



**DOUG JEFFERY ENVIRONMENTAL CONSULTANTS (PTY) LTD**

High Acres Farm, Simondium Road, Klapmuts  
PO Box 44  
Klapmuts, 7625  
www.dougjeff.co.za

**Tel:** 021 875 5272  
**Fax:** 086 660 2635  
**Cell:** 083 269 0496  
**Email:** doug@dougjeff.co.za

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**PROPOSED "DRAKENZICHT" RESIDENTIAL DEVELOPMENT ON PORTION 8 OF FARM 851,  
PAARL**

**PRE-APPLICATION BASIC ASSESSMENT REPORT**

*In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, and the  
Environmental Impact Assessment Regulations, 2014 (as amended)*



**October 2020**

**DEA&DP NOI Reference:**

16/3/3/6/7/1/B3/28/1138/20

**Prepared for:**

Legaro Properties (Pty) Ltd

**Prepared by:**

Doug Jeffery Environmental Consultants (Pty) Ltd

Reference: DJEC 2016/92

## EXECUTIVE SUMMARY OF THE BASIC ASSESMENT REPORT.

### INTRODUCTION

Doug Jeffery Environmental Consultants was appointed by the Applicant, Legaro Properties (Pty) Ltd, as the independent Environmental Assessment Practitioner ("EAP") to apply for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998), as amended ("NEMA") and the 2014 Environmental Impact Assessment ("EIA") Regulations, as amended, for the proposed development of a secure residential lifestyle estate with auxiliary services and infrastructure on Portion 8 of Farm 851 in Paarl. The proposed development is referred to as "Drakenzicht".

### Background

Prior to the Drakenzicht proposed development, a similar development was proposed for the site. The difference between the two proposals is that Drakenzicht proposes 207 residential units and a Montessori school, whereas the initial proposal makes provision for 336 units. The proposal of 366 units is not presented in this environmental process since the higher density would likely result in an objection to the proposal from the municipality in terms of service provision. Moreover, the school was identified as a need within the area, and the proposed development is in keeping with the various policies applicable to the development. See Need and Desirability below.

### SITE LOCATION AND DESCRIPTION

The proposed development is adjacent to the Checkers development. A portion of the western boundary is along Wemmershoek Road (the R301) and a portion of the northern boundary is along Lustigan Road (Drakenstein Road). Boschenmeer Golf Estate is directly opposite the site to the west.

The site was previously used as a vineyard for grape production. However, it is not actively farmed at present. Except for the vineyards that will be removed, the site has a farm dam in the northwest portion of the site and an old farmhouse and associated infrastructure in the centre of the site. The farmhouse will be demolished. See Figure 1.

### PROPOSED DEVELOPMENT AND INFRASTRUCTURE

The proposed development, 'Drakenzicht', is a secure residential lifestyle estate with a central, private club house facility offering a restaurant, gym, and other hospitality services to residents. Access to the site will be via a single security-controlled access off Lustigan Road.

The layout is of medium density consisting of 207 single dwelling units translating into a density of 16 dwelling units per hectare (du/ha). Other facilities include 13 single storey storage units, a single storey Montessori School and a double storey club house. See Figure 2.

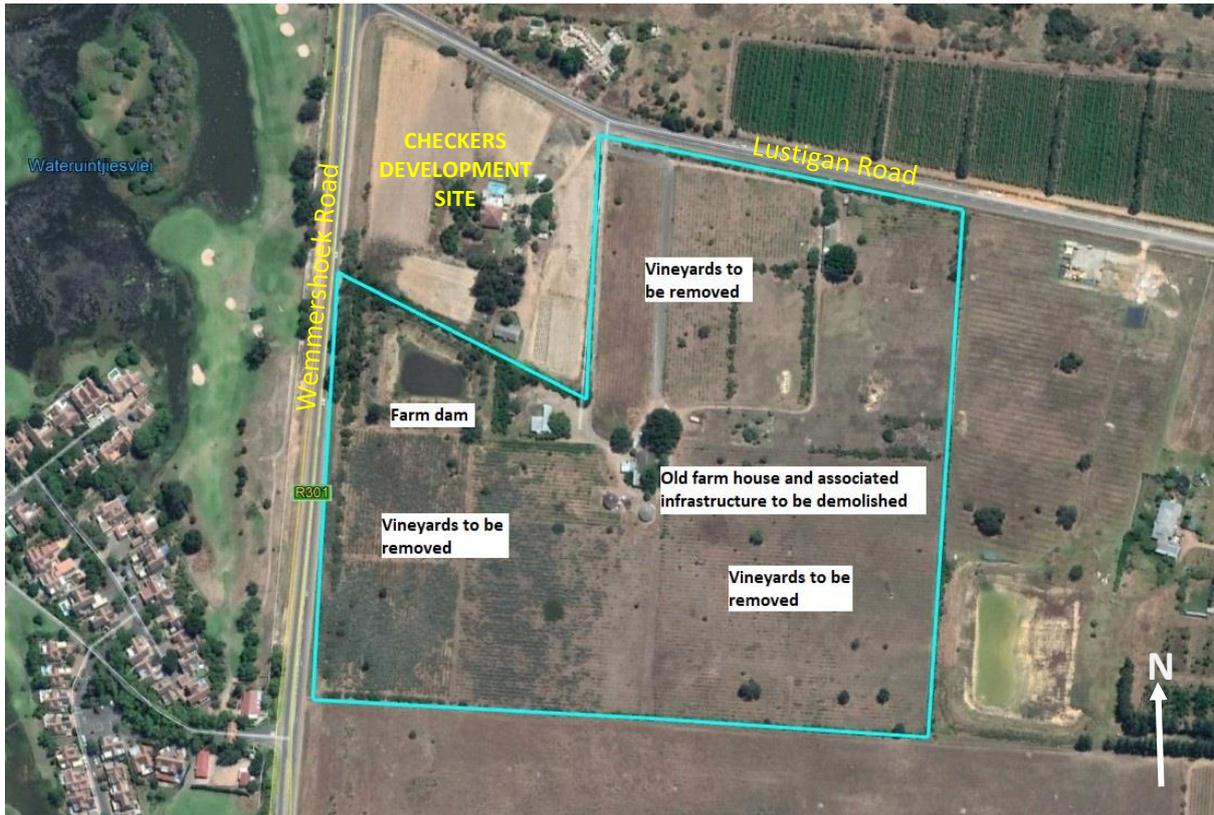


Figure 1: Proposed site.



Figure 2: Proposed development plan

## **BUILDINGS**

### **Residential component**

The development proposes a housing potential of 207 single residential units made up by various typologies, translating to a GROSS density of 16 dwelling units per hectare (du/ha). All units are double storey, stand-alone and consisting of a combination of three or four bedroom units. Unit floor areas vary between 186m<sup>2</sup> to 204m<sup>2</sup>, with a ground floor area of 129m<sup>2</sup> to 150m<sup>2</sup>. The "plot" sizes are approximately 337m<sup>2</sup> with the plot coverage less than 50%. Architectural variation of the contemporary style will be achieved through the use different materials, colours and finishes for roofs, façades and fenestration.

### **Lifestyle centre**

The Lifestyle Centre, "club house", is a two-storey building with the club house facility, including a restaurant, pool, bar and gym on the ground floor for the Drakenzicht residents.

### **Pre-primary school**

The proposal is to accommodate a Montessori School. The school design as proposed by the SDP will provide for approximately 180 pre-school learners accommodated in seven classrooms. That is, two classrooms for toddlers and five pre-school classrooms. Other supporting facilities will also be provided within the building. It is anticipated that approximately 25% of the learners will be from the Drakenzicht Estate. The school will therefore attract visitors from outside.

### **Storage units**

A row of private storage units is proposed along the cadastral boundary shared by the future Checkers site and the development. The storage units are for usage by the estate management or by residents of the estate. The units will have a functional purpose as well as a visual and physical barrier between the back of the Checkers which would be aesthetically unpleasing and the residential units. The storage units will be developed to the same contemporary architecture style as the rest of the estate.

## **SERVICES**

### **Water distribution system**

The proposed development will be accommodated in the existing Leliefontein reservoir zone. The total annual average daily demand calculated at 950,0 kilolitres per day (kℓ/d). The existing Leliefontein reservoir has sufficient capacity to accommodate the proposed development. Network upgrades will however be required in terms of the Water Master Plan of Drakenstein Municipality.

### **Sewer network**

The development falls within the Paarl rural bulk sewer drainage area. The recommended position for the sewer connection for the proposed development is at a future outfall. The sewage shall gravitate towards the existing Paarl bulk sewer adjacent to the Berg River. The peak day dry weather flow is calculated at 665,0 kℓ/d. Network infrastructure upgrades will be required since there is currently no infrastructure between the proposed development and the existing sewer network. A short-term solution is proposed which allows a connection from the property into the existing Boschenmeer internal sewers. The concept and alternate design are subject to approval by the Drakenstein Municipality. Developer Contributions payable for the two schemes may then be utilised by the Municipality to construct the Boschenmeer Outfall in the future. This concept and alternate design are also subject to approval by the Drakenstein Municipality.

### **Electricity**

The maximum electricity demand of the development is approximately 738kVA. There is no sufficient capacity. The Drakenstein Municipality has noted that a new 132/66/11kV main substation is required to accommodate future developments. In the meantime, the Drakenstein Municipality indicated that they are in the process of installing a temporary solution for the time being until such time that the 132/66/11kV main substation is constructed. The temporary solution involves the installation of new medium voltage networks that will be supplied from its existing Parys 66/11kV main substation.

## **ACCESS**

Access into Drakenzicht is from Lustigan Road, approximately 400 metres from the Wemmershoek Road/Lustigan Road intersection. A right-turn lane into the development from the western approach along Lustigan Road is proposed. See Figure 2.

## **STORMWATER**

Two stormwater dams are proposed on the western portion of the site along Wemmershoek Road. The northern dam is 1650 m<sup>2</sup> and proposed depth between 1,2 and 1,4 metres with a dissipation headwall into the dam. The proposed volume is 2145 cubic metres (m<sup>3</sup>). The southern dam is 550m<sup>2</sup> with a proposed depth of between 1,2 and 1,5 metres with a dissipation headwall into the dam. The proposed volume is 742.5 m<sup>3</sup>.

The existing dam on site will be infilled. As a result of the elevational difference between the two proposed dams each will have their own controlled outlet. The outlets of each dam will link to a single discharge point into the existing open drain along Wemmershoek Road. It is anticipated that 300mm diameter pipes will be used for the internal piped system.

The pre-development runoff factor was calculated at 0.13 and a post development runoff factor at 0.80. The runoff factor relates to the percentage of the amount of rainfall that will 'run off'. For this development, a 0.13 pre-development runoff factor means that pre-development, 13% of the rainfall will runoff. Likewise, a post development runoff factor of 0.8 will result in 80% of the rainfall will run off. The control structures are proposed to limit the flow off the site to the pre-development 1:5 year storm.

## **APPLICABLE LEGISLATION, GUIDELINES, POLICIES AND PROTOCOLS**

### **1. LEGISLATION**

#### **National Environmental Management Act (Act No. 107 of 1998), as amended**

Environmental Authorization is required in terms of NEMA for Activity 28 of Government Notice (GN) GN R. 983 (Listing Notice 1) of 2014, as amended. Activity 28 reads as follows:

*“Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:*

- (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or*
- (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;*

*excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.”*

The proposed development involves the rezoning and subdivision of agricultural land to establish a residential estate. The proposed development site is located outside an urban area and the total land to be developed is approximately 14.33 hectares.

#### **National Heritage Resources Act (Act No. 25 of 1999)**

Section 38 of the National Heritage Resources Act (Act No. 25 of 1999) is applicable to the proposed development since the proposed development will result in the change of character of the site “exceeding 5000m<sup>2</sup> in extent”, and “the rezoning of a site exceeding 10 000m<sup>2</sup> in extent”.

A Notice of Intent to Develop (NID) was submitted to Heritage Western Cape (HWC) on 04 August 2017. In response to the NID, HWC required a Heritage Impact Assessment (HIA) to be submitted considering that there is reason to believe that the development will impact on heritage resources.

An HIA has been compiled and is attached to the pre-application BAR. Please refer to the heritage specialist input below.

## 2. GUIDELINES

**Circular EADP 0028/2014: One Environmental Management System** - This circular was considered while undertaking this Basic Assessment (BA) process.

**Environmental Impact Assessment (EIA) Guideline and Information Document Series, 2013** - All guidelines were considered while undertaking this BA process.

**Guideline for Environmental Managed Plans, June 2005** - The Environmental Management Programme (EMPr) was compiled in terms of these Guidelines, as well as Best Practise Principles and NEMA's General Duty of Care Section 28.

**Guideline for the Review of Specialist Input in the EIA process, 2005** - This guideline was considered to while undertaking this BA process.

**Guideline on Alternatives, 2013** - This guideline was consulted and adhered to while undertaking this BA process.

**Guideline on Need and Desirability, 2013** - This guideline was consulted and adhered to while undertaking this BA process.

**Guidelines Involving Visual and Aesthetics in an EIA Process, 2005** - This guideline was taken into consideration by the specialist that compiled the Visual Impact Assessment.

**Public Participation Guideline, 2017** - The Public Participation Process (PPP) was undertaken as per the requirements laid out in this guideline.

## 3. POLICIES

### **Drakenstein Municipality: Municipal Land Use Planning By-Law, 2015**

An application was submitted to the local municipality for rezoning the site from "Agriculture" to "Multi-Unit Housing Zone" in terms of Section 15(2)(a) of the Drakenstein zoning by-law, as well as a Consent in terms of Section 15(2)(n) for "Place of Instruction" (for a pre-primary school) and "Place of Assembly (for the Lifestyle Centre (Club House)).

## 4. PROTOCOLS

For any environmental process being undertaken, the national web-based screening tool must be consulted which generates a report identifying the potential specialist studies required to inform the environmental process. For each study required, there is a protocol attached thereto. However, it not always necessary for these studies (and protocols) due to the nature of the activity and site characteristics.

Based on the Screening Tool, the themes and sensitivities below were identified for which studies are required (see below). However, some studies are not required and are explained below.

- **Terrestrial biodiversity** - The site is completely transformed, with no natural vegetation present on site. The proposed development will therefore have no impact on terrestrial biodiversity.
- **Aquatic biodiversity** - The site is completely transformed, with no aquatic features, with the exception of an artificial dam, present on site. The proposed development will therefore have no impact on aquatic biodiversity.
- **Plant species** - The site is completely transformed, with no natural vegetation present on site. The proposed development will therefore have no impact on any plant species.
- **Civil Aviation** - The proposed development is residential and located outside Paarl urban area. No impact on civil aviation is predicted.
- **Defence** - The proposed development will not have any impact on defence as it is a residential development outside an urban area.

- **Agriculture** – a compliance statement has been included in the BAR. Please see specialist input below.
- **Animal Species** – a butterflies compliance statement has been included in the BAR. Please see specialist input below.
- **Archaeological and Cultural Heritage** – an HIA has been compiled. Please see specialist input below.

## **PUBLIC PARTICIPATION**

Two public participation iterations shall be undertaken. The first iteration is where the pre-application Basic Assessment Report (BAR) shall be made available for comment. The second iteration shall be undertaken for the Draft Basic Assessment Report preceded by the submission of the Application for Environmental Authorisation. The public participation process for the proposed development shall be undertaken in line with Regulation 41 of the NEMA EIA Regulations, 2014 (as amended). The following is proposed:

### **Pre-Application Public Participation:**

- Regulation 41 (2) (a)

A site notice shall be placed at the entrance to the property in line with Regulation 41 (4). The site notice shall provide the following information in line with Regulation 41 (3): name of applicant, project description, nature and location, notification of the EIA process being applied to the application, where additional information can be found, invitation to participate in the EIA process by registering as an I&AP and how to do so, the dates of the 30-day commenting period, and who to contact for information.

- Regulation 41 (2) (b)

The Applicant is the owner of the site. All occupiers of the site, person in control of the site, adjacent landowners and occupiers, municipal councillor, any ratepayers organisations, or community representatives in the area, the municipality which has jurisdiction in the area, organ of state having jurisdiction in respect of any of the aspects of the activity shall be notified of the proposed development and the EIA process being followed. Notifications shall be sent via email or post and will include a copy of the Executive Summary of the BAR which shall be comprehensive for the I&AP to understand the project proposal and its associated impacts.

- Regulation 41 (2) (c)

A media notice shall be placed in the newspaper providing the same information as the site notice.

- Regulation 41 (2) (d)

Not applicable since the proposed activity does not extend beyond the boundaries of the City of Cape Town.

- Regulation 41 (2) (e)

Reasonable alternative methods will be provided for, if required, appropriate to the persons' disadvantage.

### Availability of the Pre-Application BAR

- A copy of the pre-application BAR shall be placed on the Doug Jeffery Environmental Consultants website, <https://www.dougjeff.co.za>. Organs of State and potential I&APs (identified in regulation 41 (2)(b)) shall be provided with the link to access a full copy of the Basic Assessment Report and all Appendices thereof. The Executive Summary of the BAR will also be made available to download, as a separate document from the BAR.
- A copy of the report will be placed at the Paarl Library (Cnr Main and Market streets, Paarl) for public viewing.

- The Ward Councillor and/or local community representative(s) shall be requested to assist with distribution of notices via their respective online platforms (websites or social media). The Councillor shall also be notified via email of the proposed development.
- A 30-day commenting period shall be undertaken within which time comments may be made on the Pre-Application BAR. Organs of State shall be requested to submit their comment in terms of Section 24(O) of NEMA.
- Comments received on the pre-application BAR shall be responded to in the comments and response report that shall be included in the Draft BAR.

### Statutory Process

The Application for EA shall be submitted to DEA&DP. Thereafter, registered I&APs and Organs of State shall be provided with a further 30-day commenting period on the draft BAR.

Considering Regulation 41 (5), subregulation (2) (a), (b), (c) and (d) shall not be undertaken during the second PPP. This iteration also responds to Regulation 41 (6) and (7).

This PPP includes:

- Registered I&APs and Organs of State shall be notified via their preferred method of communication of the 30-day commenting period on the revised BAR and Environmental Management Programme.
- A copy of the Draft BAR shall be placed on the Doug Jeffery Environmental Consultants website, <https://www.dougjeff.co.za>. Organs of State and registered I&APs shall be provided with the link to access a full copy of the Basic Assessment Report and all Appendices thereof.
- I&APs will receive a copy of the Executive Summary of the Draft BAR when notified of the 30-day commenting period.
- A copy of the Executive Summary will be uploaded onto the website too for download.
- Comments received shall be included in the Final BAR with EAP responses thereto.

The Final BAR shall be submitted to DEA&DP for decision which will include the comments received and responses.

### SITE SENSITIVITIES

**Groundwater** - The site is located over a fractured aquifer with a borehole yield class of 0.1 – 0.5 litres per second. The aquifer is classified as a minor aquifer which is a moderately-yielding aquifer system of variable water quality. This aquifer region is most vulnerable meaning that the region is vulnerable to many pollutants except those strongly absorbed or readily transformed in many pollution scenarios. The proposed development is not expected to affect the aquifer.

**Surface water** - A farm dam is located in the northwest portion of the site. This dam is not an in-stream dam.

**Biodiversity** - The Vegetation Map of South Africa, Lesotho and Swaziland (2018) was used to determine the overall vegetation type of the area that the site is located in. According to the VegMap (2018) the site, in a natural state without any anthropogenic disturbance, would have contained Boland Granite Fynbos (Figure 6). Boland Granite Fynbos is classified as a VULNERABLE vegetation type according to the Western Cape Biodiversity Spatial Plan 2017 Ecosystem Threat Status data (CapeNature). The site has been completely transformed and does not contain any natural vegetation. The 2017 Biodiversity Spatial Plan for the Drakenstein Municipal area does not identify any Critical Biodiversity Areas, Ecological Support Areas, or Protected Areas located within the study area.

## SPECIALIST INPUT

### Agriculture compliance statement

It was confirmed by Johann Lanz a soil scientist, that the site was exempt by the minister of Agriculture, Land Reform and Rural Development from the provisions of the Subdivision of Agricultural Land Act (Act 70 of 1970) which removed the land from agricultural use. Thus, allowing for the site to be rezoned and developed. Therefore, since the land is not under "agricultural" land use, the development does not have an unacceptable negative impact on the agricultural production capability of the site.

### Butterflies compliance statement

The screening tool identified animal species as "medium sensitivity" and identified two butterfly species sensitive to the site: *Aloeides carolynnae carolynnae* and *Kedestes lenis lenis*. Dave Edge and Associates, specialists in the field of butterflies, was appointed to investigate to determine if the two species are located on the development site. A desktop study was carried out to determine if the species of conservation concern have been recorded at the site as well as a preliminary survey was conducted at the site. The findings of the specialist assessment were as follows:

- *Kedestes lenis lenis* is a habitat specialist butterfly that requires damp areas between dunes where its sole larval foodplant, *Imperata cylindrica*, grows (Mecenero et al., 2013). The adults require nectaring plants during their flight period during October and November. There is no *Imperata cylindrica* growing at the site and there are no obvious nectaring plants for the adults.
- *Aloeides carolynnae carolynnae* is a rare and localised butterfly. Their larvae are associated with ants from the genus *Lepisiota* and the host plant, although unknown, is likely to be the same as for other butterflies in this genus (*Aspalathus*) (Williams, 2019). There are no *Aspalathus* plants present at the site.

There is no possibility that the proposed development site could support a population of either of the endangered SCC butterflies *Aloeides carolynnae carolynnae* and *Kedestes lenis lenis*. This assessment is based on the following facts:

- 1) The vegetation types in which these butterflies occur differ from the vegetation types that the site originally contained.
- 2) The site is totally degraded and none of the original indigenous vegetation remains.
- 3) The host plants used by these butterflies do not occur at the site.
- 4) There are no records of either butterfly having been seen at the site and the nearest record existing is nearly 40km away.

### Heritage Impact Assessment

The property falls within a Drakenstein Municipality Heritage Protection Overlay Zone (HPOZ).

The site contains three development clusters. Buildings from development clusters A appear to date from the mid-20th century. The homestead in this cluster is older than 60 years and therefore subject to the National Heritage Resources Act (Act 25 of 1999) Section 34. There are no buildings from development cluster B that are older than 60 years. Development cluster C contains farm worker cottages some of which are older than 60 years and is subject to Section 34 of the NHRA. A demolition permit will need to be issued for the buildings on the property that are older than 60 years.

### Heritage Significance of the Site

#### Aesthetic significance

The primary aesthetic/spatial significance of the property is its important position along Wemmershoek Road which is considered a significant scenic route approaching Paarl and to a slightly lesser extent, its position alongside the Lustigan Road scenic route. The site itself has no scenic qualities but does have moderate sensitivity regarding future development. The property contains various landmark trees which are heritage resources and would therefore be potentially sensitive to future development. The surrounding landscape is of moderate sensitivity.

Historical significance - the property has no historical significance.

#### Architectural significance

The subject property contains various structures, some of which date stylistically to the mid-20th Century with others clearly of more recent origin. None of the buildings have been deemed worthy of grading in terms of the 2011 Paarl Heritage Survey. The only structure of arguably some significance is the northernmost labourer's cottage which could possibly be considered for grading as a Grade III C11 structure.

#### Agricultural significance

The site is in an area where productive agricultural land can be considered a heritage resource even if the property itself has no particular historical associations with the development of the local wine industry.

However, the site is no longer used for cultivation or crop production. See Agricultural input above.

#### Archaeological significance

The findings of an archaeological assessment of the subject property undertaken indicate that no archaeological material was noted on the site and no finds on the property worthy of grading in terms of HWC's grading policy document on the grading of heritage sites. The archaeological potential is low to none.

#### **Heritage Impacts**

The proposed development will not impact visually on surrounding historic farmsteads due to the nature of the topography and intervening vegetation. The site has low to no architectural significance and will not impact on any historic townscapes. The site has very low archaeological potential and contains no known graves or burial grounds and has no historic associations with slavery.

#### **Traffic Impact Assessment**

According to the Traffic Impact Assessment (TIA) compiled by ITS (2020), the following is noted:

- number of trips generated by the proposed development is 338 and 311 trips for the AM and PM peak hours, respectively.
- Trips entering and exiting the development during AM peaks are 119 In and 219 Out
- Trips entering and exiting the development during PM peaks are 196 In and 115 Out

#### **Visual Specialist Findings**

The receiving environment has been rated as moderately visually sensitive. The site is visible from several hectares and has therefore been rated as moderately visible. The rural landscape, due to its context, and the significant views of Klein Drakenstein Mountains and Paarl Mountain; have been identified as highly sensitive areas. Wemmershoek Road and Lustigan Road has been identified as a highly sensitive receptors because of travellers and tourists that make use of these routes. Landscape sensitivity is deemed to be moderate. Due to the significant scenic views from Wemmershoek Road across the rural landscape towards the Klein Drakensberg Mountains, receptor sensitivity is considered to be high, especially along Wemmershoek Road and Lustigan Road. Partial screening is afforded by the landscape's topography which increases the visual absorption capacity. Limited screening is afforded by the existing vegetation on site. The visual absorption capacity of the site is therefore deemed to be moderate.

Potential visual impact for the proposed development include: change from rural to suburban landscape, visual intrusion on subsidiary view corridors, and night light.

From a visual perspective the development should be endorsed on condition that the visual impact of the proposal is mitigated sufficiently, as per the planning, design & detail considerations, mitigation measures and recommendations.

## NEED AND DESIRABILITY

### Western Cape Provincial Spatial Development Framework

The proposed development is regarded as being consistent with the principles and objectives contained in the Drakenstein Municipal Spatial Development Framework, 2018 (DMSDF), and since the DMSDF is informed by the PSDF it should be consistent with the principles and objectives of the PSDF.

### Drakenstein Municipality Integrated Development Plan (IDP) [2019/2020]

The IDP refers to Catalytic Zones which are intra-municipal zones of spatial and economic activity. The site is located in the South City Corridor, one of the Catalytic Zones earmarked for Urban-Infill and Business/Commercial purposes. See Figure 3.

### Drakenstein Municipal Spatial Development Framework, 2018

The site is located in Focus Area 5: Paarl South within the existing urban edge. This area is currently under considerable pressure for development, most notably for low density upmarket gated-community type residential developments.

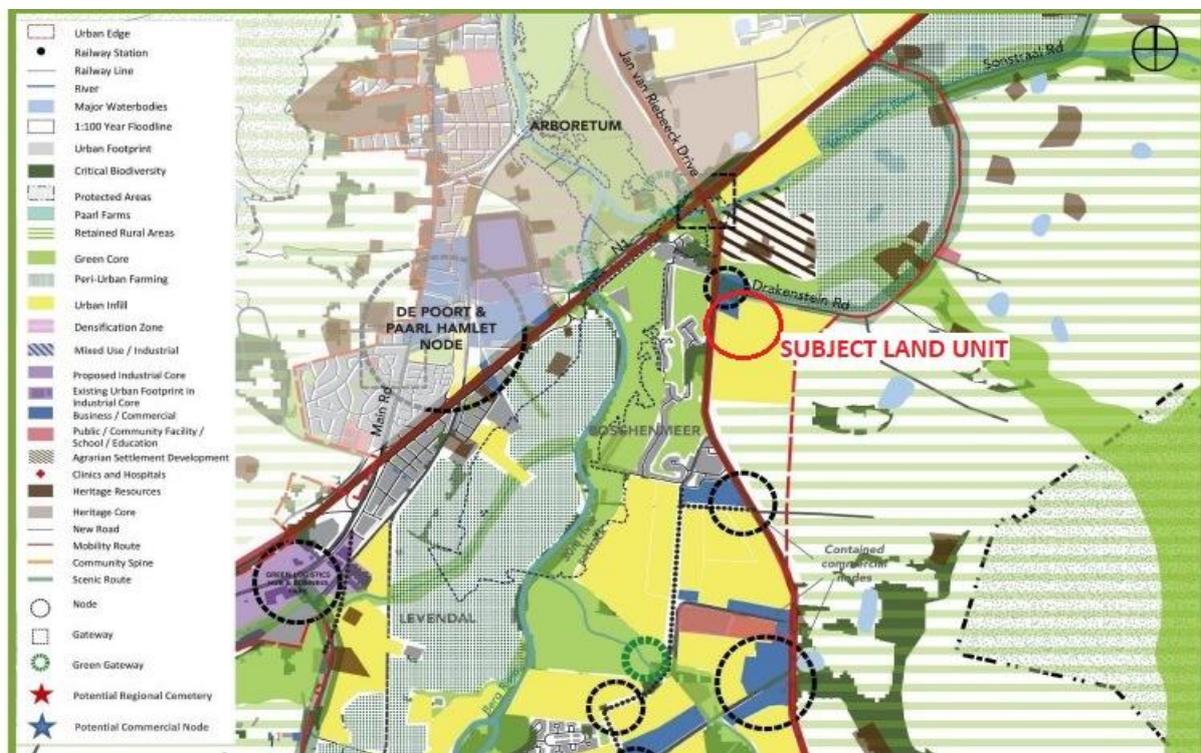


Figure 3: Extract from the Drakenstein SDF, 2018: Spatial Concept.

## IMPACT ASSESSMENT

Below is a summary of the impacts assessed and identified by the EAP and the appointed specialists. The proposed development will result in negative impact after mitigation however, the EAP is of the opinion that this is acceptable. Notwithstanding the negative impacts, the proposed development will bring with positive impacts to the area.

	Alternative 1 – Development		Alternative 2 – No-Go Option	
	Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
<b>PLANNING, DESIGN AND DEVELOPMENT PHASE</b>				
Loss of Agricultural Land	Low Negative	Not Applicable	No Impact	Not Applicable
Potential Soil & Groundwater Contamination.	Low Negative	Low Negative	No Impact	Not Applicable
Potential Erosion & Loss of Topsoil	Low Negative	Negligible	No Impact	Not Applicable
Impact on employment and on the local economy	Medium positive	Not Applicable	Medium negative	Not Applicable
Noise nuisance	Low Negative	Negligible	No Impact	Not Applicable
Dust nuisance	Medium to low negative	Low negative - Negligible	No Impact	Not Applicable
Traffic impact	Low Negative	Negligible	No Impact	Not Applicable
Change from Rural to Suburban Landscape	High negative	Medium negative	No impact	Not applicable
Visual Intrusion on Subsidiary View Corridors	Medium-high negative	Medium negative	No impact	Not Applicable
Night light	Medium-high negative	Medium negative	No impact	No impact
Physical Impacts on Heritage Resources: Buildings	No-low significance	Low Negative	No impact	Not Applicable
Physical Impacts on Heritage Resources: Trees	Medium-high negative	Low Negative	Medium to low negative	
Spatial/Scenic & Economic Impacts on Heritage Resources & Society	Medium-high negative	Low Negative	Low – no significant impact	Neutral
<b>OPERATIONAL PHASE</b>				
Impact on employment and on the local economy	Medium positive	Not Applicable	Medium negative	Not Applicable
Traffic impact	Low Negative	Negligible	No Impact	Not Applicable
Change from Rural to Suburban Landscape	High negative	Medium negative	No impact	Not applicable
Visual Intrusion on Subsidiary View Corridors	Medium-high negative	Medium negative	No impact	Not Applicable
Physical Impacts on Heritage Resources: Buildings	No-low significance	Low Negative	No impact	Not Applicable
Physical Impacts on Heritage Resources: Trees	Medium-high negative	Low Negative	Medium to low negative	

## MITIGATION AND MANAGEMENT MEASURES

The impact management, mitigation, and monitoring measures as well as the impact management objectives and impact management outcomes determined by the EAP and included in the Environmental Management Programme (EMPr) are described below. These mitigation measures are those provided in the impact assessment (summary above) to ensure that the proposed development is acceptable after mitigation measures are implemented. These are non-negotiable.

### MANAGEMENT MEASURES

- An Environmental Control Officer (ECO) must be appointed to oversee the construction of the services infrastructure which includes implementation of the EMPr.
- ECO monitoring (site visits) to be undertaken twice a month, until such time that the construction of the services infrastructure is completed.

### MITIGATION MEASURES

The following impact mitigation measures are being recommended by the EAP.

#### Planning, design and development phase

##### a. *Mitigation for potential soil and groundwater contamination*

- Removal and clean-up of spill immediately after occurrence.
- All construction vehicles must be properly maintained to prevent leaks.
- Cement mixing must be confined to a designated area and must be done on an impervious surface, or pre-mixed cement must be used.
- Any fuel stored on site must be kept in bunded storage tanks.
- Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to catch incidental spills and pollutants.
- Drip trays are to be inspected on a weekly basis for leaks and effectiveness and emptied when necessary. This is to be closely monitored during rain events to prevent overflow.

##### b. *Mitigation for potential erosion and loss of topsoil*

The Stormwater Management Plan and EMPr must be implemented.

##### c. *Mitigation for noise nuisance*

Noise mitigation measures provided in the EMPr must be implemented.

##### d. *Mitigation for dust nuisance*

- Dust mitigation measures provided in the EMPr must be implemented.
- The development footprint must be restricted as far as possible. Only areas required for the actual buildings to be cleared.
- Construction site cordoned off and no vegetation outside the development area may be cleared.

#### Operational phase

##### e. *Mitigation for potential traffic impact*

- Road upgrade will be required at the access to Kliprug road.
- Parking bays provided in accordance to the prescribed rate of 1 bay per dwelling unit and 4 bays per 100m<sup>2</sup> GLA for business land uses.
- Sidewalks and bicycle lanes must be provided along the frontage of the development along Kliprug road.

### MANAGEMENT MEASURES IDENTIFIED BY SPECIALISTS

#### Visual

- Building heights should be limited to maximum two storeys on the south and eastern side of the site, with single and loft type accommodation (six metres height) along Wemmershoek Road and Lustigan Rd.
- Locate higher density buildings closer to the school / club house area.
- Setback new structures beyond 30m of the edge of the R301, allowing a landscape 'buffer' strip to preserve a sense of remoteness while travelling towards Franschoek. Not more than 40% of this buffer strip should be used for parking or vehicular circulation. Provide view corridors and pedestrian / open space linkages especially from the subsidiary view corridors to the Klein Drakenstein Mountains beyond.

- Elements representative of the Cape Winelands landscape, such as windbreaks, orchards, tree clumps and hedges, should be retained or incorporated into the proposed development. To this end a Registered Landscape Professional (technologist or architect) is to be appointed to prepare a landscape plan and is to be retained to ensure this landscaping is implemented to standard.
  - Establish traditional patterns of planting where appropriate with suitable species. The purpose must be to weave into the existing landscape pattern, rather than to displace it with a new pattern. This will also assist with maintaining the dominance of the agricultural landscape.
  - Traditional patterns of plantings are to be protected by ensuring that existing tree alignments and copses are not destroyed but are reinforced enhancing traditional patterns with suitable species.
  - Landscaping of the development should happen in such a way that rural scenic features and landscape patterns (such as tree lined streams / drainage lines, tree belts, clumps or orchards, whether exotic or indigenous), are created to tie the proposed development into its rural landscape.
  - Use screen/shade planting to soften the interface between building platform and landscape context. Berm and dam features could be incorporated in a manner which is sensitive to natural landform. Views towards the mountains should be maintained i.e. when travelling south on the R301 and east on Lustigan Rd views of Klein Drakenstein and; when travelling west on Lustigan Rd, views of Paarl Mountain.
  - Indigenous vegetation, consistent with (but not exclusively of) the original vegetation unit, ought to be integrated into the landscape development plan. Tree planting should be used to mitigate visibility from the R301 & Lustigan Road; however, it should not interfere with views to the Klein Drakenstein Mountains. Formal avenues of trees are not recommended along the R301 & Lustigan Rd, except if arranged in an orchard pattern. Informal clusters of trees and large shrubs can also be considered.
  - The interface with the R301 & Lustigan Rd is of critical importance to maintain a sense of rural quality within the local context. Even in the face of increasing development, this would help to retain some sense of the area's remoteness.
  - Avoid wall and land-locked effect by maintaining visual permeability to surrounding rural landscapes. The boundary treatments must be visually permeable, using fencing for the most part and walls at entrances only. No precast concrete walls should be allowed on the site. No built boundary wall allowed along the R301 or Lustigan Rd but rather visually transparent fencing; e.g. welded mesh (e.g. 'ClearVu' or similar), but not steel palisade.
  - Effective light management needs to be incorporated and integrated into the design of the lighting to ensure that the visual impact is limited without jeopardising user safety and security.
- Aim lights down. Full cut-off shielded fixtures that keep light from going uselessly up or sideways. Full cut-off fixtures produce minimum glare. They create a pleasant looking environment. They increase safety because one sees illuminated people, cars, and terrain, not glaring bulbs.
  - Install fixtures carefully to maximize their effectiveness on the targeted area and minimise their impact elsewhere. Proper aiming of fixtures is crucial. They can illuminate a target with a low wattage bulb just as well as a wasteful light does with a high-wattage bulb.
  - If colour discrimination is not important, choose energy- efficient fixtures utilising yellowish high-pressure sodium (HPS) bulbs. If "white" light is needed, fixtures using compact fluorescent or metal halide (MH) bulbs are more energy-efficient than those using incandescent, halogen, or mercury vapour bulbs.
  - Private lights should be placed on timers to turn them off each night after they are no longer needed.
  - Neon or unshielded bright security lights may not be used.

#### **Heritage mitigation measures**

- Mitigation has to a large extent already been incorporated into this proposal as part of an iterative design process involving the Heritage Consultant which entailed improved development setbacks from boundaries, orientation of perimeter buildings to present lower profiles to scenic edges, lowered overall development heights and introduction of perimeter and other planting of various types.
- Trees: retain most identified landmark trees and plant new trees in accordance with heritage indicators & approved landscape plan.

## **RECOMMENDATIONS AND CONCLUSIONS**

After considering and assessing the potential environmental impacts associated with the proposed development, it can be concluded that the proposed development is not expected to have any significant detrimental impacts that could result in any fatal flaws. All impacts identified can be mitigated to acceptable levels of significance.

Furthermore, Portion 8 of the Farm No 851, Paarl is reserved for urban development purposes (urban infill) in terms of the Drakenstein Municipal Spatial Development Framework, 2018. The proposed development is therefore consistent with the principles and objectives contained in the MSDF and aligns with the future growth of the Drakenstein Municipal Area which is desirable from a Spatial Planning point of view.

The proposed development will cater for a niche residential sector in the Paarl South area and alleviate the pressure for the development of low density up-market residential developments.

The permanent and temporary employment opportunities which will be created by the proposed development will be beneficial to the local Drakenstein economy in particular and the broader Western Cape economy in general.

It is therefore recommended that the preferred alternative, be approved, with adherence to the mitigation measures recommended by specialist and as provided in this report.