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- (i) illiteracy;
- (ii) disability; or
- (iii) any other disadvantage.

Please find copies of newspaper advertisements in Appendix G2.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation:
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained; and
 - (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

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

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments

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and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

6. AUTHORITY PARTICIPATION

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

List of authorities informed:

Viwe Ngunge - Dept. Economic Development, Environmental Affairs and Tourism

Rolly Dumezweni - Ndlambe Municipality: Municipal Manager

Anneliza Collett - DAFF Agri

S.Gwen-DAFF EC Forestry

M Mateti-Ward 1 Councillor

Richard Pote-Ndlambe Local Municipality(Refer to Appendix E)

List of authorities from whom comments have been received:

None to date of Draft Basic Assessment Report

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

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

Has any comment been received from stakeholders?



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

No feedback received

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Initial public participation process

- 1. Visibility of houses from the proposed game lodge to be built on Harvestvale.
- 2. Kariega have raised concerns about the possible use of the road through their property and their use of Mr Wilmot's spring water for their proposed lodges.
- 3. Division of farmland and cumulative loss of agriculture in the region due to farmers selling to game farms or developers.

Current Public Participation Process

1. None to date of Draft Basic Assessment Report

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

Initial public participation process

- 1. The houses will be constructed specifically to blend in with the natural surroundings.
- 2. The road question is a private matter concerning their requirements from the landowner and does not relate to the Basic Assessment. The use of spring water is being reconsidered.
- 3. The developer's proposal to develop a small part of their land means that they will continue to farm their land and that no agricultural production will be lost, and that no employees will lose their jobs. The land that is to be developed is not suitable for agriculture, and thus represents no loss to agricultural production in the region.

Current Public Participation Process

1. None to date of Draft Basic Assessment Report

2. 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

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, 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.

3. ENVIRONMENTAL IMPACT STATEMENT

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

Alternative A1 (Preferred alternative) – Residential development

3.1. IMPACTS THAT ARE LIKELY TO OCCUR AS A RESULT OF THE

3.1.1. PLANNING AND DESIGN PHASE

Direct impacts:

Issue 1: Visual Impact.

Cause and comment: The residential units may be partly visible from the road leading to the Kariega Park.

Significance statement: This is of low-moderate significance, and can be mitigated to low-no significance.

Indirect impacts:

Issue 2: Pollution of water resources such as streams and rivers.

Cause and comment: There are two streams in the area that may become polluted should the units be placed close to them.

Significance statement: This is of high significance, but with the mitigation measures will be reduced to low significance.

Issue 3: Loss of vegetation in surveying for new road access

Cause and comment: Survey lines will need to be cleared for the new road access to the development.

Significance statement: This is of high significance, but with the mitigation measures will be reduced to moderate—low significance.

Cumulative impacts:

3.1.2. CONSTRUCTION PHASE

Direct impacts:

Issue 1: Destruction of vegetation at construction sites

Cause and comment: During construction it is often necessary to clear more land than will eventually form the development footprint due to construction activities. Construction also requires materials laydown areas and areas designated for particular construction activities such as cement mixing and storage of construction materials.

Significance statement: Cleared areas will not be large and this is therefore considered to be of moderate significance and can be easily mitigated to low significance.

Issue 2: Noise pollution from construction vehicles and construction activities Cause and comment: During construction there will be a certain amount of noise from the construction equipment and the construction vehicles. However, the area is near enough to any settlements for this to be an impact.

Significance statement: This is of low significance.

Issue 3: Soil compaction and soil erosion

Cause and comment: Soil will be compacted by construction vehicles, and the

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movement of construction vehicles and human traffic could also lead to erosion. Significant statement: This will result in moderate impact, but can be mitigated to low impact.

Issue 4: Rubble from construction works

Cause and comment: The construction will produce building rubble that would need to be removed from the site.

Significant statement: This will result in moderate impact, but can be mitigated to no significance with the implementation of the EMPr.

Issue 5: Employment during the construction period

Cause and comment: The construction of the units will provide employment to building companies and their construction workers for approximately 6 - 8 months. Significance statement: This will provide a moderately positive impact. This impact can be increased by employing builders from the surrounding towns who would be employing mainly local personnel.

Indirect impacts:

Issue 6: Pollution of nearby water bodies

Cause and comment: Pollution during the construction phase can have many sources and is generally a result of runoff which carries pollutants down slope to water bodies such as streams, rivers or dams. Seepage can also pollute groundwater. Pollutants include cement-laden water, oil and fuel from construction vehicles, hazardous waste substances such as chemicals used to treat wood. In addition, streams may be used for washing of equipment and personal effects including bathing. Should no toilet facilities be provided for workers near the construction site, they will be forced to perform their ablutions in the surrounding bush. This solid waste could be washed into nearby streams and water courses and lead to pollution.

Significance statement: Considering the short-term nature of the construction period, this is considered to be of moderate significance, but can be easily mitigated through correct practice to low significance.

Issue 7: Expectations of jobs by many unskilled workers

Cause and comment: This development is not very large, but there may be some expectations in the surrounding areas that employment could result from the development. Construction companies usually arrive with their workers, and thus there will be limited employment opportunities.

Significance statement: This is a moderate impact that can be lessened somewhat to low significance with the suggested mitigation measures.

Cumulative impacts:

3.1.3. OPERATIONAL PHASE

Direct impacts:

Issue 1: Job creation

Cause and comment: The development will result in the employment of at least 5 persons during the operational phase. Employment opportunities will arise from the recycling/garbage disposal business that will service the development, as well as domestic and maintenance services for the residences and nature reserve. This will enable the employed persons to support an average of five to eight dependants. There will also be opportunities on a more short-term basis as part of the revegetation programme

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Significance statement: If the employment opportunities are provided to formally disadvantaged persons, this will result in moderate significance within the immediate area.

Issue 2: Footpaths created on an ad hoc basis

Cause and comment: Footpaths could be created on an ad hoc basis as residents wonder through the nature reserve. This could lead to erosion and fragmentation of the natural vegetation.

Significance statement: This is considered to be of moderate significance and can be mitigated to low significance.

Indirect impacts:

Issue 3: Stress on municipal services such as roads and Eskom's electricity supply Cause and comment: The development will be accessed from the R343 and will receive electricity from Eskom.

Significance statement: The low number of houses means that the impact of this will be low. However, residents should be urged to supplement their electricity with solar panels where possible.

Issue 4: Impact on water sources

Cause and comment: The building of the houses and their supportive infrastructure (such as sewage treatment facilities) may impact on the stream or its catchment area. The development's residents will also require water for domestic use.

Significance statement: With the recommended mitigation measures, this will be a moderate impact.

Issue 5: Water pollution of nearby streams and catchment areas.

Cause and comment: The development could impact on neighbouring streams and water catchment areas should the sewage treatment from the residential units be located close to these water sources. However, the development has been planned to avoid this, and buildings or other structures will be allowed to be built within 32 metres of the streams/catchment areas. To avoid pollution in the streams septic tanks will be sited a sufficient distance from watercourses for the travel time of effluent through the soil horizon to result in the mortality of pathogens, notably e-coli. Significance statement: Due to the planning of residential units to avoid contamination of ground and surface water, this will be of low significance.

3.2. POTENTIAL ACTIVITY/TECHNOLOGY ALTERNATIVE RELATED IMPACTS

3.2.1. PLANNING PHASE

Direct impacts:

Issue 1: Destruction of natural vegetation for housing units and roads Cause and comment: it is inevitable that in certain areas, natural vegetation will have to be removed to make way for the housing units, roads and other infrastructure Significance statement: This is of high significance, but can be mitigated to be of moderate or low significance depending on the location of the construction.

Indirect impacts:

Issue 2: Erosion

Cause and comment: Increased runoff due to increase in hard surfaces such as roofs and roads as well as cut structures such as pathways have the potential to increase soil erosion in the areas immediately down slope of the units.

Significance statement: this is of moderate significance and can be mitigated to low

significance.

Cumulative impacts:

3.2.2. CONSTRUCTION PHASE

Direct impacts:

Issue 1: Destruction of vegetation at construction sites

Cause and comment: During construction it is often necessary to clear more land than will eventually form the development footprint due to construction activities. Construction also requires lay down areas and areas designated for particular construction activities such as cement mixing and storage of construction materials. Significance statement: Cleared areas will not be large and this is therefore considered to be of moderate significance and can be easily mitigated to low significance.

Indirect impacts:

Issue 2: The spreading of alien vegetation from areas where it occurs to areas not yet invaded.

Cause and comment: the construction of the units and roads could result in increased levels of alien infestation particularly in areas not yet invaded. This is partly due to construction vehicles which could transfer aliens (in the form of seeds) from one footprint to another and partly due to the disturbance of soils which could allow alien species to establish. In addition landscaping could introduce aliens through soil and seeds transported from other areas.

Significance statement: This is of moderate significance but can be mitigated to low significance and potentially to a moderate positive impact if mitigation results in fewer aliens than is currently found in the area.

Issue 3: Disturbance of naturally occurring wildlife.

Cause and comment: The construction phase may disturb wildlife e.g. nesting and territorial birds, territorial mammals and other animals, including subterranean animals.

Significance statement: This is of moderate significance as the construction period will be relatively short, and most animals will be able to move to different areas while construction is in progress.

Issue 4: Removal of topsoil and soil erosion.

Cause and comment: The construction of the housing units will increase the chances of soil erosion

Significance statement: This impact is considered to be moderate but can be mitigated to low significance.

Cumulative impacts:

3.2.3. OPERATIONAL PHASE

Direct impacts:

Indirect impacts:

Issue 1: Increased transfer of alien vegetation from invaded to non-invaded areas Cause and comment: Alien species that use animals as vectors can be spread and establish in non-invaded areas, particularly areas that have been disturbed during construction and are therefore vulnerable.

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Significance statement: With mitigation measures, this is likely to be of low significance.

Cumulative impacts:

Issue 2: General disturbance of natural vegetation

Cause and comment: when game viewing or for other purposes, residents may leave the road and drive drive/walk over the natural vegetation in order to see game better etc. this can result in destruction of vegetation and compaction of soil and root systems, especially during or after rainfall events. These temporary roads can be visible for a long time afterwards, and may eventually become new roads.

Significance statement: This is considered to be of low significance and can be mitigated through correct practice.

3.3. MITIGATION MEASURES THAT MAY ELIMINATE OR REDUCE THE POTENTIAL IMPACTS LISTED ABOVE

3.3.1. PLANNING AND DESIGN PHASE

Issue 1:

The units have been placed in such a way as to maintain the sense of isolation and privacy within a natural environment that is the motivation for the development. Natural vegetation and topography will be used as a screen.

All homeowners will have to follow certain building design guidelines that reduce visibility, and allow residential units to blend into the natural landscape. No high standing lights will be allowed, and all outside lights will be downlighting to reduce light visibility.

Issue 2:

To avoid any sort of pollution in the streams, residential units and septic tanks will be sited appropriate distances from watercourses. To ensure that this is so, the geological/hydrological specialist will be consulted during the design phase and will assist homeowners in planning the sites of the waste water treatment facilities for each erf.

Issue 3:

Confine survey lines to smallest possible area and alignment should avoid sensitive vegetation. The vegetation specialist should be consulted before the road is planned to indicate which vegetation is sensitive. This vegetation will be marked as no-go and avoided by surveyors and any construction activities.

3.3.2. POTENTIAL ACTIVITY/ TECHNOLOGY ALTERNATIVE

3.3.2.1. Planning Phase

Issue 1:

The development footprint of each erf should be positioned in such a way as to reduce the area of vegetation that will be affected. As far as possible, sensitive vegetation will be avoided. Where units are placed inside the natural vegetation, the existing vegetation will be maintained as far as possible and used as part of the landscaping aesthetics and as natural screening. Footprints to be designed around large indigenous trees wherever possible. Open space areas and natural corridors will be maintained to protect indigenous vegetation and animals.

A Plant Rescue and Translocation Programme should be implemented where disturbance levels are considered high. A botanist should be employed to identify and/or mark any protected species or species of special concern. In addition, these plants can be used to further screen units from one another in areas where the

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natural vegetation has been disturbed or no longer exists.

E.g. to rehabilitate the old farmlands which are currently open grasslands.

Issue 2:

Erosion as a result of runoff can be mitigated through the adequate provision of gutters and the collection of runoff into rainwater tanks for household water use. In terms of pathways, log and wire barriers/steps can be constructed where the gradient is steep and erosion is likely. Indigenous vegetation can also be planted to curb erosion. Trails should follow the contour of the landscape as far as possible. Residents/employees must keep to pathways/trails.

3.3.2.2. Construction Phase

Issue 1:

Laydown areas must be carefully planned and properly designated with adequate space and fencing. Any roads created to units must be those that will eventually form part of the development. The construction footprint must, wherever possible, not extend beyond the boundaries of the final footprint.

Issue 2

Mitigation measures to avoid transfer or establishment of aliens will be included in the Construction EMPr. Landscaping will be limited to plants which require relocation during the construction period. Any planting must be done with plants propagated from local seed stock or cuttings. If purchased, the plant material must be specific/indigenous to the area. In addition, the Conservancy Trust will be required to remove all aliens established within the footprints. All existing and new alien vegetation must be removed immediately. Residents/the Conservancy Trust must be educated regarding alien vegetation identification and management. Should the problem of alien eradication prove ineffective, 'Working for Water' should be approached for assistance with alien clearing.

Issue 3:

As far as possible animals should not be disturbed. Nesting birds should be allowed to fledge their young. Whenever possible, animals should be relocated to a similar, undisturbed area. Catching, trapping, killing etc of wild animals by construction or any other staff members will be strictly forbidden.

Issue 4:

Only minimal vegetation clearing will be permitted within the construction area. Only the development footprints must be cleared and disturbed areas must be rehabilitated as soon as possible. Large trees should be removed only if absolutely necessary. No disturbed soil should be left exposed. It should be mulched and revegetated.

3.3.2.3. Operational Phase

Issue 1:

An alien removal programme will be implemented, which will decrease the alien vegetation in the area. This will be coupled with a re-vegetation programme will also ensure that there are less open areas for aliens to establish themselves.

Issue 2:

The use of vehicles should be restricted to the designated roads. The design of the development should consider the construction of designated footpaths through appropriate bush clearing, using existing paths or creating boardwalks where necessary. The vegetation specialist will be consulted to design these footpaths

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through the nature reserve. Footpaths will be placed to avoid sensitive vegetation. They will be regularly maintained, and any further footpaths that are requested will be designed under the supervision of the vegetation specialist. The Belton Conservancy Trust will be responsible for ensuring that footpaths are not created, and should any occur, they are to be repaired and the natural vegetation reinstated.

Direct impacts:

Issue 1: Stress on local vegetation types due to increased grazing by introduced game.

Cause and comment: The vegetation surrounding the proposed development is made up of Succulent and Xeric Thicket as well as grasslands. Increased numbers of game would have an impact on this vegetation, especially if large game such as elephants as introduced to attract tourists.

Significance statement: This would be of high significance, but can be reduced to moderate with the appropriate mitigation measures.

Indirect impacts:

Issue 2: Game competing with cattle for grazing

Cause and comment: Introduced game may end up competing with cattle over grazing, especially during dry periods.

Significance statement: This would be a moderate impact that can be reduced to low significance with the correct mitigation measures.

Issue 3: General disturbance of natural vegetation

Cause and comment: when game viewing or for other purposes, residents may leave the road and drive drive/walk over the natural vegetation in order to see game better etc. this can result in destruction of vegetation and compaction of soil and root systems, especially during or after rainfall events. These temporary roads can be visible for a long time afterwards, and may eventually become new roads.

Significance statement: This is considered to be of low significance and can be mitigated through correct practice.

Cumulative impacts:

3.3.3. CONSTRUCTION PHASE

A project specific Construction Environmental Management Programme (EMPr) containing mitigation measures must be compiled. This should guide the construction process from inception to completion.

Issue 1:

Vegetation clearing during construction should be kept in designated areas i.e. where camps are to be built and housing sites. Construction should avoid sensitive vegetation.

Issue 2:

Construction should be done during working hours only to avoid making noise at night when other residents are resting. All construction equipment and vehicles should be installed with proper noise reduction equipment to ensure that noise created during construction is kept to a minimum.

Issue 3:

Vehicles should be allowed to drive on designated roads only. Compaction of soil as a result will only happen on the roads.

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Issue 4:

Rumble/ solid waste that will be produced during construction will be re-used in most cases and where it is not possible it will be taken to a municipal dump site.

Issue 5:

The positive impact of job opportunities can be enhanced by ensuring that most of the opportunities are given to local people except where there are no skills. BEE companies should also get preference when it comes to awarding construction tenders. Appropriate management of job expectations, including discussions with construction companies regarding local labour requirements, and discussions with local people regarding actual job opportunities.

Issue 6:

Construction activities, including camps, are to be located at least 50 metres from dams and streams and not on gradients exceeding 1:6; No structures are to be located within the 1:100 year flood line; All water bodies, wetlands and river systems are to be considered No-go areas for construction workers; All major repairs and servicing of plant and construction machinery should be undertaken offsite; Utilisation of drip trays to prevent oil or fuel spills in case of an on-site emergency maintenance; All concrete batching to be conducted on impermeable sheet material; Temporary ablution facilities must be provided on site for construction workers; and Appropriate waste and sewage collection and disposal procedures and facilities are to be implemented at the construction camps.

Issue 7:

As far as possible local labour must be employed in the proposed development. The Belton Conservancy Trust should also have a capacity building programme to ensure that local people gain the necessary skills to work on the development.

3.3.4. OPERATIONAL PHASE

Issue 1:

This impact can be made into a positive impact by ensuring that, as far as possible, employment opportunities are given to previously disadvantaged persons.

Issue 2:

The Belton Conservancy Trust should develop a programme of alien vegetation removal to ensure removal of alien invasive plants. Partnerships can be established with programmes such as the Working for Water programme.

Issue 3:

The developers must ensure that the numbers of stock whether game or cattle if the proposed development is not authorised, should be kept to a minimum to avoid any further pressure on natural vegetation.

Issue 4:

The Conservancy Trust should ensure that it manages the collection of fuel wood in the area and where possible other sources of energy be made available for people living in the farm.

Issue 5:

The proposed development can create employment opportunities to counter job

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losses that occur as a result of loss of agricultural land in the province. The development has an ability t employ more people that are currently employed in the farm.

Issue 6:

The change from cattle farming to game farming can help mitigate against soil erosion as a result of cattle paths. Game can be introduced in phases to limit impacts on soil. Game farming has also the advantage of needing less care as compared to cattle farming.

Issue 7:

The proposed development will engage in farming practices that will promote water conservation. For example, cement made drinking canals to reduce loss of water.

3.4. PROPOSED MANAGEMENT OF IMPACTS AND MITIGATION

During the planning and construction phases, the developer together with an independent, suitably qualified person (s) will be responsible for the monitoring of the impacts and mitigation. A construction Environmental Management Programme (EMPr) must be compiled and strictly adhered to.

During the operational phase, the home owners' Conservancy Trust will be responsible for financing management functions, environmental auditing and conservation.

An operational Environmental Management Programme (EMPr) must be compiled and strictly adhered to.

An Environmental Control Officer (ECO) will monitor identified impacts and mitigation measures.

During the planning and construction phases, the developer together with an independent, suitably qualified person (s) will be responsible for the monitoring of the impacts and mitigation. A construction Environmental Management Programme (EMPr) must be obtained and strictly adhered to.

During the operational phase, the developer will be responsible for financing management functions, environmental auditing and conservation.

An operational Environmental Management Programme (EMPr) must be obtained and strictly adhered to.

An Environmental Control Officer (ECO) will monitor identified impacts and mitigation measures.

3.5. CONCLUSION

Considering mitigation measures, 1 low – no impact, 16 low impacts, 1 low positive impact, 2 moderate to low impacts, 2 moderate impacts and 3 moderate positive impacts were identified.

Given that the remainder of the area will be protected, that the units will be placed in disturbed or invaded areas as far as possible, the creation of jobs for local people during operation, the rehabilitation of old lands and the removal and control of alien

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vegetation, it is possible that the development will have a moderate positive impact locally, but a low positive impact on a larger scale due to the small area of land involved.

The impacts are on a small part of the total Belton Farm. Most of the impacts will be as a result of the construction of the development, with the impacts of the operational phase being minimal / low in significance. With management and mitigation of the identified impacts, the significance of the overall impact of the development should be low / minimal. The duration of impacts resulting from construction is short term and should only last for approximately 6 months. No other alternative sites were available to be investigated in this assessment, and Site 1 is found to be suitable

Alternative A2 – Nature Reserve

3.6. IMPACTS THAT ARE LIKELY TO OCCUR AS A RESULT OF THE

- 3.6.1. PLANNING AND DESIGN PHASE
- 3.6.2. THE CONSTRUCTION PHASE
- 3.6.3. OPERATIONAL PHASE

3.7. POTENTIAL ACTIVITY/TECHNOLOGY ALTERNATIVE RELATED IMPACTS

3.7.1. PLANNING AND DESIGN PHASE

Direct impacts:

Issue 1: Destruction of natural vegetation for surveying

Cause and comment: it is inevitable that in certain areas, natural vegetation will have to be removed to make way for survey lines

Significance statement: This is of moderate significance, but can be mitigated to be of low significance..

Indirect impacts:

Issue 2: Erosion

Cause and comment: Increased runoff due to increase in hard surfaces such as roofs and roads as well as cut structures such as pathways have the potential to increase soil erosion in the areas immediately down slope of the units.

Significance statement: this is of moderate significance and can be mitigated to low significance.

Cumulative impacts:

3.7.2. THE CONSTRUCTION PHASE

Direct impacts:

Issue 1: Destruction of vegetation for construction of lodges, roads, pipelines and game viewing platforms

Cause and comment: During construction it is often necessary to clear more land than will eventually form the development footprint due to construction activities. Construction also requires lay down areas and areas designated for particular construction activities such as cement mixing and storage of construction materials. Significance statement: Cleared areas will not be large and this is therefore considered to be of moderate significance and can be easily mitigated to low significance.

Indirect impacts:

Issue 2: The spreading of alien vegetation from areas where it occurs to areas not yet invaded.

Cause and comment: the construction of the units and roads could result in increased levels of alien infestation particularly in areas not yet invaded. This is partly due to construction vehicles which could transfer aliens (in the form of seeds) from one footprint to another and partly due to the disturbance of soils which could allow alien species to establish. In addition landscaping could introduce aliens through soil and seeds transported from other areas.

Significance statement: This is of moderate significance but can be mitigated to low significance and potentially to a low positive impact if mitigation results in fewer aliens than is currently found in the area.

Issue 3: Disturbance of naturally occurring wildlife.

Cause and comment: The construction phase may disturb wildlife e.g. nesting and territorial birds, territorial mammals and other animals, including subterranean animals.

Significance statement. This is of moderate significance as the construction period will be relatively short, and most animals will be able to move to different areas while construction is in progress.

Issue 4: Removal of topsoil and soil erosion.

Cause and comment: The construction of the housing units will increase the chances of soil erosion.

Significance statement: This impact is considered to be moderate but can be mitigated to low significance.

Cumulative impacts:

3.7.3. OPERATIONAL PHASE

3.8. MITIGATION MEASURES THAT MAY ELIMINATE OR REDUCE THE POTENTIAL IMPACTS LISTED ABOVE

3.8.1. PLANNING AND DESIGN PHASE

3.8.2. POTENTIAL ACTIVITY/ TECHNOLOGY ALTERNATIVE

3.8.2.1. Planning Phase

Issue 1:

A Plant Rescue and Translocation Programme should be implemented where disturbance levels are considered high. A botanist should be employed to identify and/or mark any protected species or species of special concern. In addition, these plants can be used to further screen units from one another in areas where the natural vegetation has been disturbed or no longer exists.

E.g. to rehabilitate the old farmlands which are currently open grasslands.

Issue 2

Erosion as a result of runoff can be mitigated through the adequate provision of gutters and the collection of runoff into rainwater tanks for household water use. In terms of pathways, log and wire barriers/steps can be constructed where the gradient is steep and erosion is likely. Indigenous vegetation can also be planted to curb erosion. Trails should follow the contour of the landscape as far as possible.