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Residents/employees must keep to pathways/trails.

3.8.2.2. Construction Phase

Issue 1:

Lay-down 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 EMP. 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.

3.8.2.3. Construction Phase

Issue 1:

Although a certain amount of game will need to be introduced to attract tourists, a game specialist will be consulted on the matter to ascertain the carrying capacity of the land, and which game would be most suitable for the area. Their analysis will take into account the game already present, as well as the sensitivity of the local vegetation.

Issue 2:

The farmer should be aware of the carrying capacity of his land and should not increase the number of cattle past this. The cattle that are currently present have plenty of grazing space elsewhere, and thus do not need to use the grazing around the proposed development. During periods of drought both cattle and game should be supplied with additional feed to ensure that over grazing of the indigenous vegetation does not occur.

Issue 3:

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

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necessary. The vegetation specialist will be consulted to design these footpaths 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.

3.8.3. CONSTRUCTION PHASE

3.8.4. OPERATIONAL PHASE

3.9. PROPOSED MANAGEMENT OF IMPACTS AND MITIGATION

3.10. CONCLUSION

Considering mitigation measures, 8 low impacts, 2 low – moderate impacts, 7 moderate impacts, 2 moderate – high impacts and 2 high impacts were identified.

The impact of a game farm will have minimal impact on the environment, but it will not be economically viable, since the area to be developed neighbours the Kariega Park Reserve. There are many small and large game reserves in the surrounding area, and the creation of another, small reserve would almost certainly not be successful in such a competitive environment. A new game farm would have to market itself fiercely to compete with established competitors, especially to retain a year-round custom. The client does not have the resources to compete on such a scale.

The Alternative is not recommended.

NO-GO ALTERNATIVE (COMPULSORY)

3.11. IMPACTS

3.11.1. PLANNING AND DESIGN PHASE

Direct impacts:

The no-go alternative requires no planning or design, therefore there will be no impacts from this phase.

Indirect impacts:

Cumulative impacts:

3.11.2. CONSTRUCTION PHASE

Direct impacts:

The no-go alternative requires no construction, therefore there will be no impacts from this phase.

Indirect impacts:

Cumulative impacts:

3.11.3. OPERATIONAL PHASE

Direct impacts:

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Issue 1: Continued decline in income due to failing pineapple industry

Cause and comment: At present, pineapple farming in the area is losing viability due to the industry failing, in part due to tainted fertiliser imported from overseas contaminating the soil, and other countries assuming dominance of the overseas market. Should the proposed development not be given a positive Environmental Authorisation the land owners may be forced to extend the area of farming activities into sub-optimal areas, including the area of the propose development, find an alternative use for the land or sell the land. Should the farmer extend his farming area this will result in permanent destruction of the natural environment, as new fields will have to be cleared in less disturbed and more pristine habitats. The new fields are likely to increase erosive runoff, and increase run off contaminated with fertilise residue. The farmer could increase the amount of cattle on the farm, but this would then place stress on the grazing currently available on the farm, and would affect the indigenous vegetation. Should agriculture prove unviable, the farmer may decide to sell, and the present workforce would lose their employment. In this case, the farm would be at the risk of more intensive development in the future , possibly with the greater division of agricultural land into residential plots.

Significance statement: This would be of moderate to high significance, with the impact increasing over time, especially if the pineapple market does not improve for Eastern Cape farmers.

Indirect impacts:

Issue 2: Continued invasion by alien invasive plants.

Cause and comment: The natural vegetation currently has a presence of alien invasive species such as pine trees (*Pinus pinaster*), kikuyu grass (*Pennisetum clandestinum*) and goat apple (*Solanum spp*).

Should the development go ahead, part of the annual residential fees (levies) will go towards an alien vegetation eradication programme. If the development does not go ahead there will be no funds for this programme, and aliens will continue to invade the indigenous bushveld.

Significance statement: This will be of moderate significance, with the impact increasing through time.

Issue 3: Increased pressure on natural areas for grazing

Cause and comment: Should the development not go ahead, there is a possibility that in the future there would be an increased grazing pressure on natural areas on the farm, including the land where the development is proposed. An increased number of cattle being run on the land would have an impact on indigenous vegetation in natural areas that have previously had little disturbance.

Significance statement: Although there is little possibility of this impact occurring in the present, it could become a possibility in the future should the pineapple industry continue to decline, and increasing the number of cattle becomes necessary to retain the financial viability of the farm. It is therefore of low – moderate significance.

Issue 4: Increased stress on indigenous vegetation such as thicket for non-sustainable wood for fuels

Cause and comment: Should the development not go ahead, there is a possibility that in the future there would be an increased pressure on natural areas on the farm, including the land where the development is proposed. This could be due to the non-sustainable collection of wood from the area for fuel. This would impact on indigenous vegetation and fauna in natural areas that have previously had little disturbance.

Significance statement: Although there is little possibility of this impact occurring in

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the present, it could become a possibility in the future should the pineapple industry continue to decline, and as the human population of the area increases over time. It is therefore of low – moderate significance.

Cumulative impacts:

Issue 5: Cumulative impact of loss of agricultural land in the region

Cause and comment: There is already a decline in agriculture in the Eastern Cape, as more farmers sell their land either to developers, or private game reserves. Less agriculture in the region means a loss of employment, as well as a rise in food prices, as more food will have to be imported to the region.

Significance statement: This would be of moderate to high significance, with the impact increasing over time, especially if the pineapple market does not improve for Eastern Cape farmers.

Issue 6: Erosion

Cause and comment: Erosion due to cattle paths and fallow land is a common effect of farming practices and would be expected here. This would make the land less attractive for future development, if the proposal is revisited at a later stage.

Significance statement: This is of low significance, and can only be mitigated through conscientious farming practices.

Issue 7: Water requirements

Cause and comment: Farming practices in general require higher volumes of water than other practices e.g. the proposed development. Increased agricultural practices will result in an even greater water requirement. This may be exacerbated by the current threat of global warming and associated long-term droughts.

Significance statement: This is of moderate significance and cannot easily be mitigated.

3.12. ACTIVITY/TECHNOLOGY ALTERNATIVE RELATED IMPACTS

3.12.1. PLANNING AND DESIGN PHASE

Direct impacts:

The no-go alternative requires no activity/technology, therefore there will be no impacts from this phase.

Indirect impacts:

Cumulative impacts:

3.12.2. CONSTRUCTION PHASE

Direct impacts:

The no-go alternative requires no construction, therefore there will be no impacts from this phase.

Indirect impacts:

Cumulative impacts:

3.12.3. OPERATIONAL PHASE

Direct impacts:

No potential activity, therefore no impacts.

Indirect impacts:

Cumulative impacts:

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

3.13.1. PLANNING AND DESIGN PHASE

3.13.2. CONSTRUCTION PHASE

3.13.3. OPERATIONAL PHASE

3.14. PROPOSED MANAGEMENT OF IMPACTS AND MITIGATION

3.15. CONCLUSION

Considering mitigation measures, 1 low impact, 2 low – moderate impacts, 5 moderate impacts, 2 moderate to high impacts and 2 high impacts were identified. The most important impact of the No-Go option is that its long-term viability is doubtful which will put the current employees at risk of unemployment. A gradual degradation of the natural environment can also be expected.

Should the development not take place, a continual decline in the pineapple industry would mean that the owners may be forced to increase their agricultural activity, which would negatively affect the environment. The indigenous vegetation could also be affected by an increase in grazing, or non-sustainable fuel wood harvesting. Should agriculture prove unviable, the farmer may be forced to sell the land, which would mean a loss of jobs for the current 24 farmworkers and their dependants (about 120 people). There would also be the risk of more intensive developments by any future buyers and/or the division of agricultural land. The no-go option would also mean that there would be a gradual increase in alien vegetation and erosion. There would also be socio-economic impacts, as local people would lose the opportunity to take advantage of the employment opportunities presented by the preferred alternative of a low-density residential development.

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Activity Phase	Impact	Duration of impacts	Likelihood of impacts	Significance of Impacts after Mitigation
Alternative 1: Preferred Option: Low-density residential development				
Planning & Design Phase (Site related impacts)	Disturbance of natural vegetation	Permanent	Will definitely occur	Low
	Visual impact	Permanent	May occur	Low – No
	Pollution of water resources	Permanent	May occur	Low
	Loss of vegetation in surveying for new road access	Permanent	May occur	Moderate – low
	Footpaths created on an ad hoc basis to the dam	Permanent	May occur	Low
Planning and Design Phase (activity/technology related impacts)	Destruction of natural vegetation for housing units and roads	Permanent	Will definitely occur	Moderate – Low
	Erosion	Permanent	May occur	Low
Construction Phase (Site related impacts)	Destruction of vegetation at construction sites	Permanent	Will definitely occur	Low
	Noise pollution from vehicles and construction activities	Temporary	Will definitely occur	Low
	Soil compaction and soil erosion	Permanent	May occur	Low
	Rubble from construction works	Temporary	Will definitely occur	None
	Employment during the construction period	Temporary	Will definitely occur	Moderate-Positive
	Pollution of nearby water bodies	Short term	May occur	Low
	Expectations of jobs by many unskilled workers	Short term	May occur	Low
Construction Phase (activity/technology alternative related impacts)	Destruction of vegetation at construction sites	Permanent	Will definitely occur	Low
	Spreading of alien vegetation	Permanent	May occur	Moderate positive
	Disturbance of wildlife	Temporary	May occur	Moderate
	Removal of topsoil and soil erosion	Permanent	May Occur	low
Operational Phase (Site Relate)	Job Creation	Permanent	Will definitely Occur	Moderate Positive
	Footpaths created on an ad hoc basis	Permanent	May occur	Low
	Stress on municipal services and electricity supply	Permanent	May Occur	Low
	Impact on water sources	Permanent	Will definitely occur	Moderate
	Water pollution of nearby streams and catchment areas	Permanent	May Occur	Low
Operational Phase (Activity/technology related)	Increased transfer of alien vegetation	Permanent	May occur	Low
	General disturbance of natural vegetation	Permanent	May occur	Low
Alternative 2: Game reserve with self-catering lodges				
Planning & Design Phase	Destruction of natural vegetation for surveying	Permanent	May occur	Low
	Erosion	Permanent	May occur	Low
Construction Phase	Destruction of vegetation for construction of lodges and roads etc	Permanent	Will definitely occur	low
	Spreading of alien vegetation	Permanent	May occur	low
	Disturbance of wildlife	Temporary	May Occur	Moderate
	Removal of topsoil and soil erosion	Permanent	May occur	Low
Operational Phase	Stress on local vegetation types	Permanent	Will definitely occur	Moderate
	Game competing with cattle for grazing	Temporary	May Occur	Low
	General disturbance of natural vegetation	Permanent	May Occur	Low
Alternative 3: 'No Go'				
Planning & Design Phase	Continued decline in income due to falling pineapple industry	Permanent	May occur	High
	Continue invasion by alien invasive plants	Permanent	May occur	Moderate

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Activity Phase	Impact	Duration of impacts	Likelihood of impacts	Significance of Impacts after Mitigation
	Cumulative impact of loss of agricultural land in the region	Permanent	May occur	Moderate - High
	Erosion	Permanent	May occur	Moderate
	Water requirements	Permanent	May occur	Moderate
Construction Phase	No impacts			
Operational Phase	Continued decline in income due to falling pineapple industry	Permanent	May occur	High
	Continue invasion by alien invasive plants	Permanent	May occur	Moderate
	Increased pressure on natural areas for grazing	Permanent	May Occur	Low-Moderate
	Increased stress on indigenous vegetation such as thicket for non-sustainable wool for fuels	Permanent	May Occur	Low-Moderate
	Cumulative impact of loss of agricultural land in the region	Permanent	May occur	Moderate - High
	Erosion	Permanent	May occur	Low
	Water requirements	Permanent	May occur	Moderate

SECTION E. RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	
YES	

Is an EMPr attached?

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

Not applicable

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

Construction phase:

1. Construction Environmental Management Programme (EMPr)

Due to the location of the site and its proximity to the areas of natural vegetation and some streams, it is recommended that an EMPr is prepared for the construction phase of the project. A suitably qualified Environmental Control Officer should be appointed to ensure the provisions of the EMPr are implemented and/or adhered to.

2. Employment

As far as possible without compromising construction activities, local labour from the surrounding communities should be employed.

3. Visual

Natural vegetation should be planted as a screen in areas where the units will be visible, e.g. the old lands should be revegetated with indigenous plants.

4. Disturbance of indigenous vegetation

Before construction commences, the vegetation specialist should indicate which areas of sensitive vegetation should be avoided. These should be demarcated to as 'no -go' areas to avoid confusion during construction. Where possible, indigenous vegetation should be removed before construction, and kept in a nursery. These plants can then be used to screen units, or to revegetate the former cultivated areas after the alien plants have been removed. During construction, as little vegetation as possible should be disturbed. Construction workers and vehicles should stick to marked out paths and areas. On each erf, sensitive vegetation should be avoided, and as much of the natural vegetation as possible should be left, with each housing site clearly marked out. The access site to the house should also be marked out, and should be the only access route used during construction and occupation.

5. Siting of the proposed development

The site of the proposed development has been carefully chosen to be the most suitable in terms of minimal impact on the environment, while enhancing the sense of place of the region for the developers and consequently the future owners of the proposed houses. Each house will be carefully sited to avoid sensitive vegetation and unstable soil types. The developers have already taken into account the recommendations of the vegetation specialist and the geologist/hydrologist, and have revised the layout plan accordingly.

Operational Phase

1. Operational Environmental Management Programme (EMPr)

An Operation EMPr must be prepared by a suitably qualified person to determine the environmental management roles and responsibilities during the operational phase and how the site will be managed. This should include the rehabilitation and revegetation of disturbed areas and the removal of alien vegetation. In addition, the roles and responsibilities with regards to the waste disposal and sewage facility maintenance etc should be very clearly defined. Home owners, as members of the Belton Conservancy Trust, will need to abide by the regulations set out in the EMPr.

2. Employment

Preference should be given to local people for employment in the refuse removal/recycling business, for domestic help at residences, for the alien eradication programme and for revegetation/maintenance work around the units/conservation area

3. Disturbance of indigenous vegetation.

Indigenous vegetation should be disturbed as little as possible. The design 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 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 where they occur, are repaired and the natural vegetation reinstated.

4. Removal of alien vegetation.

Alien removal should take place where aliens have invaded the fallow lands, and a revegetation programme should be implemented to revegetate these areas. The removal of alien vegetation and the revegetation of disturbed areas is seen as an employment opportunity for at least 2 part time positions.

5. Gardens.

There should be no formal gardens, but enhancement of the indigenous vegetation in the vicinity of each house would be in keeping with the nature of the development. Homeowners who wish to water surrounding vegetation should use recycled grey water. Non-indigenous plant should be planted into a container, and invasive plants should not be allowed to be planted.

6. Visibility

Buildings should be designed to blend in with the surrounding vegetation. Building material should include wood and/or stone and cement walls, with green tin/slate roofs. Buildings are limited to a single story, and should be designed to remain visually unobtrusive.

7. Energy efficiency

Energy efficiency should be considered in the design, with such aspects as insulation, energy efficient appliances and lighting. External lighting should be energy efficient, visually non-intrusive, down-cast lighting of low intensity.

Solar power is recommended to supplement electricity requirements, and also to allow homeowners access to at least some power during power shortages.

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8. Water harvesting

All buildings are required to harvest rainwater, and should be equipped with at least a 10 000 – 15 000 litre conservancy tank(s) for this purpose. Permanent residents will require more rainwater storage.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

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Appendix A – Site Plans

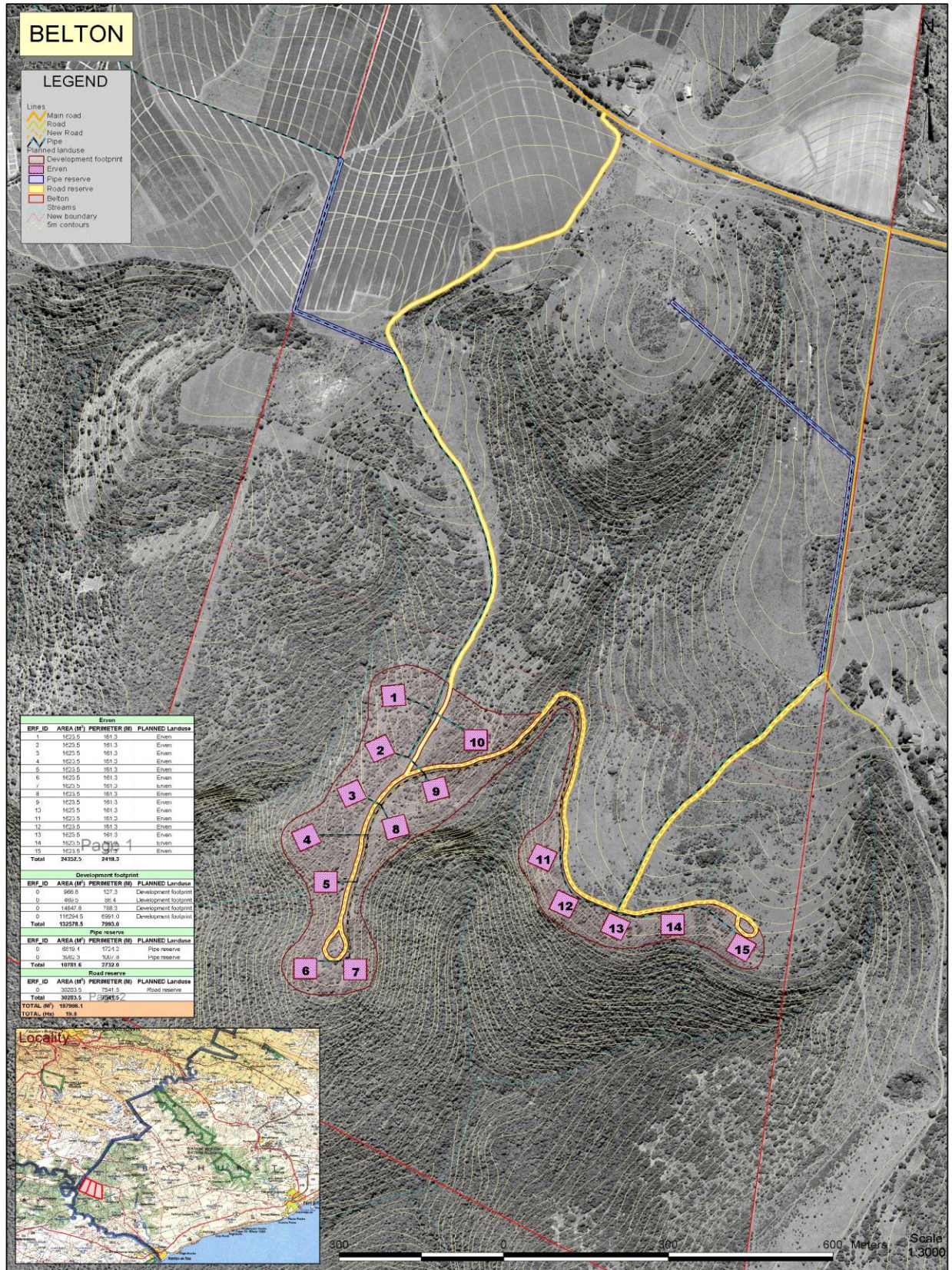


Figure A1: Site plan showing original proposed development

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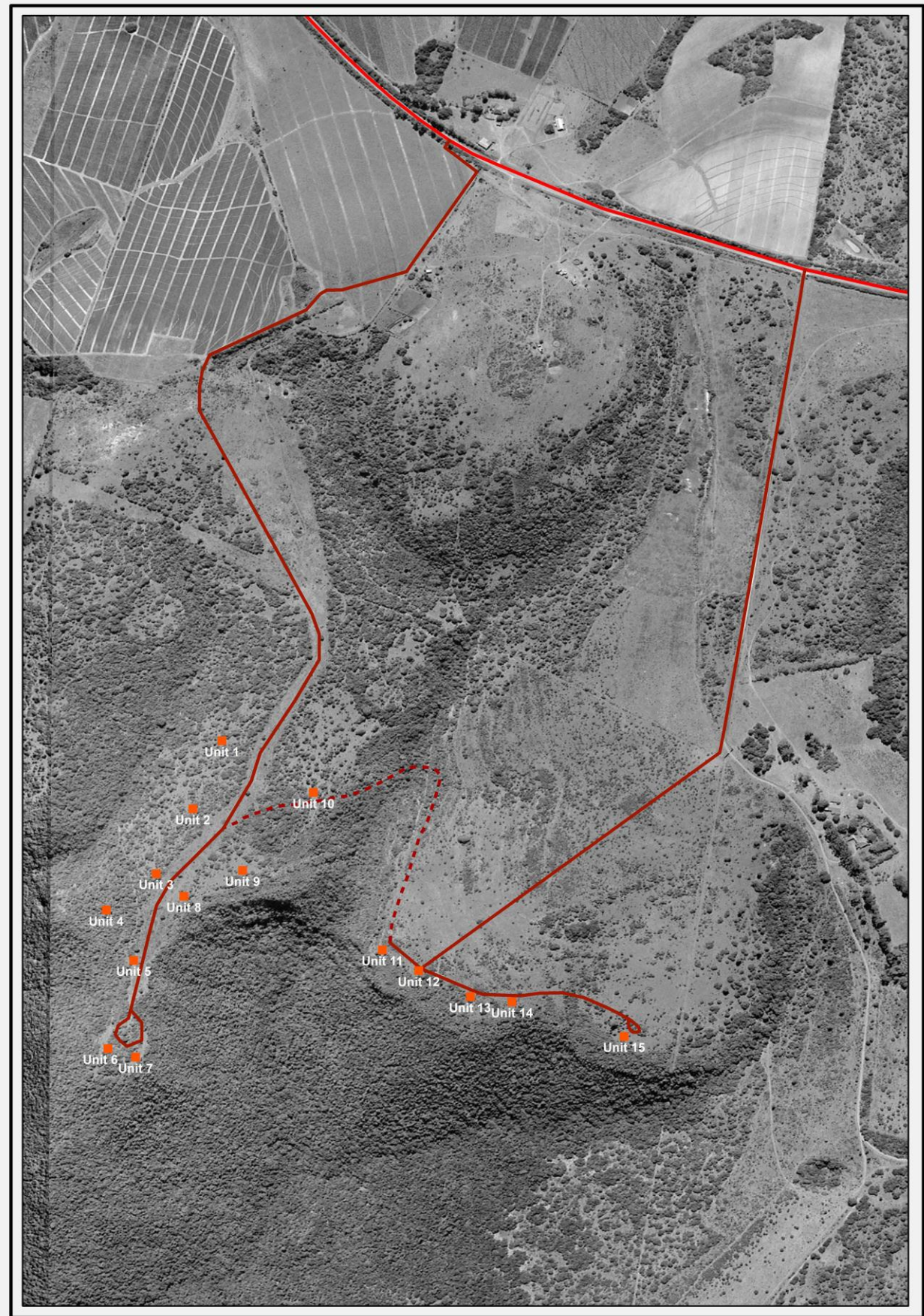


Figure A2: Site plan showing final placement of the units and the realignment of roads to the two nodes of the proposed development

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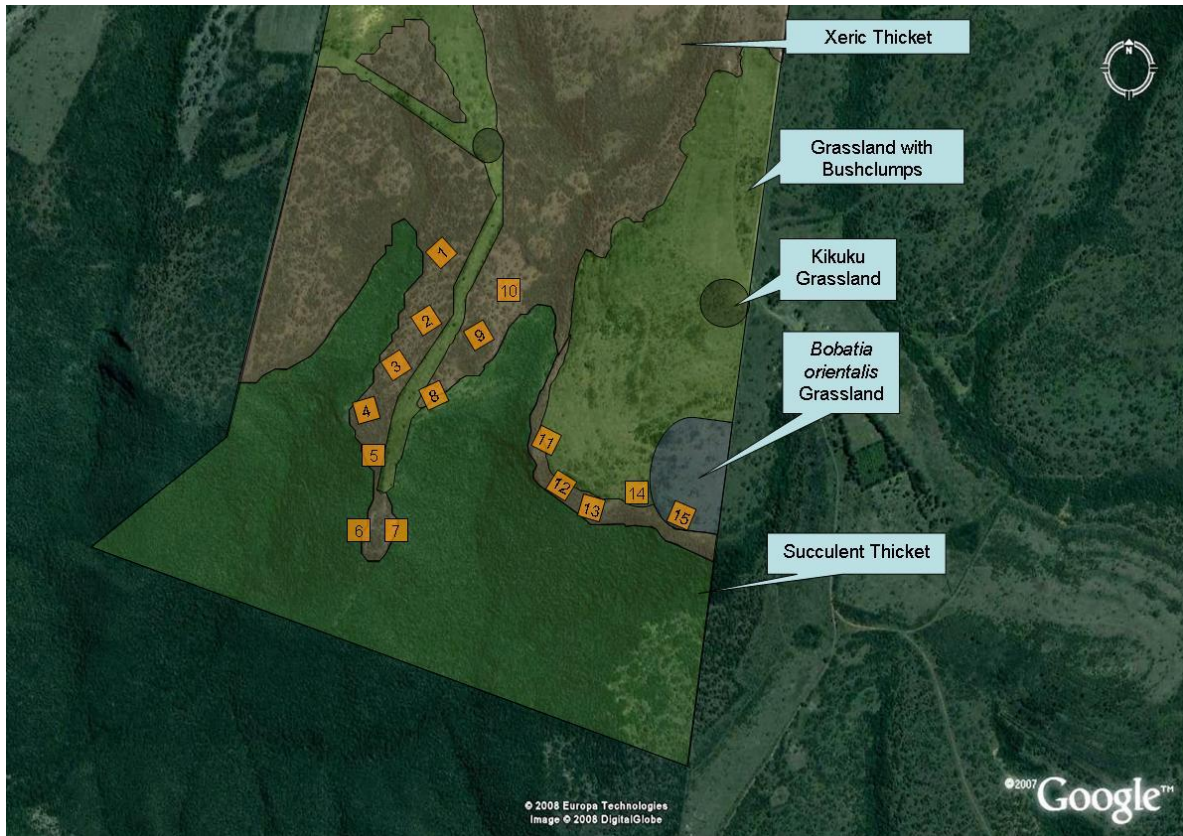


Figure A3: Showing location of proposed erfs in relation to types of vegetation