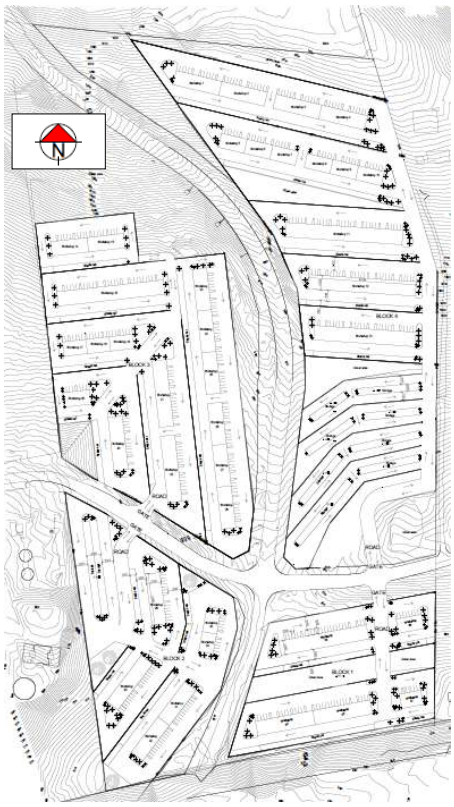
PROPOSED DEVELOPMENT OF ZANDHOOGTE INDUSTRIAL PARK ON REM FARM 139, TERGNIET, MOSSEL BAY



TRAFFIC IMPACT STATEMENT

REVISION 1

JUNE 2025

ELEMENT Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

George
Western Cape
Tel: +27 44 884 1138
Email: info@eceng.co.za
82 Victoria Street, George, 6529
PO Box 9962, George, 6530
www.eceng.co.za

PROPOSED DEVELOPMENT OF ZANDHOOGTE INDUSTRIAL PARK ON REM FARM 139, TERGNIET, MOSSEL BAY

TRAFFIC IMPACT STATEMENT

REVISION 1

JUNE 2025

PREPARED FOR:

PREPARED BY:

Element Consulting Engineers
PO Box 9962
GEORGE
6530
82 Victoria Street
George
6529
Tel: +27 44 884 1138
Email: info@eceng.co.za

DOCUMENT CONTROL SHEET

Compiled By:	…….. Hannes Lourens PrEng MEng PrCPM	…….. Date
Reviewed By:	…… Hannes Lourens PrEng MEng PrCPM	…….. Date

Revision	Description	Date Issued	Revision By:
0	For EIA and planning applications	Jan 2025	HL
1	Comments added	Jun 2025	HL

DISTRIBUTION LIST

Name	Company	Email	Tel

PROPOSED DEVELOPMENT OF ZANDHOOGTE INDUSTRIAL PARK ON REM FARM 139, TERGNIET, MOSSEL BAY

TRAFFIC IMPACT STATEMENT

CONTENTS

1 INTRODUCTION

1.1 Background

Element Consulting Engineers (ECE) has been appointed to undertake a traffic impact statement for the proposed development of Zandhoogte Industrial Park, Tergniet, Mossel Bay.

1.2 Proposed development

The proposed development envisages the development of 183 long term personal storage units (mini storage units) and 40 light industrial manufacturing workshops.

1.3 Locality and access

The proposed development of Zandhoogte Industrial Park, is located on remainder of Farm 139, Tergniet, Mossel Bay, approximately 5km west of Great Brak River in the Mossel Bay Municipal area. The property is located inside the urban edge. The site is bound by the N2 freeway to the south, agricultural land to the east and west, Great Brak River WWTW to the south-west and industrial development to the north. The site is intersected east-west by Sandhoogte Rd (DR1583), a low order (class 4) provincial divisional road, and intersected north-south by Sorgfontein Rd (DR1578), a low order (class 4) provincial divisional road. Figure 1 below indicates this locality in additional detail.

Figure 1: Locality plan

Access to portions 1&4 of the development is proposed from Sandhoogte Rd (DR1583), at a point approximately 107m east of the intersection with Sorgfontein Rd (DR1578).

Access to portions 2 and 3 of the development is proposed from Sandhoogte Rd (DR1583), at a point approximately 117m west of the intersection with Sorgfontein Rd (DR1578).

Sight distances at both proposed access points are acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width.

Figure 2: Proposed access (indicated in orange)

1.4 Site Development Plan

The proposed development of Zandhoogte Industrial Park, Tergniet, Mossel Bay, envisages the development of 183 mini storage units and 40 light industrial workshops. This scenario can be viewed as the ultimate scenario as no additional development will be possible on the site when fully developed.

A preliminary Site Development Plan (SDP), as prepared by A Enslin Archi Designs, is presented in the diagram below and attached to the report as addendum.

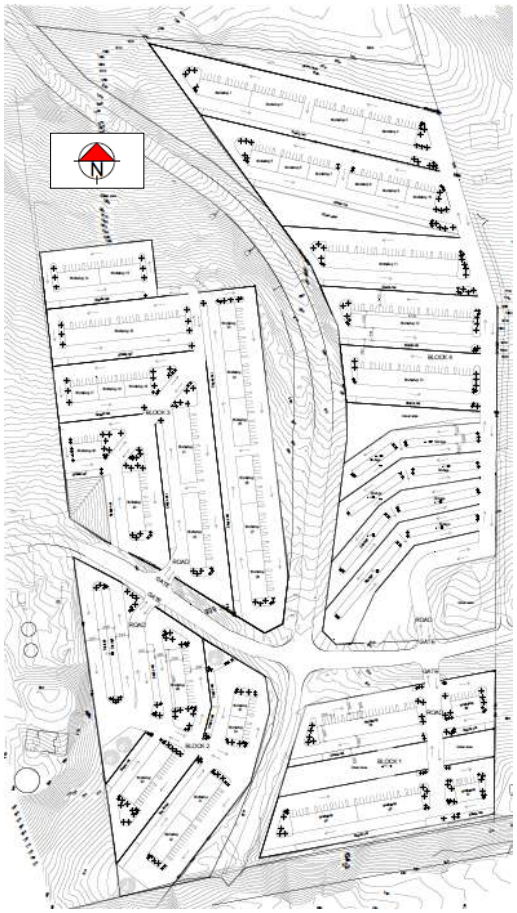


Figure 3: Site development plan (SDP)

1.5 Classification of Sandhoogte Rd (DR1583)

Sandhoogte Rd (DR1583) is classified as a class 4 provincial divisional road and carries a very slight traffic load. Although peaks can be observed during morning and evening peak hours, these peaks are extremely slight, compared to peaks in the urban environment. During the remainder of the day, the road is extremely slightly trafficked.

1.6 Classification of Sorgfontein Rd (DR1578)

Sorgfontein Rd (DR1578) is classified as a class 4 provincial divisional road and carries a very slight traffic load. Although peaks can be observed during morning and evening peak hours, these peaks are extremely slight, compared to peaks in the urban environment. During the remainder of the day, the road is extremely slightly trafficked.

1.7 Public Transport Routes

No official public transport routes are located adjacent to or close to the proposed development, although minibus taxis do utilize both roads on an unofficial basis.

1.8 Other developments

The proposed development forms part of an area experiencing average growth, although limited geographically. It is hence expected that the area will develop at an average growth rate, in line with the table above, of approximately 3-4%. A growth rate of 3.5% per annum will hence be applied (refer detailed discussion in par 3.2).

1.9 Purpose of the report

The purpose of the report is to assess the traffic impact of the proposed development on the adjacent road network. The following will be discussed and addressed in the report:

- Description of the development
- Locality, layout and access
- Existing and future background traffic conditions
- Trip generation and distribution
- Total future traffic conditions
- Traffic impact ito capacity analysis
- Infrastructure upgrades required (if any)
- Discussion of salient issues

1.10 Extent of analysis

The traffic impact statement of the proposed development evaluated the three intersections affected by the development and are the following:

1. Intersection 1: Development access (east) / Sandhoogte Rd (DR1583)
2. Intersection 2: Sorgfontein Rd (DR1578) / Sandhoogte Rd (DR1583)
3. Intersection 3: Development access (west) / Sandhoogte Rd (DR1583)

The three intersections analysed for the report are indicated in the following diagram:

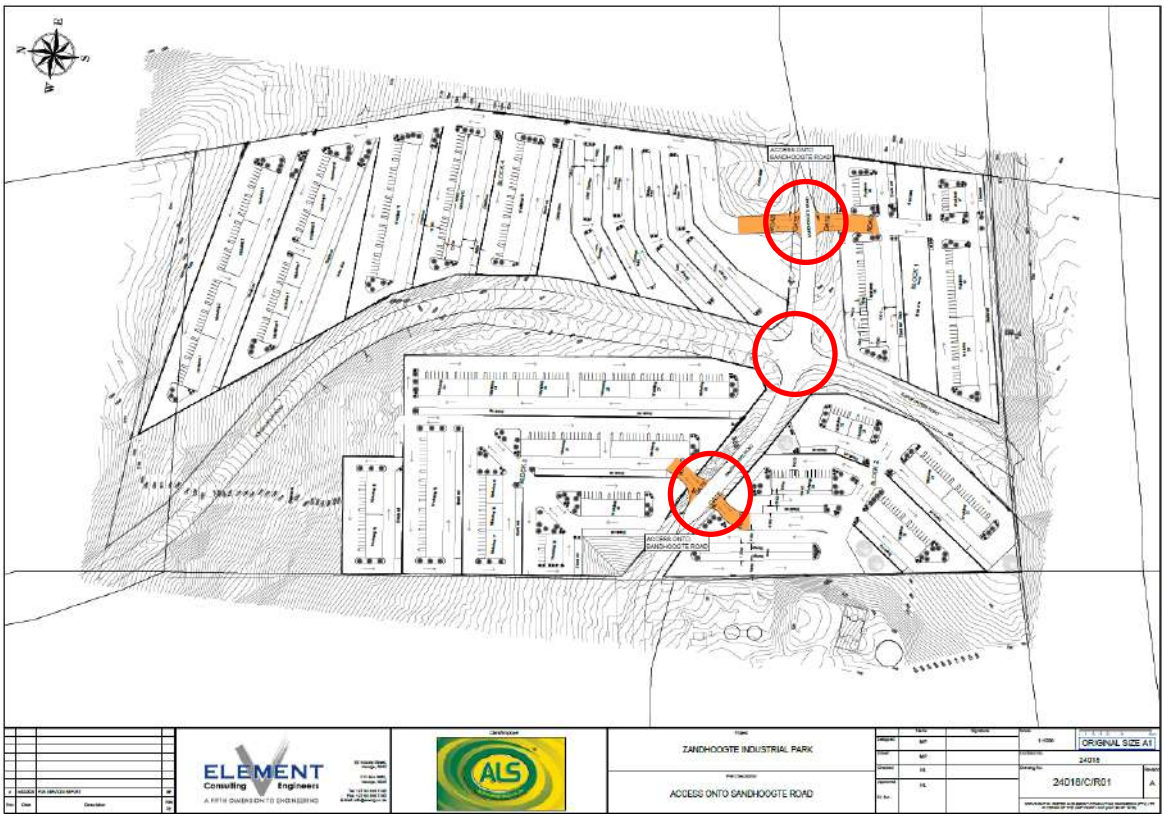


Figure 4: Extent of analysis

1.11 Evaluation periods

The impact of the proposed development was evaluated for the weekday morning and afternoon peak hours. The assessment years are for the:

1. Base year 2025.
2. Horizon year 2030.

2 TRIP GENERATION

2.1 Trip generation

Trip generation rates used in the report were obtained from the “South African Trip Data Manual” Version 1.01 September 2013 (TMH 17) as well as the “South African Trip Generation Rates” guideline document of June 1995 where necessary.

The trip generation rate for light industrial manufacturing workshops (land use code 140) of 0.6 trips / 100m2 GLA was used for the manufacturing units with a split of 80/20.

Trip generation for long term personal storage units (mini storage units) (as contemplated in land use code 151) are mostly outside of peak traffic hours. Trip generation of 0.1 trips per unit will be appropriate for the peak hour of the road network.

The trip generation volumes are calculated in the following table in line with the trip generation rates during peak hours of the adjacent road network and adjustment factors applicable:

TMH 17 Classification	Peak Hour	Area/ quantity	Unit	Trip Reduct. Factor	Trip Gen. Rate	Split In %	Split Out %	Trips In	Trips Out	Total Trips
140 Manufacturing	AM	18806	100m2	0%	0.60	80%	20%	90	23	113
140 Manufacturing	PM	18806	100m2	0%	0.60	20%	80%	23	90	113
Mini storage units	AM	183	No	0%	0.10	50%	50%	9	9	18
Mini storage units	PM	183	No	0%	0.10	50%	50%	9	9	18
Total trips	AM							99	32	131
Total trips	PM							32	99	131

Figure 5: Trip Generation

2.2 Trip distribution and assignment

It is anticipated that the traffic generated by the proposed development will be distributed on the road network as indicated diagrammatically in the figures below:

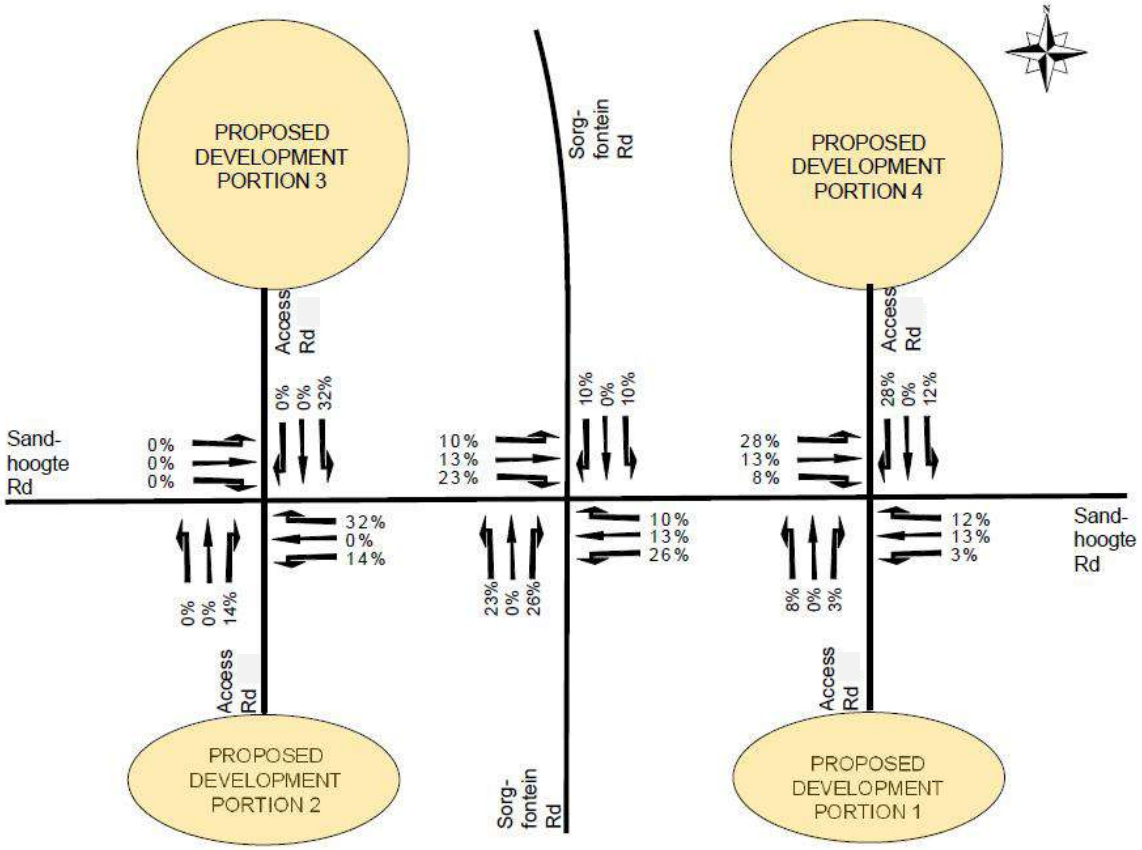


Figure 6: Trip distribution & assignment

3 TRAFFIC DEMAND

3.1 Background traffic

Traffic counts were conducted from 06:00 to 08:00 and 16:00 to 18:00 on 9 October 2024 to obtain background 2025 traffic volumes currently experienced in the area. The day on which the traffic counts were conducted was a normal work and school day. No rain was present.

The volumes of the 2025 base year are indicated diagrammatically in the figures below for the weekday morning and weekday afternoon peak hour periods respectively:

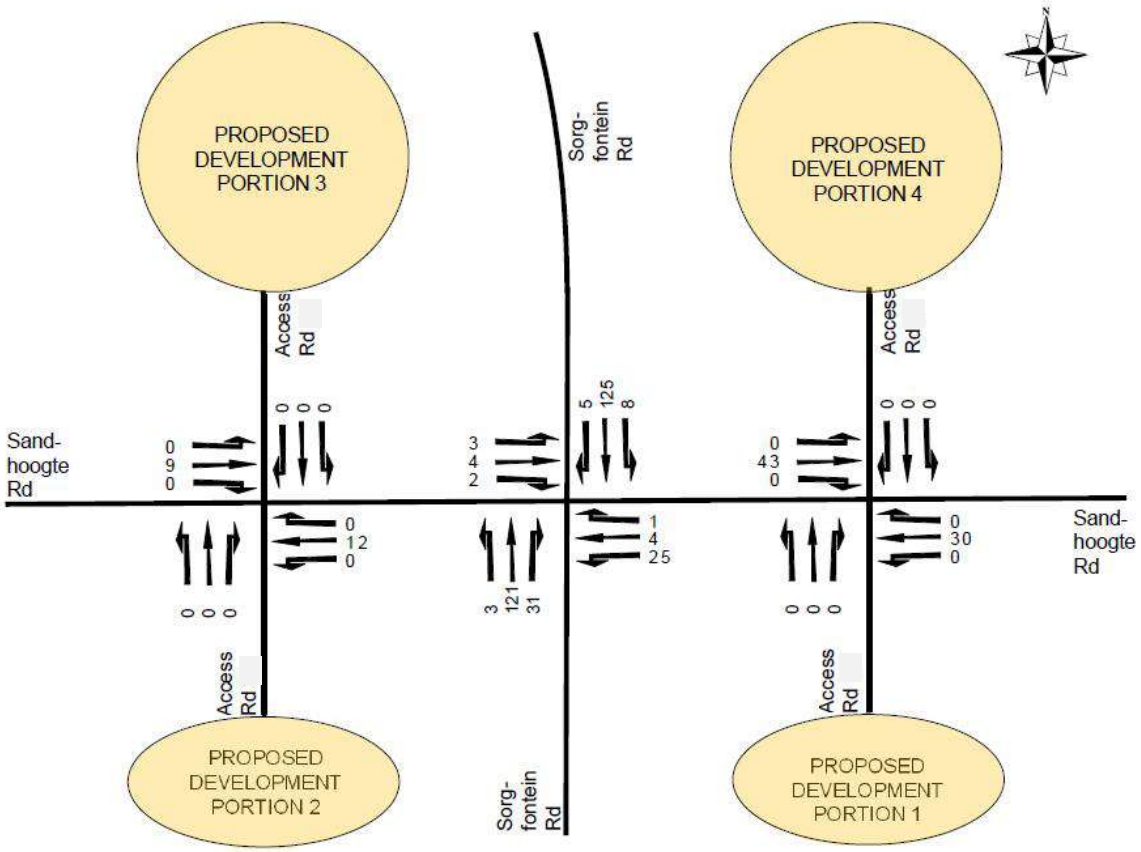


Figure 7: Background traffic: 2025 Base year: AM Peak Hour

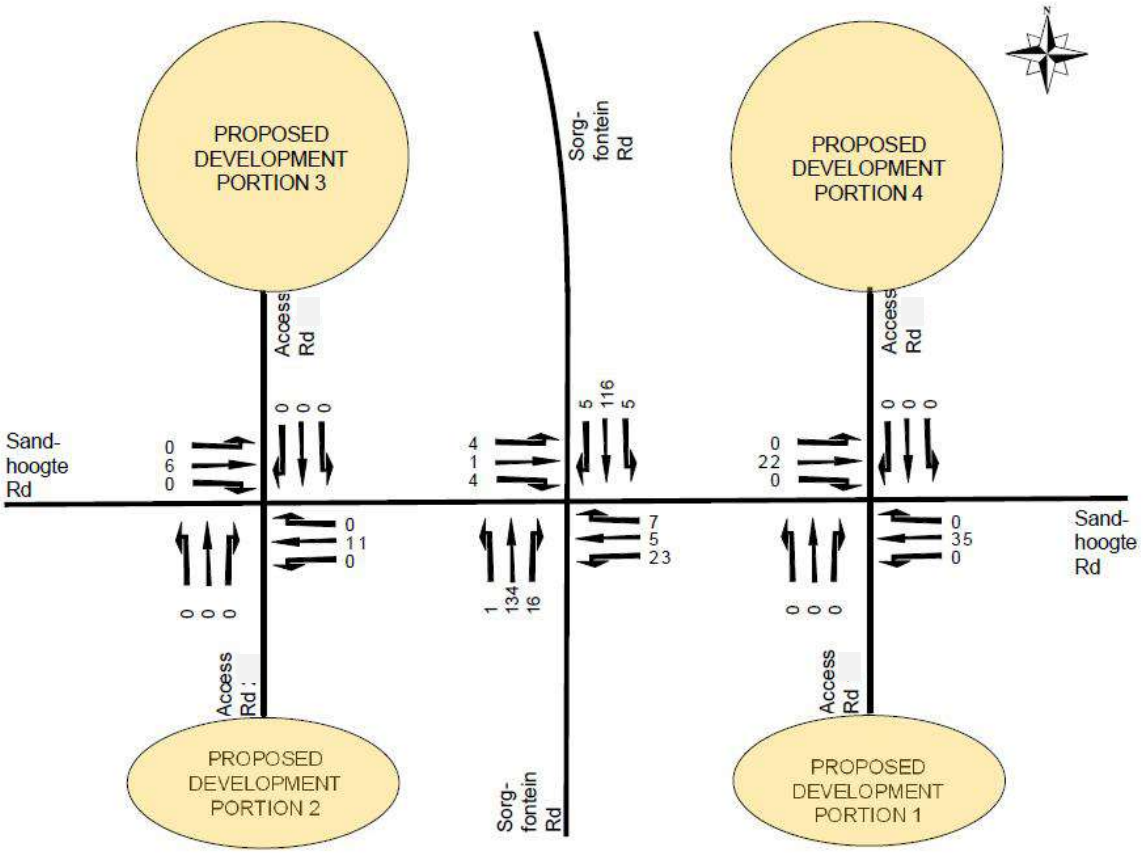


Figure 8: Background traffic: 2025 Base year: PM Peak Hour

3.2 Traffic growth rates

The TMH17: South African Trip Data Manual, recommends the following growth rate factors for different development areas:

Development Area	Growth rate
Low growth areas	0 - 3%
Average growth areas	3 - 4%
Above average growth areas	4 - 6%
Fast growing areas	6 - 8%
Exceptionally high growth areas	> 8%
Source: City Council of Pretoria (1998)	

Figure 9: TMH17 Growth Rate Factors

The proposed development forms part of an area experiencing average growth, although limited geographically. It is hence expected that the area will develop at an average growth rate, in line with the table above, of approximately 3-4%. A growth rate of 3.5% per annum will hence be applied.

A standard horizon period of 5 years will be used to determine the impact of the proposed development on the surrounding road network.

The background volumes of the 2030 horizon year are indicated diagrammatically in the figures below for the weekday morning and weekday afternoon peak hour periods respectively:

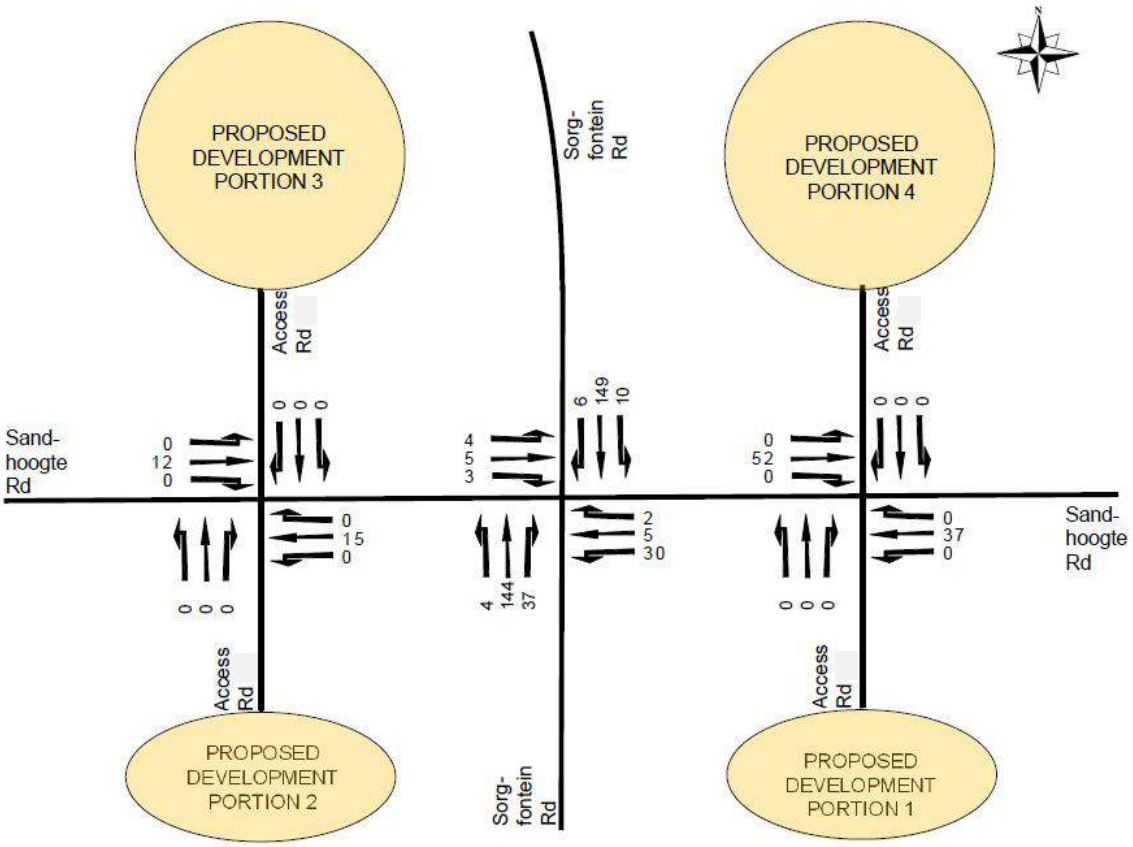


Figure 10: Background traffic: 2030 Horizon year: AM Peak Hour

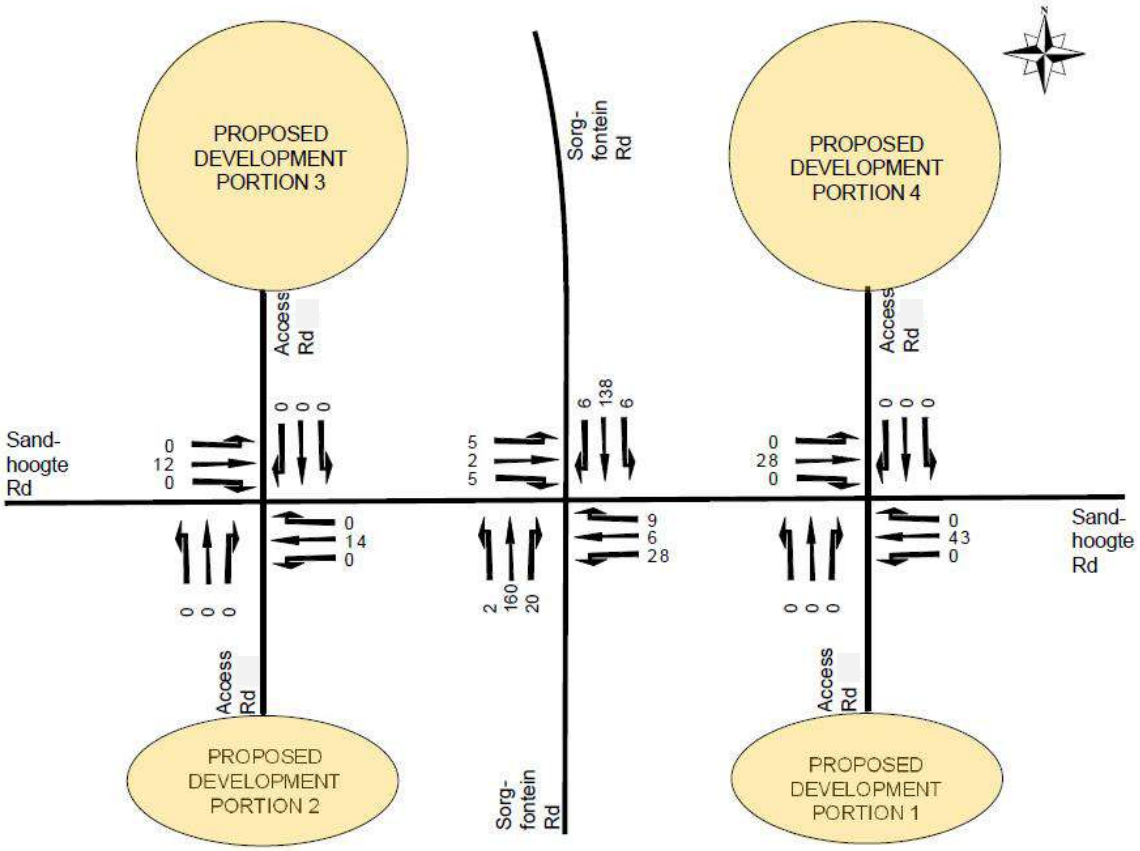


Figure 11: Background traffic: 2030 Horizon year: PM Peak Hour

3.3 Development traffic

The traffic generated by the proposed development assigned to the road network is indicated on the figures below for the weekday morning and weekday afternoon peak hour periods respectively.

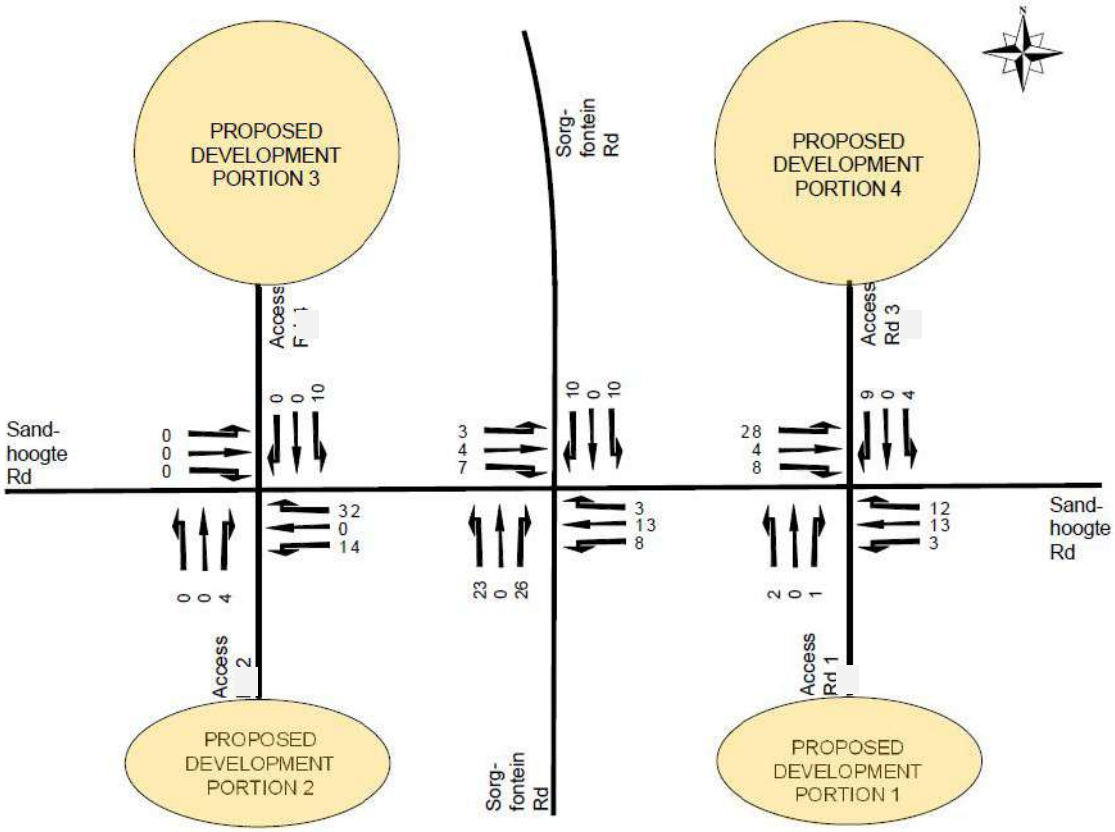


Figure 12: Development Traffic: AM Peak Hour

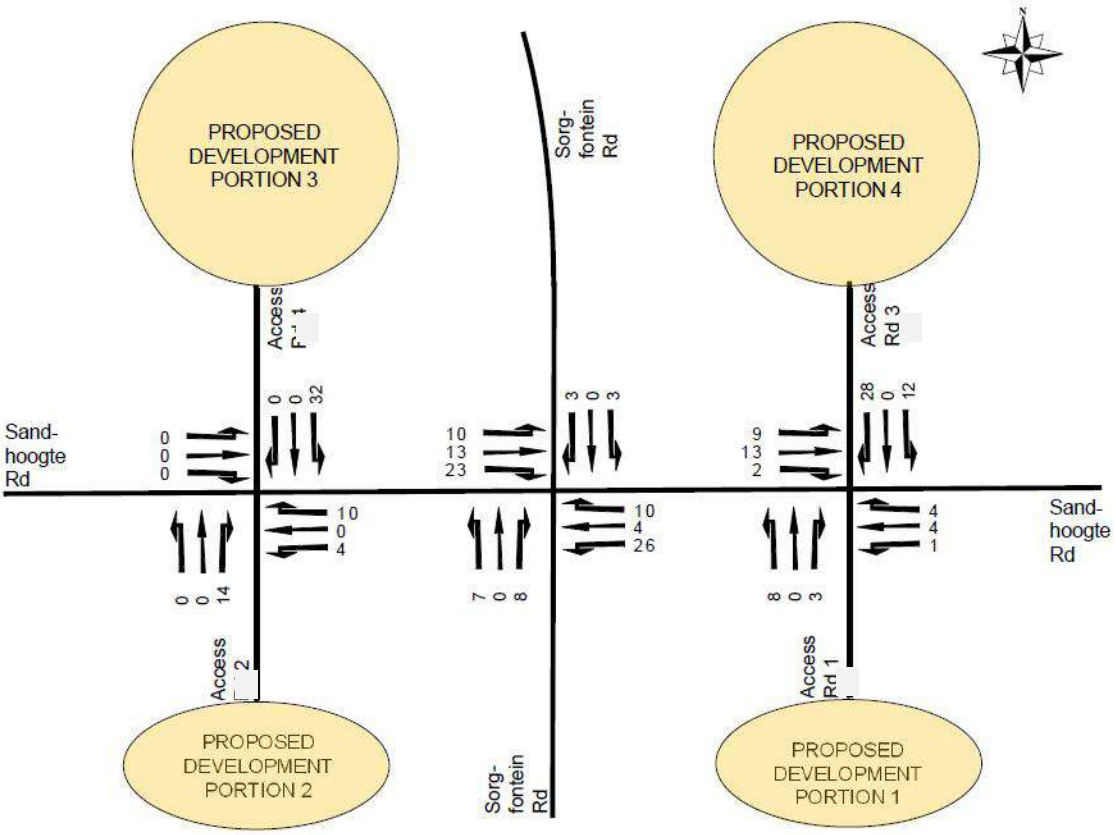


Figure 13: Development Traffic: PM Peak Hour

3.4 Other traffic

All growth figures are included in the 3.5% growth applied.

3.5 Total future traffic demand

The total future traffic demand, consisting of the future background traffic demand plus development traffic, is indicated on the figures below for the weekday morning and weekday afternoon peak hour periods respectively.

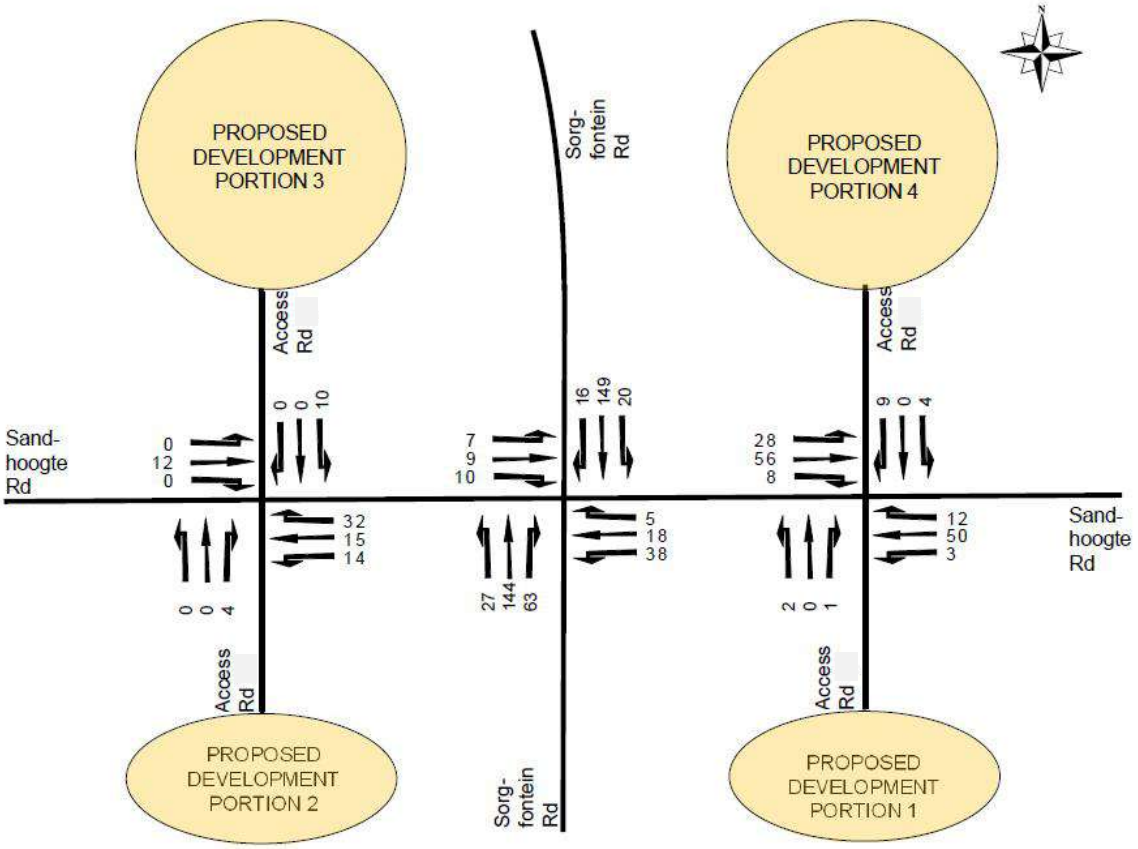


Figure 14: Total Traffic Demand: Horizon Year 2030: AM Peak Hour

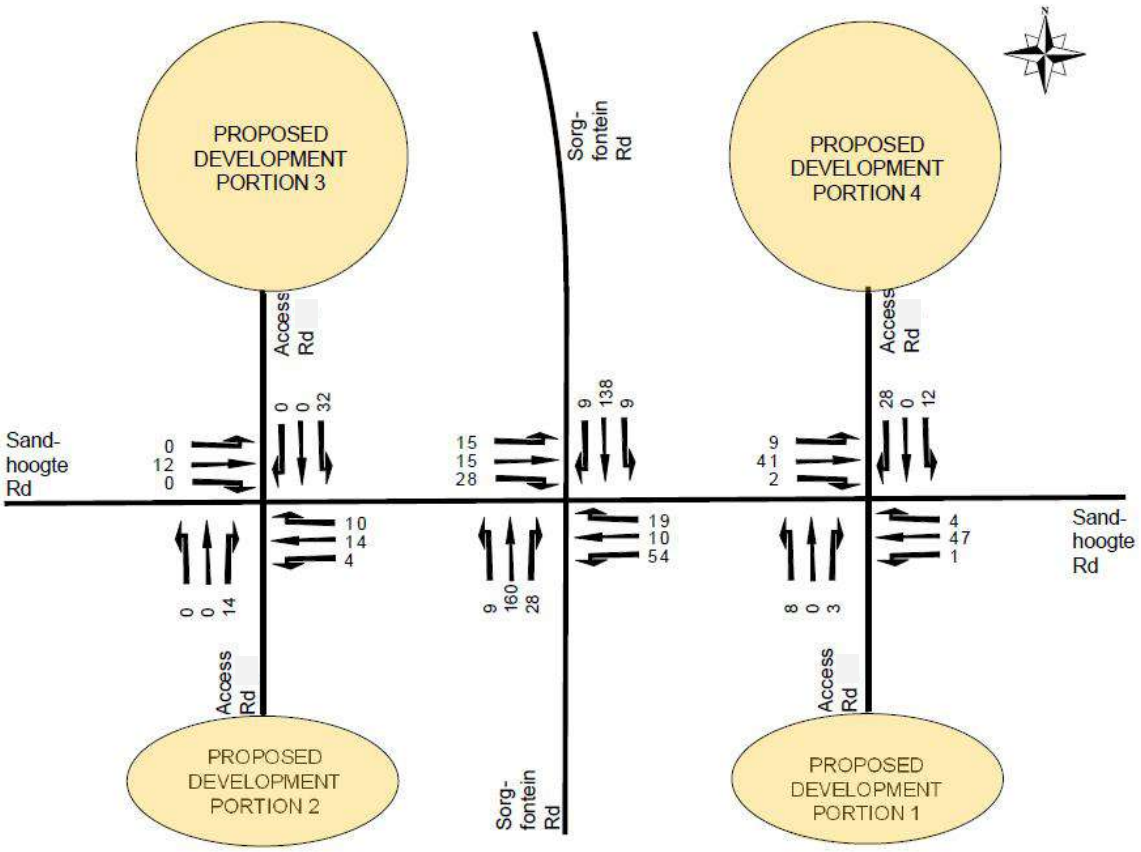


Figure 15: Total Traffic Demand: Horizon Year 2030: PM Peak Hour

4 CAPACITY ANALYSIS

A capacity analysis was performed for the weekday AM and PM peak hours for the future background (2030) and total future traffic (2030) conditions. The capacity analysis was performed by means of the Sidra Intersection 8.0 software to compare the impact of the development against the background traffic. A discussion of the analysis of the intersection and scenarios is presented below, whilst the detailed Sidra results are included as addenda.

4.1 Intersection 1: Sandhoogte Rd (DR1583) & Development Access (Rd 1 & 4)

4.1.1 Intersection Geometry

The proposed intersection is not currently in existence. The proposed development access geometry consists of a single lane shared left/through/right in both access road approaches (side road stop controlled). This geometry is shown in the figure below and was used in the analysis of the intersection:

Figure 16: Geometry Intersection 1: Sandhoogte Rd (DR1583) / Development access 1 & 4

4.1.2 Analysis

The results of the analysis are shown in tabular form in the figures below:

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Access Rd 1								
4	L2	2	0.0	0.004	8.2	LOS A	0.0	0.1
5	T1	1	0.0	0.004	8.3	LOS A	0.0	0.1
6	R2	1	0.0	0.004	8.1	LOS A	0.0	0.1
Approach		4	0.0	0.004	8.2	LOS A	0.0	0.1
East: Sandhoogte Rd (DR1583)								
7	L2	3	0.0	0.035	5.7	LOS A	0.1	0.5
8	T1	50	0.0	0.035	0.1	LOS A	0.1	0.5
9	R2	12	0.0	0.035	5.7	LOS A	0.1	0.5
Approach		65	0.0	0.035	1.4	NA	0.1	0.5
North: Access Rd 4								
10	L2	4	0.0	0.014	8.2	LOS A	0.0	0.3
11	T1	1	0.0	0.014	8.3	LOS A	0.0	0.3
12	R2	9	0.0	0.014	8.2	LOS A	0.0	0.3
Approach		14	0.0	0.014	8.2	LOS A	0.0	0.3
West: Sandhoogte Rd (DR1583)								
1	L2	28	0.0	0.049	5.6	LOS A	0.1	0.4
2	T1	56	0.0	0.049	0.0	LOS A	0.1	0.4
3	R2	8	0.0	0.049	5.6	LOS A	0.1	0.4
Approach		92	0.0	0.049	2.2	NA	0.1	0.4
All Vehicles		175	0.0	0.049	2.5	NA	0.1	0.5

Figure 17: Analysis results – Total Traffic 2030 AM peak hour.

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Access Rd 1								
4	L2	8	0.0	0.010	8.2	LOS A	0.0	0.3
5	T1	1	0.0	0.010	8.1	LOS A	0.0	0.3
6	R2	3	0.0	0.010	8.0	LOS A	0.0	0.3
Approach		12	0.0	0.010	8.1	LOS A	0.0	0.3
East: Sandhoogte Rd (DR1583)								
7	L2	1	0.0	0.027	5.7	LOS A	0.0	0.2
8	T1	47	0.0	0.027	0.0	LOS A	0.0	0.2
9	R2	4	0.0	0.027	5.6	LOS A	0.0	0.2
Approach		52	0.0	0.027	0.6	NA	0.0	0.2
North: Access Rd 4								
10	L2	12	0.0	0.040	8.2	LOS A	0.1	1.0
11	T1	1	0.0	0.040	8.1	LOS A	0.1	1.0
12	R2	28	0.0	0.040	8.0	LOS A	0.1	1.0
Approach		41	0.0	0.040	8.0	LOS A	0.1	1.0
West: Sandhoogte Rd (DR1583)								
1	L2	9	0.0	0.027	5.6	LOS A	0.0	0.1
2	T1	41	0.0	0.027	0.0	LOS A	0.0	0.1
3	R2	2	0.0	0.027	5.6	LOS A	0.0	0.1
Approach		52	0.0	0.027	1.2	NA	0.0	0.1
All Vehicles		157	0.0	0.040	3.3	NA	0.1	1.0

Figure 18: Analysis results – Total Traffic 2030 PM peak hour

The results of the analysis indicate that the development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours

and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours.

4.1.3 Mitigation measures

No upgrades or other mitigation measures are required or proposed for the intersection.

4.2 Intersection 2: Sorgfontein Rd (DR1578) / Sandhoogte Rd (DR1583)

4.2.1 Intersection Geometry

The existing intersection geometry consists of a shared left, through and right lane in all 4 approaches with side road stop control on Sandhoogte Rd (DR1583). This geometry is shown in the figure below and was used in the analysis of the intersection:

Figure 19: Geometry Intersection 2: Sorgfontein Rd (DR1578) / Sandhoogte Rd (DR1583)

4.2.2 Analysis

The results of the analysis are shown in tabular form in the figures below:

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Sorgfontein Rd (DR1578)								
1	L2	27	0.0	0.130	6.0	LOS A	0.5	3.3
2	T1	144	0.0	0.130	0.3	LOS A	0.5	3.3
3	R2	63	0.0	0.130	6.1	LOS A	0.5	3.3
Approach		234	0.0	0.130	2.5	NA	0.5	3.3
East: Sandhoogte Rd (DR1583)								
4	L2	38	0.0	0.062	8.6	LOS A	0.2	1.6
5	T1	18	0.0	0.062	10.0	LOS A	0.2	1.6
6	R2	5	0.0	0.062	10.1	LOS B	0.2	1.6
Approach		61	0.0	0.062	9.1	LOS A	0.2	1.6
North: Sorgfontein Rd (DR1578)								
7	L2	20	0.0	0.098	5.8	LOS A	0.1	1.0
8	T1	149	0.0	0.098	0.1	LOS A	0.1	1.0
9	R2	16	0.0	0.098	6.0	LOS A	0.1	1.0
Approach		185	0.0	0.098	1.2	NA	0.1	1.0
West: Sandhoogte Rd (DR1583)								
10	L2	7	0.0	0.034	8.5	LOS A	0.1	0.8
11	T1	9	0.0	0.034	9.9	LOS A	0.1	0.8
12	R2	10	0.0	0.034	10.4	LOS B	0.1	0.8
Approach		26	0.0	0.034	9.7	LOS A	0.1	0.8
All Vehicles		506	0.0	0.130	3.2	NA	0.5	3.3

Figure 20: Analysis results – Total Traffic 2030 AM peak hour.

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Sorgfontein Rd (DR1578)								
1	L2	9	0.0	0.105	5.9	LOS A	0.2	1.5
2	T1	160	0.0	0.105	0.1	LOS A	0.2	1.5
3	R2	28	0.0	0.105	6.0	LOS A	0.2	1.5
Approach		197	0.0	0.105	1.2	NA	0.2	1.5
East: Sandhoogte Rd (DR1583)								
4	L2	54	0.0	0.083	8.6	LOS A	0.3	2.2
5	T1	10	0.0	0.083	9.6	LOS A	0.3	2.2
6	R2	19	0.0	0.083	10.0	LOS A	0.3	2.2
Approach		83	0.0	0.083	9.0	LOS A	0.3	2.2
North: Sorgfontein Rd (DR1578)								
7	L2	9	0.0	0.082	5.8	LOS A	0.1	0.5
8	T1	138	0.0	0.082	0.0	LOS A	0.1	0.5
9	R2	9	0.0	0.082	6.0	LOS A	0.1	0.5
Approach		156	0.0	0.082	0.7	NA	0.1	0.5
West: Sandhoogte Rd (DR1583)								
10	L2	15	0.0	0.074	8.6	LOS A	0.3	1.8
11	T1	15	0.0	0.074	9.6	LOS A	0.3	1.8
12	R2	28	0.0	0.074	10.2	LOS B	0.3	1.8
Approach		58	0.0	0.074	9.6	LOS A	0.3	1.8
All Vehicles		494	0.0	0.105	3.4	NA	0.3	2.2

Figure 21: Analysis results – Total Traffic 2030 PM peak hour

The results of the analysis indicate that the development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours.

4.2.3 Mitigation measures

No upgrades or other mitigation measures are required or proposed for the intersection.

4.3 Intersection 3: Sandhoogte Rd (DR1583) & Development Access (Rd 2 & 3)

4.3.1 Intersection Geometry

The proposed intersection is not currently in existence. The proposed development access geometry consists of a single lane shared left/through/right in both access road approaches (side road stop controlled). This geometry is shown in the figure below and was used in the analysis of the intersection:

Figure 22: Geometry Intersection 3: Sandhoogte Rd (DR1583) / Development access 2 & 3

4.3.2 Analysis

The results of the analysis are shown in tabular form in the figures below:

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Access Rd 2								
4	L2	1	0.0	0.006	8.1	LOS A	0.0	0.1
5	T1	1	0.0	0.006	7.9	LOS A	0.0	0.1
6	R2	4	0.0	0.006	7.8	LOS A	0.0	0.1
Approach		6	0.0	0.006	7.9	LOS A	0.0	0.1
East: Sandhoogte Rd (DR1583)								
7	L2	14	0.0	0.033	5.6	LOS A	0.1	1.0
8	T1	15	0.0	0.033	0.0	LOS A	0.1	1.0
9	R2	32	0.0	0.033	5.5	LOS A	0.1	1.0
Approach		61	0.0	0.033	4.2	NA	0.1	1.0
North: Access Rd 3								
10	L2	10	0.0	0.009	8.1	LOS A	0.0	0.2
11	T1	1	0.0	0.009	8.0	LOS A	0.0	0.2
12	R2	1	0.0	0.009	7.7	LOS A	0.0	0.2
Approach		12	0.0	0.009	8.0	LOS A	0.0	0.2
West: Sandhoogte Rd (DR1583)								
1	L2	1	0.0	0.007	5.6	LOS A	0.0	0.0
2	T1	12	0.0	0.007	0.0	LOS A	0.0	0.0
3	R2	1	0.0	0.007	5.6	LOS A	0.0	0.0
Approach		14	0.0	0.007	0.8	NA	0.0	0.0
All Vehicles		93	0.0	0.033	4.4	NA	0.1	1.0

Figure 23: Analysis results – Total Traffic 2030 AM peak hour.

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Access Rd 2								
4	L2	1	0.0	0.016	8.1	LOS A	0.1	0.4
5	T1	1	0.0	0.016	7.8	LOS A	0.1	0.4
6	R2	14	0.0	0.016	7.8	LOS A	0.1	0.4
Approach		16	0.0	0.016	7.8	LOS A	0.1	0.4
East: Sandhoogte Rd (DR1583)								
7	L2	4	0.0	0.015	5.6	LOS A	0.1	0.4
8	T1	14	0.0	0.015	0.0	LOS A	0.1	0.4
9	R2	10	0.0	0.015	5.5	LOS A	0.1	0.4
Approach		28	0.0	0.015	2.8	NA	0.1	0.4
North: Access Rd 3								
10	L2	32	0.0	0.024	8.1	LOS A	0.1	0.7
11	T1	1	0.0	0.024	7.8	LOS A	0.1	0.7
12	R2	1	0.0	0.024	7.6	LOS A	0.1	0.7
Approach		34	0.0	0.024	8.0	LOS A	0.1	0.7
West: Sandhoogte Rd (DR1583)								
1	L2	1	0.0	0.007	5.6	LOS A	0.0	0.0
2	T1	12	0.0	0.007	0.0	LOS A	0.0	0.0
3	R2	1	0.0	0.007	5.5	LOS A	0.0	0.0
Approach		14	0.0	0.007	0.8	NA	0.0	0.0
All Vehicles		92	0.0	0.024	5.3	NA	0.1	0.7

Figure 24: Analysis results – Total Traffic 2030 PM peak hour

The results of the analysis indicate that the development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours.

4.3.3 Mitigation measures

No upgrades or other mitigation measures are required or proposed for the intersection.

5 SALIENT ISSUES

A number of salient issues are addressed below and shall also be considered in parallel to all relevant approved documentation and applicable legislation:

5.1 Access gate configuration & stacking distance

A minimum stacking distance of 2 light vehicles or one heavy vehicle or 15m is required at the access gate. The gate design shall provide for access for heavy vehicles and emergency vehicles. It is proposed that separate access lanes (gates) be provided for tenants and visitors.

5.2 Sight Distances

Sight distances at both proposed access points are acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width.

5.3 Right Turn Lanes

The total horizon year 2030 traffic at all the intersections were weighed against the warrants for right turn lanes in order to consider the safety of right turn manoeuvres alongside and opposed to the main traffic stream in all approaches. The necessity of a right turn lane is not triggered in this analysis for any of the intersections or approaches.

5.4 Parking

Sufficient internal parking is indicated on the site development plan. Additional parking is not required.

5.5 Public Transport Routes

No official public transport routes are located close to the proposed development, although minibus taxis do utilize Sorgfontein Rd (DR1578) and Sandhoogte Rd (DR1583) on an unofficial basis.

5.6 Heavy vehicle access

The gate complex shall provide for heavy vehicles as this is a light industrial development.

5.7 Refuse removal

Refuse removal shall be performed by the Municipality in accordance with a signed services agreement. Access for municipal refuse removal vehicles shall be incorporated into the access gate arrangements. The provision of a solid waste collection area shall be incorporated into the access gate arrangements, or in close vicinity to the access gate, in a manner so as not to hinder normal operations at the gate.

6 CONCLUSSIONS

The following conclusions can be reached from the Traffic Impact Statement for the proposed development of Zandhoogte Industrial Park, Tergniet, Mossel Bay:

1. The purpose of the study is to assess the traffic impact of the proposed development on the adjacent road network;
2. The proposed development envisages the development of 183 long term personal storage units (mini storage units) and 40 light industrial manufacturing workshops;
3. The proposed development of Zandhoogte Industrial Park, is located on remainder of Farm 139, Tergniet, Mossel Bay, approximately 5km west of Great Brak River in the Mossel Bay Municipal area. The property is located inside the urban edge;
4. The site is intersected east-west by Sandhoogte Rd (DR1583), a low order (level 4) provincial divisional road, and intersected north-south by Sorgfontein Rd (DR1578), a low order (level 4) provincial divisional road;
5. Access to portions 1&4 of the development is proposed from Sandhoogte Rd (DR1583), at a point approximately 107m east of the intersection with Sorgfontein Rd (DR1578). Access to portions 2 and 3 of the development is proposed from Sandhoogte Rd (DR1583), at a point approximately 117m west of the intersection with Sorgfontein Rd (DR1578);
6. Sight distances at both proposed access points are acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width;
7. Sandhoogte Rd (DR1583) is classified as a class 4 provincial divisional road and carries a very slight traffic load. Although peaks can be observed during morning and evening peak hours, these peaks are extremely slight, compared to peaks in the urban environment. During the remainder of the day, the road is extremely slightly trafficked;
8. Sorgfontein Rd (DR1578) is classified as a class 4 provincial divisional road and carries a very slight traffic load. Although peaks can be observed during morning and evening peak hours, these peaks are extremely slight, compared to peaks in the urban environment. During the remainder of the day, the road is extremely slightly trafficked;
9. The traffic impact statement of the proposed development evaluated the three intersections affected by the development:
    a. Intersection 1: Development access (east) / Sandhoogte Rd (DR1583);

b. Intersection 2: Sorgfontein Rd (DR1578) / Sandhoogte Rd (DR1583);
c. Intersection 3: Development access (west) / Sandhoogte Rd (DR1583);

10. The impact of the proposed development was evaluated for the weekday morning and afternoon peak hours. The assessment years are for the base year 2025 and horizon year 2030;
11. Trip generation rates for the proposed development were determined in accordance with the TMH17 South African Trip Data Manual;
12. The peak hour trip generation of the proposed development during respectively the morning and afternoon peak hour of the adjacent road network is 131 (99 in / 32 out) (AM) and 131 (32 in / 99 out) (PM);
13. Traffic counts were conducted from 06:00 to 08:00 and 16:00 to 18:00 on 9 October 2024 to obtain background 2025 traffic volumes currently experienced in the area. The day on which the traffic counts were conducted was a normal work and school day. No rain was present;
14. The study area is classified as an average growth area and a growth rate of 3.5% per annum was applied to obtain the horizon year traffic volumes;
15. A capacity analysis was performed for the weekday AM and PM peak hours for the future background (2030) and total future traffic (2030) conditions;
16. The capacity analysis was performed by means of the Sidra Intersection 8.0 software to compare the impact of the development against the background traffic;
17. The analysis concluded the following:
    - Intersection 1: Sandhoogte Rd (DR1583) & Development Access (Rd 1 & 4): The development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours. No upgrades or other mitigation measures are required or proposed for the intersection;
    - Intersection 2: Sorgfontein Rd (DR1578) / Sandhoogte Rd (DR1583): The development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours. No upgrades or other mitigation measures are required or proposed for the intersection;
    - Intersection 3: Sandhoogte Rd (DR1583) & Development Access (Rd 2 & 3): The development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection

will continue to operate at a Level of Service A for both the morning and afternoon peak hours. No upgrades or other mitigation measures are required or proposed for the intersection;

18. A minimum stacking distance of 2 light vehicles or one heavy vehicle or 15m is required at the access gate. The gate design shall provide for access for heavy vehicles and emergency vehicles. It is proposed that separate access lanes (gates) be provided for tenants and visitors;
19. Sight distances at both proposed access points are acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width;
20. The total horizon year 2030 traffic at all the intersections were weighed against the warrants for right turn lanes in order to consider the safety of right turn manoeuvres alongside and opposed to the main traffic stream in all approaches. The necessity of a right turn lane is not triggered in this analysis for any of the intersections or approaches;
21. Sufficient internal parking is indicated on the site development plan. Additional parking is not required;
22. No official public transport routes are located close to the proposed development, although minibus taxis do utilize Sorgfontein Rd (DR1578) and Sandhoogte Rd (DR1583) on an unofficial basis;
23. The gate complex shall provide for heavy vehicles as this is a light industrial development;
24. Refuse removal shall be performed by the Municipality in accordance with a signed services agreement. Access for municipal refuse removal vehicles shall be incorporated into the access gate arrangements. The provision of a solid waste collection area shall be incorporated into the access gate arrangements, or in close vicinity to the access gate, in a manner so as not to hinder normal operations at the gate.

7 RECOMMENDATIONS

In line with the conclusions above, the following is recommended from the Traffic Impact Statement for the proposed development of Zandhoogte Industrial Park, Tergniet, Mossel Bay:

1. That the proposed development be approved from a Traffic Engineering perspective;
2. That all recommendations contained in this report be implemented in accordance with the relevant design standards and legislation;
3. That all engineering designs be performed by a registered professional engineer and submitted to the municipality for approval in line with a signed services agreement, prior to construction.

8 ADDENDA

8.1 Addendum A – Site development plan

8.2 Addendum B – Sidra analysis

ADDENDUM A

Site development plan

ALL WORK TO BE EXECUTED ACCORDING TO THE NATIONAL BUILDING REGULATIONS AND LOCAL BYE-LAWS.
ALL DIMENSIONS TO BE CHECKED ON SITE.
DO NOT SCALE OFF THE DRAWINGS.
COPYRIGHT IS RESERVED BY THE ARCHITECT.

SITE LAYOUT
SCALE 1:1000

PROJECT DESCRIPTION:

PROPOSED MIXED DEVELOPMENT ON ERF 139 ZANDHOEGTE

A Enslin Archi Designs

DRAWING DESCRIPTION:

SITE LAYOUT

DATE DRAWN:

13/2/25

ADDENDUM B

Sidra analysis

MOVEMENT SUMMARY

Site: 101 [Int1 Total 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Access Rd 1												
4	L2	2	0.0	0.004	8.2	LOS A	0.0	0.1	0.15	0.92	0.15	51.8
5	T1	1	0.0	0.004	8.3	LOS A	0.0	0.1	0.15	0.92	0.15	51.6
6	R2	1	0.0	0.004	8.1	LOS A	0.0	0.1	0.15	0.92	0.15	51.3
Approach		4	0.0	0.004	8.2	LOS A	0.0	0.1	0.15	0.92	0.15	51.6
East: Sandhoogte Rd (DR1583)												
7	L2	3	0.0	0.035	5.7	LOS A	0.1	0.5	0.08	0.14	0.08	56.9
8	T1	50	0.0	0.035	0.1	LOS A	0.1	0.5	0.08	0.14	0.08	58.5
9	R2	12	0.0	0.035	5.7	LOS A	0.1	0.5	0.08	0.14	0.08	56.3
Approach		65	0.0	0.035	1.4	NA	0.1	0.5	0.08	0.14	0.08	58.0
North: Access Rd 4												
10	L2	4	0.0	0.014	8.2	LOS A	0.0	0.3	0.19	0.90	0.19	51.9
11	T1	1	0.0	0.014	8.3	LOS A	0.0	0.3	0.19	0.90	0.19	51.6
12	R2	9	0.0	0.014	8.2	LOS A	0.0	0.3	0.19	0.90	0.19	51.3
Approach		14	0.0	0.014	8.2	LOS A	0.0	0.3	0.19	0.90	0.19	51.5
West: Sandhoogte Rd (DR1583)												
1	L2	28	0.0	0.049	5.6	LOS A	0.1	0.4	0.04	0.23	0.04	56.3
2	T1	56	0.0	0.049	0.0	LOS A	0.1	0.4	0.04	0.23	0.04	57.8
3	R2	8	0.0	0.049	5.6	LOS A	0.1	0.4	0.04	0.23	0.04	55.6
Approach		92	0.0	0.049	2.2	NA	0.1	0.4	0.04	0.23	0.04	57.1
All Vehicles		175	0.0	0.049	2.5	NA	0.1	0.5	0.07	0.26	0.07	56.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int1 Total 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Access Rd 1												
4	L2	8	0.0	0.010	8.2	LOS A	0.0	0.3	0.13	0.91	0.13	51.9
5	T1	1	0.0	0.010	8.1	LOS A	0.0	0.3	0.13	0.91	0.13	51.6
6	R2	3	0.0	0.010	8.0	LOS A	0.0	0.3	0.13	0.91	0.13	51.3
Approach		12	0.0	0.010	8.1	LOS A	0.0	0.3	0.13	0.91	0.13	51.7
East: Sandhoogte Rd (DR1583)												
7	L2	1	0.0	0.027	5.7	LOS A	0.0	0.2	0.03	0.06	0.03	57.8
8	T1	47	0.0	0.027	0.0	LOS A	0.0	0.2	0.03	0.06	0.03	59.4
9	R2	4	0.0	0.027	5.6	LOS A	0.0	0.2	0.03	0.06	0.03	57.1
Approach		52	0.0	0.027	0.6	NA	0.0	0.2	0.03	0.06	0.03	59.2
North: Access Rd 4												
10	L2	12	0.0	0.040	8.2	LOS A	0.1	1.0	0.16	0.91	0.16	51.9
11	T1	1	0.0	0.040	8.1	LOS A	0.1	1.0	0.16	0.91	0.16	51.7
12	R2	28	0.0	0.040	8.0	LOS A	0.1	1.0	0.16	0.91	0.16	51.4
Approach		41	0.0	0.040	8.0	LOS A	0.1	1.0	0.16	0.91	0.16	51.6
West: Sandhoogte Rd (DR1583)												
1	L2	9	0.0	0.027	5.6	LOS A	0.0	0.1	0.02	0.13	0.02	57.2
2	T1	41	0.0	0.027	0.0	LOS A	0.0	0.1	0.02	0.13	0.02	58.8
3	R2	2	0.0	0.027	5.6	LOS A	0.0	0.1	0.02	0.13	0.02	56.6
Approach		52	0.0	0.027	1.2	NA	0.0	0.1	0.02	0.13	0.02	58.4
All Vehicles		157	0.0	0.040	3.3	NA	0.1	1.0	0.06	0.37	0.06	56.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int2 Backgr 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sorgfontein Rd (DR1578)												
1	L2	4	0.0	0.100	6.0	LOS A	0.3	1.8	0.13	0.13	0.13	56.8
2	T1	144	0.0	0.100	0.2	LOS A	0.3	1.8	0.13	0.13	0.13	58.3
3	R2	37	0.0	0.100	6.0	LOS A	0.3	1.8	0.13	0.13	0.13	56.1
Approach		185	0.0	0.100	1.5	NA	0.3	1.8	0.13	0.13	0.13	57.8
East: Sandhoogte Rd (DR1583)												
4	L2	30	0.0	0.033	8.6	LOS A	0.1	0.9	0.26	0.88	0.26	51.6
5	T1	5	0.0	0.033	9.5	LOS A	0.1	0.9	0.26	0.88	0.26	51.4
6	R2	2	0.0	0.033	9.6	LOS A	0.1	0.9	0.26	0.88	0.26	51.1
Approach		37	0.0	0.033	8.7	LOS A	0.1	0.9	0.26	0.88	0.26	51.6
North: Sorgfontein Rd (DR1578)												
7	L2	10	0.0	0.086	5.7	LOS A	0.1	0.4	0.03	0.06	0.03	57.8
8	T1	149	0.0	0.086	0.0	LOS A	0.1	0.4	0.03	0.06	0.03	59.4
9	R2	6	0.0	0.086	5.9	LOS A	0.1	0.4	0.03	0.06	0.03	57.1
Approach		165	0.0	0.086	0.6	NA	0.1	0.4	0.03	0.06	0.03	59.2
West: Sandhoogte Rd (DR1583)												
10	L2	4	0.0	0.014	8.5	LOS A	0.0	0.3	0.32	0.89	0.32	51.4
11	T1	5	0.0	0.014	9.4	LOS A	0.0	0.3	0.32	0.89	0.32	51.1
12	R2	3	0.0	0.014	9.7	LOS A	0.0	0.3	0.32	0.89	0.32	50.9
Approach		12	0.0	0.014	9.2	LOS A	0.0	0.3	0.32	0.89	0.32	51.1
All Vehicles		399	0.0	0.100	2.0	NA	0.3	1.8	0.11	0.19	0.11	57.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int2 Backgr 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sorgfontein Rd (DR1578)												
1	L2	2	0.0	0.096	6.0	LOS A	0.1	1.0	0.07	0.07	0.07	57.5
2	T1	160	0.0	0.096	0.1	LOS A	0.1	1.0	0.07	0.07	0.07	59.1
3	R2	20	0.0	0.096	5.9	LOS A	0.1	1.0	0.07	0.07	0.07	56.8
Approach		182	0.0	0.096	0.8	NA	0.1	1.0	0.07	0.07	0.07	58.8
East: Sandhoogte Rd (DR1583)												
4	L2	28	0.0	0.042	8.5	LOS A	0.2	1.1	0.27	0.89	0.27	51.5
5	T1	6	0.0	0.042	9.4	LOS A	0.2	1.1	0.27	0.89	0.27	51.3
6	R2	9	0.0	0.042	9.5	LOS A	0.2	1.1	0.27	0.89	0.27	51.0
Approach		43	0.0	0.042	8.9	LOS A	0.2	1.1	0.27	0.89	0.27	51.4
North: Sorgfontein Rd (DR1578)												
7	L2	6	0.0	0.078	5.8	LOS A	0.1	0.4	0.03	0.05	0.03	57.8
8	T1	138	0.0	0.078	0.0	LOS A	0.1	0.4	0.03	0.05	0.03	59.4
9	R2	6	0.0	0.078	6.0	LOS A	0.1	0.4	0.03	0.05	0.03	57.2
Approach		150	0.0	0.078	0.5	NA	0.1	0.4	0.03	0.05	0.03	59.3
West: Sandhoogte Rd (DR1583)												
10	L2	5	0.0	0.014	8.6	LOS A	0.0	0.3	0.32	0.87	0.32	51.4
11	T1	2	0.0	0.014	9.3	LOS A	0.0	0.3	0.32	0.87	0.32	51.1
12	R2	5	0.0	0.014	9.6	LOS A	0.0	0.3	0.32	0.87	0.32	50.9
Approach		12	0.0	0.014	9.1	LOS A	0.0	0.3	0.32	0.87	0.32	51.1
All Vehicles		387	0.0	0.096	1.8	NA	0.2	1.1	0.08	0.18	0.08	57.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int2 Total 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sorgfontein Rd (DR1578)												
1	L2	27	0.0	0.130	6.0	LOS A	0.5	3.3	0.19	0.22	0.19	55.8
2	T1	144	0.0	0.130	0.3	LOS A	0.5	3.3	0.19	0.22	0.19	57.3
3	R2	63	0.0	0.130	6.1	LOS A	0.5	3.3	0.19	0.22	0.19	55.1
Approach		234	0.0	0.130	2.5	NA	0.5	3.3	0.19	0.22	0.19	56.5
East: Sandhoogte Rd (DR1583)												
4	L2	38	0.0	0.062	8.6	LOS A	0.2	1.6	0.29	0.91	0.29	51.4
5	T1	18	0.0	0.062	10.0	LOS A	0.2	1.6	0.29	0.91	0.29	51.1
6	R2	5	0.0	0.062	10.1	LOS B	0.2	1.6	0.29	0.91	0.29	50.8
Approach		61	0.0	0.062	9.1	LOS A	0.2	1.6	0.29	0.91	0.29	51.3
North: Sorgfontein Rd (DR1578)												
7	L2	20	0.0	0.098	5.8	LOS A	0.1	1.0	0.07	0.11	0.07	57.1
8	T1	149	0.0	0.098	0.1	LOS A	0.1	1.0	0.07	0.11	0.07	58.7
9	R2	16	0.0	0.098	6.0	LOS A	0.1	1.0	0.07	0.11	0.07	56.4
Approach		185	0.0	0.098	1.2	NA	0.1	1.0	0.07	0.11	0.07	58.3
West: Sandhoogte Rd (DR1583)												
10	L2	7	0.0	0.034	8.5	LOS A	0.1	0.8	0.36	0.91	0.36	51.0
11	T1	9	0.0	0.034	9.9	LOS A	0.1	0.8	0.36	0.91	0.36	50.8
12	R2	10	0.0	0.034	10.4	LOS B	0.1	0.8	0.36	0.91	0.36	50.5
Approach		26	0.0	0.034	9.7	LOS A	0.1	0.8	0.36	0.91	0.36	50.7
All Vehicles		506	0.0	0.130	3.2	NA	0.5	3.3	0.17	0.30	0.17	56.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int2 Total 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sorgfontein Rd (DR1578)												
1	L2	9	0.0	0.105	5.9	LOS A	0.2	1.5	0.10	0.11	0.10	57.0
2	T1	160	0.0	0.105	0.1	LOS A	0.2	1.5	0.10	0.11	0.10	58.6
3	R2	28	0.0	0.105	6.0	LOS A	0.2	1.5	0.10	0.11	0.10	56.4
Approach		197	0.0	0.105	1.2	NA	0.2	1.5	0.10	0.11	0.10	58.2
East: Sandhoogte Rd (DR1583)												
4	L2	54	0.0	0.083	8.6	LOS A	0.3	2.2	0.28	0.90	0.28	51.4
5	T1	10	0.0	0.083	9.6	LOS A	0.3	2.2	0.28	0.90	0.28	51.2
6	R2	19	0.0	0.083	10.0	LOS A	0.3	2.2	0.28	0.90	0.28	50.9
Approach		83	0.0	0.083	9.0	LOS A	0.3	2.2	0.28	0.90	0.28	51.3
North: Sorgfontein Rd (DR1578)												
7	L2	9	0.0	0.082	5.8	LOS A	0.1	0.5	0.05	0.07	0.05	57.6
8	T1	138	0.0	0.082	0.0	LOS A	0.1	0.5	0.05	0.07	0.05	59.2
9	R2	9	0.0	0.082	6.0	LOS A	0.1	0.5	0.05	0.07	0.05	56.9
Approach		156	0.0	0.082	0.7	NA	0.1	0.5	0.05	0.07	0.05	58.9
West: Sandhoogte Rd (DR1583)												
10	L2	15	0.0	0.074	8.6	LOS A	0.3	1.8	0.37	0.92	0.37	51.1
11	T1	15	0.0	0.074	9.6	LOS A	0.3	1.8	0.37	0.92	0.37	50.8
12	R2	28	0.0	0.074	10.2	LOS B	0.3	1.8	0.37	0.92	0.37	50.6
Approach		58	0.0	0.074	9.6	LOS A	0.3	1.8	0.37	0.92	0.37	50.8
All Vehicles		494	0.0	0.105	3.4	NA	0.3	2.2	0.14	0.32	0.14	56.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int3 Total 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Access Rd 2												
4	L2	1	0.0	0.006	8.1	LOS A	0.0	0.1	0.11	0.94	0.11	52.0
5	T1	1	0.0	0.006	7.9	LOS A	0.0	0.1	0.11	0.94	0.11	51.7
6	R2	4	0.0	0.006	7.8	LOS A	0.0	0.1	0.11	0.94	0.11	51.4
Approach		6	0.0	0.006	7.9	LOS A	0.0	0.1	0.11	0.94	0.11	51.6
East: Sandhoogte Rd (DR1583)												
7	L2	14	0.0	0.033	5.6	LOS A	0.1	1.0	0.06	0.43	0.06	54.6
8	T1	15	0.0	0.033	0.0	LOS A	0.1	1.0	0.06	0.43	0.06	56.0
9	R2	32	0.0	0.033	5.5	LOS A	0.1	1.0	0.06	0.43	0.06	54.0
Approach		61	0.0	0.033	4.2	NA	0.1	1.0	0.06	0.43	0.06	54.6
North: Access Rd 3												
10	L2	10	0.0	0.009	8.1	LOS A	0.0	0.2	0.05	0.97	0.05	51.8
11	T1	1	0.0	0.009	8.0	LOS A	0.0	0.2	0.05	0.97	0.05	51.5
12	R2	1	0.0	0.009	7.7	LOS A	0.0	0.2	0.05	0.97	0.05	51.3
Approach		12	0.0	0.009	8.0	LOS A	0.0	0.2	0.05	0.97	0.05	51.7
West: Sandhoogte Rd (DR1583)												
1	L2	1	0.0	0.007	5.6	LOS A	0.0	0.0	0.02	0.09	0.02	57.6
2	T1	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.02	0.09	0.02	59.2
3	R2	1	0.0	0.007	5.6	LOS A	0.0	0.0	0.02	0.09	0.02	56.9
Approach		14	0.0	0.007	0.8	NA	0.0	0.0	0.02	0.09	0.02	58.9
All Vehicles		93	0.0	0.033	4.4	NA	0.1	1.0	0.05	0.48	0.05	54.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int3 Total 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Access Rd 2												
4	L2	1	0.0	0.016	8.1	LOS A	0.1	0.4	0.13	0.92	0.13	52.1
5	T1	1	0.0	0.016	7.8	LOS A	0.1	0.4	0.13	0.92	0.13	51.8
6	R2	14	0.0	0.016	7.8	LOS A	0.1	0.4	0.13	0.92	0.13	51.5
Approach		16	0.0	0.016	7.8	LOS A	0.1	0.4	0.13	0.92	0.13	51.5
East: Sandhoogte Rd (DR1583)												
7	L2	4	0.0	0.015	5.6	LOS A	0.1	0.4	0.05	0.29	0.05	55.8
8	T1	14	0.0	0.015	0.0	LOS A	0.1	0.4	0.05	0.29	0.05	57.2
9	R2	10	0.0	0.015	5.5	LOS A	0.1	0.4	0.05	0.29	0.05	55.1
Approach		28	0.0	0.015	2.8	NA	0.1	0.4	0.05	0.29	0.05	56.3
North: Access Rd 3												
10	L2	32	0.0	0.024	8.1	LOS A	0.1	0.7	0.06	0.96	0.06	51.8
11	T1	1	0.0	0.024	7.8	LOS A	0.1	0.7	0.06	0.96	0.06	51.5
12	R2	1	0.0	0.024	7.6	LOS A	0.1	0.7	0.06	0.96	0.06	51.3
Approach		34	0.0	0.024	8.0	LOS A	0.1	0.7	0.06	0.96	0.06	51.7
West: Sandhoogte Rd (DR1583)												
1	L2	1	0.0	0.007	5.6	LOS A	0.0	0.0	0.01	0.09	0.01	57.6
2	T1	12	0.0	0.007	0.0	LOS A	0.0	0.0	0.01	0.09	0.01	59.2
3	R2	1	0.0	0.007	5.5	LOS A	0.0	0.0	0.01	0.09	0.01	56.9
Approach		14	0.0	0.007	0.8	NA	0.0	0.0	0.01	0.09	0.01	58.9
All Vehicles		92	0.0	0.024	5.3	NA	0.1	0.7	0.06	0.62	0.06	54.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.