SOCIAL IMPACT ASSESSMENT

MERCEDES-BENZ HIGH SPEED PROVING GROUND, UPINGTON

NORTHERN CAPE PROVINCE

OCTOBER 2015

Prepared for

WSP ENVIRONMENTAL (Pty) Ltd

By

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EXECUTIVE SUMMARY

INTRODUCTION AND LOCATION

Mercedes-Benz South Africa (Pty) Ltd proposes to develop a High Speed Proving Ground (HSPG) for vehicle testing for the Mercedes-Benz Research and Development Team in the Northern Cape Province of South Africa. The site is located on property Steenkamps Pan, Farm no. 419 Portion 6 in the //Khara Hais Municipality, approximately 38 km north-east of Upington.

WSP Environmental (Pty) Ltd has been appointed by the General Planner IngenAix GmbH on behalf of Mercedes Benz South Africa (MSBA) to manage the Environmental Impact Assessment (EIA) process for the proposed project.

Tony Barbour was appointed by WSP to undertake a specialist Social Impact Assessment (SIA) as part of the EIA process. This report contains the findings of the SIA undertaken as part of the EIA process.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

The HSPG will be used by the Mercedes-Benz Research and Development Team to test vehicles under high temperature conditions. The dedicated testing track will consist of a high speed oval track ~ 17 km in length and a shorter handling track ~ 5.5 km in length. In addition, the facility will be equipped with state-of-the art workshops and monitoring facilities that will enable Mercedes-Benz to test their vehicles more efficiently. The establishment of the facility will enable Mercedes Benz to undertake testing of vehicles under hot climate conditions in parallel to the European Winter Season under specified technical conditions in terms of testing modules. The facility will operate mainly during the summer months and possible other ad-hoc periods as and when required.

APPROACH TO THE STUDY

The approach to the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). These guidelines have been endorsed by the national Department of Environmental Affairs (DEA), and are based on international best practice. In this regard the study involved:

- Review of demographic data from the 2011 Census Survey;
- Review of relevant planning and policy frameworks for the area;
- Site specific information collected during the site visit to the area and interviews with key stakeholders; and
- Identification of social issues associated with the proposed project.

SUMMARY OF KEY FINDINGS

The assessment is divided into:

- Assessment of compatibility with relevant policy and planning context ("planning fit");
- Assessment of social issues associated with the construction phase;
- Assessment of social issues associated with the operational phase;
- Assessment of cumulative impacts;
- Assessment of social issues associated with the decommissioning phase; and
- Assessment of the "no development" alternative.

POLICY AND PLANNING ISSUES

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Northern Cape Provincial Growth and Development Strategy (2004-2014);
- Northern Cape Spatial Development Framework (2012);
- ZF Mcgawu District Municipality Integrated Development Plan (2007-2012);
- //Khara Hais Integrated Development Plan (2012-2017);
- //Khara Hais Local Economic Development Strategy (2010); and
- //Khara Hais Spatial Development Framework (2012).

The findings of the review of the district and local municipal policy documents indicate that high unemployment and poverty levels in the study area, coupled to low education and skills levels constitute the most urgent social development challenges in the study area. The proposed development has the potential to assist in addressing these challenges. The proposed development will also support private investment in the area and create opportunities for small, medium and micro enterprises (SMMEs). Based on the findings of the review the establishment of the proposed HSPG is supported.

CONSTRUCTION PHASE

The key social issues associated with the construction phase include:

Potential positive impacts

- Creation of employment and business opportunities

Based on information from MBSA the construction phase for the proposed HSPG is expected to extend over a period of ~ 2 years (Stage 1 of Construction estimated to be ~ 14 months and Stage 2 of Construction estimated to be ~ 8 months). The ~ 2 year construction phase will create approximately 200 employment opportunities. Of this total ~ 15% (30) will be skilled, 30% (60) semi-skilled and 55% (110) low skilled. The majority of the low and semi-skilled workers will be historically disadvantaged individuals (HDIs). The majority, if not all, of the low and semi-skilled workers employed during the construction phase are also likely to live in Upington and surrounds. The //Khara Hais Local Municipality (KHLM) IDP notes that unemployment in the area and creation of employment opportunities represents a

key challenge. The proposed project will therefore assist to create employment opportunities.

The total wage bill for the construction phase is estimated to be in the region of R 66 million (2015 rand values)[1]. Of this total R 15.8 million would be earned by low skilled workers, R 14.4 million by semi-skilled workers and R 36 million by skilled workers. Low and semi-skilled workers would therefore earn ~ 45% of the total monthly wage bill. The majority of the wage bill earned by construction workers will be spent in the local economy. A percentage of the wage bill earned by non-local workers employed during the construction phase will also be spent in the local economy. This spending will accrue to local companies and business and will represent an additional benefit for the local economy.

The capital expenditure associated with the construction of the proposed HSPG is estimated to be in the region of R 370-480 million (2015 rand values). In terms of business opportunities for local companies, expenditure during the construction phase will create business opportunities for the regional and local economy. The work associated with the construction phase will include the preparation and construction of the 17 km testing track and associated components, including potential establishment of a quarry and borrow pit on the site, access roads, workshops etc. Given the prominent role of the agriculture, mining and renewable energy sector in the area there are likely to be suitably qualified local contractors in Upington who can be appointed.

The local service sector will also benefit from the proposed development. The potential opportunities for this service sector would be linked to accommodation, catering, cleaning, transport and security, etc. associated with the construction workers employed during the construction phase.

In terms of local support, the KHLM Council passed a resolution at a meeting held on 27 January 2015 supporting the proposed project. Resolution 14/06/215 notes:

- That Council pledge its support to the construction of the proposed test track by Mercedes Benz SA in the jurisdiction area of //Khara Hais, near Upington;
- That Council intervene by requesting the Department of Land and Rural Development to sign the access agreement to the proposed test site, as requested by Mercedes Benz SA;

The proposed project is also strongly supported by the Upington Chamber of Commerce represented by Mr McMinn. The implementation of the proposed enhancement measures listed in the report would also enable the establishment of the proposed HSPG to support co-operation between the public and private sectors and the development of SMMEs in the KHLM.

Potential negative impacts

- Impacts on local communities associated with the presence of construction workers;

[1] This is based on the assumption that the average monthly salary for low skilled, semi-skilled and skilled workers will be in the region of R 6 000, R 10 000 and R 50 000 respectively over a period of 2 years.

- Increased safety and security risk for local farmers associated with presence of construction workers on the site;
- Increased risk of grass fires associated with construction-related activities;
- Impact of construction related activities, including damage to roads, safety, noise and dust; and
- Potential loss of grazing land associated with construction-related activities.

Based on the findings of the SIA the significance, with mitigation, of all of the potential negative impacts associated with the construction phase was rated as Low Negative. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. In addition, given that the majority of the low and semi-skilled construction workers can be sourced from the local area the potential risk at a community level to local family structures and social networks is regarded as Low negative significance.

Table 1 summarises the significance of the impacts associated with the construction phase.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole)	Low (Negative impact for community as a whole)
Potential safety threat to farmers due to presence of construction workers	Medium (Negative impact)	Low (Negative impact)
Risk of grass fires	Medium (Negative impact)	Low (Negative impact) Positive (Associated with provision of fire-fighting equipment and trained personnel)
Impact of heavy vehicles and construction activities	Medium (Negative impact)	Low (Negative impact)
Loss of farmland	Low (Negative impact)	Low (Negative impact)

OPERATIONAL PHASE

The key social issues affecting the operational phase include:

Potential positive impacts
- Benefit to local hospitality and tourism sector;
- Creation of employment and business opportunities; and

· Invest in local development initiatives and raise profile of Upington.

Benefit to local hospitality and tourism sector

The facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required. However, the key focus in terms of testing will be during the hot summer months from October to March (6 months). During this period ~ 9 test teams made up of 10-20 members will travel to Upington for a period of 2-3 weeks. This translates into ~ 1 800-3 600 days of accommodation over the summer months. The majority of the members of these teams involved in testing during the 6 month period between October and March will be from Europe. In addition, ~ 8 local staff will be employed (security staff and cleaning).

Testing during the cooler winter period from April-September is likely to be less intense. For the purposes of the SIA it is assumed that ~ 4 test teams made up of ~ 10-15 members will be based in Upington for a period of ~ 2 weeks. This translates into ~ 560-850 days of accommodation over the ad-hoc periods. The teams involved in testing during this period will be largely made up of staff from Mercedes Benz South Africa.

The total number of accommodation days generated by the HSPG over a 12 month period will therefore be ~ 2 360-4 4 450. The demand for accommodation will extend over the operational lifespan of the project, which is anticipated to be decades. This will create significant opportunities for the local hospitality sector in Upington. The main operational phase (over the hot, summer months from October-March) also coincides with the low demand period for tourist accommodation in Upington and the Northern Cape. The component of the operational phase will therefore generate income for the local hospitality during the quieter, off-peak months. This represents a significant socio-economic benefit for both the owners of accommodation facilities and the staff employed. During the quieter, off-peak months staff numbers are reduced. The accommodation demand generated by the proposed HSPG will reduce the number of staff that are seasonally employed and who lose their jobs during the off season.

The Mercedes Benz personnel involved in testing are also likely to visit areas of interest over weekends, such as the Augrabies Falls National Park, and undertake activities such as river rafting on the Orange River, quad biking, and wine cellar tours etc. Local tourism operators and facilities in the area and Northern Cape will therefore also benefit during the operational phase. In addition, the families of overseas personnel are also highly likely to use the opportunity to visit South Africa during the October-March testing period. The operational phase will therefore create significant opportunities for the local hospitality sector. The operational phase will also benefit the tourism sector (local, regional and national).

Employment and business opportunities

In addition to the business and employment opportunities associated with the hospitality and tourism sector (see above), the operational phase will create opportunities for local catering, cleaning, transport and maintenance companies. This includes transport of equipment and vehicles to the site, on-site catering and cleaning etc. Providing these services will create opportunities for businesses in Upington. In addition, the HSPG and the associated security fencing etc. will need to be maintained. This will also create opportunities for local engineering contactors and

service providers. A percentage of the monthly wage bill earned by the Mercedes Benz personnel involved in the testing will also be spent in the regional and local economy. This benefit will extend over the entire year. The benefits to the local and regional economy will extend over the operational lifespan of the project, which is anticipated to be decades.

Investment in local initiatives

Council Resolution 14/06/215 passed at a meeting held on 27 January 2015 notes that the Council will identify a key priority area that they would like Mercedes Benz SA to sponsor in terms of MBSA's social upliftment responsibilities. The project will therefore create an opportunity for MBSA to invest in local community development projects in the KHLM as part of their corporate social development programme.

Potential negative impacts

- Visual impacts and associated impact on sense of place;
- Noise impacts associated with testing;
- Increased risk of grass fires; and
- Impacts on road associated with transport of staff to and from the facility.

Based on the findings of the SIA the significance, with mitigation, of the all of the potential negative impacts associated with the operational phase was rated as Low Negative. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented.

The significance of the impacts associated with the operational phase are summarised in Table 2.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Benefit to local hospitality and tourism sector	Medium (Positive impact)	High Positive impact)
Creation of employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Invest in local development initiatives and raise profile of Upington	Medium[2] (Negative impact)	Medium[3] (Positive impact)
Visual impacts and associated impact on sense of place	Medium (Negative impact)	Low (Negative impact)
Noise impacts associated with testing	Medium (Negative impact)	Low (Negative impact)
Increased risk of grass fires	Medium (Negative impact)	Low (Negative impact) Positive (Associated with provision of fire-fighting

[2] Assumes that proposed HSPG is not developed
[3] Assumes that proposed HSPG is developed

		equipment and trained personnel)
Impacts on road associated with transport of staff to and from the facility	Medium (Negative impact)	Low (Negative impact) Positive (Associated with improved maintenance of road)

Cumulative impacts

The significance of the overall visual impact and impact on of the proposed HSPG on the areas rural sense of place is likely to be low. There are no similar facilities located in the vicinity of the site. The potential for cumulative visual impacts on the areas sense of place and landscape character is therefore regarded as negligible. The significance of the potential cumulative impact is rated as Low Negative.

No-development option

The employment opportunities associated with the construction and operational phase, as well as the benefits for the local and regional hospitality and tourism sector, would be forgone. The No-Development option would therefore represent a lost opportunity for Upington and the local economy. The significance is rates as a High Negative social cost.

Decommissioning

Given the relatively small number of people employed during the operational phase (~ 8), the social impact on the local community associated with decommissioning will be low. In addition, the potential impacts can be effectively managed with the implementation of a retrenchment and downscaling programme. With mitigation, the impacts are assessed to be Low Negative.

CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the establishment of the proposed HSPG will create employment and business opportunities for locals during both the construction and operational phases of the project. The enhancement measures listed in the report should be implemented in order to enhance these benefits. The operational phase will also create significant benefits for the local hospitality, tourism and business sector which will extend over the entire year (12 months). These benefits will extend over the operational lifespan of the project, which is anticipated to be decades. The development will also create an opportunity for MBSA to invest in local community development programmes as part of it corporate social sustainability programme.

The establishment of the proposed HSPG is therefore supported by the findings of the SIA.

IMPACT STATEMENT

The findings of the SIA undertaken for the proposed HSPG indicate that the development will create employment and business opportunities for locals during both the construction and operational phase of the project. The operational phase

will also create significant benefits for the local hospitality and tourism sector which will extend over the entire year. These benefits will extend over the operational lifespan of the project, which is anticipated to be decades.

It is therefore recommended that the establishment of the proposed HSPG be supported, subject to the implementation of the recommended enhancement and mitigation measures contained in the report.

TABLE OF CONTENTS

ACRONYMS

DEA	Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
DM	District Municipality
HD	Historically Disadvantaged
EIA	Environmental Impact Assessment
HSPG	High Speed Proving Ground
KHLM	//Khara Hais Local Municipality
IDP	Integrated Development Plan
LED	Local Economic Development
LM	Local Municipality
MBSA	Mercedes Benz South Africa
NC	Northern Cape
NCPPGDS	Northern Cape Province Provincial Growth and Development Strategy
NCSDF	Northern Cape Spatial Development Framework
PGDS	Provincial Growth and Development Strategy
SDF	Spatial Development Framework
SIA	Social Impact Assessment
ZFMDM	ZF Mcgawu District Municipality

SECTION 1: INTRODUCTION

1.1 INTRODUCTION

Mercedes-Benz South Africa (Pty) Ltd proposes to develop a High Speed Proving Ground (HSPG) for vehicle testing for the Mercedes-Benz Research and Development Team in the Northern Cape Province of South Africa. The site is located on property Steenkamps Pan, Farm no. 419 Portion 6 in the //Khara Hais Municipality, approximately 38 km north-east of Upington (Figure 1.1).

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1.2 TERMS OF REFERENCE

The terms of reference for the SIA require:

- A description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed facility.
- A description and assessment of the potential social issues associated with the proposed facility.
- Identification of enhancement and mitigation aimed at maximizing opportunities and avoiding and or reducing negative impacts.

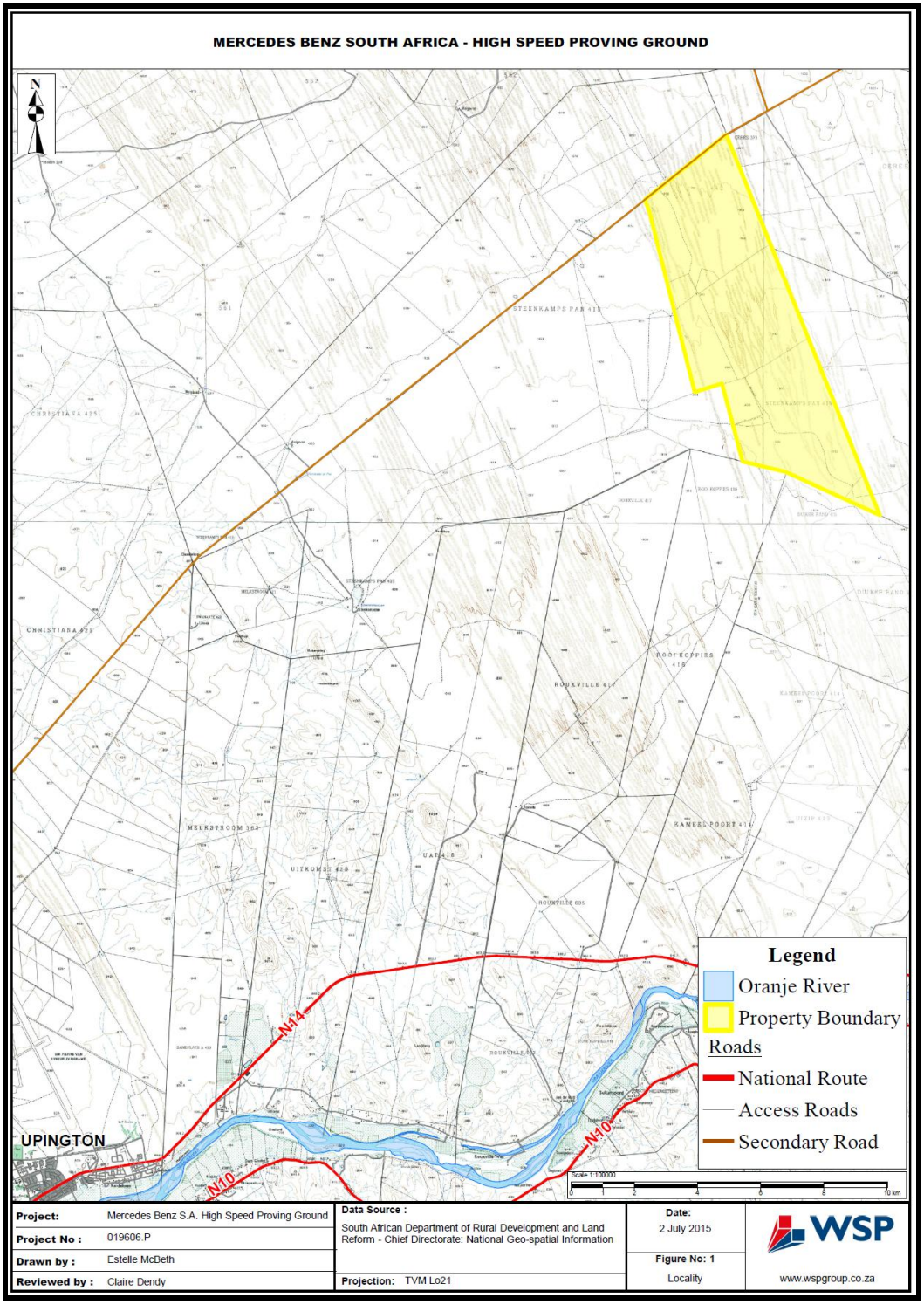

Figure 1.1: Regional location of Mercedes Benz High Speed Proving Ground

1.3 PROJECT DESCRIPTION

The HSPG will be used by the Mercedes-Benz Research and Development Team to test vehicles under high temperature conditions. The dedicated testing track will consist of a high speed oval track ~ 17 km in length and a shorter handling track ~ 5.5 km in length (Figure 1.2). In addition, the facility will be equipped with state-of-the art workshops and monitoring facilities that will enable Mercedes-Benz to test their vehicles more efficiently. The establishment of the facility will enable Mercedes Benz to undertake testing of vehicles under hot climate conditions in parallel to the European Winter Season under specified technical conditions in terms of testing modules. As such the main testing period will be from October to March and will be used for heat-relevant vehicle tests.

Construction Phase

The construction phase will extend over a period of ~ 2 years (Stage 1 of Construction estimated to be ~ 14 months and Stage 2 of Construction estimated to be ~ 8 months). The ~ 2 year construction phase will create ~ 200 employment opportunities. Based on information for other construction related projects ~ 15% will be skilled, ~ 30% semi-skilled and ~ 55% low skilled. MBSA have indicated that on-site skills development and training will be provided for low and semi-skilled workers.

Construction materials for the facility may be sourced from two borrow pits / quarries located on the site (Figure 1.2). These areas will be closed and rehabilitated once construction of the facility has been completed.

Operational Phase

The facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required. However, the key focus in terms of testing will be during the hot summer months from October to March (6 months). During this period ~ 9 test teams made up of 10-20 members will travel to Upington for a period of 2-3 weeks. However, there will be times when test teams overlap. The HSPG facility is therefore designed to accommodate up to 80 people. However, there will usually not be more than 30-40 people on site at the same time. In addition, 8 staff from Upington will be employed (cleaning and security staff).

Testing during the cooler winter period from April-September is likely to be less intense. For the purposes of the SIA it is assumed that ~ 4 test teams made up of ~ 10-15 members will be based in Upington for a period of ~ 2 weeks. The teams involved in testing during this period will be largely made up of staff from Mercedes Benz South Africa.

All staff involved in testing will reside in Upington overnight, except 2-4 security people, and will travel to the HSPG in the morning and return in the early evening.

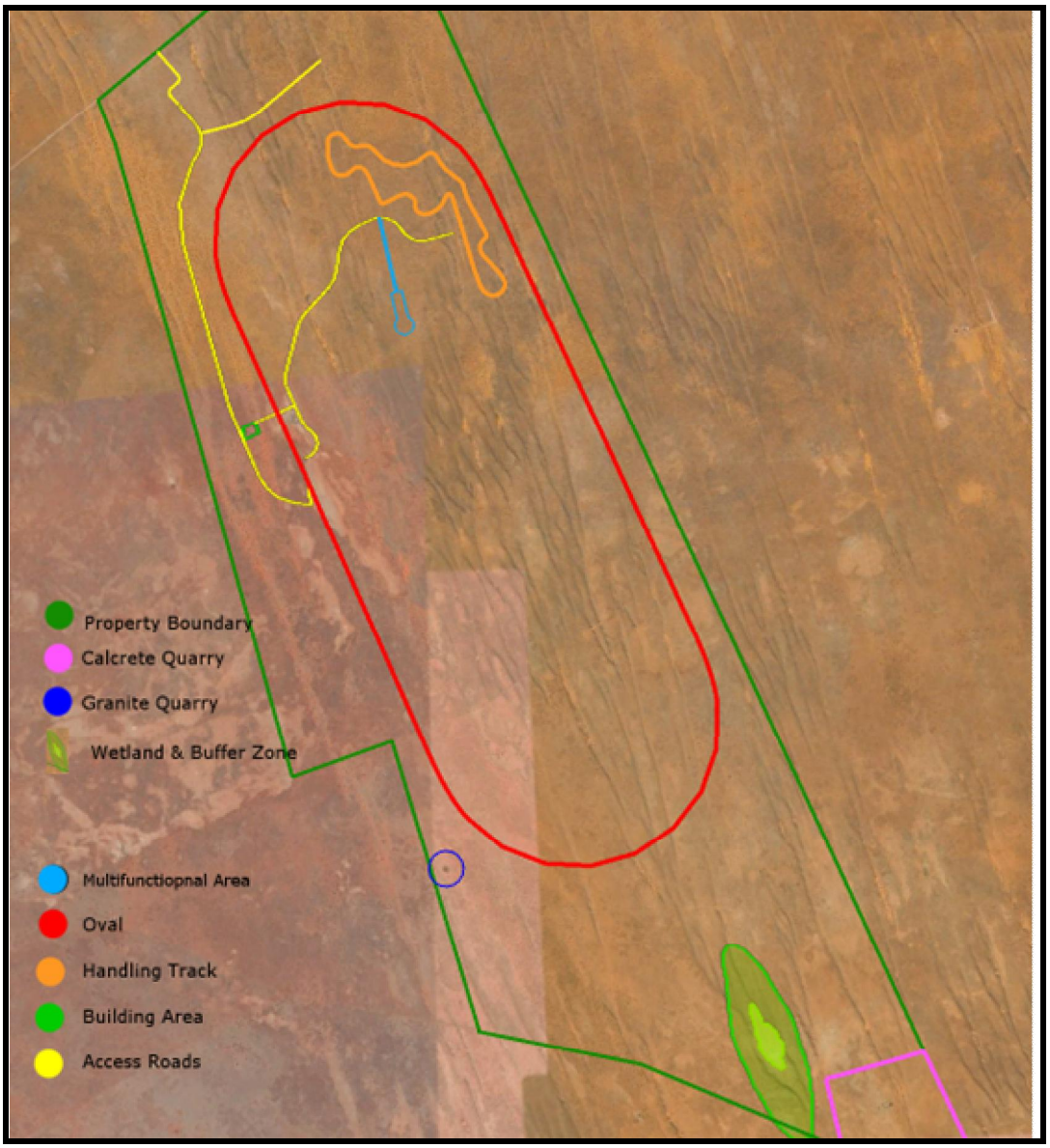

Figure 1.2: Layout of proposed Mercedes-Benz High Speed Proving Ground

1.4 SITE DESCRIPTION AND SURROUNDING LAND USES

The site for the proposed Mercedes Benz HSPG is located ~ 38 km north east of the town of Upington, which is located on the banks of the Gariep River (Orange River) (Photograph 1.1). Human settlement in the area started with the Korana Hottentots who settled at the ford in the Great River called Gariep. The ford was referred to as Olyfenhoudtsdrif ('Olive wood drift'), due to the abundance of wild olive trees in the area. This area formed part of the northern border of the Cape Colony. The Korana had been ousted by white settlers from their ancestral lands in the south and moved north and sought refuge on the banks of what is now referred to as the Gariep River (Orange).

Photograph 1.1 Gariep River (Orange River)

A mission station was established at Olyfenhoudtsdrif by Christiaan Schröder in 1875. The mission station now houses the town museum, known as the Kalahari Orange Museum. The museum is also the home of a donkey statue, which recognises the enormous contribution that this animal made to the development of the region during the pioneering days of the 19th century (Photograph 1.2).

However, the arrival of white settlers resulted in further conflicts with the Korana Hottentots. In 1879, after the second and last Korana War, Sir Thomas Upington, the Attorney-General of the Cape Colony, sent 80 policemen to Olyfenhoudtsdrif to maintain law and order along the river. The construction of the barracks for the policemen resulted in the establishment of the town of Upington in 1884 (wikipedia).

Photograph 1.2: Kalahari Orange Museum

Upington's economy is largely based on agriculture, specifically vineyards. The grapes are exported as table fruit, pressed for the production of wine or dried as raisins. The largest producer of wines in the area is Orange River Cellars (ORC). The organisation has six depots in the area (all of them on the banks of the Orange River), namely in Upington, Kanoneiland, Grootdrink, Kakamas, Keimoes and Groblershoop. The district also used to produce the bulk of South Africa's karakul lamb pelts. However, the importance of this sector has declined since the 1990's. The focus is now on sheep farming for meat.

The Northern Cape also has exceptionally high solar irradiance, one of the highest in the world. As a result a number of solar energy facilities have been developed in the area, including the Abengoa CSP plant located to the west of Upington. Upington is also served by a modern airport which has one of the longest runways in the world (4900 m). Due to the length, the runway was selected by NASA as an emergency runway for the Space Shuttle programe (*http://www.southerncape.co.za/towns/upington)*

The actual site itself is located to the south of the road to Vastrap, ~ 40 km from the turn-off to the Upington airport. The topography on the site is relatively flat and consists of low ridges of north-south trending red khalahari sand dunes that run along the eastern and western boundary of the site (Photograph 1.3 and 1.4). The general topography of the site slopes towards the Gariep River located approximately 20 km from the southern boundary of the farm (Photograph 1.5).

Photograph 1.3: View of site from the Vastrap Road looking south west

Photograph 1.4: View of area to the north of the site and the Vastrap Road

Photograph 1.5: View of site looking south east from the Vastrap Road

The gravel road to Vastrap forms the northern boundary of the site. The western, eastern and southern boundaries of the site are abutted by neighbouring farms (Photograph 1.6). The dominant land uses on these farms are sheep and cattle farming, combined with some game farming. There are no structures or dwellings located on the site itself, except for a cattle loading post adjacent to the Vastrap road (Photograph 1.7).

Photograph 1.6: Entrance to Ceres Farm located to east of site

Photograph 1.7: View of cattle loading facility located at current entrance to the site

The closest farm houses to the site is located ~ 3-4 km from the site. In this the two closest dwellings are located on the farm owned by Mr Innes Burger, to the north of the site (Photograph 1.8), and the farm owned by Mr Phillip Coreejes, to the east of the site.

Photograph 1.8: View of farm dwellings locate north of Vastrap road

The other dwellings located in relatively close proximity to the Vastrap road are farm houses located near the turn off to Tellery Pan (Photograph 1.9), the State Veterinary office and Karakul Research Centre, located ~ 28 km and 33 km south-west of the site respectively (Photograph 1.10).

Photograph 1.9: View of farm dwellings located next to Tellery Pan turn-off

Photograph 1.10: Entrance to state vetinary and karakul research centre

1.5 APPROACH TO STUDY

The approach to the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). These guidelines are based on international best practice. The key activities in the SIA process embodied in the guidelines include:

- Describing and obtaining an understanding of the proposed intervention (type, scale, and location), the settlements, and communities likely to be affected by the proposed project;
- Collecting baseline data on the current social and economic environment;
- Identifying the key potential social issues associated with the proposed project. This requires a site visit to the area and consultation with affected individuals and communities;
- Assessing and documenting the significance of social impacts associated with the proposed intervention;
- Identifying alternatives and mitigation measures.

In this regard the study involved:

- Review of socio-economic data;
- Review of relevant planning and policy frameworks for the area;
- Site specific information collected during the site visit to the area and interviews with interested and affected parties. As part of the process a background information document was prepared and made available to key interested and affected parties. The aim of the document was to inform the affected parties of the nature and activities associated with the construction and operation of the proposed development to enable them to better understand and comment on the potential social issues and impacts;
- Review of information from similar studies, including the EIAs undertaken for other renewable energy projects;
- Identification and assessment of the social issues associated with the proposed project.

The identification of potential social issues associated with proposed facility is based on observations during the project site visit, review of relevant documentation, experience with similar projects and the general area. Annexure A contains a list of the secondary information reviewed and interviews conducted. Annexure B contains a copy of the background information document and Annexure C summarises the assessment methodology used to assign significance ratings to the assessment process.

1.5.1 Definition of social impacts

Social impacts can be defined as “The consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society. These impacts are felt at various levels, including individual level, family or household level, community, organisation or society level. Some social impacts are felt by the body as a physical reality, while other social impacts are perceptual or emotional” (Vanclay, 2002).

When considering social impacts it is important to recognise that social change is a natural and on-going process (Burdge, 1995). However, it is also important to recognise and understand that policies, plans, programmes, and/or projects implemented by government departments and/or private institutions have the potential to influence and alter both the *rate* and *direction* of social change. Many social impacts are not in themselves "impacts" but change processes that may lead to social impacts (Vanclay, 2002). For example the influx of temporary construction workers is in itself not a social impact. However, their presence can result in a range of social impacts, such as an increase in antisocial behaviour. The approach adopted by Vanclay stresses the importance of understanding the processes that can result in social impacts. It is therefore critical for social assessment specialists to think through the complex causal mechanisms that produce social impacts. By following impact pathways, or causal chains, and specifically, by thinking about interactions that are likely to be caused, the full range of impacts can be identified (Vanclay, 2002).

An SIA should therefore enable the authorities, project proponents, individuals, communities, and organisations to understand and be in a position to identify and anticipate the potential social consequences of the implementation of a proposed policy, programme, plan, or project. The SIA process should alert communities and individuals to the proposed project and possible social impacts, while at the same time allowing them to assess the implications and identify potential alternatives. The assessment process should also alert proponents and planners to the likelihood and nature of social impacts and enable them to anticipate and predict these impacts in advance so that the findings and recommendations of the assessment are incorporated into and inform the planning and decision-making process.

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethic, religious, gender, and educational backgrounds etc. view the world. This is referred to as the "social construct of reality." The social construct of reality informs people's worldview and the way in which they react to changes.

1.5.2 Timing of social impacts

Social impacts vary in both time and space. In terms of timing, all projects and policies go through a series of phases, usually starting with initial planning, followed by implementation (construction), operation, and finally closure (decommissioning). The activities, and hence the type and duration of the social impacts associated with each of these phases are likely to differ.

1.6 ASSUMPTIONS AND LIMITATIONS

1.6.1 Assumptions

Technical suitability

It is assumed that the development site represents a technically suitable site for the establishment of a HSPG.

Information provided by Mercedes Benz on the HSPG

The information provided by Mercedes Benz regarding the HSPG is based on initial estimates. Accurate figures will only be available once the detailed design phase has been undertaken.

Fit with planning and policy requirements

Legislation and policies reflect societal norms and values. The legislative and policy context therefore plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. As such, if the findings of the study indicate that the proposed development in its current format does not conform to the spatial principles and guidelines contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported.

However, the study recognises the spatial needs associated with the establishment of a HSPG.

1.6.2 Limitations

Demographic data

The socio-economic information from the 2011 Census is at a local municipal level as opposed to ward level. However, this does not have a bearing on the findings of the study.

1.7 SPECIALIST DETAILS

Tony Barbour is an independent specialist with 24 years' experience in the field of environmental management. In terms of SIA experience Tony Barbour has undertaken in the region of 120 SIA's and is the author of the Guidelines for Social Impact Assessments for EIA's adopted by the Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape in 2007.

1.8 DECLARATION OF INDEPENDENCE

This confirms that Tony Barbour, the specialist consultant responsible for undertaking the study and preparing the report, is independent and does not have vested or financial interests in proposed project being either approved or rejected.

1.9 REPORT STUCTURE

The report is divided into five sections, namely:

- Section 1: Introduction
- Section 2: Summary of key policy and planning documents relating to solar energy and the area in question
- Section 3: Overview of the study area
- Section 4: Identification and assessment of key social issues
- Section 5: Summary of key findings and recommendations.

SECTION 2: POLICY AND PLANNING ENVIRONMENT

2.1 INTRODUCTION

Legislation and policy embody and reflect key societal norms, values and developmental goals. The legislative and policy context therefore plays an important role in identifying, assessing and evaluating the significance of potential social impacts associated with any given proposed development. An assessment of the "policy and planning fit[4]" of the proposed development therefore constitutes a key aspect of the Social Impact Assessment (SIA). In this regard, assessment of "planning fit" conforms to international best practice for conducting SIAs.

Section 2 provides an overview of the policy and planning environment affecting the proposed project. For the purposes of the meeting the objectives of the EIA the following policy and planning documents were reviewed, namely:

- Northern Cape Provincial Growth and Development Strategy (2004-2014);
- Northern Cape Spatial Development Framework (2012);
- ZF Mcgawu District Municipality Integrated Development Plan (2007-2012) [5];
- //Khara Hais Integrated Development Plan (2012-2017);
- //Khara Hais Local Economic Development Strategy (2010);
- //Khara Hais Spatial Development Framework (2012).

2.2 NORTHERN CAPE PROVINCIAL GROWTH AND DEVELOPMENT STRATEGY

The Northern Cape Provincial Growth and Development Strategy (NCPGDS) identify poverty reduction as the most significant challenge facing the government and its partners. All other societal challenges that the province faces emanate predominantly from the effects of poverty. The NCPGDS notes that the only effective way to reduce poverty is through long-term sustainable economic growth and development. The sectors where economic growth and development can be promoted include:

- Agriculture and Agro-processing;
- Fishing and Mariculture;
- Mining and mineral processing;
- Transport;
- Manufacturing;
- Tourism.

[4] Planning fit" can simply be described as the extent to which any relevant development satisfies the core criteria of appropriateness, need, and desirability, as defined or circumscribed by the relevant applicable legislation and policy documents at a given time.

[5] The ZF Mcgawu DM was previously referred to as the Siyanda DM. The name was changed in 2013.

However, the NCPGDS also notes that economic development in these sectors also requires:

- Creating opportunities for lifelong learning;
- Improving the skills of the labour force to increase productivity;
- Increasing accessibility to knowledge and information.

The achievement of these primary development objectives depends on the achievement of a number of related objectives that, at a macro-level, describe necessary conditions for growth and development. These are:

- Developing requisite levels of human and social capital;
- Improving the efficiency and effectiveness of governance and other development institutions;
- Enhancing infrastructure for economic growth and social development.

Of specific reference to the proposed development the NCPGDS notes the importance of enterprise development, and notes that the current level of private sector development and investment in the Northern Cape is low. In this regard the NCPGDS highlights the importance of close co-operation between the public and private sectors in order for the economic development potential of the Northern Cape to be realised.

In addition, the province also lags in the key policy priority areas of SMME Development and Black Economic Empowerment. The proposed development therefore has the potential to create opportunities to promote private sector investment and the development of SMMEs in the Northern Cape Province.

2.2.1 Northern Cape Provincial Spatial Development Framework

The Northern Cape Provincial Spatial Development Framework (NCSDF) (2012) lists a number of sectoral strategies and plans that are to be read and treated as key components of the NCSDF. Of these there are a number that are relevant to the proposed development. These include:

- Sectoral Strategy 1: Provincial Growth and Development Strategy of the Provincial Government;
- Sectoral Strategy 2: Comprehensive Growth and Development Programme of the Department of Agriculture, Land Reform and Rural Development;
- Sectoral Strategy 5: Local Economic Development (LED) Strategy of the Department of Economic Development and Tourism;
- Sectoral Strategy 11: SMME Development Strategy of the Department of Economic Development and Tourism;
- Sectoral Strategy 12: Tourism Strategy of the Department of Economic Development and Tourism.

2.2.3 ZF Mcgawu Integrated Development Plan

The key priority issues listed in the ZFMDM IDP (2012-2017) include:

- Basic Service Deliver;
- Municipal Institutional Development and Transformation;
- Local Economic Development;
- Municipal Financial Viability and Management;

- Good Governance and Public Participation.

The vision of the ZFMDM is “To be a model, economically developed district with a high quality of life for all inhabitants”.

Linked to this vision the mission statement is “To promote economic development to the advantage of the community within the boundaries of the ZFMDM. This will be done by the establishment and maintenance of an effective administration and a safe environment in order to attract tourists and investors to the region”.

The development goals listed in the IDP that are relevant to the proposed development include:

- To deliver a positive contribution to the sustainable growth and development within its boundaries and the rest of the Northern Cape;
- The creation of a healthy and environmentally friendly environment within and outside of the Councils‟ district boundaries, must be attempted;
- The promotion of a safe and tourism friendly environment should be furthered in order to promote tourism and investor interest in the region;
- The promotion of human resources within and outside the organization through training and the implementation of new technological aids.

Linked to the developmental goals are a number of developmental objectives. The following objectives are relevant to the proposed development:

- Promotion of SMMEs in order to strengthen the Local Economic Sector;
- Promote the development of the tourism sector, with specific emphasis on community based tourism.

2.2.4 //Khara Hais Local Municipality Integrated Development Plan

The vision adopted in the KHLM IDP (2012-2017) is “to provide an affordable quality service to //Khara Hais and its visitors and to execute the policies and programmes of the Council”.

The mission statement, notes that “As an authority that delivers Municipal Services to //Khara Hais, we attempt by means of a motivated staff, to develop //Khara Hais increasingly as a pleasant, safe and affordable living and workplace for its residents and a hospitable relaxed visiting place for its visitors”.

The IDP identifies seven key performance areas (KPAs) that are aligned with national imperatives and frameworks, namely:

- KPA 1: Spatial Development Framework;
- KPA 2: Service Delivery and Infrastructure Delivery;
- KPA 3: Local Economic Development;
- KPA 4: Financial Viability;
- KPA 5: Institutional Development and Organisational Transformation;
- KPA 6: Good Governance;
- KPA 7: Social Development.

Ten (10) Development Priorities linked to the seven (7) KPAs were identified based on the challenges faced by the municipality, and prioritized by both ward committees and

the community during public participation processes. Three of the ten Development Priorities are relevant to the proposed development, namely:

- Development Priority 1: Spatial Development, Town Planning and Land Use management (KPA 1: Spatial Development Framework). The development objective(s) are:
  - Ø Provide the framework and vision required for improving the quality of life of the people living in //Khara Hais;
  - Ø Manage the development of sustainable land use, economic, spatial and environmental planning according to predetermined acceptable levels.
- Development Priority 8: Economic Growth and Job Creation (KPA 3: Local Economic Development). The development objective(s) are:
  - Ø Promote the development of tourist infrastructure that will enhance tourism;
  - Ø Create an environment that promotes the development of a diversified and sustainable economy.
- Development Priority 9: Community Development and Facilities (KPA 2: Service Delivery and Infrastructure and Development and KPA 7: Social Services). The development objective(s) are:
  - Ø Pro-active prevention, mitigation, identification and management of environmental health, fire and disaster risks;
  - Ø Provide safety to communities through law enforcement services and through legislative requirements;
  - Ø Provide equal access to sport, park, recreational facilities and other public amenities to all residents.

The IDP also lists the key priority area based on the outputs of the community and stakeholder analysis. The key priority issues listed in the IDP that are relevant to the proposed development include:

- Spatial issues. Need for a good and effective SDF to encourage a compact urban structure and effective land-use management;
- Economic priorities. The key issues listed under economic priorities include:
  - Ø Job creation for unskilled, semi-skilled and skilled residents;
  - Ø Promotion of human resource development and the creation of a skills register;
  - Ø The formulation and implementation of a Local Economic Development Plan and Marketing Plan;
  - Ø Support to national job creation programmes and community based enterprises.
- Community development and facilities. The IDP lists a number of community facilities required in the KHLM. These include sports facilities, libraries, community halls, health care facilities etc. The corporate social investment component associated with the proposed development can assist to contribute towards the establishment of some of these facilities.

The IDP also identifies a number of developmental constraints and strengths. Key constraints/problems/issues in terms of the development of the KHLM include a shortage of job opportunities and job creation in the area. With regards to the socio-economic characteristics of the local population, the employment rate for the Municipality is relatively high, with as much as 75% of people of working age who are actively seeking employment being able to secure a job. However, the majority of the employed population is found in elementary occupations, which require little or no skills. This is also reflected in the low education levels of the local population, with as much as 12% of the population aged 20 years and older having no form of education

whatsoever. This may have implications in terms of employment opportunities linked to the proposed development.

The proposed development is located in Ward 11. The KHLM IDP identifies a number of challenges facing the communities that reside in Ward 11. The following are of relevance to the proposed development:

- Socio-economic inequalities;
- Lack of skills development amongst women and youth;
- Lack of tertiary education and further training/ development amongst marginalised;
- Limited economic opportunities.

The Ward 11 analysis also refers to the challenges facing the settlements in the area. A number of these could potentially benefit from the establishment of a corporate social investment programme linked to proposed development. These include:

- Lack of sport grounds, recreational facilities and parks;
- Poor library facilities.

In response to some of these challenges a number of projects have been identified that could potentially benefit from support from Mercedes Benz. These include:

- SMME and entrepreneurial empowerment and training;
- BEE opportunities through: supplier accreditation, procurement & development;
- Strengthen existing women projects;
- Implement HIV/Aids awareness programs at primary and secondary schools;
- Development of formal sport grounds at schools;
- Establishment of vegetable gardens for feeding schemes.

2.2.5 //Khara Hais Local Economic Development Strategy

The LED Strategy was adopted by Council in November 2010 and forms the link between sustainable livelihoods and economic activities. Development objectives in the LED strategy seek to address poverty and unemployment, and economic development through e.g. an enabling environment for the advancement of LED activities; addressing youth related social-economic issues; accelerate the roll out and effective implementation of High Impact Projects and Investment; and Identification and upgrading of new tourism projects and facilities.

The LED Strategy and Investment Plan were approved by Council in 2010. The purpose of the LED and investment plan is to investigate the options and opportunities available to broaden the local economic base of the area in order to address the creation of employment opportunities and the resultant positive spin-off effects throughout the local economy.

The LED strategy identifies four Strategic Thrusts, namely:

- Thrust 1: Agricultural beneficiation and value-chain development;
- Thrust 2: SMME and community business support;
- Thrust 3: Tourism related development;
- Thrust 4: Maximise and enhance benefits from strategic location

The proposed HSPG has the potential to support Thrust 2, 3 and 4.

The LED strategy identifies the potential constraints and opportunities facing the KHLM. Key constraints include:

- High unemployment levels and shortage of job opportunities and job creation in the area;
- Low education and skills levels;
- Lack of manufacturing activities.

The opportunities include:

- Well defined business centre and residential areas;
- Well-connected economic hub for region;
- Link to Namibia;
- Tourism, key stop over for Kgalagadi Transfrontier Park and Augrabies National Park;
- Agriculture and associated linkages with other sectors of the economy, creating further opportunities for job creation;
- Potential for expansion of agro-processing and other activities;
- Upington Airport. Identified as an alternative or supplement for the O.R Tambo International Airport for cargo traffic, as there is less congestion and quicker airport turnaround times;
- Solar energy and establishment of a Solar Park initiative is driven by the Department of Energy (DoE).

The LED also notes that unemployment and poverty are the key issues that need to be addressed in the KHLM. In order to address these issues social development strategies aimed at improving the position of Historically Disadvantaged Individuals (HDIs) are identified. These include:

- Building the economy and creating employment opportunities and reduce poverty levels;
- Developing human resources;
- Providing basic needs.

The proposed HSPG has the potential to support the development of the local economy and human resources.

2.2.6 //Khara Hais Spatial Development Framework

The overarching objective of the SDF is to facilitate sustainable development (i.e. a balanced relationship between economic efficiency, human well-being and environmental integrity) throughout the area of jurisdiction and to ensure integration of development processes. The SDF notes that:

- KHLM comprises unique natural, cultural, social and economic attributes that justify its status as a national asset;
- The natural environment and its resources of the Municipality are sensitive and susceptible to over-exploitation or inappropriate use;
- There is a substantial need for social up-liftment and community development.

The SDF envisages a self-sustaining ecology with long-term benefit for all inhabitants of the KHLM. In this regard the SDF identifies a number of key sectors, namely:

- Agriculture as an optimally efficient and economically viable market-directed sector representing a socio-economic 'pivot' of KHLM;
- Manufacturing and industry as a viable sector which builds on the comparative economic advantages of the KHLM, and operates in accordance with the highest standards for environmental management;
- Tourism as a sustainable industry, supporting or enhancing marginal industries and contributing significantly to the improvement of the quality of life of all the communities of the KHLM;
- Urban development in a safe, healthy and aesthetically pleasing urban environment, with the architectural and spatial character depicting the historic and cultural background of the habitant communities;
- Rural development in an environmentally sustainable manner with the infrastructure and services that is essential for the development of the rural communities of the KHLM whilst enhancing its unique rural character;
- Social Development establishing an optimally developed and empowered society in harmony with its environment;
- Conservation of natural habitats worthy to be consolidated into continuous tracts of conservation land, protecting natural biodiversity and providing community-supporting ecosystem services;
- Natural resources as fundamental requirements for sustainable development in the KHLM.

Of relevance to the proposed development the SDF notes that priority should be given to economic development and the expansion of the manufacturing sector. In terms of approach, the SDF adopts a Bioregional Planning approach based on international experience which has demonstrated that biodiversity conservation is a prerequisite for sustainable development. Bioregional planning is defined as 'planning and land management that promote sustainable development by recognising the need for a balanced relationship between environmental integrity, human well-being and economic efficiency, and to give effect and recognition thereto, within a specific geographical area, the boundaries of which were determined in accordance with environmental and social criteria' (Manual for Bioregional Planning in the Western Cape, PGWC (2003).

The bioregional planning approach involved the establishment of a set of Spatial Planning Categories (SPCs) for the KHLM that are consistent with UNESCO's MaB Program and include all land zonings that are provided for under the existing Zoning Scheme Regulations. A total of six SPCs were identified, namely:

- Category A Designated Core Conservation Area: These are areas of high conservation importance to be protected from development and generally only non-consumptive land-uses are allowed conditionally;
- Category B Buffer Area: Areas that serve as a buffer between Category A and Category C areas. Appropriate sustainable development and non-consumptive land uses may be allowed conditionally;
- Category C: Agricultural and rural areas where extensive and intensive agriculture is practiced;
- Category D: Urban areas accommodating a broad spectrum of urban-related development and associated services and infrastructure;
- Category E: Industrial areas that accommodate industrial activities and associated infrastructure and where high intensity human activity and consumptive land uses occur;

- Category F: Surface infrastructure and buildings: All surface infrastructure and buildings not catered for in the above categories, including roads, railway lines, power lines, communication structures, etc.

SECTION 3: OVERVIEW OF STUDY AREA

3.1 INTRODUCTION

Section 3 provides a baseline description of the study area with regard to:

- The administrative context;
- Provincial context;
- Overview of district and local municipalities.

3.2 ADMINISTRATIVE CONTEXT

The proposed Mercedes-Benz HSPG is located ~ 38 km north-east of Upington within the KHLM (NC083), which forms part of the larger ZF Mcgawu Municipality District Municipality[6] (DC8) (Figure 3.1). The ZF Mcgawu Municipality is the second largest district municipality (approximately 103 871 km^2) in the Northern Cape. Upington is the administrative seat of the KHLM and has, since its inception, been the hub of activities in the region. The main land uses in the area are linked to grape farming and agriculture along the Gariep River (Orange River) and livestock farming away from the river. A number of solar energy projects have also been and are proposed in the area.

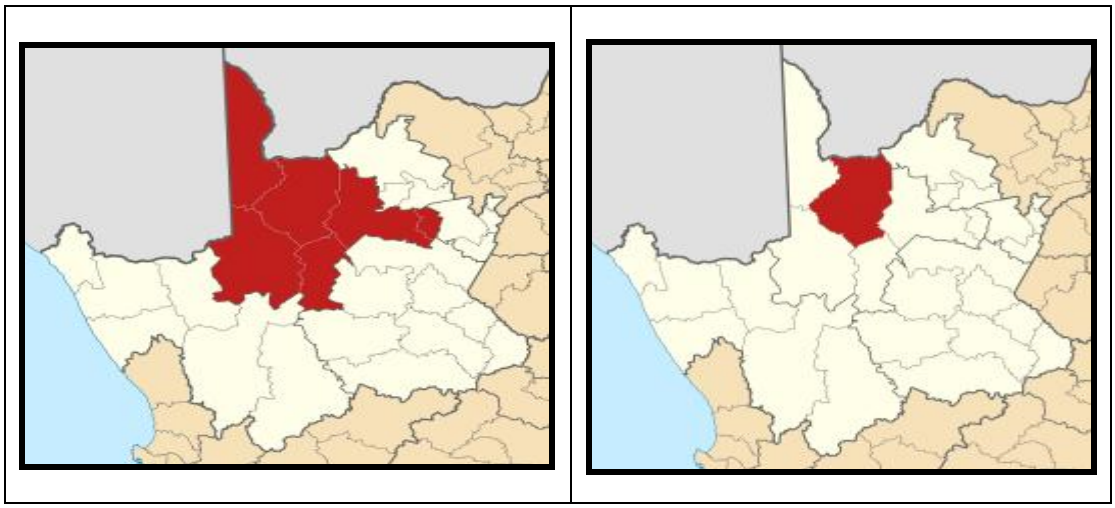

Figure 3.1: Location of ZF Mcgawu Municipality (left) and //Khara Hais Local Municipality (right) within the Northern Cape Province

[6] The ZF Mcgawu DM was previously referred to as the Siyanda DM. The name was changed in 2013.

3.3 PROVINCIAL CONTEXT[7]

The proposed development is located in the Northern Cape Province, which is the largest province in South Africa and covers an area of 361,830 km^{2,} and constitutes approximately 30% of South Africa. The province is divided into five district municipalities (DM), namely, Frances Baard, Karoo, Namakwa, ZF Mcgawu, and Kgalagadi DM, twenty-six Category B municipalities and five district management areas. The site itself is located in the KHLM, which is one of eight local municipalities that fall within the greater ZF Mcgawu Municipality District Municipality (DC8).

Population

Despite having the largest surface area, the Northern Cape has the smallest population of 1 145 861 (Census 2011) or 2.28% of the population of South Africa. The population has increased from 991 919 in 2001. Of the five districts, Frances Baard has the largest population of 382 086. The other districts and their respective populations are ZF Mcgawu (236 783), John Taola Gaetsewe (224 799), Pixley ka Seme (186 351) and Namakwa (115 842). In terms of age, 30.1% are younger than 15 years of age and 64.2% fall within the economically active age group of 15-64 years of age (Census 2011). The female proportion makes up approximately 52.7% of the total with males making up the remaining 47.3% (Census 2011).

Education

Based on the information contained in the NCSDF the average adult education attainment levels in the Northern Cape are lower than the adult education attainment levels of South Africa as a whole. Approximately 19.7% of the Northern Cape adults have no schooling in comparison to South Africa's 18.1%. The Northern Cape has the second lowest percentage of adult individuals (5.5%) that obtained a tertiary education in South Africa. The LED Strategy for the Northern Cape indicates that Pixley ka Seme has the lowest adult education attainment levels in the Northern Cape with 27.3% of the adult population having no form of schooling, whilst John Taolo Gaetsewe is second with 25.4% having no schooling. The highest number of the adult population with tertiary education (6.4%) is located in Frances Baard.

The Northern Cape also has the smallest portion (11.1%) of highly skilled formal employees in South Africa and Gauteng has the highest (14.3%). Linked to this the Northern Cape has the second largest portion of semi and unskilled formal employees in the country. A lack of skilled people often results in both the public and the private sector being unable to implement planned growth strategies and achieve the desired productivity, service delivery and service quality (NCSDF, 2012).

Economic development

Over the past 8 years there has been little to no variance in the Human Development Index (HDI) figures for the Northern Cape, indicating no increase or decrease in the overall standard of living[8]. This trend is unlikely to change in the foreseeable future,

[7] The information in this section is based on the Northern Cape Provincial Growth and Development Strategy 2004-2014. This document does not include 2011 Census Data. Where possible data from the 2011 Census and the NCSDF 2012 has been used to update the information.

[8] The Human Development Index (HDI) was developed by the United Nations Development Programme (UNDP) based on the philosophy that the goal of development was to ensure that individuals live long, informed and comfortable lives. The HDI consists of three components: Longevity, which is measured by life expectancy at birth; Educational attainment, which is

mainly due to the marginal economic base of the poorer areas, and the consolidation of the economic base in the relatively better-off areas. It is important to note that the HDI for the Northern Cape (0.55) is substantially below the South African figure of 0.72. The HDI of 0.55 displays a pattern of semi-development, and there is a definite inequality between the different population groups, with the Whites having a higher development lifestyle than the African or Coloured groups.

The percentage of Northern Cape people living below the poverty line has decreased from 40% in 1995 to 27% in 2011, while the poverty gap has decreased from 11% in 1995 to 8% in 2011 (Figure 3.2). The goal set by the province is to decrease the percentage of people living below the poverty line to 20% by 2015 (NCSDF, 2012). The alleviation of poverty is one of the key challenges for economic development. Higher levels of economic growth are a key challenge for poverty eradication. Investment in people is pivotal to the eradication of poverty and inequality. Investment in people is also, to a large extent, about delivering social and economic infrastructure for education, welfare, health, housing, as well as transport and bulk infrastructure.

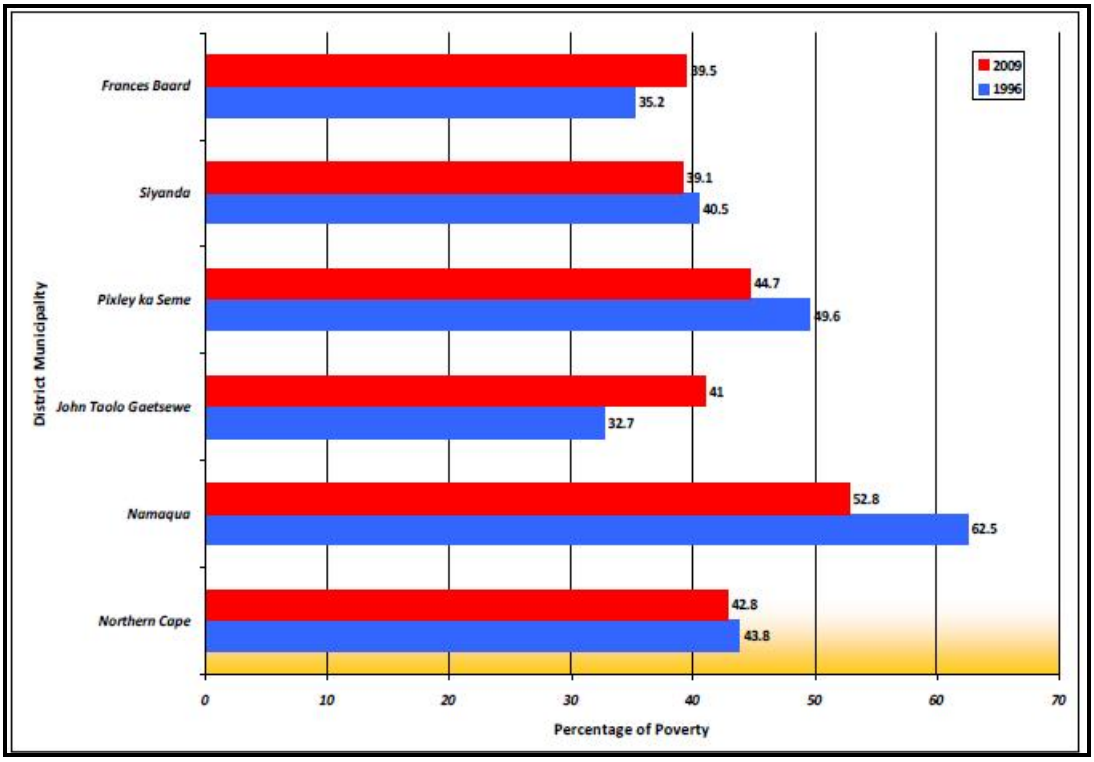

Figure 3.2: Percentage of people living in poverty in the Northern Cape (Source: Global Insight, 2009 as cited in the PGDS, July 2011).

measured by two education variables, namely adult literacy and combined gross primary, secondary and tertiary enrolment ratio, and; Income, which is measured by gross domestic product (GDP) per capita. Performance in each dimension is expressed as a value between 0 and 1, and the HDI index gives an internationally accepted measure of the wellness (quality of life) of the population of the area under consideration. The closer the HDI is to 1.0, the higher the level of "living condition". For example, Sweden has an index of 0.91 defined as high, South Africa at 0.72 is defined as middle and Lesotho at 0.47 is defined as low.

In terms of per capita income, the Northern Cape Province has the third highest per capita income of all nine Provinces. However, income distribution is extremely skewed, with a high percentage of the population living in extreme poverty. The measure used in the PGDS document to measure poverty is the percentage of people living below the poverty line or breadline is used[9]. The poverty line indicates a lack of economic resources to meet basic food needs. Figure 3.3 indicates the percentage of household income below the poverty breadline of R800 in the Northern Cape Province, the highest being Karoo at 48% and the lowest being Namakwa at 36%.

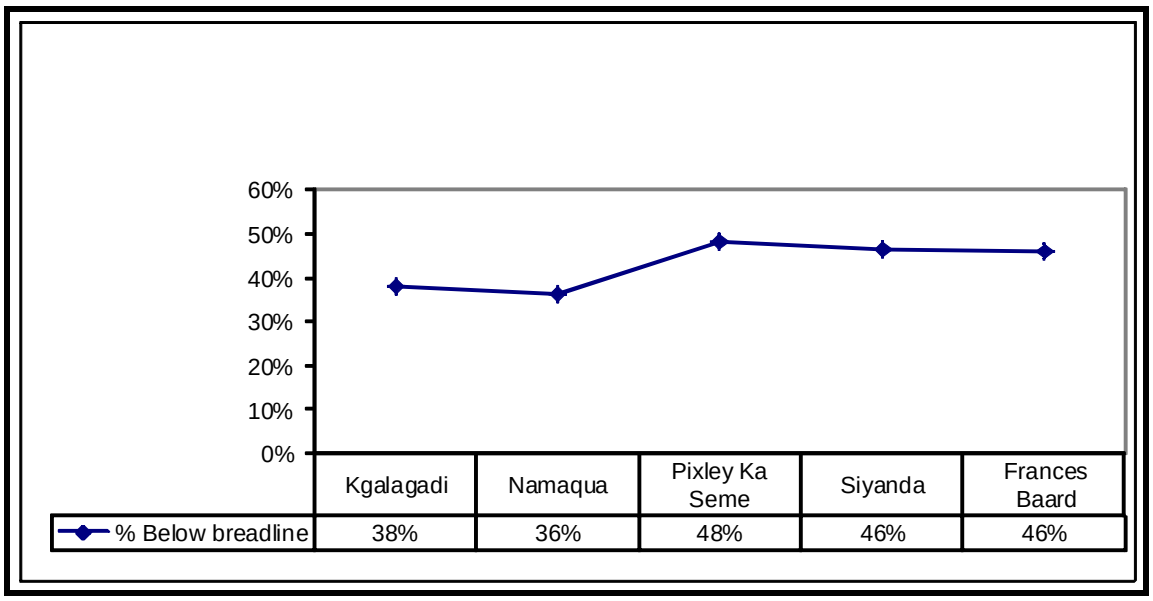

Figure 3.3: Percentage of household income below the poverty breadline by district (*Source: Northern Cape PGDS)*

Economic sectors

The Northern Cape economy has shown significant recovery since 2000/2001 when it had a negative economic growth rate of -1.5% (LED Strategy). The provincial economy reached a peak of 3.7% in 2003/2004 and remained the lowest of all provinces. The Northern Cape is the smallest contributing province to South Africa's economy (only 2% to South Africa GDP per region in 2007).

The mining sector is the largest contributor to the provincial GDP, contributing 28.9% to the GDP in 2002 and 27.6% in 2008. The mining sector is also important at a national level. In this regard the Northern Cape produces approximately 37% of South Africa's diamond output, 44% of its zinc, 70% of its silver, 84% of its iron-ore, 93% of its lead and 99% if its manganese.

Agriculture and agri-processing sector is also a key economic sector. Approximately 2% of the province is used for crop farming, mainly under irrigation in the Orange

[9] In terms of the poverty line, a person is considered poor if his or her consumption or income level falls below some minimum level necessary to meet basic needs. The minimum level is usually called the poverty line. In South Africa the poverty income level is set at R800/month.

River Valley and Vaalharts Irrigation Scheme. Approximately 96% of the land is used for stock farming, including beef cattle and sheep or goats, as well as game farming. The agricultural sector contributed 5.8% to the Northern Cape GDP per region in 2007 which was approximately R1.3 billion, and it employs approximately 19.5% of the total formally employed individuals (NCSDF, 2012). The sector is experiencing significant growth in value-added activities, including game-farming. Food production and processing for the local and export market is also growing significantly.

The main agricultural produce of the Northern Cape include:

- High-value horticultural products such as table grapes, sultanas and wine grapes, dates, nuts, cotton, fodder, and cereal crops are grown along the Orange River;
- Wheat, fruit, groudnuts, maize and cotton in the Vaalharts irrigation scheme in the vicinity of Hartswater and Jan Kempdorp;
- Vegetables and cereal crops at the confluence of the Vaal River and the Orange Rivers in the vicinity of Douglas;
- Wool, mohair, karakul, Karoo lamb, ostrich meat and leather, and venison throughout most of the province.

Economic development in the Northern Cape is hampered by the vastness of the area and the remoteness of its communities in rural areas. Development is also hampered by the low education and skills levels in the province. As a result unemployment in the Northern Cape presents a major challenge.

Employment

According to Statistics South Africa Labour (2012) the community and social services sector is the largest employer in the province at 29%, followed by the agricultural sector (16%), wholesale and retail trade (14%), finance (8%) manufacturing (6%) and mining (6%), etc. (Figure 3.4).

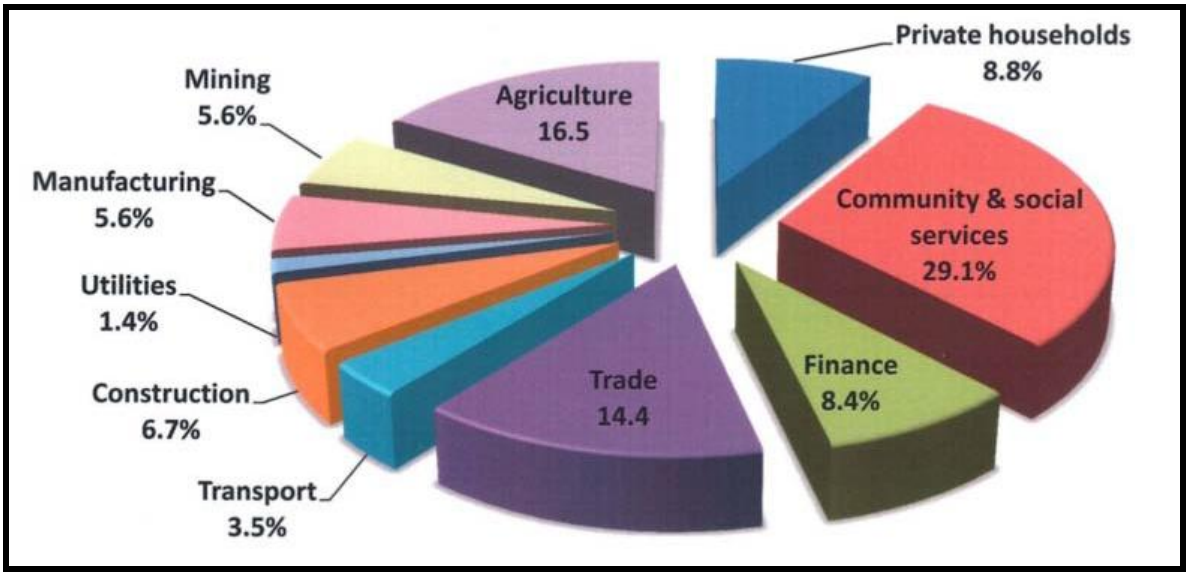

Figure 3.4: Employment by Economic Sector and Industry (Source: Statistics South Africa 2012).

3.4 SOCIO-ECONOMIC OVERVIEW OF THE PROPOSED PROJECT AREA

3.4.1 ZF Mcgawu District Municipality

The ZF Mcgawu District Municipality (ZFMDM) consists of six Local Municipalities namely, Mier; Kai !Garib; //Khara Hais; Tsantsabane, !Kheis and Kgatelopele, and covers an area of more than 100 000 km^2 (almost 30% of the Northern Cape Province). Of this total, 65% (65 000 km^2) is made up of the Kalahari Desert, Kgalagadi Transfrontier Park and the former Bushman Land. The largest town in the region is Upington, which also functions as the district municipal capital. Following the municipal elections in 2011, Riemvasmaak (Sending and Vredesvallei) were included within the KGLM. The Riemvasmaak Community is located ~ 60 km west of Kakamas. Based on Census 2011 data the total population of the ZFMDM is in in the region of 236 763 people. The KHLM are home to ~ 40 % of the ZFMDM population (Table 3.1).

Table 3.1: Population of Local Municipalities within the ZFMDM

Local Municipality	Population	Percentage
//Khara Hais	93 494	39.5%
Kai !Garib	65 869	27.8%
Tsantsabane	35 093	14.8%
!Kheis	16 637	7.0%
Kgatelopele	18 687	7.9%
Mier	7 003	2.9%

Source: Census 2011

The Coloured population group make up the dominant group in the ZFMDM followed by Blacks and Whites (12%). In terms of language, Afrikaans, followed by Setswana and IsiXhosa are the three main languages spoken in the area.

The ZFMDM accounts for ~ 30% of the Northern Cape economy. Agriculture plays a key role in the local economy and is strongly linked to irrigation along the Gariep River (Orange River). The Orange River is perennial with a flow which varies between 50 and 1800 cubic meter per second (cum/s) depending on the season. The flow of the river is largely controlled by the releases of the dams upstream, like the Bloemhof, Gariep and Van der Kloof dams. Agriculture in the ZFMDM is dominated by grape production for table grapes, which is mainly exported to Europe, as well as livestock and game farming.

The Orange River area is responsible for a major part of South Africa's table grape production. More than 90% of Africa's total dried vine fruit farm production is produced through 1250 sultana grape growers in the Northern Cape who produced more than 50,000 tons in 2010. The sultanas produced comprise more than 80% of that which is exported primarily to Europe and other eastern countries (ZFMDM IDP 2012-2017). SAD Vine Fruit Pty (Ltd) is located in Upington and owns the largest dried vine fruit processing and packaging plant in South Africa, employing more than 350 persons. It has intakes at Groblershoop, Mylpaal, Louisvaleweg, Keimoes, Kakamas and Vredendal. The Orange River Wine Cellars Co-op, also based in Upington, is the second largest winemaking cooperative in the world and has wine cellars at Groblershoop, Grootdrink, Upington, Keimoes and Kakamas. This co-op has more than 740 members who produce wine grapes and 445 farmers who produce grape juice (ZFMDM IDP 2012-2017).

Livestock farming occurs mainly on large farms where farming is extensive. The majority of the farms are privately owned. The central parts of the region consist mainly of semi-desert areas and are therefore, with a few exceptions, mainly suitable for extensive livestock farming. In terms of employment, the most important economic sectors are Agriculture, followed by Community, Social and Personal, and Private Households.

Tourism represents one of the most important economic sectors in the Northern Cape as well as within the ZFMDM. In this regard the ZFMDM IDP indicates that tourism is the fastest growing component of the economy. Key tourism assets include the world famous Kgalagadi Transfrontier Park, Augrabies National Park and Spitskop Nature Reserve near Upington.

Minerals and mining also plays an important role in the local economy of the ZFMDM. Key mining activities include copper and zinc of Areachap north of Upington. Various small concentrations of calcite, lead, fluorspar, barite, wolfram and amethyst. Salt is also being mined at two pans, namely Groot Witpan, 95 km northwest of Upington and at Witpan, 115km northwest of Upington. In terms of social well-being the ZFMDM's greatest social problems are illiteracy and poverty and low education levels.

3.4.2 //Khara Hais Local Municipality

3.4.2.1 Demographic overview

As indicated in Table 3.2, the population of the KHLM increased from 77 919 to 93 494 over the period 2001-2011, which represents an increase of almost 20%. The increase in the population in the KHLM was linked to an increase in the 15-64 and 65 + age groups. There was a decrease in the less than 15 age group. In terms of breakdown, the majority of the population are Coloured (65%), followed by Black African (23%) and Whites (10%). The total population in Ward 11 in 2011, where the proposed developed is located, was 7 542. Of this total the majority were Coloured (78%), followed Black Africa (10%) and Whites (8.5%). The main language spoken in the KHLM was Afrikaans (85.2%), followed by Setswana (3.5%) and English (1.9%).

As expected, the number of households in the KHLM increased from 17 934 to 23 245. The average household size decreased from 4.1 to 3.9. The number of formal dwellings also decreased from 81.2% to 75.2%. This implies that a number of the increased households in the KHLM are informal dwellings, which is a concern in terms of service delivery. The increase in the number of informal dwellings is likely to be linked to an influx of people into the urban areas from the rural areas.

The dependency ratio in the KHLM decreased from 58.7 to 54.7. The improvement indicates that there are fewer people who are dependent on the economically active 15-64 age group. This represents a positive socio-economic improvement. However, the dependency ratio in the KHLM is lower than the ratio for the ZFMDM, which was 50.5 in 2011. The age dependency ratio is the ratio of dependents, people younger than 15 or older than 64, to the working, age population, those ages 15-64. The age dependency ratio (% of working-age population) in South Africa in 2010 was 53.29. Over the past 50 years, the value for this indicator has fluctuated between 84.43 in 1966 and 53.29 in 2010.

Table 3.2: Overview of key demographic indicators for the ZFMDM and KHLM

	ZFMDM		KHLM	
ASPECT	2001	2011	2001	2011
Population	202 160	236 763	77 919	93 494
% Population <15 years	30.8	28.4	31.7	29.8
% Population 15-64	64.1	66.4	63.0	64.6
% Population 65+	5.1	5.1	5.3	5.4
Households	48 100	61 097	17 934	23 245
Household size (average)	3.7	3.5	4.1	3.9
Formal Dwellings %	83.9	79.4	81.2	75.2
Dependency ratio per 100 (15-64)	56.0	50.5	58.7	54.7
Unemployment rate (official) - % of economically active population	26.5	19.2	34.0	22.1
Youth unemployment rate (official) - % of economically active population 15-34	32.1	22.7	42.3	29.0
No schooling - % of population 20+	16.8	9.5	13.6	7.1
Higher Education - % of population 20+	4.8	6.3	5.9	7.8
Matric - % of population 20+	16.1	21.7	20.9	26.0

Source: Compiled from StatsSA Census 2011 Municipal Fact Sheet

Household income

Based on the data from the 2011 Census, 10.5 % of the population of the KHLM had no formal income, 2.6 % earn between R 1 and R 4 800, 4.3 % earn between R 4 801 and R 9 600 per annum, 16.3 % between R 9 601 and 19 600 per annum and 21.2 % between R 19 600 and R 38 200 per annum (Census 2011). The poverty gap indicator produced by the World Bank Development Research Group measures poverty using information from household per capita income/consumption. This indicator illustrates the average shortfall of the total population from the poverty line. This measurement is used to reflect the intensity of poverty, which is based on living on less than R3 200 per month for an average sized household. Based on this measure 54.9 % of the households in the KHLM live below the poverty line. The low-income levels reflect the limited formal employment opportunities in the KHLM and the reliance on the agricultural sector. Employment in this sector is often seasonal. The low income levels are a major concern given that an increasing number of individuals and households are likely to be dependent on social grants. The low income levels also result in reduced spending in the local economy and less tax and rates revenue for the district and local municipality.

Employment

In terms of employment, the official unemployment rate in the KHLM decreased for the ten year period between 2001 and 2011, falling from 34.0 to 22.1% of the economically active population. Youth unemployment in the KHLM also dropped over the same period, from 42.3 to 29%. While unemployment figures appear to be low, specifically within the context of the figures for the Northern Cape Province as a whole (27.4% unemployment and 34.5% youth unemployment in 2011), they do not reflect the fact that the majority of the employment in the KHLM is seasonal and linked to the agricultural sector.

Education

Education levels in the KHLM improved between 2001 and 2011 with the percentage of the population over 20 years of age with no schooling dropping from 13.6% to 7.1%. The percentage of the population over the age of 20 with matric also increased from 20.9 to 26.0%. This is higher than the average for the ZFMDM (21.7%) and the Northern Cape (22.7%). This is linked to the important economic role played by the town of Upington and the associated well developed education facilities in the town.

3.4.2.2 Demographic overview Ward 11

The total population of Ward 11 in 2011 was 6 636, the majority of which live in formal residential areas (92%) while the remainder live on farms (8%). Of this total the majority were Coloured (76%), followed by Black Africans (15%), Whites (6.5%) and Indians (1.5%).

Approximately 60% of the population falls within the economically active age group of 15-65. Of this total ~ 43% are employed, 7% are unemployed and 10% are discouraged work seekers. The remaining 42% of the population within this age group were not economically active.

The total number of households was recorded at 1 668. Of this total 1 446 (87%) had access to pipe water, 51 (3%) relied on boreholes, 12 (1%) relied on dams, 81 (4.8%) relied on rivers or streams and 76 (4.2%) relied on water tankers or other sources of water.

In terms of household income levels, 8.4% of the households had no income, 3% earned between R1-4800 per annum, 7% earned between R 4 081-9 600, 23% between R 9 601-19 600, 28% between R 19 601-38 200 (Census 2011). The poverty gap indicator produced by the World Bank Development Research Group measures poverty using information from household per capita income/consumption. This indicator illustrates the average shortfall of the total population from the poverty line. This measurement is used to reflect the intensity of poverty, which is based on living on less than R3 200 per month for an average sized household. Based on this measure, ~ 70% of the households in Ward 11 live below the poverty line. The low-income levels reflect the limited formal employment opportunities in the area. This is due the reliance on the agricultural sector and the seasonal nature of work in this sector. The low income levels are a major concern given that an increasing number of individuals and households are likely to be dependent on social grants. The low income levels also result in reduced spending in the local economy and less tax and rates revenue for the district and local municipality.

3.4.2.3 Municipal services and facilities

Basic services
As indicated in Table 3.3, there has been a marginal decrease in the percentage of households with access to flush toilets in the KHLM. For the other three categories (piped water inside dwelling, access to weekly municipal refuse removal and households that use electricity) there was an improvement in the access municipal services. The decrease in number of households with flush toilets is likely to be linked to the increase in the number of informal dwellings in the KHLM between 2001 and 2011. It is also worth noting that the level of services in the KHLM is higher than the levels for the ZFMDM and the Northern Cape Province.

Table 3.3: Overview of access to basic services in the ZFMDM and KHLM

	ZFMDM		KHLM	
	2001	2011	2001	2011
% households with access to flush toilet	58.1	63.9	68.6	68.3
% households with weekly municipal refuse removal	58.6	70.3	79.3	87.2
% households with piped water inside dwelling	37.2	48.5	38.7	56.0
% households which uses electricity for lighting	73.5	86.6	73.6	91.1

Source: Compiled from StatsSA Census 2011 Municipal Fact Sheet

Schools: The KHLM area currently has 7 high schools and 23 primary schools. In addition the following institutions of higher education have campuses or satellite campuses in the town:

- Upington College for vocational education;
- Vaal Triangle University of Technology;
- Universal College Outcomes;
- Technikon SA.

Hospitals and clinics: The KHLM area currently has 2 hospital and 10 clinics.
Police Stations: The KHLM is serviced by 4 police stations, a bomb squad, dog unit and a satellite police station provide services to the community.
Sports and recreation: Formal sports facilities include a golf course, 3 swimming pools and 8 formal sports fields. In many of the suburbs and rural settlements there are public open areas used as sports fields, especially for soccer. The sports fields are usually not grass-covered, and are viewed as informal fields. Most of the schools also have their own sports facilities for the use of their learners.

3.4.2.4 Economic profile

Upington is the main town of the KHLM and has, since its inception, been the hub of activities in the region. In terms of its economic role the town serves as:

- Agricultural hub of the Northern Cape;
- Portal to Namibia and vice versa;
- Frontier to the Kalahari and Kgalagadi Transfrontier Park;

- Portal to the Kalahari's hunting grounds.

In terms of economic indicators, the Municipality enjoys comparative advantages in all of the economic sectors, except mining, compared to the other local municipalities that make up the ZFMDM. The fastest growing sectors in the Municipality are agriculture, electricity and water, and mining sectors. The IDP notes that the current growth occurring in these sectors should be exploited to ensure the creation of new job opportunities for local people.

Agricultural sector
The agricultural sector is largely linked to irrigation along the Orange River (Gariep), specifically table and wine grapes. In this regard the //Khara Hais region accounts for ~ 40% of South Africa's grape exports. Most of Upington's wines are produced by Orange River Wine Cellars (OWC). The company has 6 depots in the area (all of them located adjacent to the Orange River) at Upington, Kanoneiland, Grootdrink, Kakamas, Keimoes and Groblershoop. The wines from OWC are exported, inter alia, to Europe and the USA. A number of privately owned cellars also exist in the area.

In terms of the agricultural sector there are 7 smaller rural settlements and various farms. Settlements include: Lambrechtsdrift, Karos, Leerkrans, Leseding, Raaswater, Sesbrugge and Klippunt, and Kalksloot. The inhabitants of these settlements are mainly reliant upon agricultural activities for their livelihoods.

Tourism sector
Upington is well situated as a base for exploration of the region, and has an outstanding infrastructure in the form of accommodation. Various areas are classified as nature conservation areas. Spitskop Nature Reserve lies 13 km north of Upington. This nature reserve, of approximately 6 000 hectares, supports gemsbok, zebra, springbok, ostrich, eland, blue wildebeest, as well as smaller game, and can be viewed from a circular route running through the park. Other nature areas within the jurisdiction of //Khara Hais are Gariep Lodge and Uizip. The Kalahari Oranje Museum Complex has the status of a regional- and provincial museum. There are also a number of declared national monuments, including:

- Roman Catholic Church in Le Roux Street (still in use);
- NG Mother Community in Schroder Street (still in use);
- Hortentia water mill;
- Missionary complex in Schroder Street (building is being used as a museum).

Business sector
The central business district of Upington is located along the northern bank of the Orange River (then Gariep River). Due to certain physical limitations, such as the Orange River to the south and south-east and the railway line to the north, the business district has expanded westwards. Smaller suburban shopping centres are found in all residential areas. Both industrial areas on the northern and the south-western sides of the town (Updustria & Laboria) have railway facilities. Due to the unique spatial manifestation of the municipality, both the first and second economy is mostly located around the CBD and farms. Upington has a well-defined business centre with numerous residential areas. Secondary activities in the study area are mainly light industrial, warehousing, and light engineering works. Main traffic routes connect Upington, the hub of activities in the region, to cities like Kimberley, Johannesburg, Cape Town and Namibia. Upington also serves as the 'Portal' to Namibia and vice versa, the 'Frontier' to the Kalahari and the Kgalagadi Transfrontier Park, the 'Oasis' in

the desert', the Agricultural hub of the Northern Cape, and the 'Portal to the Kalahari's hunting ground. Furthermore, two major national parks are situated within a few hours' drive from Upington.

Although there are a large variety of industries, there is a shortage of manufacturing industries. In this regard the KHLM's economy is centred on the trade and retail sector, due to its strong tourism sector, leaving the local economy fairly vulnerable for any significant changes in this industry. The IDP therefore highlights the need for the KHLM to diversify its economy into other sectors. The development of the renewable energy sector will create opportunities to diversify the local economy. The IDP also indicates that the manufacturing sector is one of the lowest performing sectors of the local economy. As a result much in the municipality has to be sourced from outside of the municipal boundaries, resulting in money flowing out of the local economy. Despite the current poor performance of the manufacturing sector there are a number of potential opportunities linked to the agro-processing and other activities.

The IDP identifies a number of potential development constraints and challenges facing the KHLM. Of relevance to the proposed development these include a shortage of job opportunities in the area. As a result job seekers are forced to seek employment opportunities outside of the Municipality (e.g. Kimberley), etc. Despite this the employment rate for the Municipality is relatively high, with as much as 75% of people of working age who are actively seeking employment being able to secure a job. However, the majority of the employed population is found in elementary occupations, which require little or no skills. This is also reflected in the low education levels of the local population, with as much as 12% of the population aged 20 years and older having no form of education whatsoever. This, to some extent, constrains the development potential of the Municipality in the development of more advanced industries. The level of employment and type of occupations taken up by the population of the Municipality also directly affects their income levels. The low income levels also impact on buying power and the creation of business opportunities (KHLM IDP 2012-2017).

In terms of opportunities, Upington Airport has been identified as an alternative or supplement for the O.R Tambo International Airport for cargo traffic, as there is less congestion and quicker airport turnaround times, shorter-to-market timeframes which would enhance product freshness by one day, and improved supply-chain performance, therefore offering greater benefits for cargo airlines and both importers and exporters of goods. The long runway and the strategically advantageous location of the Upington Airport make it ideal to serve the African continent. Due to this, the establishment of an Industrial Development Zone (IDZ) at the airport was proposed to (KHLM IDP 2012-2017). However, the establishment of an IDZ (Industrial Development Zone) has been replaced by the proposed establishment of a SEZ's (Special Economic Zone). New IDZ's are only established at ports and bigger manufacturing hubs.

SECTION 4: ASSESSMENT OF KEY SOCIAL ISSUES

4.1 INTRODUCTION

Section 4 identifies the key social issues identified during the SIA study. The identification of social issues was based on:

- Review of project related information, including other specialist studies;
- Interviews with key interested and affected parties;
- Experience of the authors of the area and the local conditions;
- Experience with similar projects.

In identifying the key issues the following assumption is made:

- The area identified for the proposed Mercedes Benz HSPG meets the technical criteria required for such a facility.

4.2 IDENTIFICATION OF KEY SOCIAL ISSUES

The key social issues identified during the SIA can be divided into:

- The policy and planning related issues;
- Local, site-specific issues.

The local site-specific issues can in turn be divided into construction and operational related issues. These issues are discussed and assessed below.

4.3 POLICY AND PLANNING ISSUES

As indicated in Section 1.5, legislative and policy context plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents.

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Northern Cape Provincial Growth and Development Strategy (2004-2014);
- Northern Cape Spatial Development Framework (2012);
- ZF Mcgawu District Municipality Integrated Development Plan (2007-2012);
- //Khara Hais Integrated Development Plan (2012-2017);
- //Khara Hais Local Economic Development Strategy (2010);
- //Khara Hais Spatial Development Framework (2012).

The findings of the review of the district and local municipal policy documents indicate high unemployment and poverty levels in the study area, coupled to low education and skills levels constitute the most urgent social development challenge in the study area. The proposed development has the potential to assist in addressing these challenges. The proposed development will also support private investment in the area and create opportunities for SMMEs. Based on the findings of the review the establishment of the proposed HSPG is supported.

4.4 SOCIAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment and business opportunities and opportunity for skills development and on-site training.

Potential negative impacts
- Impacts on local communities associated with the presence of construction workers;
- Increased safety and security risk for local farmers associated with presence of construction workers on the site;
- Increased risk of grass fires associated with construction-related activities;
- Impact of construction related activities, including damage to roads, safety, noise and dust;
- Potential loss of grazing land associated with construction-related activities.

4.4.1 Creation of employment and business opportunities

Based on information provided by MBSA the construction phase for the proposed HSPG will be ~ 2 years (Stage 1 ~ 14 months and Stage 2 ~ 8 months) and create approximately 200 employment opportunities. Based on information for other construction related projects ~ 15% (30) will be skilled, 30% (60) semi-skilled and 55% (110) low skilled. MBSA have indicated that on-site skills development and training will be provided for low and semi-skilled workers.

The KHLM IDP notes that unemployment in the area and creation of employment opportunities represents a key challenge. The proposed project will therefore assist to create employment opportunities. The majority of the employment opportunities that will accrue during the construction phase are frequently regarded as temporary employment. However, while these jobs may be classified as “temporary” it is worth noting that the people employed in the construction industry by its very nature rely on “temporary” jobs for their survival. In this regard “permanent” employment in the construction sector is linked to the ability of construction companies to secure a series of temporary projects over a period of time. Each development, such as the proposed development, therefore contributes to creating “permanent” employment in the construction sector.

The total wage bill for the construction phase is estimated to be in the region of R 66 million (2015 rand values). This is based on the assumption that the average monthly salary for low skilled, semi-skilled and skilled workers will be in the region of R 6 000, R 10 000 and R 50 000 respectively over a period of 2 years. Of this total R 16 million would be earned by low skilled workers, R 14.4 million by semi-skilled workers

and R 36 million by skilled workers. Low and semi-skilled workers would therefore earn ~ 45% of the total monthly wage bill. The majority of these workers will be historically disadvantaged individuals (HDIs). The majority, if not all of the low and semi-skilled workers employed during the construction phase are also likely to live in Upington and surrounds. However, based on the experience with the Abengoa Khi Solar One Solar Energy Project, located to the west of Upington, sourcing suitably qualified labour from the local area for the construction phase can be challenging. The proponent will therefore need to demonstrate a commitment to local employment targets in order to maximise the opportunities and benefits for members from the local community. Implementation of the enhancement measures listed below can enhance these opportunities.

The majority of the wage bill earned by construction workers will be spent in the local economy. A percentage of the wage bill earned by non-local workers employed during the construction phase will also be spent in the local economy. This spending will accrue to local companies and business and will represent an additional benefit for the local economy.

The capital expenditure associated with the construction of the proposed HSPG is estimated to be in the region of R 370-480 million (2015 rand values). In terms of business opportunities for local companies, expenditure during the construction phase will create business opportunities for the regional and local economy. The work associated with the construction phase will be undertaken by contractors and will include the preparation and construction of the 17 km testing track and associated components, access roads, workshops, etc. and including the potential establishment of a quarry and borrow pit on the site, for sourcing of materials for construction. Given the prominent role of the agriculture, mining and renewable energy sector in the area there are likely to be suitably qualified local contractors in Upington who can be appointed. The implementation of the enhancement measures listed below can enhance opportunities for locally based companies.

The local service sector will also benefit from the proposed development. The potential opportunities for this service sector would be linked to accommodation, catering, cleaning, transport and security, etc. associated with the construction workers employed during the construction phase. Based on the location of the site the majority of construction workers are likely to be accommodated in Upington. This will create opportunities for local hotels, B&Bs, guest farms and people who want to rent out their houses. The experience from the construction of the current Khi Solar One Solar Energy Facility confirms that there have been significant benefits for the local service sector in Upington.

The hospitality industry in the local towns is also likely to benefit from the provision of accommodation and meals for professionals (engineers, quantity surveyors, project managers, product representatives etc.) and other (non-construction) personnel involved on the project. Experience from other large construction projects indicates that the potential opportunities are not limited to on-site construction workers but also to consultants and product representatives associated with the project.

In terms of local support, the KHLM Council passed a resolution at a meeting held on 27 January 2015 supporting the proposed project. Resolution 14/06/215 notes:

- That Council pledge its support to the construction of the proposed test track by Mercedes Benz SA in the jurisdiction area of //Khara Hais, near Upington;

- That Council intervene by requesting the Department of Land and Rural Development to sign the access agreement to the proposed test site, as requested by Mercedes Benz SA;
- That Council decides on the key priority area that they would like Mercedes Benz SA to sponsor in terms of MBSA's social upliftment responsibilities and thereafter refine it to specific project(s) and for this purpose the item be referred to the Committee for Local Economic Development for recommendations to the Executive Committee with right of final decision.

The proposed project is also strongly supported by the Upington Chamber of Commerce represented by Mr McMinn. The implementation of the proposed enhancement measures listed below would also enable the establishment of the proposed HSPG to support co-operation between the public and private sectors and the development of SMMEs in the KHLM.

Table 4.1: Impact assessment of employment and business creation opportunities during the construction phase

Nature: Creation of employment and business opportunities during the construction phase		
	Without Mitigation	With Enhancement
Extent	Local – Regional (2)	Local – Regional (4)
Duration	Short Term (2)	Short Term (2)
Magnitude	Low (4)	Moderate (6)
Probability	Highly probable (4)	Definite (5)
Significance	Medium (32)	High (60)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Opportunity to up-grade and improve skills levels in the area.		
Residual impacts: Improved pool of skills and experience in the local area.		

Assessment of No-Go option

The potential employment and economic benefits associated with the construction of the proposed HSPG would be forgone. The potential opportunity costs in terms of the capital expenditure, employment, skills development, and opportunities for local business are therefore regarded as a negative.

Recommended enhancement measures

In order to enhance local employment and business opportunities associated with the construction phase the following measures should be implemented:

Employment

- Where reasonable and practical the proponent should appoint local contractors and implement a 'locals first' policy, especially for semi and low-skilled job categories. However, due to the low skills levels in the area, the majority of skilled posts are likely to be filled by people from outside the area;
- Where feasible, efforts should be made to employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria;
- Before the construction phase commences the proponent and its contractors should meet with representatives from the KHLM and the Upington Chamber of Commerce to establish the existence of a skills database for the area. If such as database exists it should be made available to the contractors appointed for the construction phase;
- Where feasible, training and skills development programmes for locals should be initiated prior to the initiation of the construction phase;
- The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.

Business

- The proponent should seek to develop a database of local companies, specifically Broad Based Black Economic Empowerment (BBBEE) companies, which qualify as potential service providers (e.g. construction companies, catering companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors. These companies should be notified of the tender process and invited to bid for project-related work;
- The proponent, in consultation with the KHLM and the Upington Chamber of Commerce, should identify strategies aimed at maximising the potential benefits for local companies associated with the project.

Note that while preference to local employees and companies is recommended, it is recognised that a competitive tender process may not guarantee the employment of local labour for the construction phase.

4.4.2 Presence of construction workers in the area

The presence of construction workers can pose a potential risk to family structures and social networks in the area. While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can affect the local community. In this regard the most significant negative impact is associated with the disruption of existing family structures and social networks. This risk is linked to the potential behaviour of male construction workers, including:

- An increase in alcohol and drug use;
- An increase in crime levels;
- An increase in teenage and unwanted pregnancies;
- An increase in prostitution; and
- An increase in sexually transmitted diseases (STDs).

The construction phase will create ~ 200 employment opportunities. The majority (85%) of this total will fall within the semi-skilled (60) and low skilled (110) category. As indicated above, the majority of low and semi-skilled workers are likely to be locally based. These workers will be from the local community and form part of the local family and social network and, as such, the potential risk associated with the presence

of construction workers is likely to be low. In terms of accommodation, the majority of the skilled workers (30) will be accommodated in B&Bs and hotels in Upington. Based on experience from other projects skilled workers do not pose a risk to family and social networks.

It is also worth that the majority of the farming operations along the Orange River use labour from outside during the harvesting season. This practice has been taking place for many years and results in the influx of thousands of workers for up to 6 months of the year. The majority of these workers are accommodated on the farms they are employed on. The influx of workers to the area is therefore not a new phenomenon.

Based on this the overall impact of construction workers on the local community with mitigation is likely to be low.

Table 4.2: Assessment of impact of construction workers on local communities

Nature: Potential impacts on family structures and social networks associated with the presence of construction workers		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Medium Term for community as a whole (3)	Medium Term for community as a whole (3)
Magnitude	Low for the community as a whole (4)	Low for community as a whole (4)
Probability	Probable (3)	Probable (3)
Significance	Low for the community as a whole (27)	Low for the community as a whole (24)
Status	Negative	Negative
Reversibility	No in case of HIV and AIDS	No in case of HIV and AIDS
Irreplaceable loss of resources?	Yes, if people contract HIV/AIDS. Human capital plays a critical role in communities that rely on farming for their livelihoods	
Can impact be mitigated?	Yes, to some degree. However, the risk cannot be eliminated	
Mitigation: See below		
Cumulative impacts: Impacts on family and community relations that may, in some cases, persist for a long period. Also in cases where unplanned / unwanted pregnancies occur or members of the community are infected by an STD, specifically HIV and or AIDS, the impacts may be permanent and have long term to permanent cumulative impacts on the affected individuals and/or their families and the community.		
Residual impacts: Community members affected by STDs etc. and associated impact on local community and burden services etc.		

Assessment of No-Go option

There is no impact as it maintains the current status quo. However, the potential positive impacts on the local economy associated with additional spending by construction workers in the local economy would be lost.

Recommended mitigation measures

The potential risks associated with construction workers can be mitigated. The aspects that should be covered include:

- Where possible, the proponent should implement a 'locals first' policy for construction jobs, specifically semi and low-skilled job categories. This will reduce the potential impact that this category of worker could have on local family and social networks;
- The proponent should consider the establishment of a Monitoring Forum (MF) for the construction phase. The MF should be established before the construction phase commences and should include key stakeholders, including representatives from the local community, local councillors, farmers, and the contractor. The role of the MF would be to monitor the construction phase and the implementation of the recommended mitigation measures. The MF should also be briefed on the potential risks to the local community associated with construction workers;
- The proponent and the appointed contractors should, in consultation with representatives from the MF, develop a Code of Conduct for the construction phase. The code should identify what types of behaviour and activities by construction workers are not permitted. Construction workers that breach the code of good conduct should be dismissed. All dismissals must comply with the South African labour legislation;
- The proponent and the contractor should implement an HIV/AIDS awareness programme for all construction workers at the outset of the construction phase;
- The movement of construction workers on and off the site should be closely managed and monitored by the contractors. In this regard the contractors should be responsible for making the necessary arrangements for transporting workers to and from site on a daily basis;
- The contractor should make necessary arrangements to enable workers from outside the area to return home over weekends and or on a regular basis during the 14 month construction phase. This would reduce the risk posed by non-local construction workers to local family structures and social networks;
- The contractor should make the necessary arrangements for ensuring that all non-local construction workers are transported back to their place of residence once the construction phase is completed. This would reduce the risk posed by non-local construction workers to local family structures and social networks;
- With the exception of security personnel, no construction workers should be permitted to stay overnight on the site.

4.4.3 Safety and security risk associated with presence of construction workers

The presence of construction workers on the site poses a potential safety and security risk for local farmers in the area. Experience with both small and large scale construction projects in rural, farming areas indicates that the risk of stock theft, poaching and house break in's increases with presence of construction workers in the area. The presence of workers in the area over a prolonged period of time also creates an opportunity for the workers to monitor operations and stock movements in the area

and pass this information onto third parties who may be involved in stock theft. The significance of the threat is however rated to be low with mitigation.

In this regard the local farmers interviewed also indicated that the site should be fenced off prior to the commencement of the construction phase (Fanie Le Roux and Phillip Coreejes pers comm. 15 July 2015).

Table 4.3: Assessment of safety and security risk posed by construction workers

Nature: Potential safety and security risk posed by presence of construction workers on site		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (30)	Low (21)
Status	Negative	Negative
Reversibility	No, if local residents are murdered or physically harmed	No, if local residents are murdered or physically harmed
Irreplaceable loss of resources?	Yes, if family member is murdered	Yes, if family member is murdered
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts: No		
Residual impacts: Include psychological effects associated with attacks or crime related events that may last for many years.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The mitigation measures that can be considered to address the potential impact include:

- The proponent should investigate the option of establishing a MF (see above) that includes local farmers and develop a Code of Conduct for construction workers. Should such a MF be required it should be established prior to commencement of the construction phase. The Code of Conduct should be signed by the proponent, the neighbouring landowners and the contractors before the contractors move onto site;
- The Code of Conduct should identify what types of behaviour and activities by construction workers are not permitted. The contractors appointed by the proponent should also ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms;

- Construction workers that breach the code of good conduct should be dismissed. All dismissals must comply with the South African labour legislation;
- The proponent should enter into an agreement with the affected landowners whereby the company will compensate for damages to farm property and disruptions to farming activities. This includes losses associated with stock theft and damage to property etc. This agreement should be finalised before the commencement of the construction phase;
- The movement of construction workers on and off the site should be closely managed and monitored by the contractors. In this regard the contractors should be responsible for ensuring that construction workers respect the rights of local farmers and do not pose safety and security threat to them and their families;
- The Environmental Management Plan (EMP) for the construction phase must outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested;
- The housing of construction workers on the site should be limited to security personnel.

4.4.4 Increased risk of grass fires

The presence of construction workers and construction-related activities on the site poses an increased risk of grass fires that in turn pose a threat to the livestock, wildlife, and farmsteads in the area. In the process, farm infrastructure may also be damaged or destroyed and human lives threatened. Any loss of grazing due to a fire would impact negatively on the affected farmer's livelihoods. The potential risk of grass fires were raised as a concern by the farm owner, Mr Human. The potential risk of grass fires are heightened by windy conditions in the area, specifically during the dry, windy winter months. The risk of fire related damage is exacerbated by the limited access to fire-fighting vehicles.

The local farmers also indicated that the establishment of the proposed HSPG had the potential to benefit local farmers by providing fire-fighting equipment and trained personnel.

Table 4.4: Assessment of impact of increased risk of grass fires

Nature: Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of grass fires		
	Without Mitigation	With Mitigation
Extent	Local (4) (Rated as 4 due to potential severity of impact on local farmers)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate due to reliance on livestock for maintaining livelihoods (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (36)	Low (24)
Status	Negative	Negative Positive (Associated with provision of fire-fighting equipment and trained personnel)
Reversibility	Yes, compensation paid for stock and losses and damage etc.	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: No, provided losses are compensated for.		
Residual impacts: Potential loss of income and impact on livelihoods and economic viability of affected farms.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
As indicated above, the proponent should enter into an agreement with the affected landowners whereby the company will compensate for damages. This includes losses associated with grass fires. In addition, the potential increased risk of grass fires can be effectively mitigated. Mitigation measures include:

- A fire break should be established around the perimeter of the testing track and or site. The fire break should be established at the outset of the construction phase;
- The contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas;
- No smoking should be permitted on the site, except in designated areas;
- The contractor should ensure that construction related activities that pose a potential fire risk is properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include clearing working areas and avoiding working in high wind conditions when the risk of fires is

greater. In this regard special care should be taken during the high risk dry, windy winter months;
- The contractor should provide adequate fire fighting equipment on-site;
- The contractor should provide fire-fighting training to selected construction staff;
- As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the fire fighting costs borne by farmers and local authorities.

In addition the proponent should ensure that they join the local fire protection agency.

4.4.5 Impacts associated with construction related activities

The impacts associated with construction related activities are linked to the transport of construction workers to and from the site and the construction of the HSPG.

There are three farmsteads located along the 40 km section of the Vastrap road that provides access to the site. These farmsteads are located between 300 and 500 m north of the road. The transport of construction workers to and from the site on a daily basis over the 2 year construction period will generate dust and safety impacts along the gravel section of the Vastrap road.

Construction materials for the facility will be sourced from two borrow pits / quarries located on the site. These areas will be closed and rehabilitated once construction of the facility has been completed. The quarrying and crushing operations will generate dust and noise impacts. Based on the information provided by Mercedes Benz the construction related activities will include:

- Hauling of material from borrow/quarry on site to construction area (6km haul route);
- Crushing and Screening plant activities at the borrow pit and quarry areas;
- Mass earthworks and pavement layers, which include moving material, cuts and fills, constructing the pavement layers of the different roads, constructing platforms for buildings, earthworks for bridge;
- Construction of V shaped drainage drains to channel water, culvert installation, shaping earth drains;
- Establishment and operation of an asphalt plant for surfacing all roads;
- Ancillary works such as guardrails, road signs, road markings, gabions, fencing etc.;
- Construction of structures, such as bridge and general buildings.

The material will be hauled inside the property for an average haul route of 6km (one way) using the tipper trucks possibly $20m^3$ trucks. The total volume of material to be moved will be 750 000 to 800 000 m^3 using $20m^3$ trucks. This will equate to ~ 30 000 truckloads hauled over a distance of 1-6 km distance on the site. The rest will be moved directly by bulldozer and or front end loaders. There will therefore be a significant movement of heavy vehicles on the site during the 2 year construction phase. The activities will however be confined to the site. Based on the findings of the SIA the potential impacts associated with the construction related activities represent the most significant negative social impact during the construction phase. These impacts can however be effectively mitigated.

Table 4.5: Assessment of the impacts associated with construction activities

Nature: Potential noise, dust and safety impacts associated with construction activities and the movement of traffic to and from the site		
	Without Mitigation	With Mitigation
Extent	Local (3)	Local-Regional (1)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (33)	Low (24)
Status	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: If damage to roads is not repaired then this will affect the farming activities in the area and result in higher maintenance costs for vehicles of local farmers and other road users. The costs will be borne by road users who were no responsible for the damage.		
Residual impacts: Reduced quality of road surfaces and impact on road users		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The potential impacts associated with construction related activities and the movement of vehicles can be effectively mitigated. The aspects that should be covered include:

- The proponent should ensure that damage to the Vastrap road is repaired on a regular basis and that the road is returned to its original state once the construction phase is completed;
- The number of vehicles used to transport workers to and from the site should be kept to a minimum. This can be achieved by using large busses as opposed to small mini bus taxis;
- All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits;
- Dust suppression measures must be implemented, such as wetting of internal gravel roads on a regular basis, and ensuring that vehicles used to transport sand and building materials on public roads are fitted with tarpaulins or covers;
- Dust suppression measures must be implemented for mining and crushing activities, such as wetting material to be crushed and or enclosing crushing plants;
- The construction phase should be phased so that the area cleared for the establishment of the HSPG is kept to a minimum. This will also allow for progressive rehabilitation of disturbed areas during the 2 year construction phase.

4.4.6 Damage to and loss of farmland

The activities associated with the construction phase and the establishment of the HSPG and associated infrastructure will result in the loss of land available for grazing. However, the property has been purchased by the proponent for the establishment of the HSPG (purchase agreement is conditional upon approval of the project). The property will therefore no longer be used for commercial farming. The current landowner, Mr Human, will, however, be permitted to graze his livestock (60-80 head of cattle) on the farm throughout the year, including during the operational phase. Suitable fences will be installed to protect the cattle and testing operations. The loss of land available for grazing can also be mitigated by careful site design of the HSPG. The impact can therefore be mitigated by minimising the footprint of the construction related activities and ensuring that disturbed areas are fully rehabilitated on completion of the construction phase. This includes the borrow pit and quarry areas. These areas will be closed and rehabilitated on completion of the construction phase.

Table 4.6: Assessment of impact on farming and farmland due to construction related activities

Nature: The activities associated with the construction phase, such as establishment of access roads, HSPG and borrow pits etc. will result in the loss of land available for grazing.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Long term-permanent if disturbed areas are not effectively rehabilitated or compensation is not paid (5)	Medium Term if damaged areas are rehabilitated (3)
Magnitude	Low (4)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Low (28)	Low (28)
Status	Negative	Negative
Reversibility	Yes, disturbed areas can be rehabilitated	Yes, disturbed areas can be rehabilitated
Irreplaceable loss of resources?	Yes, loss of farmland. However, disturbed areas can be rehabilitated	Yes, loss of farmland. However, disturbed areas can be rehabilitated
Can impact be mitigated?	Yes, however, loss of farmland cannot be avoided	Yes, however, loss of farmland cannot be avoided
Mitigation: See below		
Cumulative impacts: Overall loss of farmland could affect the livelihoods of the affected farmer, and the workers on the farm and their families. However, disturbed areas can be rehabilitated and loses would be off-set by compensation		
Residual impacts: Land would be available for farming once rehabilitation has been completed.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The potential impacts associated with damage to and loss of land available for grazing can be effectively mitigated. The aspects that should be covered include:

- The footprint associated with the construction related activities (access roads, construction platforms, workshop etc.) should be minimised;
- An Environmental Control Officer (ECO) should be appointed to monitor the construction phase;
- All areas disturbed by construction related activities, such as access roads on the site, construction platforms, workshop area etc., should be rehabilitated at the end of the construction phase;
- The implementation of a rehabilitation programme for the borrow pits and quarry area should be included in the terms of reference for the contractor/s appointed. The specifications for the rehabilitation programme should be drawn up by a suitably qualified specialist;
- The implementation of the Rehabilitation Programme should be monitored by the ECO.

4.5 SOCIAL IMPACTS ASSOCIATED WITH OPERATIONAL PHASE

The key social issues affecting the operational phase include:

Potential positive impacts
- Benefit to local hospitality and tourism sector;
- Creation of employment and business opportunities;
- Raise profile of Upington.

Potential negative impacts
- Visual impacts and associated impact on sense of place;
- Noise impacts associated with testing;
- Increased risk of grass fires;
- Impacts on road associated with transport of staff to and from the facility.

4.5.1 Benefit to local hospitality and tourism sector

The facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required. However, the key focus in terms of testing will be during the hot summer months from October to March (6 months). During this period ~ 9 test teams made up of 10-20 members will travel to Upington for a period of 2-3 weeks. This translates into ~ 1 800-3 600 days of accommodation over the summer months. The majority of the members of these teams involved in testing during the 6 month period between October and March will be from Europe. In addition, ~ 8 local staff will be employed (security staff and cleaning).

Testing during the cooler winter period from April-September is likely to be less intense. For the purposes of the SIA it is assumed that ~ 4 test teams made up of ~ 10-15 members will be based in Upington for a period of ~ 2 weeks. This translates into ~ 560-850 days of accommodation over the ad-hoc periods. The teams involved in

testing during this period will be largely made up of staff from Mercedes Benz South Africa.

The total number of accommodation days generated by the HSPG over a 12 month period will therefore be ~ 2 360-4 4 450. The demand for accommodation will extend over the operational lifespan of the project, which is anticipated to be decades. This will create significant opportunities for the local hospitality sector in Upington. Based on comments from the Upington Chamber of Commerce and KHLM the timing of the main operational phase (over the hot, summer months) also coincides with the low demand period for tourist accommodation in Upington and the Northern Cape. The majority of tourists visit the area during the cooler, winter months (May-August). The operational phase will therefore generate income for the local hospitality during the quieter, off-peak months. This represents a significant socio-economic benefit for both the owners of accommodation facilities and the staff employed. During the quieter, off-peak months staff numbers are reduced. The accommodation demand generated by the proposed HSPG will reduce the number of staff that are seasonally employed and who lose their jobs during the off season.

The Mercedes Benz personnel are also likely to visit areas of interest over weekends, such as the Augrabies Falls National Park, and undertake activities such as river rafting on the Orange River, quad biking, and wine cellar tours etc. Local tourism operators and facilities in the area and Northern Cape will therefore also benefit during the operational phase. In addition, the families of overseas personnel are also highly likely to use the opportunity to visit South Africa during the main testing period (October-March). The staff and their families will visit places of interest in the Northern Cape and other parts of South and Southern Africa. Research shows that South Africa is an established tourism destination for Germans, with 236 000 visitors from Germany visiting South Africa in 2011. The majority of these visitors travelled to South Africa during the Southern Hemisphere summer months. The 2012 Annual Tourism Report (South African Tourism Strategic Research Unit, June 2013) also notes that the average daily spend by tourists in 2012 was R 1130 and that overseas tourists spent on average 13.4 nights in South Africa. The operational phase will therefore create significant opportunities for the local hospitality sector. The operational phase will also benefit the tourism sector (local, regional and national).

Table 4.7: Assessment of benefits for the hospitality and tourism sector

Nature: Creation of opportunities for the hospitality and tourism sector associated with the operational phase		
	Without Enhancement	With Enhancement
Extent	Local and Regional (2)	Local and Regional (4)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Definite (5)
Significance	Medium (48)	High (70)
Status	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources?	No	
Can impact be enhanced?	Yes	
Enhancement: See below		
Cumulative impacts: Promotion of social and economic development and improvement in the overall well-being of the community		
Residual impacts: Investment in local economic development in the area that would benefit the community post operational phase		

Assessment of No-Go option
The potential benefits to the local and regional hospitality and tourism sector would be forgone which would represent a significant lost opportunity and a negative impact.

Recommended enhancement measures
The proponent should liaise with representatives from the KHLM and the Upington Chamber of Commerce to identify measures that meet the needs of Mercedes Benz and create benefits for the local hospitality and tourism sector.

4.5.2 Creation of employment and business opportunities

As indicated above, the facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required. However, the key focus in terms of testing will be during the hot summer months from October to March (6 months). During this period ~ 9 test teams made up of 10-20 members will travel to Upington for a period of 2-3 weeks. The majority of the members of these teams involved in testing during the summer months between October and March will be from Europe. Testing during the cooler winter period from April-September is likely to be less intense. For the purposes of the SIA it is assumed that ~ 4 test teams made up of ~ 10-15 members will be based in Upington for a period of ~ 2 weeks. The teams involved in testing during this period will be largely made up of staff from Mercedes Benz South Africa. In addition, ~ 8 local staff will be employed throughput the year (security staff and cleaning).

While the total number of direct employment opportunities for local residents associated with the operational phase is likely to be limited, the project will create a number of in-direct employment and business opportunities. In addition to the business and employment opportunities associated with the hospitality and tourism sector (see above), the operational phase will also create opportunities for local catering, cleaning, transport and maintenance companies.

The facility will be operated mainly during the summer months and possible other adhoc periods as and when required. During the main testing period (October-March) ~ 9 test teams made up of 10-20 members will work at the HSPG at different times. As indicated above, there will be times when there is overlap between teams. For the purposes of the SIA it is therefore assumed that 30-40 Mercedes Benz staff will be based in Upington over ad-hoc periods. These personnel will need to be transported to and from the site on a daily basis. On average 10 cars will be brought to the HSPG for testing by each team. The test drivers are likely to use the non-prototype test cars for travelling to and from Upington. Each car can transport 2-3 people to the site and back each day. The need for a regular shuttle service is therefore not foreseen. However, daily transport will need to be provided for security and cleaning staff. On-site catering will also need to be provided for personnel. Providing these services will create opportunities for businesses in Upington.

Each test team will also bring its own test cars workshop equipment. The cars and workshop equipment will be flown in from Germany and transported to the site by trucks. It is anticipated that 2-4 trucks will be required for each test team. The trucks will be hired locally which will create an opportunity for a local service provider. The high speed testing track and the associated security fencing etc. will also need to be maintained. This will also create opportunities for local engineering contactors and service providers.

The same sort of services will be required for the April-September testing period. However, the demand will be less given the reduced number of test teams (4 vs. 9).

In addition, a percentage of the monthly wage bill earned by the Mercedes Benz personnel involved in the testing will also be spent in the regional and local economy. This benefit will extend over the entire year (12 months). The benefits to the local and regional economy will extend over the operational lifespan of the project, which is anticipated to be decades.

While the total number of direct employment opportunities for local residents associated with the operational phase is likely to be limited at the outset of the project the number can be increased by implementing a training and skills development programme. In this regard the representatives from the Upington Chamber of Commerce indicated that the proponent should investigate the opportunity to linking up with one of the local technical training facilities in Upington and identifying potential candidates for training and skills development.

Table 4.8: Assessment of employment and business opportunities

Nature: Creation of employment and business opportunities associated with the operational phase		
	Without Enhancement	With Enhancement
Extent	Local and Regional (2)	Local and Regional (4)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Definite (5)
Significance	Medium (48)	High (70)
Status	Positive	Positive
Reversibility	N/A	
Irreplaceable loss of resources?	No	
Can impact be enhanced?	Yes	
Enhancement: See below		
Cumulative impacts: Creation of additional employment, business and economic opportunities in the area		
Residual impacts: Overall benefit for the local economy		

Assessment of No-Go option

The potential employment and business opportunities would be forgone which would represent a significant lost opportunity and a negative impact.

Recommended enhancement measures

The enhancement measures listed in Section 4.4.1, i.e. to enhance local employment and business opportunities during the construction phase, also apply to the operational phase. In addition, the proponent should investigate the option of implementing a training and skills development programme for locals during operational phase. The aim of the programme should be to create opportunities for locals to be employed during the operational phase of the project.

4.5.3 Investment in local development and raise profile of Upington

Council Resolution 14/06/215 passed at a meeting held on 27 January 2015 notes that the Council will identify a key priority area that they would like Mercedes Benz SA to sponsor in terms of MBSA's social upliftment responsibilities. The project will therefore create an opportunity for MBSA to invest in local community development projects in the KHLM as part of their corporate social development programme.

The representatives from the KHLM and Upington Chamber of Commerce also indicated that the establishment of the proposed Mercedes Benz HSPG would raise the profile of Upington and, in so doing, benefit the town and local economy. However, the town would continue to function in the absence to the proposed development. The proposed development is therefore not critical to Upington and the local economy.

Table 4.9: Investment in local development and raise profile of Upington

Nature: Raise profile of Upington and benefit town		
	Without Mitigation[10]	With Mitigation[11]
Extent	Local and Regional (2)	Local and Regional (2)
Duration	Long term (4)	Long term (4)
Magnitude	Low (4)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (30)	Medium (30)
Status	Negative	Positive
Reversibility	N/A	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Raise profile of Upington and attract visitors and business to the area		
Residual impacts: Not applicable after decommissioning		

Assessment of No-Go option

The potential benefits associated with investing in local development and raising the profile of the town, such as attracting visitors and investment, would be forgone which would represent a lost opportunity.

Recommended mitigation measures

The establishment of the proposed facility represents an enhancement measure in itself. In order to maximise the benefits of the proposed project the proponent should liaise with the KHLM and Upington Chamber of Commerce to identify ways in which the project can be used to market and raise the profile of Upington.

4.5.4 Visual impact and impact on sense of place

The proposed HSPG is adjacent to the Vastrap gravel road, ~ 40 km north-west of Upington. The Vastrap road joins a north–south trending gravel road that links the R31 in the north and the N14 to the south. There are no major settlements located along the Vastrap road. The dominant land use in the area is sheep and cattle farming. The topography on the site consists of a relatively flat middle section that is flanked on the west and east by s series of low, red dune ridges in a north westerly-south-easterly direction.

The closest farm houses to the site are located ~ 3-4 km from the site, namely on the farm owned by Mr Innes Burger, to the north of the site and the farm owned by Mr Phillip Coreejes, to the east of the site. The proposed HSPG is screened from the

[10] Assumes that HSPG would not be established (current status quo)
[11] Assumes that HSPG would be established

adjacent properties by the low, red dune ridges that flank the site. The proposed HSPG will therefore not be visible from these farm houses.

Components of the proposed HSPG will be visible from the entrance to the site from the Vastrap Road. However, the visual impact is likely to be minimal. In addition, the traffic volumes on the Vastrap Road are low. The significance of the overall visual impact and impact on the areas rural sense of place is therefore likely to be low.

Table 4.10: Visual impact and impact on sense of place

Nature: Visual impact associated with the proposed facility and the potential impact on the areas rural sense of place.		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Medium (24)	Low (21)
Status	Negative	Negative
Reversibility	Yes, facility can be decommissioned and removed.	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Limited potential impact on current rural sense of place		
Residual impacts: Limited residual impact on areas rural sense of place		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The design should incorporate measures aimed at screening the site from the Vastrap Road.

4.5.5 Noise impacts associated with high speed testing

As indicated above, the closest farm houses to the site are located ~ 3-4 km from the site, namely on the farm owned by Mr. Innes Burger, to the north of the site, and the farm owned by Mr. Phillip Coreejes, to the east of the site. Mr. Coreejes indicated that noise associated with high speed testing was a potential issue of concern. Mr. Coreejes also indicated that he was introducing game onto his property and was concerned about the impact of noise on these animals. The other farmers interviewed indicated that in their experience livestock and wild game animals adapted to new noise sources well (Mr. Human and Mr. le Roux, pers comm, 15 July 2015).

While none of the adjacent land owners live on their farms on a permanent basis they do visit the properties on a weekly basis. They also spend weekends on the farms. Noise generated from high speed testing over weekends therefore has the potential to impact on the current quiet, tranquil environment. Based on information provided by Mercedes Benz testing will take place from Monday to Saturday, between 8am to 5pm. There will be no testing at night. Testing on Sundays will only take place occasionally.

The proposed HSPG is screened from the adjacent properties by the low, red dune ridges that flank the site. These ridges will assist to reduce the noise generated by high speed testing. A Noise Impact Assessment is being undertaken as part of the EIA process. As indicated below, the mitigation measures contained in the Noise Assessment should be implemented.

Table 4.11: Noise impacts associated with high speed testing

Nature: Potential noise related impacts associated with high speed testing		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Short Term (2) (Will be confined to 6 months of the year)	Short Term (2)
Magnitude	Low (4)	Low (4)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	Medium (32)	Low (28)
Status	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Limited		
Residual impacts: None		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The recommendation of the Noise Impact Assessment should be implemented. In addition, testing at night and over weekends and public holidays should be avoided where possible.

4.5.6 Increased risk of grass fires

The local farmers interviewed indicated that the high speed testing of vehicles may increase the potential risk of fires occurring (crashes, staff smoking on site etc.). As in the case during the construction phase, fires would pose a threat to the livestock, wildlife, and farmsteads in the area. Any loss of grazing due to a fire would also impact

negatively on the affected farmer's livelihoods. However, with effective mitigation the risk of fires is likely to be low.

The local farmers also indicated that the establishment of the proposed HSPG had the potential to benefit local farmers by providing fire-fighting equipment and trained personnel.

Table 4.12: Assessment of impact of increased risk of grass fires

Nature: Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased risk of grass fires		
	Without Mitigation	With Mitigation
Extent	Local (4) (Rated as 4 due to potential severity of impact on local farmers)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate due to reliance on livestock for maintaining livelihoods (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (36)	Low (24)
Status	Negative	Negative Positive (Associated with provision of fire-fighting equipment and trained personnel)
Reversibility	Yes, compensation paid for stock and losses and damage etc.	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: No, provided losses are compensated for.		
Residual impacts: Potential loss of income and impact on livelihoods and economic viability of affected farms.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
As indicated above, the proponent should enter into an agreement with the affected landowners whereby the company will compensate for damages. This includes losses associated with veld fires. In addition, the potential increased risk of veld fires can be effectively mitigated. Mitigation measures include:

- A fire break should be established around the perimeter of the testing track and or site. The fire break should be established at the outset of the construction phase;

- No open fires and or smoking should be permitted on the site, except in designated areas;
- Operational related activities that pose a potential fire risk must be properly managed and confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater;
- The proponent should provide adequate fire fighting equipment on-site. This equipment should be made available to fight fires on adjacent farms if and when required;
- The proponent should provide fire-fighting training to selected staff. These staff should be made available to assist farmers to fight fires on adjacent farms if and when required;
- In the advent of a fire being caused by operations on the site, the proponent must compensate farmers for any damage caused to their farms. The proponent should also compensate the fire fighting costs borne by farmers and local authorities.

In addition the proponent should join the local fire protection agency.

4.5.7 Impacts associated with operational phase traffic

The movement of traffic along the Vastrap road will generate dust impacts and also impact on the quality of the road surface. The facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required.. During this period ~ 9 test teams made up of 10-20 members will work at the HSPG at different times. As indicated above, there will be times when there is overlap between teams. Usually a test team stays 2-3 weeks and each test team will have its own test cars and workshop equipment, which will be flown in from Germany and transported to the site by trucks. It is anticipated that 2-4 trucks will be required for each test team. The trucks will be hired from a local service provider. There will therefore be periodic truck movement along the Vastrap Road every 2-3 weeks.

In addition, as indicated above, ~ 10 cars will be brought to the HSPG for testing by each team. The test drivers are likely to use the non-prototype test cars for travelling to and from Upington. Each car can transport 2-3 people to the site and back each day. Daily transport will also be provided from security and cleaning staff and catering. The total number of round trips per day will therefore be limited ~ 10-12 trips. The majority of these trips will be associated with normal light sedans. The potential impact on the road surface is therefore likely to be limited.

Testing during the April-September testing period will less intense and involve ~ 4 testing teams as opposed to 9. The traffic generated by during this period will therefore be approximately 50% less than the main testing period.

The findings of the SIA indicate that there are only three farmsteads located along the 40 km section of the Vastrap road that provides access to the site. The impacts associated with traffic during the operational phase are therefore likely to be limited.

The local farmers interviewed also indicated that the establishment of the proposed HSPG has the potential to create an opportunity for the road to be maintained on more regular basis. In this regard Mercedes Benz South Africa is likely to be in a better position to request the District and or Provincial Road Authorities to maintain the road than the local farmers in the area.

Table 4.13: Assessment of the impacts associated with operational phase traffic

Nature: Potential noise, dust and safety impacts associated with movement of operational phase traffic to and from the site		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Short (2) (Limited to 6 months of the year)	Short (2)
Magnitude	Low (4)	Low (4)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	Medium (32)	Low (28)
Status	Negative	Negative Positive (Potential to for road to be maintained on more regular basis)
Reversibility	Yes	
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: If damage to roads is not repaired then this will affect the farming activities in the area and result in higher maintenance costs for vehicles of local farmers and other road users. The costs will be borne by road users who were no responsible for the damage.		
Residual impacts: Reduced quality of road surfaces and impact on road users		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
- The proponent should liaise with the District and or Provincial Road Authorities to maintain the road on a regular basis;
- All vehicles must be road-worthy and drivers must be informed of potential road safety issues, and need for strict speed limits.

4.6 CUMULATIVE IMPACT ON SENSE OF PLACE

The Scottish Natural Heritage (2005) describes a range of potential cumulative landscape impacts associated with wind farms on landscapes. These issues raised in these guidelines as to what defines a cumulative impact are also regarded as pertinent to other facilities, specifically given that the key issue of concern is likely to relate to the impact on rural, undeveloped landscapes. The relevant issues raised in the Scottish Natural Heritage include:

- Combined visibility (whether two or more facilities will be visible from one location);
- Sequential visibility (e.g. the effect of seeing two or more solar facilities along a single journey, e.g. road or walking trail);
- Perceived or actual change in land use across a character type or region;
- Loss of a characteristic element (e.g. viewing type or feature) across a character type caused by developments across that character type.

The guidelines also note that cumulative impacts need to be considered in relation to dynamic as well as static viewpoints. The experience of driving along a tourist road, for example, needs to be considered as a dynamic sequence of views and visual impacts, not just as the cumulative impact of several developments on one location. The viewer may only see one facility at a time, but if each successive stretch of the road is dominated by views of such a facility, then that can be argued to be a cumulative visual impact (National Wind Farm Development Guidelines, DRAFT - July 2010). It is reasonable to assume that these issues will also apply to other facilities, such as the proposed HSPG.

As indicated above, the significance of the overall visual impact and impact of the proposed HSPG on the areas rural sense of place is likely to be low. There are no similar facilities located in the vicinity of the site. The potential for cumulative visual impacts on the areas sense of place and landscape character is therefore regarded as negligible.

Table 4.14: Cumulative impacts on sense of place and the landscape

Nature: Visual impacts associated with the establishment of more than large facility and the potential impact on the areas rural sense of place and character of the landscape.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Long term (4)	Long term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Low (24)	Low (24)
Status	Negative	Negative
Reversibility	Yes, facility can be removed.	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Residual impacts: Not applicable as impact is removed		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The recommendations contained in the VIA should be implemented.

4.7 ASSESSMENT OF DECOMMISSIONING PHASE

Typically, the major social impacts associated with the decommissioning phase are linked to the loss of jobs and associated income. This has implications for the households who are directly affected, the communities within which they live, and the relevant local authorities. In the event of closure and decommissioning of the proposed HSPG the social impacts will be limited due to the relatively small number of locally based permanent employees (8) affected. The potential impacts associated with the decommissioning phase can also be effectively managed with the implementation of a retrenchment and downscaling programme. With mitigation, the impacts are assessed to be Low (negative). The decommissioning phase will also involve the disassembly of the infrastructure associated with the HSPG and rehabilitation of the site. The decommissioning phase will therefore also create additional, construction type jobs.

Table 4.15: Social impacts associated with decommissioning

Nature: Social impacts associated with retrenchment including loss of jobs, and source of income		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Short Term (2)	Very Short Term (1)
Magnitude	Low (4)	Minor (2)
Probability	Probable (3)	Highly Probable (4)
Significance	Low (24)	Low (16)
Status	Negative	Negative-Neutral
Reversibility	Yes, assumes retrenchment packages are paid to all affected employees	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Loss of jobs and associated loss of income etc. can impact on the local economy and other businesses. However, decommissioning can also create short term, temporary employment opportunities associated with dismantling etc.		
Residual impacts: See cumulative impacts		

Recommended mitigation measures

The following mitigation measures are recommended:

- The proponent should ensure that retrenchment packages are provided for all staff who stand to lose their jobs when the plant is decommissioned;
- All structures and infrastructure associated with the proposed facility should be dismantled and transported off-site on decommissioning;
- The proponent should ensure that all disturbed areas are rehabilitated and the area is returned to grazing.

4.8 ASSESSMENT OF NO-DEVELOPMENT OPTION

The employment opportunities associated with the construction and operational phase, as well as the benefits for the local and regional hospitality and tourism sector, would be forgone. The No-Development option would therefore represent a lost opportunity for Upington and the local economy. This would represent a negative social cost.

Table 4.16: Assessment of no-development option

Nature: The no-development option would result in a lost opportunity for Upington and the local economy		
	Without Mitigation	With Enhancement[12]
Extent	Local (4)	Local (4)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Definite (5)
Significance	High (70)	High (70)
Status	Negative	Positive
Reversibility	Yes	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Opportunities for the local tourism sector and economy		
Residual impacts: Not applicable		

Recommended enhancement measures

The development of the proposed HSPG would represent enhancement measure.

[12] Assumes establishment of HSPG

SECTION 5: KEY FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

Section 5 lists the key findings of the study and recommendations. These findings are based on:

- A review of key planning and policy documents pertaining to the area;
- Semi-structured interviews with interested and affected parties;
- A review of social and economic issues associated with similar developments;
- A review of relevant literature on social and economic impacts;
- The experience of the author with the study area based on assessments undertaken for solar energy projects in the area.

5.2 SUMMARY OF KEY FINDINGS

The key findings of the study are summarised under the following sections:

- Fit with policy and planning;
- Construction phase impacts;
- Operational phase impacts;
- Cumulative Impacts;
- Decommissioning phase impacts;
- No-development option.

5.2.1 Policy and planning issues

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Northern Cape Provincial Growth and Development Strategy (2004-2014);
- Northern Cape Spatial Development Framework (2012);
- ZF Mcgawu District Municipality Integrated Development Plan (2007-2012);
- //Khara Hais Integrated Development Plan (2012-2017);
- //Khara Hais Local Economic Development Strategy (2010);
- //Khara Hais Spatial Development Framework (2012).

The findings of the review of the district and local municipal policy documents indicate that high unemployment and poverty levels in the study area, coupled to low education and skills levels constitute the most urgent social development challenge in the study area. The proposed development has the potential to assist in addressing these challenges. The proposed development will also support private investment in the area and create opportunities for SMMEs. Based on the findings of the review the establishment of the proposed HSPG is supported.

5.2.2 Construction phase

Based on information from MBSA the construction phase for the proposed HSPG is expected to extend over a period of ~ 2 years and create approximately 200 employment opportunities. Of this total ~ 15% (30) will be skilled, 30% (60) semi-skilled and 55% (110) low skilled. The majority of the low and semi-skilled workers will be historically disadvantaged individuals (HDIs). The majority, if not all, of the low and semi-skilled workers employed during the construction phase are also likely to live in Upington and surrounds. The //Khara Hais Local Municipality (KHLM) IDP notes that unemployment in the area and creation of employment opportunities represents a key challenge. The proposed project will therefore assist to create employment opportunities.

The total wage bill for the construction phase is estimated to be in the region of R 66 million (2015 rand values)[13]. Of this total R 15.8 million would be earned by low skilled workers, R 14.4 million by semi-skilled workers and R 36 million by skilled workers. Low and semi-skilled workers would therefore earn ~ 45% of the total monthly wage bill. The majority of the wage bill earned by construction workers will be spent in the local economy. A percentage of the wage bill earned by non-local workers employed during the construction phase will also be spent in the local economy. This spending will accrue to local companies and business and will represent an additional benefit for the local economy.

The capital expenditure associated with the construction of the proposed HSPG is estimated to be in the region of R 370-480 million (2015 rand values). In terms of business opportunities for local companies, expenditure during the construction phase will create business opportunities for the regional and local economy. The work associated with the construction phase will include the preparation and construction of the 17 km testing track and associated components, including potential establishment of a quarry and borrow pit on the site, access roads, workshops etc. Given the prominent role of the agriculture, mining and renewable energy sector in the area there are likely to be suitably qualified local contractors in Upington who can be appointed.

The local service sector will also benefit from the proposed development. The potential opportunities for this service sector would be linked to accommodation, catering, cleaning, transport and security, etc. associated with the construction workers employed during the construction phase.

In terms of local support, the KHLM Council passed a resolution at a meeting held on 27 January 2015 supporting the proposed project. Resolution 14/06/215 notes:

- That Council pledge its support to the construction of the proposed test track by Mercedes Benz SA in the jurisdiction area of //Khara Hais, near Upington;
- That Council intervene by requesting the Department of Land and Rural Development to sign the access agreement to the proposed test site, as requested by Mercedes Benz SA;

[13] This is based on the assumption that the average monthly salary for low skilled, semi-skilled and skilled workers will be in the region of R 6 000, R 10 000 and R 50 000 respectively over a period of 2 years.

The proposed project is also strongly supported by the Upington Chamber of Commerce represented by Mr McMinn. The implementation of the proposed enhancement measures listed in the report would also enable the establishment of the proposed HSPG to support co-operation between the public and private sectors and the development of SMMEs in the KHLM.

Potential negative impacts

- Impacts on local communities associated with the presence of construction workers;
- Increased safety and security risk for local farmers associated with presence of construction workers on the site;
- Increased risk of grass fires associated with construction-related activities;
- Impact of construction related activities, including damage to roads, safety, noise and dust; and
- Potential loss of grazing land associated with construction-related activities.

Based on the findings of the SIA the significance, with mitigation, of all of the potential negative impacts associated with the construction phase was rated as Low Negative. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. In addition, given that the majority of the low and semi-skilled construction workers can be sourced from the local area the potential risk at a community level to local family structures and social networks is regarded as Low negative significance.

Table 1 summarises the significance of the impacts associated with the construction phase.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole)	Low (Negative impact for community as a whole)
Potential safety threat to farmers due to presence of construction workers	Medium (Negative impact)	Low (Negative impact)
Risk of grass fires	Medium (Negative impact)	Low (Negative impact) Positive (Associated with provision of fire-fighting equipment and trained personnel)
Impact of heavy vehicles and construction activities	Medium (Negative impact)	Low (Negative impact)
Loss of farmland	Low (Negative impact)	Low (Negative impact)

5.2.3 Operational phase

The key social issues affecting the operational phase include:

Potential positive impacts
- Benefit to local hospitality and tourism sector;
- Creation of employment and business opportunities; and
- Invest in local development initiatives and raise profile of Upington.

Benefit to local hospitality and tourism sector
The facility will be operated mainly during the summer months and possible other ad-hoc periods as and when required. However, the key focus in terms of testing will be during the hot summer months from October to March (6 months). During this period ~ 9 test teams made up of 10-20 members will travel to Upington for a period of 2-3 weeks. This translates into ~ 1 800-3 600 days of accommodation over the summer months. The majority of the members of these teams involved in testing during the 6 month period between October and March will be from Europe. In addition, ~ 8 local staff will be employed (security staff and cleaning).

Testing during the cooler winter period from April-September is likely to be less intense. For the purposes of the SIA it is assumed that ~ 4 test teams made up of ~ 10-15 members will be based in Upington for a period of ~ 2 weeks. This translates into ~ 560-850 days of accommodation over the ad-hoc periods. The teams involved in testing during this period will be largely made up of staff from Mercedes Benz South Africa.

The total number of accommodation days generated by the HSPG over a 12 month period will therefore be ~ 2 360-4 4 450. The demand for accommodation will extend over the operational lifespan of the project, which is anticipated to be decades. This will create significant opportunities for the local hospitality sector in Upington. The main operational phase (over the hot, summer months from October-March) also coincides with the low demand period for tourist accommodation in Upington and the Northern Cape. The component of the operational phase will therefore generate income for the local hospitality during the quieter, off-peak months. This represents a significant socio-economic benefit for both the owners of accommodation facilities and the staff employed. During the quieter, off-peak months staff numbers are reduced. The accommodation demand generated by the proposed HSPG will reduce the number of staff that are seasonally employed and who lose their jobs during the off season.

The Mercedes Benz personnel involved in testing are also likely to visit areas of interest over weekends, such as the Augrabies Falls National Park, and undertake activities such as river rafting on the Orange River, quad biking, and wine cellar tours etc. Local tourism operators and facilities in the area and Northern Cape will therefore also benefit during the operational phase. In addition, the families of overseas personnel are also highly likely to use the opportunity to visit South Africa during the October-March testing period. The operational phase will therefore create significant opportunities for the local hospitality sector. The operational phase will also benefit the tourism sector (local, regional and national).

Employment and business opportunities
In addition to the business and employment opportunities associated with the hospitality and tourism sector (see above), the operational phase will create

opportunities for local catering, cleaning, transport and maintenance companies. This includes transport of equipment and vehicles to the site, on-site catering and cleaning etc. Providing these services will create opportunities for businesses in Upington. In addition, the HSPG and the associated security fencing etc. will need to be maintained. This will also create opportunities for local engineering contactors and service providers. A percentage of the monthly wage bill earned by the Mercedes Benz personnel involved in the testing will also be spent in the regional and local economy. This benefit will extend over the entire year. The benefits to the local and regional economy will extend over the operational lifespan of the project, which is anticipated to be decades.

Investment in local initiatives

Council Resolution 14/06/215 passed at a meeting held on 27 January 2015 notes that the Council will identify a key priority area that they would like Mercedes Benz SA to sponsor in terms of MBSA's social upliftment responsibilities. The project will therefore create an opportunity for MBSA to invest in local community development projects in the KHLM as part of their corporate social development programme.

Potential negative impacts

- Visual impacts and associated impact on sense of place;
- Noise impacts associated with testing;
- Increased risk of grass fires; and
- Impacts on road associated with transport of staff to and from the facility.

Based on the findings of the SIA the significance, with mitigation, of the all of the potential negative impacts associated with the operational phase was rated as Low Negative. All of the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented.

The significance of the impacts associated with the operational phase are summarised in Table 2.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Benefit to local hospitality and tourism sector	Medium (Positive impact)	High Positive impact)
Creation of employment and business opportunities	Medium (Positive impact)	High (Positive impact)
Invest in local development initiatives and raise profile of Upington	Medium[14] (Negative impact)	Medium[15] (Positive impact)
Visual impacts and associated impact on sense of place	Medium (Negative impact)	Low (Negative impact)
Noise impacts associated with testing	Medium (Negative impact)	Low (Negative impact)
Increased risk of grass fires	Medium (Negative impact)	Low (Negative impact)

[14] Assumes that proposed HSPG is not developed
[15] Assumes that proposed HSPG is developed

		Positive (Associated with provision of fire-fighting equipment and trained personnel)
Impacts on road associated with transport of staff to and from the facility	Medium (Negative impact)	Low (Negative impact) Positive (Associated with improved maintenance of road)

5.2.4 Assessment of cumulative impacts

The significance of the overall visual impact and impact on of the proposed HSPG on the areas rural sense of place is likely to be low. There are no similar facilities located in the vicinity of the site. The potential for cumulative visual impacts on the areas sense of place and landscape character is therefore regarded as negligible. The significance of the potential cumulative impact is rated as Low Negative.

5.2.5 Assessment of no-development option

The employment opportunities associated with the construction and operational phase, as well as the benefits for the local and regional hospitality and tourism sector, would be forgone. The No-Development option would therefore represent a lost opportunity for Upington and the local economy. The significance is rated as a High Negative social cost.

5.2.6 Decommissioning phase

Given the relatively small number of people employed during the operational phase (~ 8), the social impact on the local community associated with decommissioning will be low. In addition, the potential impacts can be effectively managed with the implementation of a retrenchment and downscaling programme. With mitigation, the impacts are assessed to be Low Negative.

5.3 CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the establishment of the proposed HSPG will create employment and business opportunities for locals during both the construction and operational phases of the project. The enhancement measures listed in the report should be implemented in order to enhance these benefits. The operational phase will also create significant benefits for the local hospitality, tourism and business sector which will extend over the entire year (12 months). These benefits will extend over the operational lifespan of the project, which is anticipated to be decades. The development will also create an opportunity for MBSA to invest in local community development programmes as part of it corporate social sustainability programme.

The establishment of the proposed HSPG is therefore supported by the findings of the SIA.

5.4 IMPACT STATEMENT

The findings of the SIA undertaken for the proposed HSPG indicate that the development will create employment and business opportunities for locals during both the construction and operational phase of the project. The operational phase will also create significant benefits for the local hospitality and tourism sector which will extend over the entire year (12 months). These benefits will extend over the operational lifespan of the project, which is anticipated to be decades.

It is therefore recommended that the establishment of the proposed HSPG be supported, subject to the implementation of the recommended enhancement and mitigation measures contained in the report.

ANNEXURE A

INTERVIEWS

- Mr Albert Human, landowner, 14/07/2015;
- Mr Ferdie Botha. Northern Cape IDC, Upington Chamber of Commerce member, 14/07/2015;
- Mr Kurst Drewes, Abengoa, Upington Chamber of Commerce member, 14/07/2015;
- Mr Anthony McMin, Chairperson Upington Chamber of Commerce, 14/07/2015;
- Mr Marius Pretorius, BVi Consulting Engineers, Upington Chamber of Commerce member, 14/07/2015
- Mr Phillip Coreejes, adjacent landowner, 15/07/2015;
- Mr Fanie Le Roux, adjacent landowner, 15/07/2015;
- Ms Vanessa van Wyk, KHLM LED Department, 16/07/2015;
- Ms Benita Honey, KHLM IDP Department, 16/07/2015;
- Mr R Makatong, KHLM IDP Department, 16/07/2015;
- Mr PJ Viviers, KHLM Department of Development and Planning, 16/07/2015;
- Mr Johan Roos, KHLM Department of Building Control, 16/07/2015.

Attempts were also made to contact the adjacent landowners, Mr Sibert Myburg and Mr Innes Burger. However, they did not return calls or messages left on their cell phones.

REFERENCES

- Northern Cape Provincial Growth and Development Strategy (2004-2014);
- Northern Cape Spatial Development Framework (2012);
- ZF Mcgawu District Municipality Integrated Development Plan (2007-2012);
- //Khara Hais Integrated Development Plan (2012-2017);
- //Khara Hais Local Economic Development Strategy (2010);
- //Khara Hais Spatial Development Framework (2012).

Internet sources

- www.demarcation.org.za (Municipal and Ward demarcations)
- Google Earth 2012.

ANNEXURE B: ASSESSMENT METHODOLOGY

METHODOLOGY FOR THE ASSESSMENT OF POTENTIAL IMPACTS

Direct, indirect and cumulative impacts of the above issues, as well as all other issues identified will be assessed in terms of the following criteria:

- The nature, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The extent, where it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score between 1 and 5 will be assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- The duration, where it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5.
- The magnitude, quantified on a scale from 0-10, where a score is assigned:
  - 0 is small and will have no effect on the environment;
  - 2 is minor and will not result in an impact on processes;
  - 4 is low and will cause a slight impact on processes;
  - 6 is moderate and will result in processes continuing but in a modified way;
  - 8 is high (processes are altered to the extent that they temporarily cease); and
  - 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The probability *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale, and a score assigned:
  - Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - Assigned a score of 3 is probable (distinct possibility);
  - Assigned a score of 4 is highly probable (most likely); and
  - Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- The significance, which shall be determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- The status, which will be described as either positive, negative or neutral.
- The *degree* to which the impact can be *reversed*.
- The *degree* to which the impact may cause *irreplaceable loss of reso*urces.
- The *degree* to which the impact can be *mitigated.*

The significance is determined by combining the criteria in the following formula:

S=(E+D+M)P; where

S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

The significance weightings for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

ANNEXURE C: BACKGROUND INFORMATION DOCUMENT

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BACKGROUND INFORMATION DOCUMENT

MERCEDES-BENZ HIGH SPEED PROVING GROUND

UPINGTON, NORTHERN CAPE PROVINCE

JULY 2015

INTRODUCTION

Mercedes-Benz South Africa (Pty) Ltd proposes to develop a High Speed Proving Ground for vehicle testing for the Mercedes-Benz Research and Development Team in the Northern Cape Province of South Africa. The site is located on property Steenkamps Pan, Farm no. 419 Portion 6 in the //Kara Hais Municipality, approximately 38 km north-east of Upington (Figure 1). WSP Environmental (Pty) Ltd has been appointed by the General Planner IngenAix GmbH on behalf of Mercedes Benz South Africa (MSBA to manage the Environmental Impact Assessment (EIA) process for the proposed project. Tony Barbour has been appointed by WSP to undertake a specialist Social Impact Assessment (SIA) as part of the EIA process. The aim of the Background Information Document (BID) is to:

- Provide key stakeholders with information on the proposed development;
- Provide information on the aim of the SIA.

PROJECT DESCRIPTION

The High Speed Proving Ground will be used by the Mercedes-Benz Research and Development Team to test vehicles under high temperature conditions. The dedicated testing track will consist of a high speed oval track ~ 17 km in length and a shorter handling track ~ 5.5 km in length (Figure 2). In addition, the facility will be equipped with state-of-the art workshops and monitoring facilities that will enable Mercedes-Benz to test their vehicles more efficiently. The facility will operate mainly during the summer months and possible other adhoc periods as and when required. The

establishment of the facility will enable Mercedes Benz to undertake testing of vehicles under hot climate conditions in parallel to the European Winter Season under specified technical conditions in terms of testing modules.

Construction Phase

The construction phase will extend over a period of ~ 2 years (Stage 1 of Construction estimated to be ~ 14 months and Stage 2 of Construction estimated to be ~ 8 months)[16] and create a large number of skilled, semi-skilled and low skilled opportunities. MBSA have indicated that on-site skills development and training will be provided for low and semi-skilled workers. The construction phase will therefore create opportunities for local contractors and suppliers in Upington and the Northern Cape.

Construction materials for the facility may be sourced from two borrow pits / quarries located on the site (Figure 2). These areas will be closed and rehabilitated once construction of the facility has been completed.

Operational Phase

The facility will be operate mainly during the summer months and possible other adhoc periods as and when required.[17]. The facility will be for the exclusive use of Mercedes-Benz Mercedes Benz anticipates that international personnel as well as national South African citizens will be employed to render services on the site. A substantial number of the international staff will be accommodated in Upington during the summer months The operational phase will therefor create opportunities for the local hospitality sector in Upington. The operational phase will also create opportunities for local companies, such as cleaning, security, catering and transport companies (catering for and transport of staff to and from the site on a daily basis etc.).

AIM OF THE SIA

The objectives of the SIA are to provide the EIA with a detailed description of the local socio-economic conditions affected by the proposed project and to identify the potential social opportunities and risks associated with the project. Is so doing the SIA will seek to identify measures that can be implemented to avoid and or minimize the potential social risks. The SIA will also identify measures to enhance the potential social benefits associated with the proposed project.

Tony Barbour
Environmental Consultant
July 2015

[16] This was increased to 2 years based in information provided by MBSA
[17] This was increased to 12 months based on information provided by MBSA

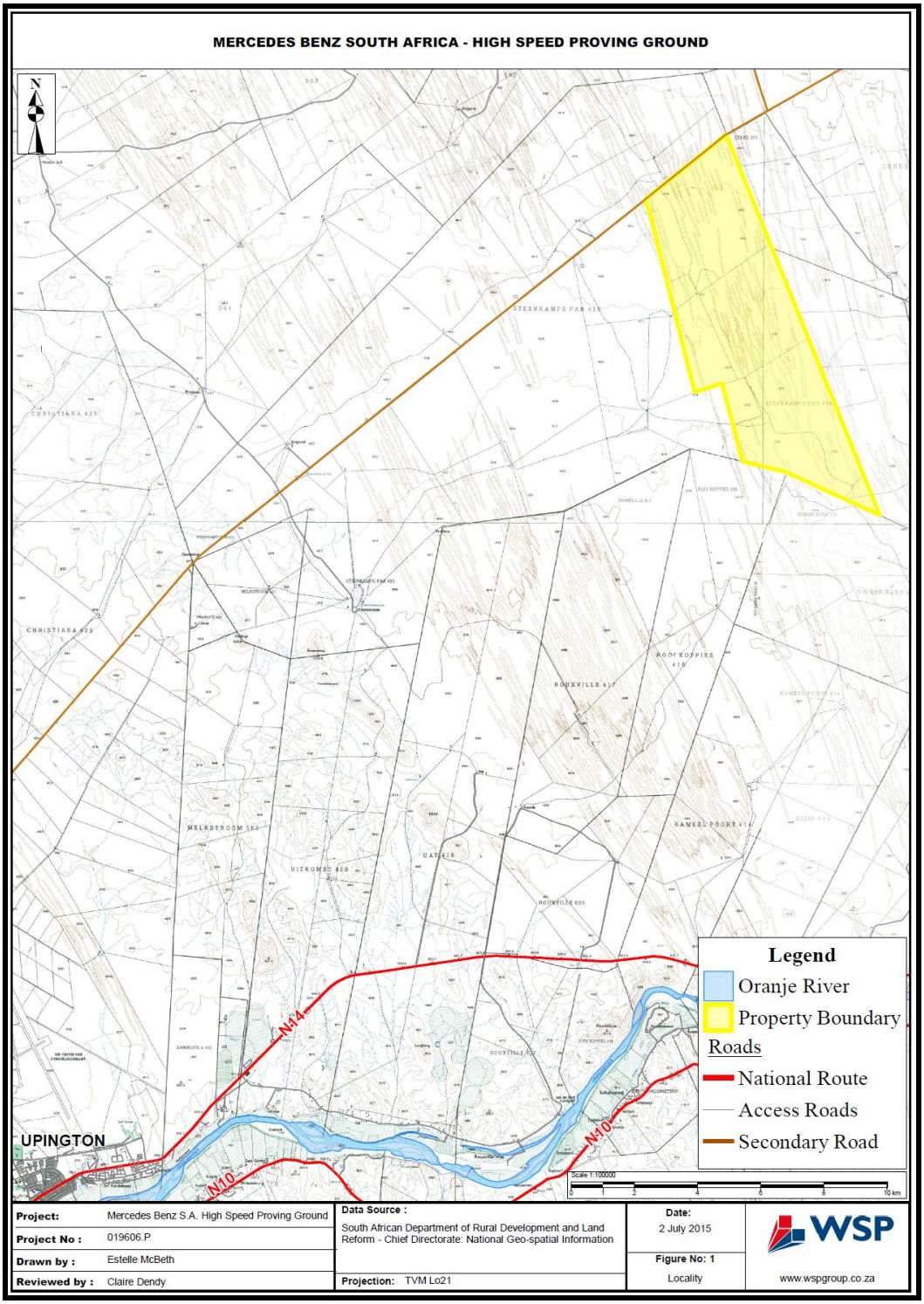

Figure 1: Location of High Speed Proving Ground

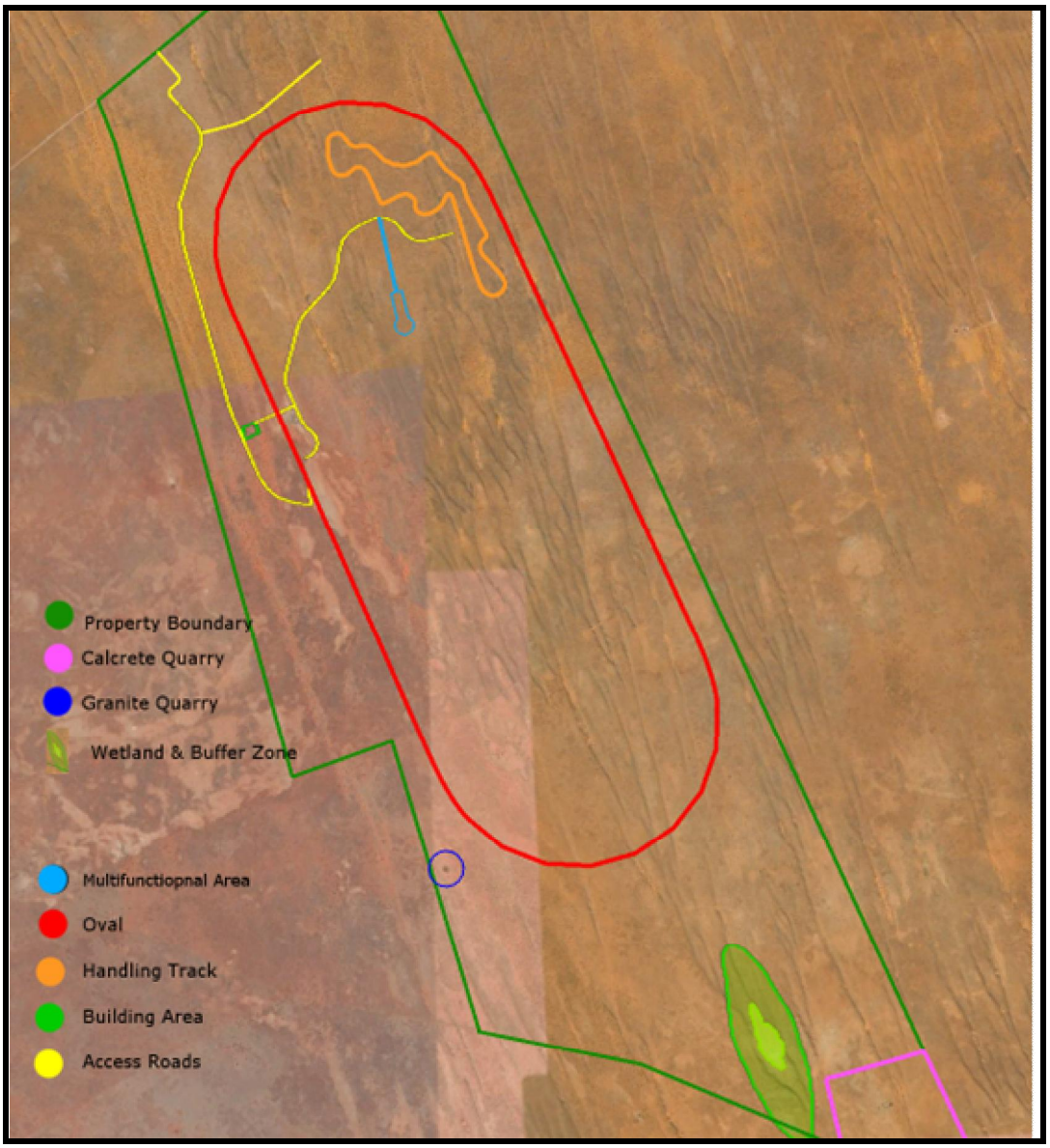

Figure 2: Layout of proposed Mercedes-Benz High Speed Proving Ground