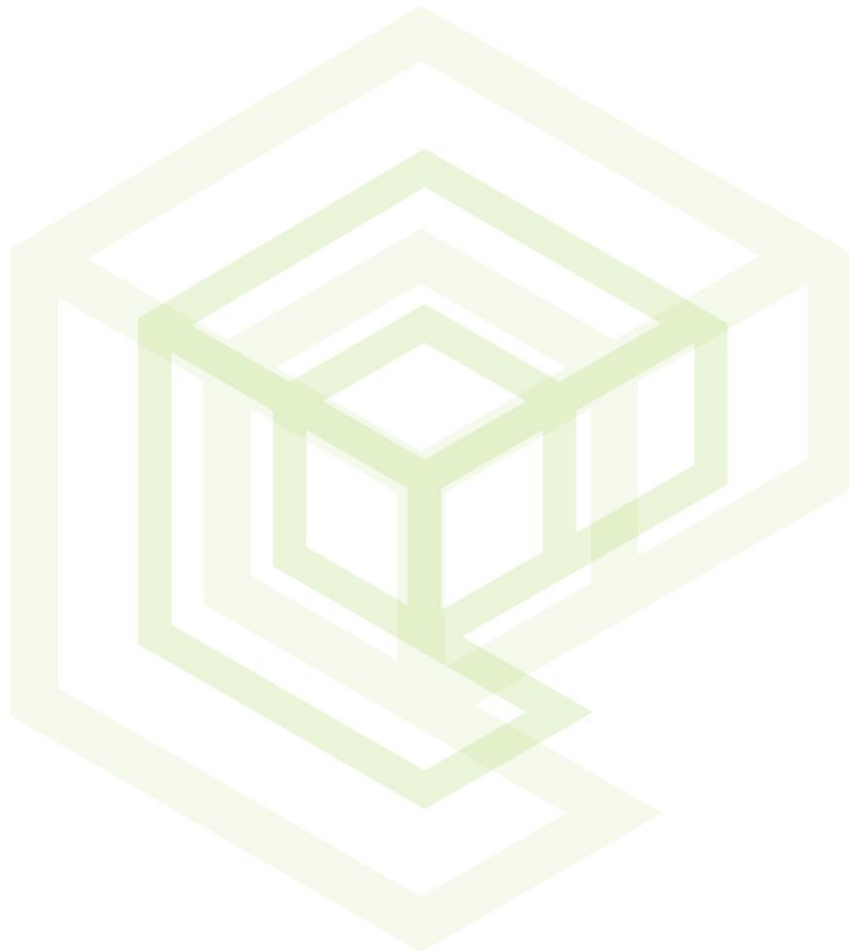


Table 6-1: Potential Impacts of the Proposed Development

		Category Rating					
Impact	Phase	+/-	Significance without mitigation	+/-	Mitigation	Significance with mitigation	Mitigation measures
Heritage							
Demolition of Structures on site including two houses	Construction and Operation	Negative	Low	Negative	0,2	Low	<ul style="list-style-type: none">Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist.Should skeletal remains be exposed during development and construction phases, all activities must be suspended, and the relevant heritage resources authority contacted (See National Heritage Resources Act, 25 of 1999 section 36 (6))Should the need arise to expand the proposed development beyond the surveyed areas outlined in this study, the following applies: A qualified archaeologist must conduct a full Phase 1 Archaeological Impact Assessment (AIA) on the sections beyond the demarcated area.
Biodiversity							
Loss of Indigenous Vegetation due to alien invasive plant species outcompeting established vegetation.	Construction and Operation	Negative	Low	Negative	0,6	Low	<p>An alien invasive management programme must be incorporated into an Environmental Management Programme.</p> <p>Ongoing alien plant control must be undertaken, particularly in the disturbed areas as these areas will quickly be colonised.</p> <p>The area which will be impacted on by the proposed development should be fenced off and no people or vehicles should be allowed into the natural areas surrounding the construction area.</p> <p>Any disturbed areas should be rehabilitated in line with the rehabilitation guidelines, this includes the clearing of alien vegetation, following the guidelines of a suitable alien invasive plant management plan with the re-establishment of native species</p>
Sedimentation and Erosion due to increased runoff	Construction Phase	Negative	Low	Negative	0,6	Low	<p>Stormwater management needs to take into consideration the deposition of silts transported after rainfall events into the surface water resources, again leading to smothering of the aquatic habitat, ultimately displacing aquatic species.</p> <p>Erosion must be strictly controlled through the utilisation of silt traps, silt fencing, gabions, etc. This is especially pertinent within areas of steeper gradients.</p> <p>Should any signs of erosion be found, remedial action such as backfilling, compaction and re-vegetation must be taken immediately to avoid exacerbation of the erosion.</p> <p>Ensure that all stockpiles are well managed and have measures to minimise the mobilisation of sediments such as the use of sand bags, hessian sheets, etc.;</p> <p>Erosion control measures must be implemented in areas sensitive to erosion and where erosion has already occurred such as edges of slopes, exposed soil etc. These measures include but are not limited to - the use of sand bags, hessian sheets, silt fences, retention or replacement of vegetation and</p>



		Category Rating					
Impact	Phase	±	Significance without mitigation	±	Mitigation	Significance with mitigation	Mitigation measures
							geotextiles such as soil cells which are used in the protection of slopes; Do not allow surface water or storm water to be concentrated, or to flow down cut or fill slopes without erosion protection measures being in place. Maintenance of stormwater drains must be undertaken as sensitively as possible to prevent adverse impacts to the environment and any watercourses.
Disturbance of Faunal Species due to vegetation clearance	Construction and Operation	Negative	Low-Med	Negative	0,6	Low	Minimise exposed surface duration The area of disturbance must be kept to a minimum Avoid Dust Creation
Golden Mole							
Habitat Destruction	Construction	Negative	Med	Negative	0,4	Low-Med	No dumping of construction materials, hazardous materials such as oil, diesel, cement mixture or domestic waste will be tolerated within the Conservation Area. It must be emphasized that this will include building personnel, equipment and debris. The entire conservation area will be fenced off with visually appealing and attractive Clear-vu fencing either elevated 150mm from the ground and/or with intermittent holes being cut to allow for free migration of golden moles into and out of the conservation area this way enhancing the current proposed completely fenced off requirement to also accommodate the golden mole movement in all directions.
Habitat and movement limitation	Operation	Negative	Med	Negative	0,4	Low-Med	Ensure that proper post-construction rehabilitation measures are put in place on the property, thereby providing suitable habitat for the golden moles to move around undisturbed in the identified areas
Social Economic							
Continued Economic input (Positive Impact) enlarging the area creates space for more shops, which provide additional job opportunities	Operation	Positive	Med-High	Positive	1	Med-High	Preference should be given to capable subcontractors who based within the local municipal area; Monitoring of sub-contractor's procurement
Health and Safety concern	Operation	Negative	Med	Negative	0,6	Low-Med	Limit, as far as reasonably possible, social ills caused by influx of workers and jobseekers; Discourage influx of jobseekers by prioritising employment of unemployed members of local communities; Adhere to the detailed recommendations in the EMPr and the Golden Mole Study.



7. ADVANTAGES AND DISADVANTAGES ASSOCIATED WITH AMENDMENTS

There are advantages to the proposed amendments as discussed in the motivation of the amendments, however there are some disadvantages and Table 7-1 discusses both.

Table 7-1: Advantages and Disadvantages

	Advantages	Disadvantages
1. Change in ownership	Changing the details of the applicant, ensures that the actual developer is bound by the EMPr and conditions of the EA since the applicant is no longer going to be involved in the development going forward.	None.
2. Inclusion of additional property	The inclusion of the adjacent property portion 218 Tweefontein 372 JR which increases the total extent of the proposed development 4,29. which allows for a larger development footprint	By increasing the total extent of the proposed development, the impacts of the development cover a much large area and could potentially compromise the mole habitat if not managed according to the proposed plan and ecological management plan
3. Increase in Footprint	<p>Increasing the footprint of the actual development to 8951 square metres which will consist of :</p> <ul style="list-style-type: none"> • 700 parking bays (including taxi Bays) • 4 work bays • Supermarket 1 318 square metres • Shops x 25 • Play Area <p>This increase in footprint provides for more space to rent out to various shops and restaurants, it also attracts more shoppers and therefore creating more sustainable business and employment opportunities.</p>	With a larger shopping centre there is an inherent increase in traffic in the area. There will be an increase in traffic along Struben and Catherine Roads going into the shopping centre.
4. Revised conservation area	The revised Conservation Area that has been planned (attached as Amended Conservation Area Illustration) ensures enhanced protection of the Juliana's Golden Mole habitat whilst ensuring ecological connectivity around the site, also including the now proposed Phase II extension of the Development. This enhanced connectivity is crucial to the survival of the species as it would now allow for free movement and connectivity to the larger Bronberg population which was not previously possible	The inclusion of the property adjacent disturbs a larger area

8. IMPACT STATEMENT AND RECOMMENDATIONS

The site where the development takes place is highly transformed by previous activities, there is a small section to the west of the property that falls within a CBA. The proposed amendments to the Environmental Authorisation have some impact on the ecological connectivity and the habitat for Juliana's Golden Mole.

The following list of positive impacts are associated with the Phase 2 extension;

- Development footprint
 - The Floor Area Ratio for the entire area including Phase 2 remains unchanged from the Phase 1 approvals
 - The floor area ratio is the relationship between the total amount of usable floor area that a building has, or has been permitted to have, and the total area of the property on which the building stands.
 - By including Phase 2 the entire project will be spread across a larger footprint area allowing for 'debulking' of the site and a less intensive development footprint with more green space
- Earthworks
 - Bulk earthworks will be less invasive with the inclusion of Phase 2 and overall better levelling of the site can be achieved with enhanced connectivity between the conservation areas
 - The initial Phase 1 approval allowed for a basement parking structure which will now be completely excluded with the addition of Phase 2
- Conservation area
 - The entire conservation area will be increased with the inclusion of Phase 2 and also now include the adjacent property which currently is not being managed to the benefit of the conservation of the species
 - The conservation area will therefore be increased, alien invasive plant species will be removed and replaced with suitable indigenous species and adequate protection status and management measures will allow for enhanced protection of the species
 - The artificial creation of additional conservation area inline with the Phase 1 approvals will ensure Phase 2 is also connected to the greater Bronberg conservation area
 - The construction of the conservation area can be completed prior to the development and by including Phase 2 the construction time period will be significantly reduced, immediately allow for free movement of the species and ensure an increased survival rate
 - A reduced construction period allows for a shorter timeframe of all construction related impacts, especially noise and vibration which would potentially disturb the species

8.1 RECOMMENDATIONS

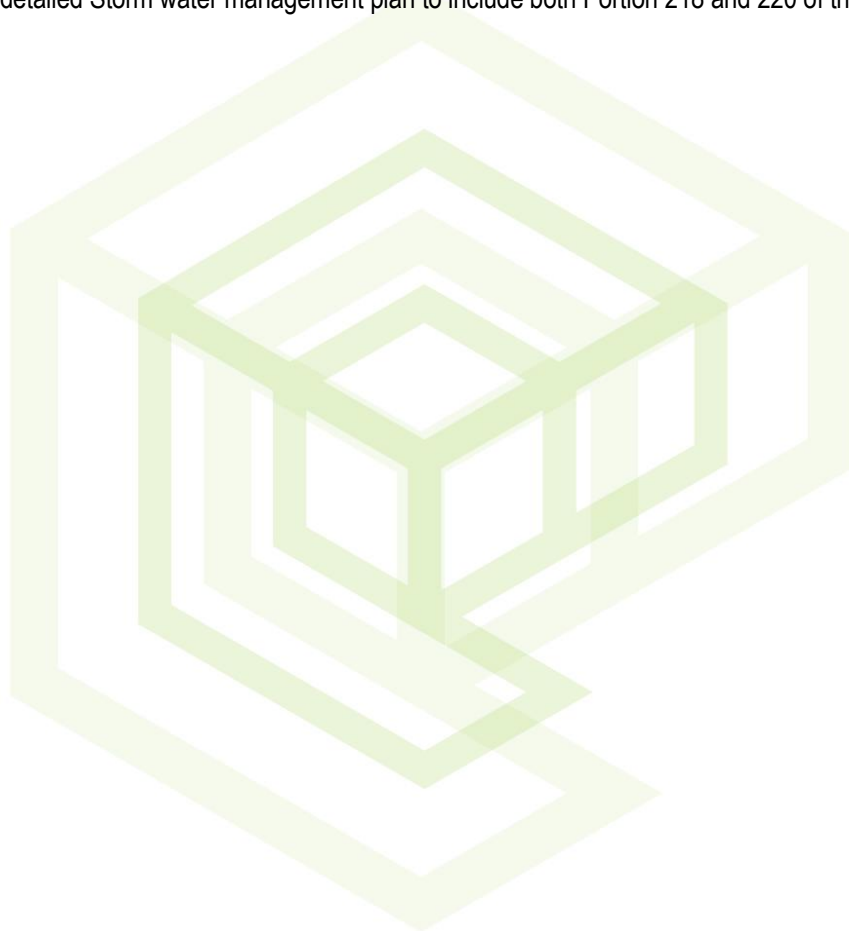
Based on the impact assessment ; It is therefore the opinion of the EAP that the potential positive impacts related to the inclusion of the Phase 2 area would be to the benefit of the current approved conservation planning and enhance the protection status of the species as a whole whilst also contributing to the region from a socio-economic perspective. In order for the development to maintain low significance rating of impacts the following recommendations are proposed to be included in the Environmental Authorisation.

- Adhere to the conditions of the EMPr and the Specialist Recommendations



2-Dec-21

- Both the Environmental Management Plan and Ecological Management Plan should be signed by the developer, brought under the attention of all contractors and signed by all parties involved to ensure the commitment is formalised as the two aforementioned documents become legally binding.
- Appoint an Independent Environmental Control Officer
- Appoint an Ecological Specialist as soon as operations commence to implement the requirements of the Recommendations of Juliana's Golden Mole Study.
- During the site clearance, all tree stumps in the conservation area must be left to support the existing ecological habitat and increase insectivorous activity which in turn provide food to the golden moles
- Develop a detailed Storm water management plan to include both Portion 218 and 220 of the farm Tweefontein



9. REFERENCES



ANNEXURE A

