

Date: 16 November 2023

Our Ref: UDS567/Reports

Marike Vreken Town Planners CC
PO Box 2180,
Knysna,
6570

Attention: Hans Labuschagne

Dear Sir

REZONING OF PORTION 38 OF FARM 444, PLETTENBERG BAY: AMENDMENT TO THE TRAFFIC IMPACT STATEMENT

This reports serves an amendment to the original Traffic Impact Statement (TIS) dated 22 June 2022 in order to address comments received from the Western Cape Government on the 9 March 2023.

1. LOCALITY

The subject property is located in Plettenberg Bay, 460-metres east from the National Route 2 / Rietvlei Road intersection. See **Diagram 1** below and the attached **Locality Plan**.

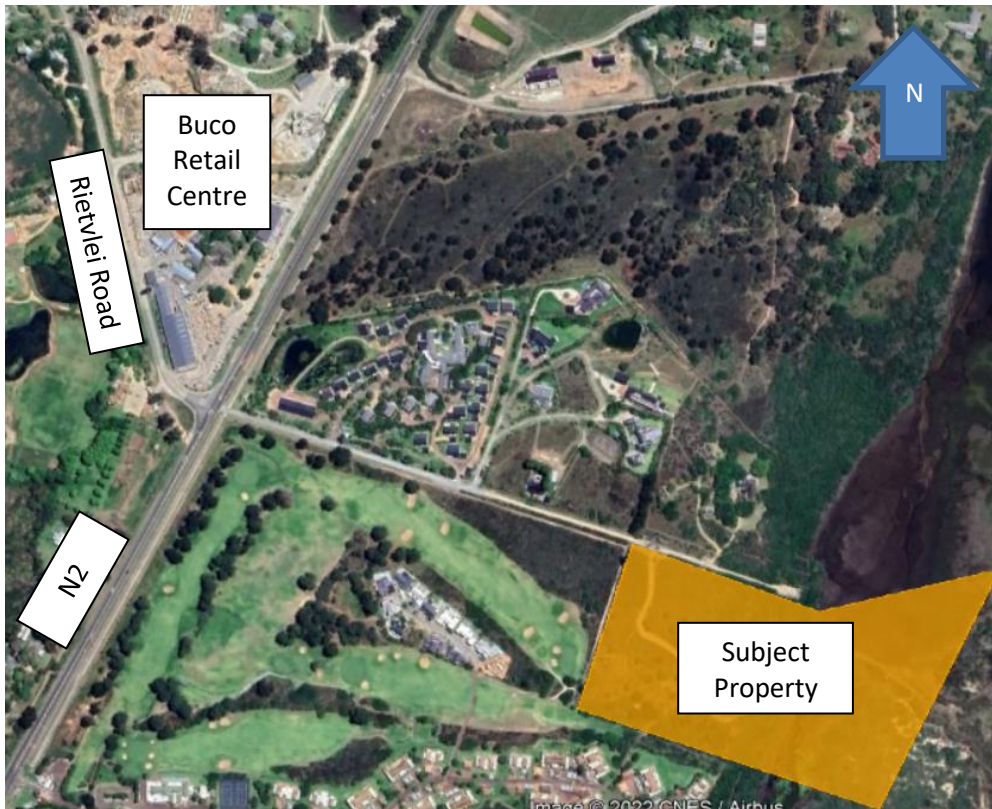


Diagram 1: Location of Subject Property



head office
Unit 8, Time Square Building,
9 Electron Street, Techno Park,
Stellenbosch

PO Box 50487
V&A Waterfront
8002

T +27 (0)21 880 0443
F +27 (0)86 523 8227
info@udsafrika.co.za

general enquiries
Elmarie Els 021 880 0443

managing member
A Khan PrEng

associates
JW Wessels PrEng
P v Blerk PrEng
JN Louw PrCPM

offices
Clanwilliam, Stellenbosch,
Somerset West

Reg no. 2003/043709/23

urban development solutions



2. PROPOSED DEVELOPMENT

The original development proposed to have 17 large single residential units. This amendment will evaluate the updated layout which proposes 12 large single residential units inside an access-controlled complex which will have one access to the existing Rietvlei Road East (Minor Road 7214) which links to the N2/Rietvlei Road intersection.

Please see the proposed layout on the attached **Site Development Plan** prepared by *Marike Vreken Town Planners CC*.

3. TRAFFIC IMPACT

3.1 Existing Traffic

Traffic counts were performed at the intersection of the N2 and Rietvlei Road on Tuesday, 26th April 2022 from 06:00 – 09:00 and 15:30 – 18:30. See the attached **Figure 1**. The expected peak hours were found to be 07:30 – 08:30 and 16:15 – 17:15, which coincides with the expected morning and evening commuter peak periods.

The total two-way traffic along the N2 in 2022 is approximately 860 vehicles during the AM peak hour and 815 vehicles during the PM peak hour.

3.2 Traffic Generated

The South African Trip Data Manual TMH17 was used to estimate the trips expected to be generated by the proposed development. TMH17 suggests a trip generation rate of 1 trip per single residential unit. Therefore, the proposed development will generate 12 trips during the AM (3 IN / 9 OUT) and in the PM (8 IN / 4 OUT) peak hour.

3.3 Trip Distribution

The background traffic was used to model the trip distribution as shown in the **Attached Figure 3**.

3.4 Traffic Growth and Impact

The existing traffic was analysed using SIDRA Intersection Analysis 9.1. Service levels A to D are generally considered acceptable, where a level of service (LOS) below D and a degree of saturation above 0.85 is considered unacceptable. These standards will apply to Rietvlei Road East and West, however for the required standards along National Route 2, TMH16, Traffic Assessment Standards and Requirements, published by the South African National Roads Agency Limited (SANRAL) was consulted and recommends a LOS A or B for Class 1 or 2 roads in rural areas.

The Western Cape Government Road Network Information System (RNIS) was used to estimate a growth rate in the area. Historical traffic counts at the N2/Rietvlei Road intersection are available and based on these counts, the average growth rate per annum estimated along both sides of the N2 is 3.14% and 3.36% along the western section of Rietvlei Road. These growth rates were used to project the 2022 traffic volumes to 2028 to evaluate a future 5-year scenario, as shown in the **Attached Figure 2**.

N2 / Rietvlei Road Intersection

The N2 / Rietvlei Road intersection is a priority-controlled four-legged intersection with a marked stop-control on Rietvlei Road West. There are no road markings on Rietvlei Road East as shown in **Diagram 2**. It should be noted that Rietvlei Road on the western side of the intersection extends up to the R340 and also serves the BUCO retail centre on the north-western corner of the subject intersection.

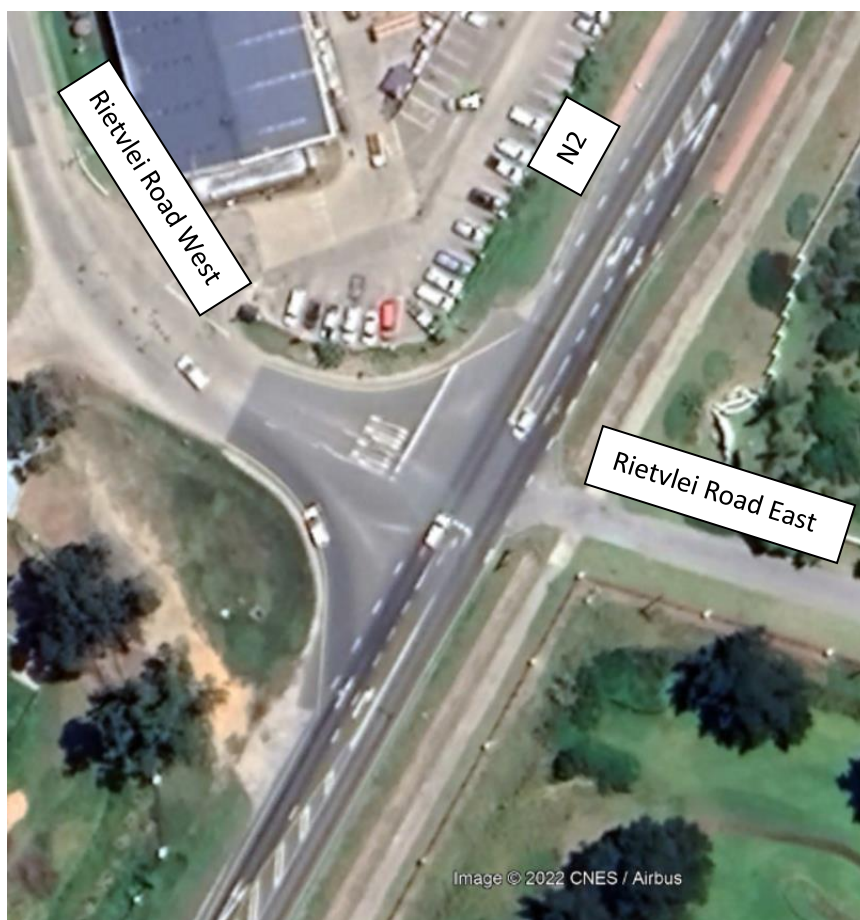


Diagram 2: N2 / Rietvlei Road Intersection

Using the existing 2022 traffic counts and the current lane layout, the analyses shows that the AM peak hour experiences an overall average delay of 5.5 seconds with the worst delay experienced (47.4 seconds) on the right-turning movement from the western approach of Rietvlei Road (LOS E). During the PM peak hour, the intersection experiences an overall average delay of 5.2 seconds with the worst delay experienced (36.3 seconds) on the right-turning movement from the western approach of Rietvlei Road (LOS E). The roads authorities should consider upgrading the intersection or changing the intersection control to alleviate the existing LOS E along Rietvlei Road West. Both a roundabout or a signalized intersection will reduce delays. It should be noted that the National Route 2 is experiencing a LOS A in both directions during the AM and PM peak hour, which is in line with the required standards in TMH16.

Using the projected 2028 traffic counts and the current lane layout, the analyses shows that the AM peak hour is expected to experience an overall average delay of 28.3 seconds with the worst delay (321.6 seconds) experienced on the right-turning movement from the western approach of Rietvlei Road (LOS

F). During the PM peak hour, the intersection is expected to experience an overall average delay of 16.5 seconds with the worst delay (142.9 seconds) experienced on the right-turning movement from the western approach of Rietvlei Road (LOS F). As stated, the roads authorities should consider upgrading the intersection or changing the intersection control to alleviate the LOS F, however, it should be noted that the National Route 2 is expected to maintain a LOS A in both directions during the AM and PM peak hour.

Using the projected 2028 traffic counts, the current lane layout and the addition of the generated traffic for 12 units instead of the previously proposed 17 units, the analyses shows that the AM peak hour is expected to experience an overall average delay of 30.9 seconds with the worst delay (354.9 seconds) experienced on the right-turning movement from the western approach of Rietvlei Road (LOS F). During the PM peak hour, the intersection is expected to experience an overall average delay of 18.2 seconds with the worst delay (159.7 seconds) experienced on the right-turning movement from the western approach of Rietvlei Road (LOS F). As previously mentioned, the roads authorities should consider improving the intersection or changing the intersection control to alleviate the existing delay of the right-turning movement on Rietvlei Road West. Both a roundabout or a signalized intersection will be able to accommodate the expected traffic. It should be noted that the proposed development will only generate approximately five vehicles, in the AM peak hour, and three vehicles, in the PM peak hour, opting to turn right at the intersection from Rietvlei Road East which is expected to experience an average LOS E and D, respectively. The generated traffic, a maximum of 12 trips (1.05% of the total traffic at the intersection) in the AM and PM peak hour, is not expected to affect the flow of traffic along the National Route 2 to such an extent that it will result in a change of the LOS A.

4. GEOMETRY

The N2 (NR00208) is a National Route with a posted speed limit of 100km/h at the Rietvlei Road intersection. Rietvlei Road East is a minor road (MR07214) ending in a cul-de-sac and Rietvlei Road West is a divisional road (DR01788) which becomes a Minor Road (MR07233) before intersecting with the R340 which is a Main Road (MR00390).

The proposed development's security access is located approximately 520-metres east of the N2 / Rietvlei Road intersection. The intersection, as previously mentioned, is stop-controlled along Rietvlei Road west, however the eastern approach of Rietvlei Road is unmarked. The required road markings and signings should be applied.

Approximately 175-metres of gravel road exists along Rietvlei Road from the access to the existing adjacent development up to the boundary of the proposed development. It should be considered to surface this section of the road up to the access of the proposed development.

According to the Civil Engineering Services report as prepared by *Vita Engineers*, it is proposed that the development be gated with one entry and exit lane. The entry lane allows for 15-metres of stacking distance which is considered sufficient. It is recommended that entry and exit lanes are wide enough to accommodate emergency vehicles.

A refuse room is proposed west of the entrance and an embayment is shown in the Civil Engineering Services report previously mentioned. The wheel-tracking for the refuse vehicle is also shown to ensure sufficient space for the turning movement. See **Diagram 3**.

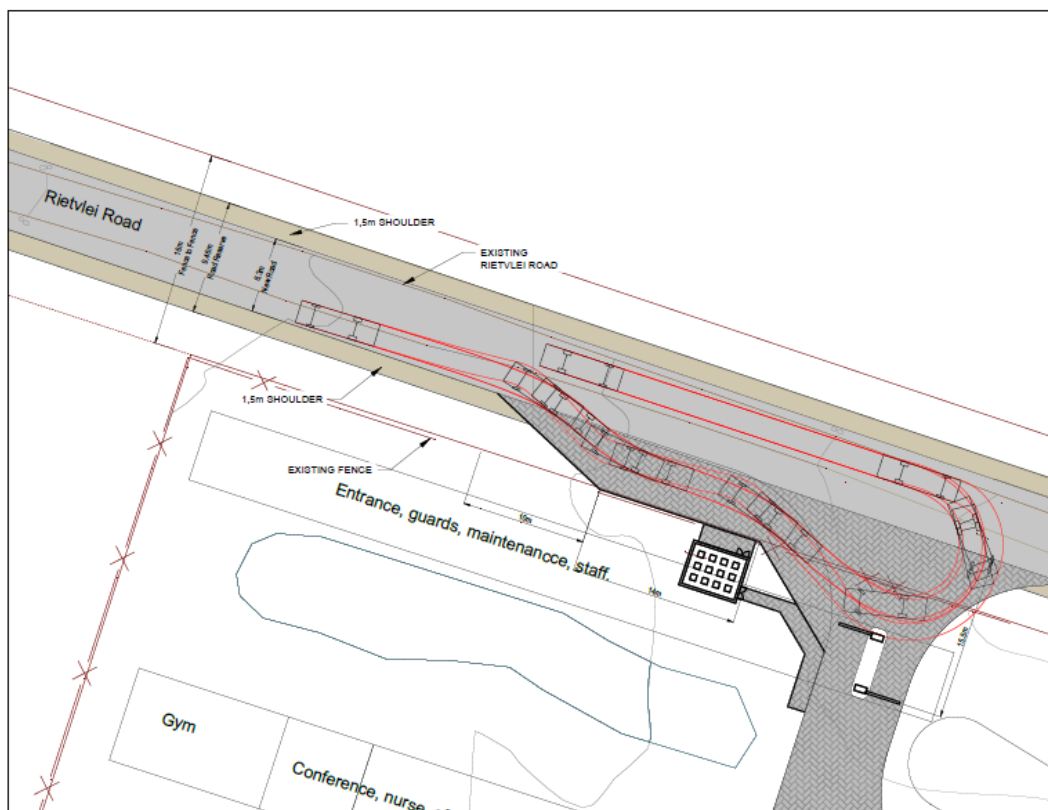


Diagram 3: Proposed entrance, refuse embayment and wheel-tracking (Source: Civil Engineering Services Report as prepared by VITA Engineering)

5. PARKING

According to the town planners, the proposed development is classified as ‘Residential II Group Housing’ which has the following parking requirements:

At least two parking bays per group house, both may be provided at such group house, or part of the required number of parking bays at some of the group houses and the remainder in the form of communal parking for the group housing scheme concerned, or the entire requirement in the form of communal parking.

The development proposes two bays per unit as well as an additional 6 visitors’ parking bays. This is considered sufficient.

6. NON-MOTORISED AND PUBLIC TRANSPORT

A non-motorised transport facility exists on the eastern side of the N2, separated from the road, however, there are no pedestrian crossings. It is recommended that along with the previously mentioned consideration for upgrades at the intersection, pedestrian desire lines are investigated.

Within the development, a pedestrian and non-motorized facility connects the development to the golf estate on the southern boundary.

Approximately 40-metres north of the centre of the N2 / Rietvlei Road intersection, public transport embayments exist on either side of the N2, see **Photo 1** below. The proposed additional 12 residential units are not expected to affect public transport significantly and therefore no additional public transport or non-motorized transport facilities are required due to the development.

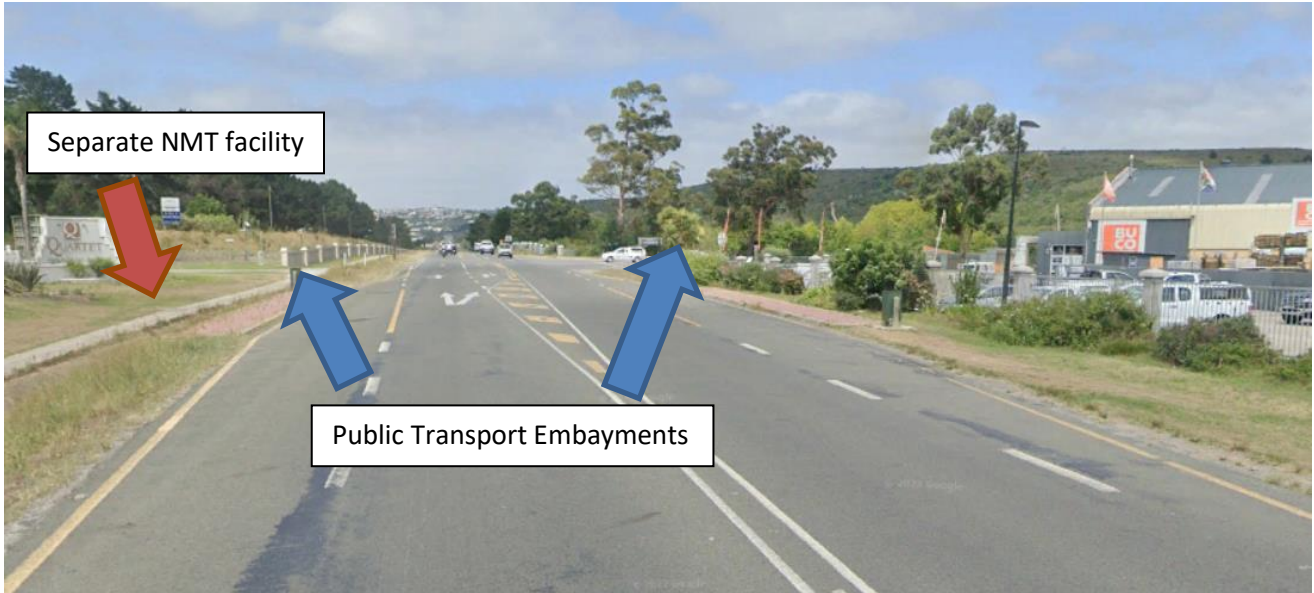


Photo 1: Public Transport Embayments on either side of the N2, looking toward the N2 / Rietvlei Road intersection with the development toward the left of the intersection.

7. CONCLUSIONS

It can therefore be concluded that:

- This reports serves an amendment to the original Traffic Impact Statement (TIS) dated 22 June 2022 in order to address comments received from the Western Cape Government on the 9 March 2023.
- The subject property is located in Plettenberg Bay, 460-metres east of the intersection between the National Route 2 and Rietvlei Road.
- The proposed development will accommodate 12 single residential units inside an access-controlled complex instead of the previously proposed 17 units.
- Traffic counts were performed at the N2 / Rietvlei Road intersection on Tuesday, the 26th April 2022.
- Based on TMH17, 12 trips will be generated by the development in the AM (3 IN / 9 OUT) peak hour and PM (8 IN / 4 OUT) peak hour.
- Using historical counts available on RNIS, a growth rate of 3.14 % per annum was established and applied to analyse the future scenario in 2028.
- The existing Levels of Service at the intersection of the N2 / Rietvlei Road are acceptable. LOS A are experienced along both sides of the N2 in the AM and PM peak hour. The worst delay, in both the AM and PM peak hour is the right-turning movement along the western approach of Rietvlei Road which experiences a LOS E.
- In 2028, the LOS A along the N2 is maintained, however, in the AM and PM peak hour, the LOS E along the western approach of Rietvlei Road decreases to a LOS F. After the development traffic is added, the delays increase along Rietvlei Road, however it should be considered that the development traffic accounts for approximately 1.05% of the overall traffic at the intersection.
- The roads authorities should consider upgrading the intersection or changing the intersection control to address the existing LOS E and future LOS F based on predicted traffic growth. Both a roundabout or signalized intersection will be able to accommodate the expected traffic.
- No additional lanes are required to accommodate the traffic generated by the development.
- Appropriate road signage and markings are required on the eastern approach of Rietvlei Road.
- It is recommended that the eastern approach of Rietvlei Road be surfaced up to the access gate.
- One entry and one exit lane is proposed. It is recommended that the lanes are wide enough to accommodate emergency vehicles.
- The proposed stacking distance is 15.0-metres and is considered sufficient.
- Refuse will be kerbside and an embayment is proposed to assist with the turning movement of the refuse vehicle.
- Each unit will include sufficient two on-site parking bays as well as an additional 6 visitors bays. This is considered acceptable.
- No additional infrastructure is required to accommodate public transport or non-motorised transport generated by the proposed development.


8. RECOMMENDATIONS

It is recommended that:

- The eastern approach of Rietvlei Road be appropriately marked and signed.
- The gravel section along Rietvlei Road East be surfaced.
- The roads authorities consider upgrading the N2 / Rietvlei Road intersection to address the existing delays along the western approach of Rietvlei Road.
- Pedestrian desire lines be investigated when considering the upgrade of the N2 / Rietvlei Road intersection.
- The proposed development be supported from a traffic flow point of view.

More information relating to the Traffic Impact Statement can be provided upon request.

Yours faithfully,



Compiled by: Shameez Patel Papathanasiou (MScEng)



Approved by Piet van Blerk (Pr Eng)

UDS AFRICA



ATTACHMENTS

Locality Plan

Layout Plan

Figure 1 - Existing AM/PM Peak Hour Traffic Volumes

Figure 2 - Estimated 2028 AM/PM Peak Hour Traffic Volumes (including traffic growth)

Figure 3 – Distribution of Traffic Generated by the Development

Figure 4 – Estimated 2028 AM/PM Peak Hour Traffic Volumes (including traffic growth and Proposed Development)

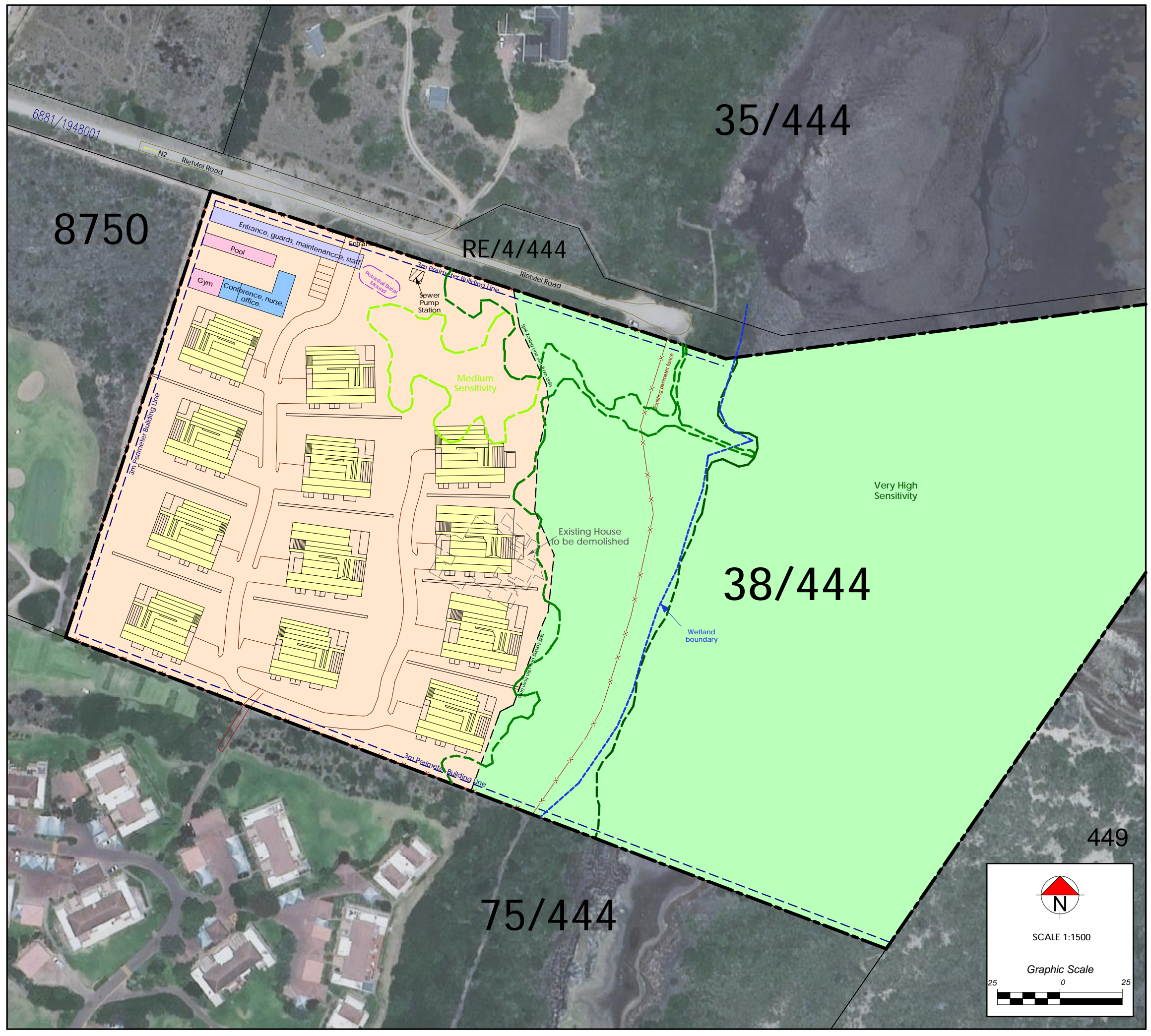


Unit 8, Time Square Building,
9 Electron Street, Techno Park,
Stellenbosch

PO Box 50487
V&A Waterfront
8002

T +27 (0)21 880 0443
F +27 (0)21 822 8227
info@udsafrika.co.za

Locality Plan



**PORTION 38 OF THE FARM
GANSE VALLEI NO 444**

SITE DEVELOPMENT PLAN

LEGEND:

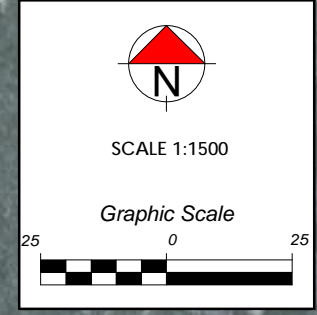
ZONING	QTY	HA	%
Residential Zone II (Group housing)	1	3.17	36.9
Open Space Zone III (Nature reserve)	1	5.41	63.1
Medium Sensitivity Area			
High Sensitivity Area			
Very High Sensitivity Area			
Wetland Boundary			
TOTAL	2	8.58	100


- NOTES**
- For erf data, refer SG6687/1948
 - Sizes & dimensions are approximate and subject to final survey
 - 1m contour intervals based on Contour Plan from SJM Surveys dated October 2008
 - (12) x Sectional Title Group Housing Units (655m² each)
 - 3m Perimeter Building Lines proposed
 - (2) x Garage bays / unit
(6) x Visitor parking bays
 - Density (max 20u/ha) = 1.399 u/ha
 - Communal Open Space (min 80m²/unit) = > 7 ha
 - Internal Road Width = 5m

DRAWN:	HL	CHECKED:	MV
PLAN NO:	Pr22/11/F444Ptn38/SDP07		
PLAN DATE:	6 Nov 2023		
STORED:	z:\drawings\App\Pr2211-F444Ptn38/SDP06.dwg		

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Mairie Vreken
URBAN & ENVIRONMENTAL PLANNERS

21 Trotter Street, PO Box 2180
KNYSNA 6570

(044) 382 0420
086 459 2987
e-mail: marike@vreken.co.za
www.vreken.co.za

