

7.1

INTRODUCTION

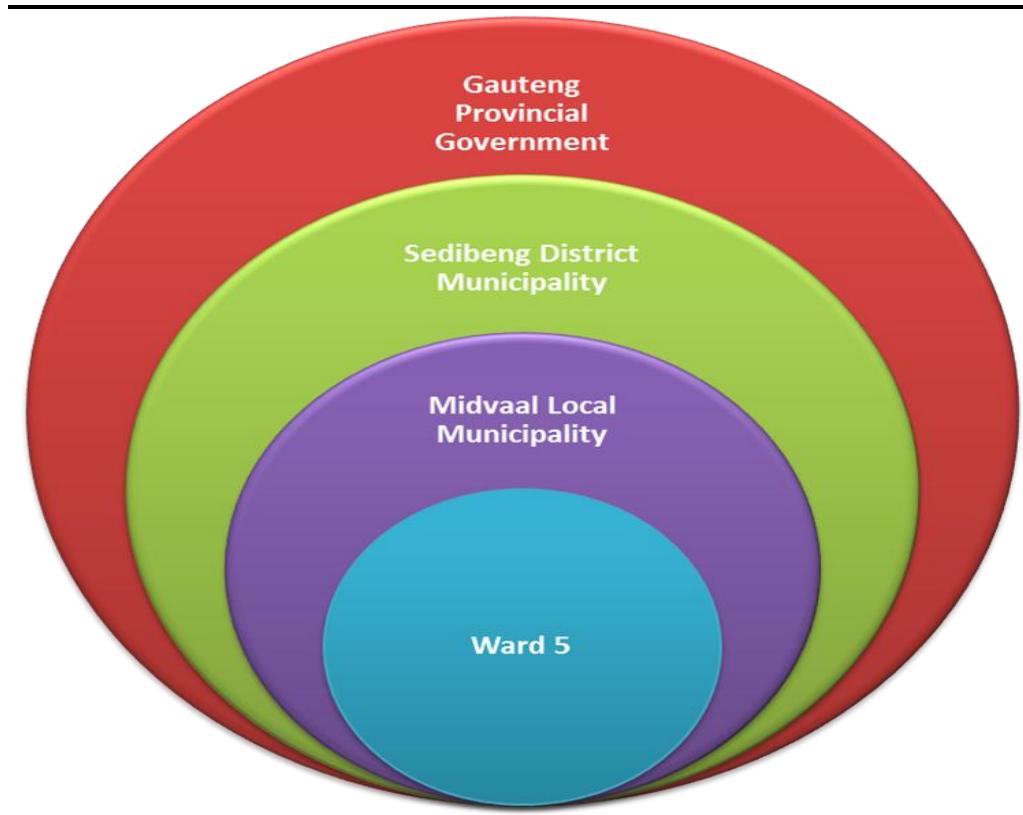
The purpose of this section is to describe the socio-economic environment within which the Project is located. The description provided in this section is based on publicly available and high level secondary information of the Local and District Municipality where the Project site is located as well as primary data collected specifically for this EIA.

7.2

ADMINISTRATIVE STRUCTURE

The Project is located within Ward 5 of the Midvaal Local Municipality which is situated halfway between Johannesburg/East Rand and the Vaal/Vereeniging area and forms part of the Sedibeng District Municipality (within the Gauteng Province). *Figure 7.1* illustrates the administrative structures that govern the Project and the study area. These governance structures are described below in further detail.

Figure 7.1 **Administrative Levels of Governance**

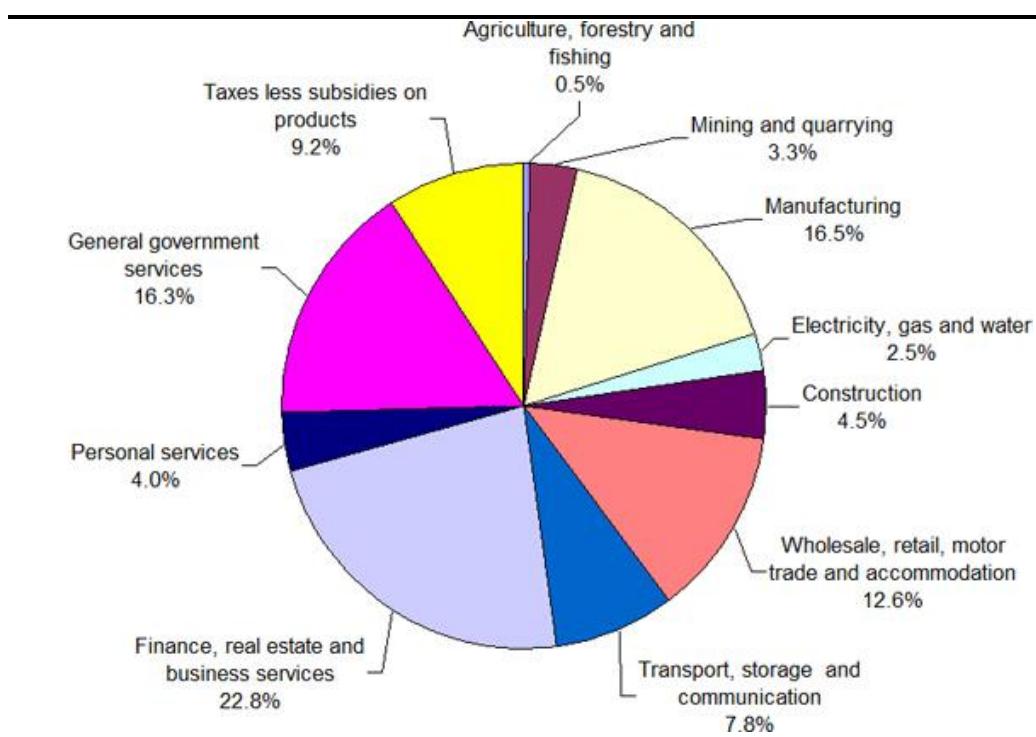


Gauteng covers approximately 17010km² of area and is home to approximately 8.8 million people, which represents nearly 20 percent of South Africa's population⁽¹⁾. The province has a diverse array of cultures with the major languages spoken being, Afrikaans, seSotho, isiZulu and English.

Gauteng comprises three of South Africa's 6 metropolitan municipalities, including the cities of Johannesburg, Tshwane and Ekurhuleni, and three district municipalities and their local municipalities, which form the remainder of the province.

Gauteng has a gross domestic product (GDP) valued at R811 billion (US\$11 billion) and generates 33.9 percent of South Africa's GDP and 10 percent of the total GDP of the entire African continent⁽²⁾. *Figure 7.2* illustrates Gauteng's economic sectors, which are dominated by the finance, real estate and business services sectors which make up 22.8 percent of the province's GDP. The manufacturing sector contributes 16.5 percent, with government services contributing 16.3 percent and the wholesale, retail, motor trade and accommodation sector contributing 12.6 percent⁽³⁾.

Figure 7.2 *Gauteng Economic Sectors*



Source: www.gautengonline.gov.za

(1) Statistics South Africa, 2002

(2) www.gautengonline.gov.za

(3) www.gautengonline.gov.za

SEDIBENG DISTRICT MUNICIPALITY

The Sedibeng District Municipality is a Category C municipality covering the area formerly known as the Vaal Triangle and its surroundings. The total geographical area of the municipality is 4185km². The municipality comprises three Category B local municipalities namely; Emfuleni, Midvaal and Lesedi Local Municipalities.

Sedibeng District Municipality is moderately populated and has experienced significant growth due to in-migration. The total population for Sedibeng is approximately 916 484 people⁽¹⁾.

Sedibeng is the fourth largest contributor to the Gauteng economy which is important as it can affect employment, influence migration patterns and enable improvements in living conditions⁽²⁾. The unemployment rate in Sedibeng declined from 43.9 percent in 2001 to 31.9 percent in 2012⁽³⁾. The key economic sectors of Sedibeng include:

- primary sector: agriculture, mining, quarrying and forestry;
- secondary sector: manufacturing, electricity, gas, water and construction; and
- tertiary sector: wholesale and retail trade, transport and communication, finance and business services, community service and government service.

MIDVAAL LOCAL MUNICIPALITY

Midvaal Local Municipality is one of the three local municipalities' within Sedibeng and covers the largest land area, approximately 41 percent (1722km²). The municipality has been identified in the Gauteng Province's Spatial Development Framework (SDF) as the core economic focus area in which the bulk of economic development of Gauteng province is expected to take place in future⁽⁴⁾.

Approximately 50 percent of the municipality is used for extensive farming activities; consequently the municipality is regarded as a rural area. Some of the significant natural features found within the local municipality are the Suikerbosrand nature reserve, Klip river; and Vaal river and Vaal dam.

The Project site is located within Ward 5 which comprises four residential areas namely Sicelo (which is classified as an informal settlement); Highbury X1, Daleside (Witkop), and Highbury⁽⁵⁾. The economic activities of the Ward vary from industrial, retail and agricultural with a workforce consisting primarily of professionals, artisans, and farm labourers.

(1) Statistics South Africa Community Survey, 2011

(2) Sedibeng District Municipality Integrated Development Plan, 2013/14

(3) Statistics South Africa, 2012

(4) Midvaal Local Municipality Spatial Development Framework, 2011

(5) Midvaal Local Municipality Integrated Development Plan, 2013-2018

7.5.1

Local Economy

Midvaal Local Municipality can be described as a primarily rural area. It offers approximately 300 business sites and 450 industrial sites. The major urban area or Central Business District (CBD) within the municipality is in Meyerton, which is situated along the R59 highway. Walkerville, De Deur and Henley-on-Klip are smaller settlement areas characterised by agricultural holdings, rural residential uses, and farms while industrial/commercial activities are clustered along the main corridors such as the R82 and the R59.

The major employment sector is community services, followed by manufacturing. *Table 7.1* shows the percentage contribution of these sectors to the GDP of the municipality⁽¹⁾.

Table 7.1 Sector Contribution to the Midvaal Local Municipality GDP

Sector	% Contribution to GDP
Mining	0.4
Agriculture	2.6
Electricity	5.7
Construction	5.7
Manufacturing	25.1
Services	60.4

Source: www.midvaal.gov.za

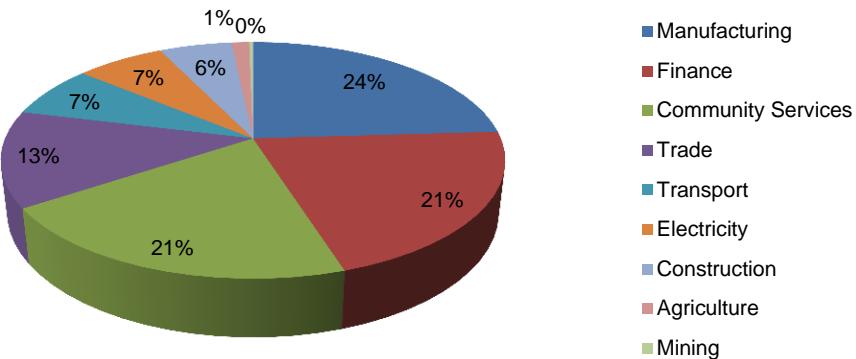
As can be seen in the table, mining has the smallest contribution to GDP in the Midvaal area (0.4 percent). The Glen Douglas mine, situated near Randvaal, extracts dolomite and is the only operational mine in the area. Proposals for further mining in the area are being explored by mining companies such as Exxaro.

Agricultural holdings occupy large parts of the north and north-western portion of the study area which vary in area. The Agricultural Holdings are utilized for several purposes ranging from rural residential and farming practices to commercial agriculture. Agricultural activity in Midvaal is characterised by diverse activities such as commercial farming operations (crop production including maize and grain and farming/production of other products including milk, beef, mutton and lamb, eggs and poultry). The performance of the agricultural sector is dependent on climatic conditions and may fluctuate from year to year.

The total breakdown of Midvaal's economic sectors is illustrated in *Figure 7.3*.

(1) www.midvaal.gov.za

Figure 7.3 Midvaal Economic Sectors



Source: www.midvaal.gov.za

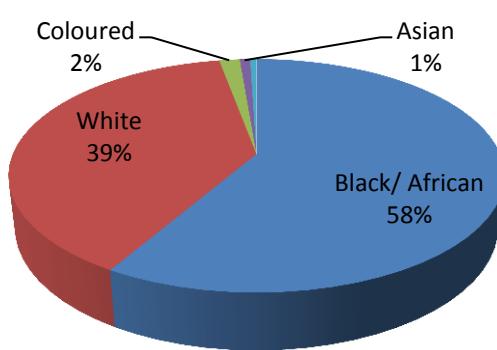
7.5.2

Population Demographics

The Midvaal Local Municipality has a relatively small population with a population density for an area that is spatially defined as rural (55.3 people/km²). The area is densely populated for an area with industrial, mining and commercial agricultural activities. The population of the municipality is estimated at 95301 persons, which constitutes approximately eight percent of Sedibeng's population and 0,7 percent of the Gauteng population⁽¹⁾.

The population comprises mainly of Black/ African and White ethnic groups (Figure 7.4); however the main language spoken in the area is Afrikaans followed by SeSotho and others⁽²⁾.

Figure 7.4 Ethnic Composition of the Midvaal Local Municipality



Source: Midvaal Spatial Development Framework (2011)

According to the Midvaal Integrated Development Plan (2013/18), the Black/ African ethnic group grew by 3.59 percent since the 2001 Population Census; which is the highest growth compared to the other ethnic groups

(1) Midvaal Spatial Development Framework (2011)

(2) Midvaal Spatial Development Framework (2011)

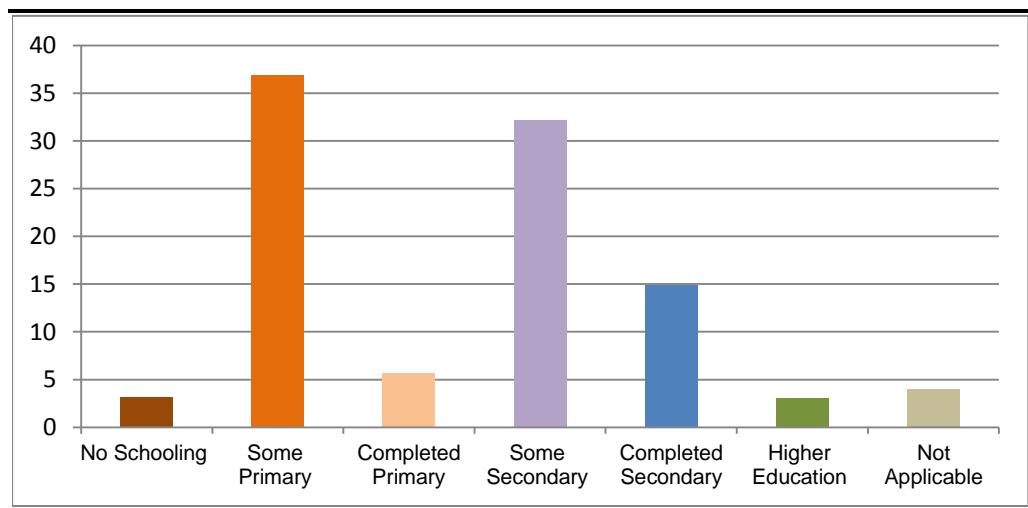
found in the area. This can be attributed to people moving into the area in search of employment opportunities in the agricultural holdings, industries and mine(s) located within the municipality.

7.5.3

Education

Based on the graph below (*Figure 7.5*), a portion of the municipality's population has some primary schooling (36.9 percent), followed by those who have some secondary schooling (32.2 percent). There are limited numbers of people without schooling at 3.2 percent as well as people with higher education at 3.1 percent.

Figure 7.5 *Education Levels of the Midvaal Population*



Source: Midvaal Integrated Development Plan (2013/18)

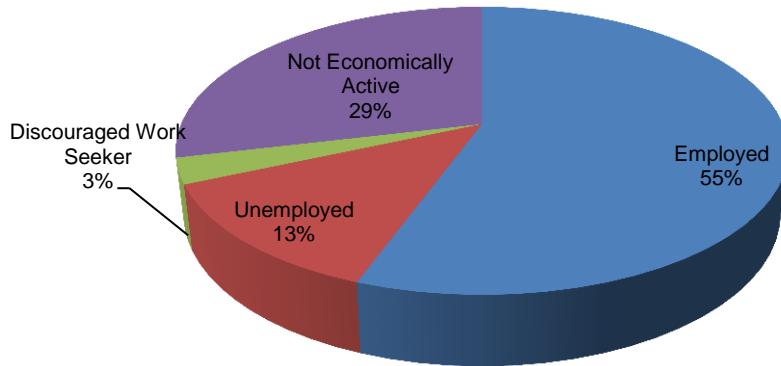
7.5.4

Employment and Livelihoods

The unemployment rate in the Midvaal Local Municipality is currently 18 percent which includes an additional three percent of discouraged work seekers. Youth unemployment is said to be at 25.4 percent of the total unemployed persons. The high youth unemployment is likely to have resulted in the high dependency ratio in the municipal area, which is estimated at 42.9 percent.

The number of Not Economically Active people is approximately 29 percent, which indicates that the population is characterised by a high number of young children, elderly and disabled.

Figure 7.6 Employment and Unemployment Levels of the Midvaal Population



Source: Midvaal Integrated Development Plan (2013/18)

The high levels of unemployment continue to be a concern and are the greatest threat to the financial stability of the municipality⁽¹⁾. Short term initiatives to alleviate poverty include the Expanded Public Works Programme (EPWP), and the Community Works Programme (CWP). Formal employment opportunities in the first economy are continually being provided along the R59 corridor as this has been identified as an area targeted for commercial and industrial developments.

7.5.5 *Health*

Community Health

The Midvaal Local Municipality provides Primary Healthcare (PHC) Services through four established clinics (one provincial) and outreach services including mobile services and health posts. These facilities provide HIV/ AIDS and TB services which has helped in reducing the prevalence of these diseases in the Sedibeng region from 35 percent in 2007 to 30.8 percent in 2011.

Environmental Health

In terms of environmental health of the municipality, there are three priority areas of intervention namely water, waste and air quality. These are briefly described below.

- *Water Pollution:* The Sedibeng District has some water quality challenges, in particular the Klip River and Blesbokspruit are polluted from surface water runoff from the mines, industrial areas, townships and waste water treatment works⁽²⁾.
- *Waste:* Waste management in Sedibeng and its local municipalities has for many years occurred without any considerations for the future needs of an

(1) Midvaal Local Municipality, Annual Report

(2) http://www.sedibeng.gov.za/a_keydocs/idp_2011_12/chapter_2.pdf

ever-increasing population⁽¹⁾. Landfill sites have generally been identified with limited planning (site location) or design to reduce impacts on the natural environment and people. Lastly, the level of service delivery has varied by area and in particular the previously disadvantaged areas have been left with limited or no proper waste management services.

- *Air Quality:* The District is generally characterized by poor air quality, particularly within the Emfuleni and Midvaal Local Municipalities. A series of studies undertaken indicated that there are potential negative impacts of air pollution on the health of people living and working in the area. This resulted in the Vaal area (including Emfuleni and Midvaal) being declared a Priority Area in terms of the National Environmental Management: Air Quality Act in 2006⁽²⁾.

7.5.6

General Infrastructure and Services

Housing

Formal towns in the Project area include Witkop (north east), Henley on Klip (south east) and Highbury (south).

The Midvaal area is largely characterised by two types of settlements namely, agricultural holdings and farms. The agricultural holdings are characterised by a main dwelling unit and subsidiary dwelling units where domestic workers and other labourers live. Agricultural holdings in the area are used for small, intensive agricultural purposes, secondary industries, or pure residential purposes. Farms are usually occupied by a main dwelling house and subsidiary dwelling units for farm labourers. Farms are mostly supplied with electricity by Eskom and provide their own water, sanitation and refuse removal services. Farmers mostly assist farm labourers with these services. The Project site therefore formed part of the rural residential/agricultural holdings due to the existence of the farmhouse and adjacent outbuildings. These activities are mostly concentrated in the north-western part of the municipal area, and more specifically east and west of the R59 highway⁽³⁾.

There are no informal settlements in close proximity to the Project site.

Electricity

Approximately 79% of households in Midvaal receive electricity from the national provider, Eskom, and 1% from other sources. There are approximately 5598 households without access to electricity, mostly farm labourers and residents of informal settlements. Electricity provision to schools, clinics and other community facilities enjoy priority.

(1) www.sedibeng.gov.za/a_keydocs/idp_2011_12/chapter_2.pdf

(2) www.sedibeng.gov.za/a_keydocs/idp_2011_12/chapter_2.pdf

(3) Midvaal Local Municipal Spatial Development Framework (2013/14)

Water and Sanitation

Rand Water is the main service provider for bulk water supply in the Midvaal area, with a main water pipeline (2300mm diameter) traversing the Suikerbosrand area. Bulk water to the rural areas is supplied mainly by the Daleside and Langerand reservoirs and pipeline systems of Rand Water. Approximately 71 percent of households in Midvaal have the availability of clean water in their households. Approximately 97 percent of households have access to treated water, while approximately three percent (mainly farm labourers and residents of informal settlements) obtain water from untreated sources⁽¹⁾.

Approximately 82 percent of households in Midvaal are served by waterborne sewer. Assuming that the pit latrines are not ventilated improved pit latrines,, the sanitation backlog in the area is approximately 18 percent or 5598 households. These households represent farm labourers and residents of informal settlements who do not have access to proper sanitation facilities.

Solid Waste

There is a regional landfill site located to the north of the Suikerbosrand Nature Reserve, outside the jurisdictional area of Midvaal, while the landfill site in Henley-on-Klip is currently being licensed. There are also mini-dump sites located in Risiville, Klipriver, and Meyerton.

Transportation

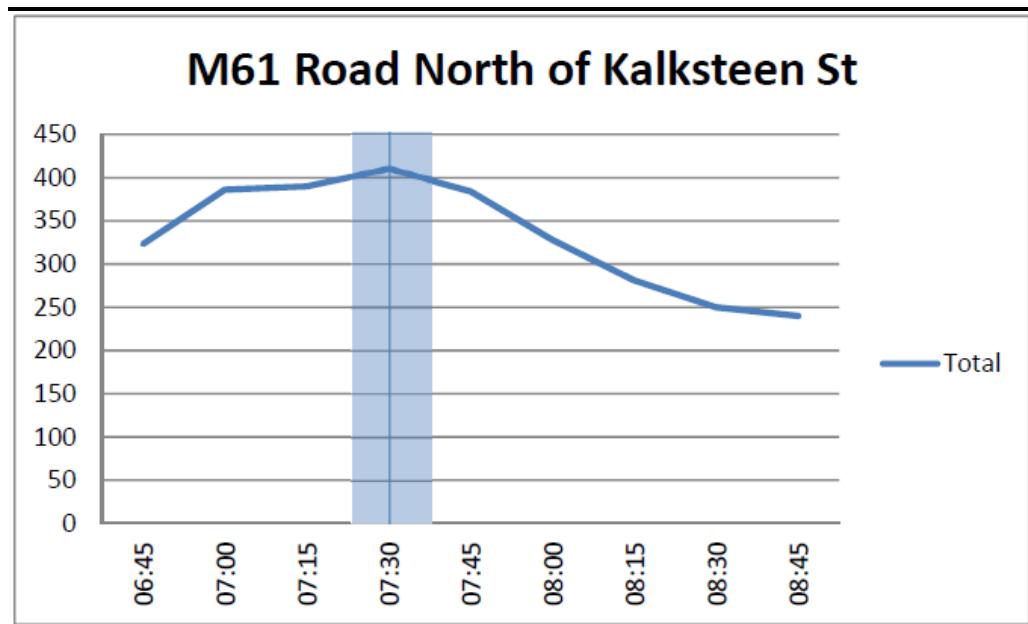
The R59 highway is a north-south Provincial Class 1 road with a mobility function, which serves to provide an improved connection between major urban areas such as Vanderbijlpark and Johannesburg. This is a carriageway with 2 lanes in each direction. This road is considered to be in good condition in terms of its maintenance standard, road signs, road markings and driving experience. The M61 or future K89 road is a north-south Provincial Class 2 rural road with a collector-distributor function, which connects Meyerton with Alberton. This is a single carriageway with 1 lane in each direction. The road is paved and is considered to have a fairly adequate surface condition, this road therefore requires minor improvements to the road surface, road signs and markings.

The local road that will be used to access the Project site is Kalksteen Road, which is an east-west local municipality Class 5 rural road with a local access function. This road connects the M61 with local roads in the area. This road is paved and has a single carriageway with 1 lane in each direction with a fairly adequate surface condition. Tilliet Road, is a north-south Class 5 rural road with a local access function that connects Kalksteen Road with the access to the Project site. The road is a gravel road with a 16m road reserve.

(1) Midvaal Spatial Development Framework (2011)

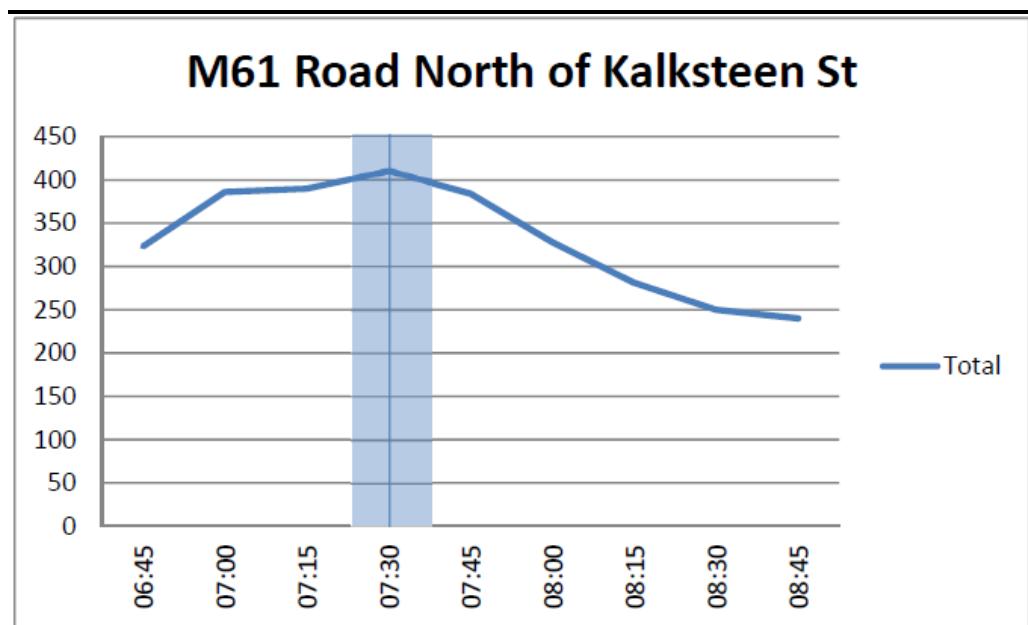
A traffic survey was undertaken to determine the status quo of traffic in the study area. Traffic counts were conducted during the morning and afternoon peak hours, typically between 06:00 – 09:00 and 16:00 – 18:00 at the above mentioned intersections. The am and pm peak hours were determined based on the highest traffic volumes registered during the morning and afternoon periods respectively. Figure 7.7 and Figure 7.8 below indicate the total through and turning traffic volumes counted on the M61 Road from 6:45am to 8:45am and 15:45pm to 17:30pm.

Figure 7.7 Existing Morning Traffic Volumes along the M61



Source: Traffic Impact Report for the Proposed Acetylene Gas Production Facility, ITS Engineers (June 2014)

Figure 7.8 Existing Afternoon Traffic Volumes Along the M61



Transnet has an existing railway line located east of the M61. This railway line is part of the national major rail network between Johannesburg and the sub regions in South Africa. It serves the industrial as well as the agricultural sector in the Gauteng and Vaal Triangle area. The nearest railway station is Daleside station located north east of the Project site. This station is mainly designed for passenger use.

7.5.7 *Crime*

The crime statistics in the Sedibeng District Municipality has shown a steady decline for the past 5 years and active participation of communities in crime prevention interventions through the Community Policing Forum structures has a positive impact towards the fight against crime⁽¹⁾. A Regional Community Safety Forum, made up of various stakeholders from Safety and Security Sectors across the region has been established within the area. Security programs include gender based violence, schools safety, substance abuse, community corrections, etc. In addition to this forum, the Midvaal Local Municipality has four police stations.

According to the Ward Councillor, Mr Rob Jones, crime levels are relatively low in the Midvaal area; and there is high community participation in policing, conservancy and fire protection activities. However, the Project site itself has been prone to vandalism and theft despite a 24 hour security presence. This has included the theft of electric cables and pumps from the boreholes. For this reason Air Products will be installing a security fence around the perimeter of the property to avoid any further damage or theft of the structures remaining on the Project site.

7.6 *ARCHAEOLOGY AND CULTURAL HERITAGE*

The cultural landscape of the Midvaal Local Municipality was primarily rural, however today it is characterised by industrial and commercial developments. The following sections describe the heritage potential of the study area.

The fossil heritage potential of the geology corresponds with the PalaeoSensitivity Map⁽²⁾ which indicates that the area has high sensitivity (based on the occurrence of dolomite rocks). Satellite imagery surveys of the study area indicate that the area has been disturbed by industrial and commercial activities, however no dolomite rock outcrops were observed.

There have been numerous Heritage Impact Assessments (HIA) and Archaeological Impact Assessments (AIAs) completed in which a number of Stone Age sites have been recorded in the Midvaal Local Municipality. These

(1) Sedibeng Integrated Development Plan (2013/14)

(2) South African Heritage Resources Information System (SAHRIS)

studies were undertaken as far back as 1991, with the most recent undertaken in 2008. Sites may therefore occur all over the Project area however it is expected that these sites have been destroyed by mining activities, urbanization, industrialization, agriculture and other development activities during the past decade.

Only 1 Iron Age settlement was previously identified and recorded in the study area. This Late Iron Age stonewalled settlement, recorded by Huffman⁽¹⁾ is located approximately 9km northwest of the Project site. The settlement has Klipriviersberg stonewalling and consists of 4 homesteads with each unit equipped with its own central kraal areas surrounded by a residential zone.

It is therefore evident that agricultural activities would have, over the years, destroyed most archaeological resources that may have been present. Industrial activities would further have destroyed any viable archaeological and palaeontology sites that may have existed pre-1999. As no heritage resources were identified within or near the Project site; there are no sources of risks associated with the project for heritage resources.

The house on Stand 89, built in 1980 is still structurally sound and has been maintained and refurbished numerous times over the years. The structure on Stand 88 was built between 2005 and 2006, and is currently in ruins. Both identified structures and erfs are not older than 60 years and are not considered to be in good condition therefore their heritage value is of minor significance.

7.7

PROPOSED DEVELOPMENTS IN THE AREA

Current and future proposed developments in the vicinity of the Project site are discussed briefly in the sections that follow.

7.7.1

Glen Douglas Mine

The Glen Douglas Mine, which has been in operation since 1957, is located to the east of the Project site. The mine is an open pit-mine (2 open pits) and produces products comprising metallurgical dolomite, aggregate and agricultural lime. As part of this operation, it is currently proposed to construct and operate a dolomite burning plant on the remaining extent of the existing mine. This process will involve feeding the dolomite rock (crushed and screened) into the top of a kiln where it will be burnt.

The proposed development requires Environmental Authorization from the GDARD. An application for a full Basic Assessment Process has therefore been lodged with reference: *Gaut 002/12-13/E0258*. In addition an application for an Air Emissions Licence has been applied with Reference: *AEL: 0001/2013*.

(1)Huffman, T. N., 2008. Mountain View heritage assessment, Gauteng, Johannesburg: Archaeological Resources Management.

It should be noted that this development is unrelated to the proposed acetylene gas manufacturing facility.

7.7.2

Oil Skip

An Oil Skip facility is located approximately 3km north of Daleside and 3.25 km north east of the Project site at 173 Leeuw Street, Daleside. The existing Oilskip facility treats and recycles used oil. Oilskip have applied for a Section 24G rectification of unlawful commencement of activities and the waste management licence application (Reference No. 12/911/L838/3/24G). The Scoping Report has been submitted to the GDARD for consideration.

7.7.3

Tyre Pyrolysis Plant

The proposed tyre pyrolysis plant is to be located on 82 Graniet Street, Daleside. This project proposes to recycle tyres to yield bunker oil; scrap metal and carbon black residue to rid an existing site of accumulated tyres. Once the approximate 2.2 – 2.7 million used tyres have been recycled, the land will be returned to full agricultural potential and no further storing and recycling of old rubber will take place.

The application for the construction and operation of this plant is being undertaken in accordance with a Section 24G Rectification application in an attempt to rectify the “unlawful” dump site and remedy the situation. This application has reference: *DEA 12/9/11/L734/24G* and to date the final Environmental Impact Report (EIR) has been submitted to the Department of Environmental Affairs.

Please refer to *Figure 7.9* for a graphic representation of the projects described above in relation to the Air Products acetylene gas manufacturing facility.

Figure 7.9 Map of Current and Future Developments in Study Area

