



Traffic Impact Statement

**PROPOSED CONSENT USE
APPLICATION TO ESTABLISH A SAND
MINE ON PORTION 2 HERCULES PILAR
1242, PAARL FARMS**



August 2017

Summary Sheet

Report Type: Traffic Impact Statement

Title: Traffic Impact Statement Report for proposed consent use application to establish a sand farm on Portion 2 Hercules Pilar 1242, Paarl Farms

Location: Portion 2 Hercules Pilar 1242, Paarl Farms

Client: Mr Marthinus Petrus Coetzee

Reference Number: **TJ1709WC**

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This traffic impact study has been prepared in accordance with the National Department of Transport's Guidelines for Traffic Impact Studies' PR93/635 (1995) by a suitably qualified and registered professional Traffic Engineering Technologist. Details of any of the calculations on which the results in this report are based will be made available on request.

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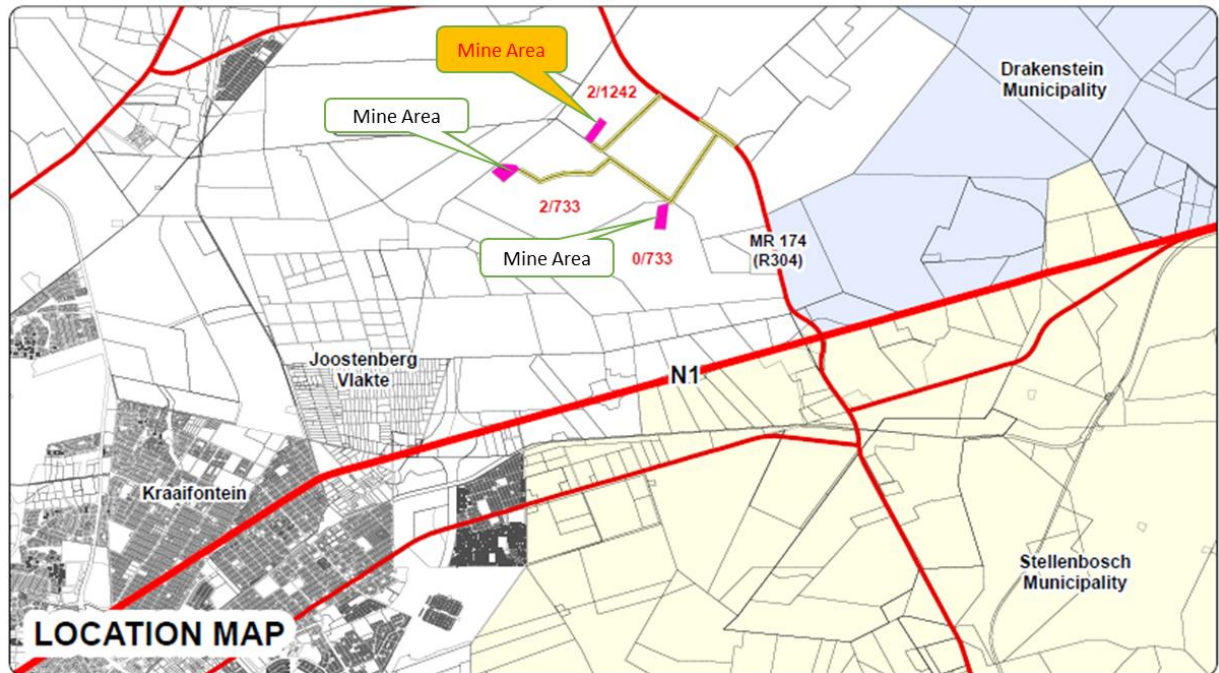
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1 PURPOSE OF REPORT

This Traffic Impact Statement (TIS) Report considers the traffic impact of the existing access on R304 serving the proposed sand mine, and particular attention is given to trip generation, turning lane warrants and shoulder and stopping sight distance.

2 LOCATION

The subject property is located to the west of the R304 and approximately 3.5 km north of the N1.



Portion 2 Hercules Pilaar 1242, Division Paarl



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Figure 1 – Locality Map

3 SURROUNDING ROAD NETWORK

The R304 is a Primary Arterial (Class 2) District Distributor Road, with a 100 km/h speed limit, in the vicinity of the subject property.

The R304 is a north-south orientated route, between Stellenbosch Township to the south and Malmesbury Township to the north and has an interchange access to the N1 approximately midway between the two towns. The subject site lies some

The R304 is a two-lane road and the road section in the vicinity of the site is in a Rural roadside environment.

As such the site enjoys good access to the metropolitan road network.

4 EXISTING AND PROPOSED DEVELOPMENT

It is proposed to establish a Sand Mine on a 5ha portion of Portion 2 Hercules Pilar 1242, Paarl Farms. The existing land development is typically rural / farming in nature, with typical low traffic volumes.

5 ACCESS SIGHT LINES

Site access on R304 is located on the outside of a curve with good shoulder sight distance in each direction (exceeding the required 380 m for trucks) (see Pictures 1 to 4 below).

The stopping sight distance on the R304 approaches to the access exceeds the minimum 185 m and is adequate.



Pic 1 - Looking right (towards N1) from access (sight distance good)



Pic 2 - Looking left from access (sight distance good)



Pic 3 - Looking at access from access bellmouth on R304



Pic 4 - Looking at access from across the R304 (note elevation of road at access in relation to elevation at farm gate, requiring fully loaded trucks to negotiate the steep incline)

6 ACCESS TREATMENT

The access approach to R304 is steep, ahead of the vehicle standing area. Consideration should be given to improving the approach grade, where possible.

To reduce carry of gravel onto the R304, the access on the R304 should be hard surfaced for at least 30 metres.

7 TRIP GENERATION

The volume of sand to be mined over a three to five years period is approximately 52 800m³.

Assuming all sand is mined over a period of three years and transported by 10m³ trucks, this activity will generate 10560 truck trips (split 50% in/50% out). The trip generation is therefore some 14 trips per day (7 in/7 out), assuming 22 working days in a month.

These trips and will have a negligible traffic impact and should be accommodated at the access and on the surrounding road network with ease.

8 INTERSECTION ANALYSIS

Intersection analysis that should be undertaken where a development is expected to generate 50 vehicle trips in the peak hour. The expected peak hour trips are negligible and therefore does not warrant analysis.

9 TURNING LANE WARRANTS

The Government Western Cape Road Access Guidelines recommend deceleration lanes and turning lanes depending on a combination of main road and side road traffic, summarised as below for the subject site.

- On two-lane roads with > 500 vph on the main road a deceleration lane is required where the main road left-turn volume exceeds 40 vehicles per hour.
- On two-lane roads with > 500 vph on the main road a left-turn lane taper is required where the main road left-turn volume exceeds 40 vehicles per hour.
- On roads with peak hour volume > 100 vph on the main road a right-turn lane taper is required where the right -turn volume exceeds 12 vehicles per hour).

The proposed sand mine trips will not add any significant trips to the existing access traffic and therefore deceleration lanes and turning lanes are not warranted.

10 CONCLUSIONS

It is concluded that:

1. The site has access on the R304, a Class 2 metropolitan road, located in a rural environment;
2. The R304 is a two-lane road with a 100 km/h speed limit and is in good condition;
3. The existing agricultural land use development has a typical low trip generation;
4. The proposed sand mine will generate a low volume of truck trips (approximately 14 trips per day) and will have a negligible impact on traffic;
5. The low development trips do not warrant deceleration or turning-lanes at the access;
6. The access has more than adequate shoulder sight distance;
7. Stopping sight distance on the R304 approaches to the access is good;
8. The access approach to R304 is a gravel road with a relatively steep incline ahead of vehicle standing area. The last 30 m leading to the R304 should be hard surfaced, to reduce materials carry onto the R304. Consideration should also be given to improving the approach grade.
9. The current levels of service at the access is maintained and the safety of the general road user is not adversely affected.

11 RECOMMENDATIONS

It is recommended that:

1. The application for consent to establish a sand mine be favourably considered;
2. The last 30 m of the access leading to the R304 should be hard surfaced, to reduce materials carry onto the R304; and
3. Consideration be given to improving the access approach grade leading to the R304.

12 REFERENCES

1. Department of Transport, Guidelines for Traffic Impact Studies, Report No. PR93/635, Pretoria, 1995.
2. Western Cape Government Road Access Guidelines - September 2002
3. TRH 17 – Geometric Design of Rural Roads - 1988
4. City of Cape Town Planning By-law - 2015
5. City of Cape Town Public Right of Way – Plan RD-1.1 - August 2013
6. <http://maps.capetown.gov.za/isissub/>