1. INTRODUCTION

The proposed development of any service station, by virtue of the on-site handling, storage and trading of petroleum products, naturally requires careful consideration from an environmental impact point of view. The socio-economic impacts of such developments are equally, if not more deserving in light of the *'environment right'* of all South Africans, which basically determines that everyone is entitled to an environment that is not harmful to their health or wellbeing.[1] It also goes without saying that in its capacity as dynamic business developments, service stations form an essential component of road transport systems. In the interest of local and regional logistics as well as economic sustainability, these developments are therefore frequently subject to questions of feasibility, and often in addition to this, questions of need and desirability. Against the background of these introductory statements, the following two subsections set the stage for the Social Impact Assessment (SIA) of the proposed development of a Service Station at the intersection that provides access to the George Airport. Facts on the location and basic characteristics of the proposed development are firstly presented, followed by the scope of the ensuing SIA.

1.1 Project location and description

The development of a new Service Station is proposed on a portion of Portion 4 of the Farm Gwayang (No 208), along the R404 route at the intersection that provides access to the George Airport. Figure 1 shows the location of the site of this proposed development in a broader local context. Figure 2 shows the site of this proposed development relative to the George Airport and

[1] See the analysis of S24 of the Bill of Rights of the South African Constitution (Act 108 of 1996) in Currie & de Waal (2008) for example, as well as the National Environmental Management Principles (Chapter 1, Principle 2 and 3) of the National Environmental Management Act (Act 107 of 1998) (South Africa, 2017).

Figure 1: The location of the proposed development in a broader local context

Figure 2: The location of the proposed development relative to the George Airport

the R404 road in more detail (Consult Marike Vreken, 2017 for a detailed locality map). Also indicated on this image is the location of one of the alternative Service Station sites. This will be referred to in Section 3.4 D where the feasibility of the proposed Service Station is discussed.

In South Africa, the Service Station concept evolved over the last three decades into a multifaceted type of land-use that contains a diverse mix of physical attributes, activities and services. The 'average' Service Station so to speak would as a result reflect a collection of some of the following characteristics, namely:

- Facilities that are related to the reception, storage and (retail) dispensing of petroleum products to light and heavy vehicles (diesel, petrol, liquid petroleum gas, lubricants, *etc*.);
- Facilities that are related to the short-term maintenance of motor vehicles (inspection and adjustment of tyre pressure, cleaning of vehicle windshields, washing of motor vehicles, *etc*.);
- Vehicle repair facilities;
- Fast food restaurants and fast food take-away services;
- Convenience stores and/or other relatively small retail outlets;
- Tourism information centres; and
- Ablution facilities.

In view of these characteristics, the proposed Service Station development in the case of this SIA has a familiar conceptual design and as such is made up of the following (See Joubert, 2017a):

- A service station with four dispenser islands for light vehicles and one dispenser island for heavy vehicles;
- A convenience store;
- Take away food with limited seating;
- Restrooms (ablution facilities); and
- An information centre.

Since the proposed development is essentially a Greenfield Development, it is relatively expensive. The estimated cost for the service station alone is R14 million. The installation of the fuel storage tanks and relevant pump will cost an estimated R3 million, while the access roads are expected to cost a further R3m (Joubert, 2017b).

1.2 SIA scope

This SIA includes the following key components that are generally agreed upon for the study, assessment and reporting of social impacts (See Vanclay *et al*., 2015):

- A baseline description of the affected social environment in order to comprehend and contextualise relevant issues and impacts;

- The identification and assessment of the potential socio-economic impacts of the proposed Service Station in its construction and operational phases;

- Recommendations regarding the mitigation of the identified social impacts (where applicable); and

– An assessment of the feasibility of the proposed development (on which the realisation of social impacts naturally depend).

The study approach of the SIA appears in **Addendum A** at the end of this report. This includes the methodological foundation that informed the SIA and the research process that was followed in order to identify potential social impacts.

2. DESCRIPTION OF THE AFFECTED SOCIAL ENVIRONMENT

The proposed Service Station is likely to exert much of its social influence at the local level, *i.e.* within the boundaries of the George Municipality.

George is a so-called 'secondary city' in the Eden District Municipality of South Africa's Western Cape Province. It is located towards the western extreme of what is popularly known as the country's Garden Route. Following are some of the key contemporary attributes of George (See George Municipality, 2012; Western Cape Government, 2015; George Municipality, 2016/17) that are particularly relevant to the SIA:

- The economy of George confirms the town's status as a secondary city. Financial services and real estate account for the most significant slice of the town's economy (25%), followed by Wholesale and retail trade, catering and accommodation (16%), and then Transport, storage and communication (13%).

- Much of the contemporary local economic growth happens in sectors such as construction (8%); commercial services (4%); and government, community, social and personal services (4%). Manufacturing reflects a meagre 1.5%.

- The position of the economy of George within the larger Eden District Municipality is not encouraging and it is plagued by economic growth (3.5%) that is slower than other similar municipalities. Employment growth is zero which highlights the fact that the carrying capacity of the local economy is a significant socio-economic limiting factor.

- The total population of George is slightly less than 205 000 people, arranged in nearly 57 000 households. Of the number of households in this town, almost 9 500 exist in abject poverty. The unemployment rate for George is approximately 11%, which, with the problem of poverty and associated socio-economic deprivations, appear geographically concentrated in a few municipal wards.

Given the attributes above, Local Economic Development in George is an important, if not urgent socio-economic priority. The town fortunately has access to several strategic resources that count in its favour from the perspective of economic development. This includes the following:

- Well-developed commercial, financial and social infrastructure.
- Quality conference facilities, businesses and retail services.
- Extraordinary bio-physical and marine resources.
- A growing regional tourism sector and major transport systems, including the N2 National Road and the George Airport.
- Potentially positive role of the George Airport in Local Economic Development.

3. SOCIAL IMPACT ASSESSMENT

Section 3.1 contains an outline of the relevant social impact categories that are associated with the proposed Service Station. This is followed by the presentation and assessment of the identified social impacts that may occur during the construction phase of this development (Section 3.2) as well its operational phase (Section 3.3).

3.1 Social impact categories associated with the proposed development

After the conclusion of the research process (See Addendum A), the results were filtered through the range of possible social change processes and SIA categories. The following three social impact categories (and actual impacts) surfaced throughout the course of the research process.

Social impact categories and impacts:

- ***Socio-economic impacts:*** A project such as the proposed Service Station usually contributes to increased economic activity within a region and generates employment opportunities and other economic impacts due to knock-on effects. Impacts include:
    - The creation of employment opportunities (Construction Phase and Operational Phase)

- ***Empowerment impacts:*** The developer will have to engage in an economic empowerment process in order to supply the proposed Service Station development with the necessary local labour. The impact includes:

- Skills development and transfer (Construction Phase and Operational Phase)

– ***Public health and safety impacts:*** The construction of the proposed Service Station development will involve the movement of relevant heavy vehicular traffic and the daily transport of workers. The impact revolves around:

  - Public health and safety impacts due to increased construction related vehicular traffic (Construction Phase)

3.2 SOCIAL IMPACTS DURING THE CONSTRUCTION PHASE

3.2.1 Socio-economic impacts

Socio-economic impacts result from employment creation, changes in business activity, livelihoods, economic attributes, etc.

A) Employment creation – impact identification and assessment

Impact identification:

Valued at R20 million, the proposed development represents a civil engineering and construction project of sizeable proportions (Section 1.1). For that reason, a noteworthy outcome of this development throughout its construction phase will be the creation of about 31 direct employment opportunities, most presumably in the semi-skilled category.[2] Although the

[2] Direct employment refers to employment that is directly related to the construction phase and would, amongst others, include artisans such as shop fitters, bricklayers, plumbers, electricians, *etc*.

unemployment rate in George Municipality as a whole is only 11%, a figure that appears relatively low when compared to the national situation, unemployment here is geographically concentrated in the town's historically disadvantaged wards. This phenomenon therefore amplifies the adverse welfare related consequences of unemployment at a more local scale. The problem of unemployment is consequently flagged as an important development related 'weakness' in such areas (George Municipality, 2016/17). When looked at in this context, job creation is an important impact of the proposed development.

The creation of direct employment opportunities is not the only job related advantage of the construction phase of the proposed Service Station. A number of indirect and induced employment opportunities would naturally follow the latter. Whereas a direct job is something that is directly related to the construction of a project for example, indirect jobs are created due to the provision of goods and services by suppliers and distributers to the on-site construction activities. Induced jobs lastly result from the spending and consumption by direct and indirect workers (IFC, 2013). Using the same methodology as above (See Note 3), the number of indirect and induced employment opportunities that will be created by the proposed development's construction phase and activities is estimated at 25.

The creation of 56 employment opportunities (direct, indirect and induced jobs) is likely to have a considerable social impact in the form of increased economic activity, poverty alleviation and favourable socio-economic implications (such as improved access to and consumption of goods

---

The number of direct employment opportunities (31) was estimated using the total construction budget of the proposed development (R20 million) and the latest (2014) *Average Sectoral Employment Multipliers* of the Industrial Development Corporation (IDC, 2016). The applicable multipliers for *Building Construction* and *Civil Engineering* were specifically applied in this case.

and services, greater freedom of choice, better quality of life, and so on) for the affected individuals and their dependants. Using conservative estimates (Western Cape Government, 2015), the latter translates into a total of just more than 200 people. In a town where unemployment is a challenge in some quarters, where employment seekers contribute to a steady population increase, and where employment growth is basically non-existent, employment creation is a significant impact.

Impact assessment:

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Short term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	Medium	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive medium	NA	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making
Gaps and limitations:	NA
Recommendations:	NA

3.2.2 Empowerment impacts

Empowerment impacts result from the social or economic empowerment of vulnerable and other groups.

B) Skills development and transfer – impact identification and assessment

Impact identification:

The commitment by developers to recruit local labour, as far as possible, in order to benefit local communities in general and the unemployed in particular, is almost standard practice in South Africa when construction projects are proposed. The proposed Service Station is of course no different and a number of employment opportunities will subsequently be created within the

semi-skilled category. This is likely to have a considerable social impact in the form of poverty alleviation and favourable socio-economic implications (improved access to and consumption of goods and services, greater freedom of choice, better quality of life and so on) for the affected individuals and their dependants (Section 3.2.1 A).

One limiting factor that is expected to complicate the prioritisation of local labour during the construction phase of the proposed Service Station is the educational attainment of the prospective labour force, particularly in the case of semi-skilled workers. The twin problems of illiteracy and low levels of post-school education and/or training are clear obstacles in this case. Thus, in order to supply the construction phase of the proposed development with the necessary local labour, the developer will most likely have to engage in a process of skills development and transfer.

In a town burdened by poverty and problematic unemployment rates and where many of the unemployed may actually be unemployable without some form of intervention, skills development and transfer are likely to have a substantial socio-economic impact. The benefits would essentially revolve around the improved socio-economic mobility of people and should extend well beyond the construction phase of the proposed development. Relevant individuals would for example be able to sell their newly acquired skills within and beyond the boundaries of the local economy long after the completion of the construction phase.

Impact assessment:

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Short term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	Medium	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive medium	NA	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making
Gaps and limitations:	NA
Recommendations:	NA

3.2.3 Public health and safety impacts

Public health and safety impacts result from changes in community health and safety parameters.

C) Public health and safety impacts due to increased construction related vehicular traffic – impact identification and assessment

Impact identification:

The proposed Service Station is likely to generate an increased amount of traffic as far as the daily movement of its workforce is concerned. The transport of workers will of course supplement the other construction related vehicular traffic that is expected to coincide with the Service Station's construction phase.

It can be expected that much of the total traffic volume that will be produced by the proposed Service Station at this stage will share the existing R404 road with regular road users. Although the R404 road appears to have the capacity to absorb the added traffic, the addition of construction related vehicles can nevertheless potentially affect existing mobility patterns. This could culminate in health and safety impacts through the potential increase in motor vehicle and pedestrian related accidents.

Impact assessment:

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Minor	Moderate	Minor	Minor
Duration:	Long term	Short term	Short term	Short term
Extent:	Local	Local	Local	Local
Consequence:	Low	Low	Low	Low
Probability:	Certain	Certain	Possible	Possible
Frequency:	Sporadic	Occasional	Sporadic	Sporadic
Impact status:	Negative	Negative	Negative	Negative
Impact significance:	Negative very low	Negative low	Negative very low	Negative very low

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	Possible
Degree to which impacts can be avoided, managed, or mitigated:	Can be partially mitigated
Degree to which impacts can be reversed:	Can be partially reversed
Degree to which impacts could cause irreplaceable loss of resources:	Highly unlikely
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making
Gaps and limitations:	NA
Recommendations:	See recommended mitigation

- **Recommended mitigation**

- Establish an information-sharing link with the Community Safety Directory of the George Municipality.

- Comply with relevant health and safety regulations, and applicable legislation, including the Occupational Health and Safety Act (85/1993): 2014 Construction Regulations and the 1996 National Road Traffic Act.

3.2.4 Other construction phase impacts

The above impacts are evidently not the only consequences of the construction phase of the proposed Service Station. Other impacts will undoubtedly occur in addition to these, but the lack of quantifiable particulars (in spite of their importance) or their negligible significance in the broader context of the George Municipality, saw them relegated to this section. The following impacts are singled out here:

– The first impact concerns the positive contribution of the proposed Service Station to the Gross Geographic Product (GGP) of the George Municipality.

GGP provides a measure of the total economic and sectoral activity within a particular area (municipalities, regions, *etc*.). Expressed as the Rand (market) value of all final goods and services that are produced and sold within a given period of time, GGP is a well-known measure of a municipality's economic activity. It can therefore be used to reflect the capability of a municipality to create, sustain and develop its own economy. Contributions to the GGP of any particular place therefore carry an obvious importance, something that is

particularly associated with construction projects (Nhlapo, 2013). Although the actual contribution of the proposed Service Station to the local GGP may appear miniscule in real terms (albeit positive), it will nevertheless happen at a time when the local municipality struggles to come close to its projected GGP growth rate. The George Municipality, in spite of its size, is currently the slowest growing of all other similar municipalities in the Western Cape Province (Western Cape Government, 2015). This reality alone justifies the special mention that the above impact receives.

– The second impact that deserves reference is the positive affect that construction projects such as the proposed Service Station are certain to have on local economies via the demand for goods and services.

Higher levels of local economic activity normally follow the demand for goods and services (and the supply thereof) and this in turn is likely to culminate into various socio-economic benefits, such as employment creation and poverty reduction. The extent of this impact is of course a factor of the size and health of the local economy in question and the subsequent ability of local service providers to meet such demands. It follows that the more limited this ability, the more leakage will take place from the local economy as developers would be compelled to source relevant goods and services elsewhere (DBIS, 2008). Although some leakage will inevitably occur, the impact remains relevant in the context of the positive effect that the demand for goods and services will have on the local economy.

.

3.3 SOCIAL IMPACTS DURING THE OPERATIONAL PHASE

3.3.1 Socio-economic impacts

Socio-economic impacts result from employment creation, changes in business activity, livelihoods, economic attributes, etc.

A) Employment creation – impact identification and assessment

Impact identification:

When compared with existing developments with similar structural arrangements and a mix of activity elsewhere, it is safe to say that the proposed Service Station development is likely to create about 60 full-time (permanent) employment opportunities during its operational phase. Also, drawing on experience and using the expected annual income of semi-skilled workers (a conservative estimate of approximately R96 000 per worker per year), the wage bill of the proposed Service Station during the first ten years of this phase could be close to R60 million. This amount will of course be earned by members of previously disadvantaged communities, a fact that underscores the importance of the particular social impact.

The creation of long-term jobs also has other noteworthy implications. An example is the multiplication of the income earned by employed people into the local economy and subsequent increased economic activity. It is assumed that much of the income earned by permanent workers will be spent locally on consumer goods, living expenses, accommodation, entertainment, and so on. Over a ten-year period, the increased local economic activity in this

case amounts to slightly more than R59 million.[3]

In view of the above account, it is clear that the proposed Service Station will have an important impact as far as employment creation is concerned. This is likely to have a considerable (and long-term) social impact in the form of increased economic activity, poverty alleviation and favourable socio-economic implications (such as improved access to and consumption of goods and services, greater freedom of choice, better quality of life, and so on) for the affected individuals and their dependants.

Impact assessment:

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Long term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	High	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive high	NA	NA

[3] This estimate was determined by first allowing for an arbitrary leakage (income spent beyond the geographical parameters of the local economy) of 20% from the total wage bill (direct employment). The IDCs Average Sectoral GDP multiplier for *Wholesale and Retail Trade* (IDC, 2016) was finally applied to estimate the increase in local economic activity caused by the operational wages over a decade.

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making
Gaps and limitations:	NA
Recommendations:	NA

3.3.2 Empowerment impacts

Empowerment impacts result from the social or economic empowerment of vulnerable and other groups.

B) Skills development and transfer – impact identification and assessment

Impact identification:

The assumption that the operational phase jobs will come from the ranks of (local) previously disadvantaged people is highly plausible. Since the local limiting factors of illiteracy and low levels of post-school education and/or training are equally applicable to the proposed Service Station's operational phase, it will most likely have to engage in a process of skills development

and transfer if it is to create the required employment opportunities. Against the background of existing local poverty and unemployment rates in the George Municipality, as well as the fact that many of the unemployed may be unemployable without some form of intervention, skills development and transfer are likely to have a substantial socio-economic impact. The benefits would basically revolve around the improved socio-economic mobility of people relative to their former limited occupational prospects. They will therefore enjoy better access to permanent employment and associated benefits for them as well as their dependants.

Impact assessment:

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Long term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	High	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive high	NA	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making
Gaps and limitations:	NA
Recommendations:	NA

3.3.3 Other operational phase impacts

As the in the case of the construction phase, other impacts are certain to occur in addition to those operational phase impacts that were assessed above. The following impacts are singled out here:

– The contribution of the proposed Service Station to the GGP of the George Municipality, as well as the affect via its regular demand for goods and services are positive impacts that will continue indefinitely into the operational phase.

– The proposed Service Station represents a contribution to Local Economic Development, which, for reasons already stated, is a significant impact.

A strong need exists currently for economic development around the George Airport – in particular as far as the establishment of a sub-regional industrial node in proximity to the N2 National Road is concerned. The proposed Service Station would be strategically well situated in this case to provide an essential supporting service (Marike Vreken, 2017). Moreover, while conforming to the provisions of the Gwayang Local Spatial Development Framework, the development according to this assessment (Marike Vreken, 2017) would also be optimally located to provide services and facilities for tourism support. In short, therefore, the proposed Service Station is likely to exert the following twofold impact here:

a) In itself as a direct investment to complement the current Local Economic Development situation; and
b) As a key service provider for the eventual incubation of other Local Economic Development activities around the George Airport. The proposed Service Station will in this sense play an enabling role in the establishment and functionality of a local agglomeration economy.

3.4 PROJECT FEASIBILITY

In the sections above, several social impacts of the proposed Service Station were identified. These impacts are predominantly positive and mostly related to the creation of employment opportunities, economic empowerment, GGP, and Local Economic Development – something that would contribute to the George Municipality's wellbeing and that of its inhabitants. The eventual realisation of such impacts is however a factor of the feasibility of the proposed Service Station, and, if feasible, the actually implementation of the development proposal. The feasibility of this project will be assessed in this section via the prominent question regarding its Need and

Desirability in the first place, followed by its financial feasibility. The influence of other potential Service Station developments (on alternative sites) will finally receive attention.

A) Need and Desirability

The Need and Desirability of a proposed development is essentially the domain of the Town Planning specialist study in the broader Environmental Impact Assessment (EIA). The question of *Need* is basically an expression of the timing of a proposed development and the relevant investigation should answer the question regarding the necessity for a project at a particular point in time. *Desirability* on the other hand concerns the location of a proposed development and the relevant investigation should determine whether the proposed placing of a development in geographical space is the best possible site for the land-use in question (South Africa, 2010).

The question of the Need and Desirability of the proposed Service Station was addressed by the Specialist Planning Report for this proposed development (Marike Vreken, 2017). Reacting to the planning requirement of the **Need** for the proposed Service Station in the first place and simultaneously determining whether this development would be a societal priority at this point in time, the latter Specialist Study (p.35) concludes as follows:

> *"There is a strong need for the economic development around the George Airport to establish a new sub-regional industrial node in proximity to the N2 and airport, targeted at Southern Cape manufacturing, freight and logistics, and service industries. The provision of a fuelling station and station shop would contribute to the development of additional airport related uses in an area earmarked for the particular uses by providing a mix of employment opportunities, supporting development consistent with the planning policies of the area, decreasing the need of a fuelling*

station in the airport area without adversely impacting on the environment. There is therefore a strong need for this development at this time."

The employment related social impacts that the proposed Service Station is likely to have (See Section 3.2.1 A and 3.3.1 A) as well as those linked to the empowerment of previously disadvantaged people (See Section 3.2.2 B and 3.3.2 B), in addition to the last-mentioned conclusion, clearly emphasise the need for and the societal priority that this development would be. Since the Desirability of a proposed development is also a factor of its impact on the well-being of people, the last-mentioned contributions can likewise be positively aligned with the Desirability requirement.

Considering the **Desirability** for the proposed Service Station, this proposal was rated to be consistent with relevant policy frameworks and planning instruments. This includes the National Development Plan, George Spatial Development Framework, George Municipality Integrated Development Plan, as well as the principles of the Spatial Planning and Land Use Management Act (Act 16 of 2013) (Marike Vreken, 2017). The desirability of the proposed Service Station is however also a factor of its location as noted above. As far as this is concerned, the Specialist Planning Report lists several attributes which favour the location of the proposed Service Station. These include the following (p.36):

- *"The proximity of the property to the existing George Airport – the property is opposite the airport; the entrances are across from one another. The proposed development is within the Airport Support Zone.*
- *The property is easily accessible – there is an existing entrance to the property that would allow for easy and safe access, once it is tarred and the proposed traffic circle is developed.*

- *This area is envisaged as a small node at the intersection to the airport. The development contributes to the establishment of the node.*
- *The proposal will support tourists and airport facilities that cannot be located in the town with the same practical function.*
- *The property provides an ideal setting to further a tourist and service centre on the corridor linked with the entrance of the airport could provide tourists wit basic services*
- *The site of the proposed development is vacant and the area falls outside any environmental protected areas."*

B) Financial feasibility

Financial feasibility is a crucial aspect of the proposed Service Station and the realisation, or otherwise, of the impacts identified in this report. Although several factors may contribute to the financial feasibility of service stations (See the Department of Energy RAS Matrix Guidelines, 2015), one strands out as unquestionably essential. This involves the obvious question of fuel sales and the extent to which monthly / annual fuel sales are likely to exceed a particular margin. A commonly applied equation in this case follows (See also Roodt, 2018):

Average Monthly Fuel Sales = Average daily passing traffic x Average trading days per month x Average fill per vehicle x Net Interception rate

The following data applies to this formula:

- Average daily traffic (vehicles approaching the R404 - Airport intersection) = 4410
- Average trading days per month = 30.4 days
- Average fill = 25 litres

- Net interception rate = 10.5%

  Note that all values in this case are for 2017. The daily traffic count was escalated from 2014 baseline data. Average fill and the net inception rate reflect actual 2017 trends in the immediate market region.

For 2017, the Average Monthly Fuel Sales (litres) based on the equation above is 351 918 (or 4 223 016 litres per annum). This volume far exceeds the 2 789 851 litres per annum viability threshold in the Department of Energy RAS Matrix Guidelines (Annual Benchmark Service Station Volume), a critical attribute of the proposed Service Station that in essence answers the question of its financial feasibility.

C) The feasibility of potential Service Station developments on alternative sites

The final concern regarding the feasibility of the proposed Service Station relates to Service Station developments that could possibly happen on two alternative sites.

The first possibility is located on the property of the Airports Company of South Africa (See Figure 2). Roodt (2018) provides a detailed assessment of this case (See Section 9.2, George Airport Filling Station). This report highlights numerous restrictions and fatal flaws around the questions of access, compliance to relevant policy and official guidelines, and impacts on existing roads and road safety. In short, the site in question appears not to be technically feasible.

The second possibility is located directly to the east of the R102/R404 intersection. Concerning this particular case, Roodt (2018) concludes as follows:

"Based on traffic engineering considerations for filling stations, the site must be conveniently accessible from the pass – by road. This site does not provide such access and would require (again based on traffic engineering considerations) considerable signage to inform, guide and direct potential users to the filling station and facilities. It is therefore not surprising that the site was not developed since 2005 and the approval has lapsed. The access shown as a service road next to the R404 is not good engineering design, as the headlights of vehicles travelling at night will shine from the wrong direction for vehicles driving south on the R404." . . . "From a traffic engineering point of view, this application has little merit and chance of development." (p.30).

The verdict in this case is therefore equally unfavourable, if not more so, than for the above-mentioned Airport Filling Station.

D) Note on the feasibility of the proposed Service Station development

In view of the above three discussions, it should be concluded that:

- There is a positive Need and Desirability for the proposed Service Station;
- Its financial feasibility is confirmed; and
- The proposed site for this development is the only viable site.

The proposed Service Station would as a result be a feasible development and the (mostly positive) social impacts associated with it, certain to happen.

A: STUDY APPROACH

SIA methodology

SIA generally includes *"the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment"* (IAIA, 2003:2).

The above IAIA definition highlights two critical issues, namely social process and social consequence (impact), which are tied together in a cause-and-effect relationship. The influential distinction between social process and social consequence in the context of SIA, similar to the difference between biophysical change and biophysical impact in the context of EIA, comes from the model developed by Slootweg *et al.* (2001). Strongly advocated by the International Handbook of Social Impact Assessment (Slootweg *et al*., 2003), this model is subscribed to by the present study. It underlies the importance of segregating social process from social impact and ultimately supports the understanding of the processes that can result in social impacts (Aucamp, 2009).

With reference to the effects of proposed development projects, Slootweg's *et al*. (2003) model suggests pathways or social change processes which may culminate in social impacts. Accordingly, development interventions can result in intended or unintended (social change) processes. Such processes are discreet and observable and may alter the characteristics of a society. They also take place regardless of particular societal contexts (population groups, nations, religions, *etc.*). Under certain conditions (community attributes or the nature and extent

of mitigation measures for example), social change processes may ultimately result in social impacts.

Several social change processes can be recognised as the fundamental drivers of social impacts. These include the following according to Van Schooten *et al*. (2003) and supplemented by the author of the current report (See also Vanclay *et al*., 2015):

– Demographic processes that relate to the movement of people and/or the demographic composition of human populations;

– Human health and safety processes that affect the physical, mental and material well-being of people;

– Socio-economic processes that affect the economic activity and socio-economic status of people and/or the way they make a living (livelihoods);

– Geographic processes that affect land-use and associated patterns;

– Institutional processes that affect the organisations that are responsible for urban, provincial or national governance as well as the supply, regulation and maintenance of the goods and services on which people depend;

– Empowerment processes that affect the ability of people to influence decision-making and the circumstances that impact on their daily lives and well-being;

– Socio-cultural processes that affect the social culture of a society, referring to aspects of the way people live together and / or how this manifests in geographical space;

– Socio-spatial processes that affect the way in which people relate to their residential environments (place utility or sense of place); and

– Intrusion processes that relate to imposed environmental disturbance in the form of pollution.

The above list of social change processes is obviously not complete due to the complex nature of human society and invariably as a result of the multitude of ways in which it may respond to change (Vanclay, n.d.).

The identification of social change processes during SIA is naturally followed by the identification of social impacts. Following the above-mentioned distinction between social process and social impact, a social impact, according to The Interorganizational Committee on Guidelines and Principles for Social Impact Assessment (2003:231), can be defined as:

> *"Consequences to human populations of any public or private actions – that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society."*

Social impacts are also something that may be physically experienced (objective impacts in other words that can be quantified, such as changes in people's health and safety) or emotionally perceived by people (subjective impacts in other words that manifest in the *'minds'*

of people, such as emotional stress, reduced quality of life, or an altered sense of place). Such experiences and perceptions can be either positive or negative.

Faced with the obvious complexity subsumed in the identification of social impacts in multifaceted human societies, a framework of SIA categories is often referred to by practitioners for guidance. The following comprehensive set of SIA categories is adapted by the present study from Burdge (2004) and act as essential parameters for the structured identification and presentation of social impacts:

– Population related impacts ~ resulting from changes in population attributes, the (induced) migration of people, the inflow of a temporary labour force, *etc.*

– Socio-economic impacts ~ resulting from employment creation, changes in business activity, livelihoods, economic attributes, *etc.*

– Empowerment impacts ~ resulting from the social or economic empowerment of vulnerable and other groups.

– Individual and family level impacts ~ resulting from changes in human movement patterns and social networks, the relocation of individuals and families, *etc.*

– Public health and safety impacts ~ resulting from changes in community health and safety parameters.

– Impacts related to community resources ~ resulting from impacts on cultural sites and social and/or physical infrastructure, *etc.*

- Impacts related to community arrangements ~ resulting from impacts on interest groups.

- Institutional impacts (related to government institutions) ~ resulting from infrastructural demand and supply issues, changes in institutional image, land-use change, gentrification, policy related demands, *etc.*

- Intrusion impacts ~ resulting from air pollution, noise pollution, light pollution, visual pollution and malodour pollution.

- Socio-cultural impacts ~ resulting from social disintegration; the creation and/or maintenance of social differentiation, segregation or social inequality, etc.

- Socio-spatial impacts ~ resulting from changes in people's place utility or their sense of place.

It is at this stage important to note the social impact variables that resort under the different social change processes may naturally overlap, while the actual social impacts associated with different impact variables may also coincide. For example, socio-economic impacts that result from employment creation may overlap with empowerment impacts that result from the social or economic empowerment of vulnerable and other groups.

SIA research process

The recognition of social change process categories and relevant SIA variables, and the subsequent identification and assessment of potential social impacts associated with the

proposed development, were the product of a combined qualitative-quantitative empirical research approach.

Conventionally, two empirical approaches feature prominently in SIAs, *i.e.* a technical (or quantitative) approach and a participatory (or qualitative) approach. With reference to the former, the SIA practitioner generally assumes the role of a neutral and distant observer of social phenomena. Accordingly, relevant social indicators and objective measures and information are identified and applied to aid the eventual assessment of social change and social impact. In a participatory approach on the other hand, the SIA practitioner relies on the knowledge and experience of individuals that are affected by proposed changes as the foundation from which social impacts are projected. The facilitation of knowledge sharing and the interpretation and reporting of impacts define the role of the SIA practitioner in this case (Sogunro, 2001; Becker *et al*, 2004).

The quantitative element of the SIA research process integrated the following methodological aspects:

- A literature review;
- A review of published and unpublished research and official reports; and
- Professional judgement and experience.

The qualitative element of the SIA research process involved a site visit and a series of semi-structured key stakeholder interviews with:

- Social impact practitioners (review purposes)
- Economic analysts (review purposes)

It is finally important to emphasise that quantitative research (particularly if stakeholder interviews are conducted) is subject to stringent research ethics; confidentiality amongst others being one of the key considerations (Grinyer, 2002; Vanclay *et al*., 2015). In line with ethical guidelines, the names, addresses or other personal / institutional information of the respondents cannot be revealed.

REFERENCES

Aucamp, P.J. 2009: **Environmental Impact assessment: A Practical Guide for the Discerning Practitioner**. Van Schaik: Pretoria.

Becker, D.R., C.C., Harris, E.A. Nielsen & W.J. McLaughlin, 2004: A comparison of a technical and participatory application of social impact assessment. **Impact Assessment and Project Appraisal**, 22(3): 177-189.

Burdge, R.J. 2004: **A Community Guide to Social Impact Assessment**. Middleton: Social Ecology Press.

Currie, I. & J de Waal, 2008: **The Bill of Rights Handbook** (5th ed). Jutta: Wetton.

DBIS, 2008: **Additionality Guide: A Standard Approach to Assessing the Additional Impact of Interventions**. Department for Business Innovation and Skills / English Partnerships. <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191511/Additionality_Guide_0.pdf>

Department of Energy RAS Matrix Guidelines, 2015: **Regulatory Accounting System, Benchmark Service System Guidelines**. Department of Energy. < http://www.sapra.co.za/wp-content/uploads/rasMatrix/BBS%20matrix%20as%20at%2002%20December%202015.pdf>

GDACEL, 2001: **EIA Administrative Guideline: Guideline for the Construction and Upgrade of Filling Stations and Associated Tank Installations**. Gauteng Department of Agriculture, Conservation, Environment and Land Affairs, Johannesburg.riculture, Conservation,
< http://home.intekom.com/salbu/a_R21/FillingStationsGuidelines.html >

George Municipality, 2012: **Economic Development Strategy**. George Municipality.
< www.george.org.za/download_document/625 >

George Municipality, 2016/17: **Integrated Development Plan: 4th Review, 2016/17**. George Municipality.
< http://www.george.org.za/resource-category/integrated-development-plan >

Grinyer, A. 2002: **The Anonymity of Research Participants: Assumptions, Ethics and Practicalities**. Social Research Update, Issue 36, University of Surrey: Guildford.

IAIA, 2003: **Social Impact Assessment: International Principles**. Special Publication Series No.2. International Association for Impact Assessment. Fargo: ND.

IDC, 2016: Average Sectoral GDP and Employment Multipliers for South Africa in 2014. Supplied by the Independent Development Corporation, Sandton.

IFC, 2013: IFC **Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction**. International Finance Corporation, Washington.

Joubert, 2017a: **Feasibility Study: Proposed Service Station at George Airport main access intersection (R404)**. Infrastructure Consulting Engineers, Pretoria.

Joubert, 2017b: Proposed development of a service station at the intersection providing access to the George Airport: Cost estimation. Personal communication.

Marike Vreken, 2017: **Specialist Planning Report for Environmental Authorisation Application: A Portion of Portion 4 of the Farm Gwayang No 208, Division George, George Municipality**. Marike Vreken Urban and Environmental Planners, Knysna.

Nhlapo, S. 2013: **The potential long and short term benefits of major infrastructure projects to the South African economy** [Unpublished]: MIng (Engineering Management). University of Johannesburg.

Roodt, L de V, 2018: **Traffic Impact Assessment George Municipality Proposed Subdivision and Rezoning of Portion 4 of the farm Gwayang No 208 opposite George Airport Main Access on route R404**. Roodt Transport Safety (Pty) Ltd, Stanford.

Slootweg, R., F.M. Vanclay & M. van Schooten, 2001: Function evaluation as a framework for the integration of social and environmental impact assessment. Impact Assessment and Project Appraisal, 19(1): 19-28.

Slootweg, R., F. Vanclay & M. van Schooten, 2003: Integrating Environmental and Social Impact Assessment. In: Becker, H. & F. Vanclay (eds), **International Handbook of Social Impact Assessment: Conceptual and Methodological Advances**. Cheltenham: Edward

Elgar: (56-73).

Sogunro, O.A. 2001: Selecting a quantitative or qualitative research methodology: an experience. **Educational Research Quarterly**, 26(1): 3-10.

South Africa, 2010: **Guideline on Need and Desirability in Terms of the Environmental Impact Assessment (EIA) Regulations**. Integrated Environmental Management Guideline Series 9.
< https://www.gov.za/sites/default/files/38108__891.pdf >

South Africa, 2017: **National Environmental Management Act (No 107 of 1998)**, Department: Environmental Affairs.
<https://www.environment.gov.za/sites/default/files/legislations/nema_amendment_act107.pdf >

Stats SA, 2006: **Migration and Urbanisation in South Africa**. Report no. 03-04-02. Statistics South Africa, Pretoria.

Stats SA, 2011: **Census 2011**. Statistics South Africa, Pretoria.

The Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 2003: Principles and guidelines for social impact assessment in the USA. **Impact Assessment and Project Appraisal**, 21(3): 231-250.

Vanclay, F.M., Aucamp, I. & D.M. Franks, 2015: Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects. Guidance Note, International Association for Impact Assessment. Fargo: ND.

Van Schooten, M., F. Vanclay & R. Slootweg, 2003: Conceptualizing Social Change Processes and Social Impacts. In: Becker, H. & F. Vanclay (eds), **International Handbook of Social Impact Assessment: Conceptual and Methodological Advances**. Cheltenham: Edward Elgar: (74-91).

WBCSD, 2005: **Environmental and Social Impact Assessment Guidelines**. World Business Council for Sustainable Development: Cement Sustainability Initiative: Genève.

Western Cape Government, 2015: **Socio-economic Profile: George Municipality**. Western Cape Government Working Paper, Provincial Treasury, Cape Town.

ANNEXURE O:

Service Station Feasibility Study

Proposed Service Station on Portion 4 of the Farm Gwayang

Comparison between alternative locations

March 2018

1. Introduction

Eight Mile Investments 236 (Pty) Ltd is planning the development of Portion 4 of the Farm Gwayang No 208. The proposed development includes the development of a fuel service station.

There are two competing proposals for service stations in the immediate vicinity of the proposed service station. These facilities are located on Portion 131 and Portion 84 of the Farm Gwayang. The first mentioned site is located on the south-eastern quadrant of the intersection of provincial roads R102 and R404. The other site is located on the north-western quadrant of the R404 and the Airport access road intersection.

2. Purpose

The purpose of this report is to evaluate the technical feasibility of the competing facilities as well as to compare the economic feasibility of alternative locations. The report therefore considers the potential of the three sites to serve the needs of road users and the local community including the Airport, other commercial land uses such as the quarry and various nurseries, residential areas such as Herolds Bay and Glentana as well as the farming community between George and Groot Brak.

3. Methodology

In order to meet the mentioned purpose this document reports on the outcome of the following considerations:

- Impact of the alternatives on the local traffic and access to the Airport;
- Potential of alternatives to optimally serve the local market;
- Potential of the alternatives to serve the Airport Node.

The methodology used is to study all relevant planning documents for the area. These documents include the Spatial Development Framework for George as well as the Local Spatial Development Framework for the Gwayang area, local provincial road planning and development planning of the Airport Precinct. These documents provide detail on the planning framework within which Portion 4 should be integrated in order to ensure optimal benefits of future developments for the larger community as well as local stakeholders.

The Gwayang Local Spatial Development Framework refers to the Airport as Airport Zone and the land immediately to the east of the Airport as Airport Support Zone. This report makes use of this terminology. The drawing attached in Annexure A shows the Airport Zone marked in grey and the Airport Support Zone marked in dark blue.

4. Traffic impacts

a. Provincial road planning

Provincial road planning in the immediate vicinity of the Airport has a significant impact on the development of the Airport and Airport Support Zones. The drawing attached as Annexure B shows detail of road planning in the Gwayang area. The proposed re-alignment of R404 as indicated on the drawing, has a major impact on the development planning of the mentioned zones. Access to land bordering the R404 and the R102 in the immediate area of the intersection of the two roads, is prohibited in terms of road planning. Lines of no access apply along the mentioned roads as shown on the development layout planning drawing attached in Annexure C.

The road planning effectively limits access to the Airport Support Zone to the current intersection along the R404 where the Airport currently exclusively gains access to the major road network. At present this is a three legged at grade intersection. A fourth eastern leg to be added to the intersection will provide access to the Airport Support Zone.

b. Impact on access to proposed service station or Portion 131

Resulting from the mentioned proclaimed provincial road planning, access to any possible service station at the south-eastern quadrant of the R102/R404 intersection is prohibited from both the R102 or the R404. Access to any development on this land will be via the internal road system of the proposed development on Portion 4. This indirect access to a potential service station renders the service station not feasible. Service stations are competing on the basis of convenience. This access arrangement results in a detour of approximately 300 m to gain access. This renders the site not financially feasible.

c. Access to proposed service station on Portion 84

The proposed service station on ACSA land at the intersection of the main airport access road and provincial road R404 is proposed to take access from the main Airport access and distribution road. The drawing attached in Annexure D shows the proposed facility layout. The proposed access to the service station is via a mini-circle at a distance of approximately 60m from the main access intersection on the R404.

TRH 26: South African Classification and Access Management Manual, was compiled under the auspices of the Road Coordinating Body of the Committee of Transport Officials. This document provides guidance to national, provincial and municipal spheres of government on the functional classification of roads as well as how roads must be managed in order to function effectively.

In terms of TRH 26 provincial road R404 is classified as a class 2 road. Similarly, the main access road to the Airport is classified as a class 4 road. In order to function effectively TRH 26 advises that intersections along class 4 roads should be spaced at minimum distance of 150 m. (*Road Access Guidelines of the Provincial Administration Western Cape* advises a minimum spacing of 120 m.) This spacing requirement is proposed with specific reference to mobility and road safety considerations.

In contrast with the mentioned spacing requirements, the distance between the existing main access intersection to the Airport and the proposed intersection giving solely access to the proposed service station, is merely 60 m. See layout drawing in Annexure E for spacing. The existing spacing between the main access intersection and the first intersection inside the Airport (to unscheduled flights) is merely 120 m. This existing condition does not meet the spacing requirements of TRH 26. It is therefore not in the interest of sound road management, mobility and road safety to add a further intersection on this road link at a spacing of merely 60 m to the main intersection on the R404 where the airport gains access.

Drawings in Annexure F show the consequences of the turning manoeuvres of a large truck moving to and from the proposed service station onto the Airport main access road. The truck practically has to ignore the traffic circle as proposed by ACSA. This movement results in unacceptable conflicts between the vehicle attempting to gain access to the service station and vehicles entering or leaving the Airport. This impact is merely one of several unacceptable impacts if spacing requirements proposed by TRH 26 are ignored.

Access from the road leading to unscheduled flights to the proposed service station on Portion 84 may however be possible. The drawing attached in Annexure G shows the schematic layout to the proposed service station with access from the road to unscheduled flights. This possible solution will be subject to a detailed traffic engineering analysis and will have to be integrated into the road master plan for the Airport.

d. Current problems experienced at the Airport access intersection

Access to the Airport is currently already problematic. The queue formation at the intersection is significant. The photo below was taken on 18 February 2017. It shows traffic queuing along the Airport approach. The queue stretches beyond the traffic circle proposed to give access to the service station on ACSA land.

Congestion at the Airport access and the resulting queue length will increase as the Airport passenger throughput increases. The limited frontage length of the proposed ACSA service station therefore warrants the development of a site at that location undesirable.

A further significant safety risk results from the lack of pedestrian facilities along the main Airport access and circulation road. This results in pedestrians walking in the basic lanes of the main Airport access and circulation road. The photo below shows a pedestrian walking along the Airport main access and circulation road in the vicinity of the proposed mini-circle to give access to the ACSA service station on Portion 84.

The congestion at the R404 intersection with queue formation and pedestrian movements combined with the limited access spacing proposed by ACSA contributes to road safety risks and mobility constraints.

e. Public transport facilities

The Gwayang Local Spatial Development Framework specifically addresses the lack of public transport facilities at the Airport. The photo below shows an airport traveller approaching the Airport main building on foot after being dropped off at the main access intersection at the R404. It confirms the need for public transport not only for workers at the Airport but also airport passengers.

The road edge of the Airport main access and circulation road (approaching the R404 from the Airport) provides an opportunity to provide a public transport layby. A layby in this position will be ideal for workers at the Airport Precinct.

The proposed mini-circle to give access to the proposed ACSA service station will make this option impossible.

f. Access to proposed service station on Portion 4

Access to the proposed facility on Portion 4 is in accordance with the requirements of TRH 26 and the Road Access Guidelines of the Provincial Administration Western Cape. It will consequently have no adverse impacts on the road network. The proposed service station will have no impact on accessibility of the Airport. Refer to the drawing in Annexure C for more detail.

5. Serving the needs of road users

a. Background

A service station at the Airport or Airport Support Zone will serve transient traffic along R102 and R404. It will also serve local traffic generated by the Airport, future Airport Support Zone, commercial land uses such as nurseries and the quarry, residential areas such as Glentana, Herolds Bay, Oubaai and Fancourt as well as the local farming community between Groot Brak and George. The current east to west spacing of service stations between the service station in Groot Brak and the service stations in George is approximately 21 km. The residential, commercial and farming communities in this area is therefore poorly serviced.

Travellers returning hired vehicles to car hire operators at the Airport, will also make use of this facility. Some of the car hire companies will also utilise the facility.

The accessibility of the three alterative positions proposed for a service station must be evaluated with the potential market to be served in mind.

b. Access to Portion 131

Access to the proposed facility on Portion 131 is indirect and inconvenient. It will be via the internal road system to be developed on Portion 4. This is inappropriate for the mentioned market segments. It is also inappropriate to route external traffic to a service station at that location via the internal road system of the proposed development on Portion 4. A service station in this location will therefore poorly serve the larger community.

c. Access to Portion 84

A service station on Portion 84 is ideally located to serve traffic leaving the Airport. It will merely require a left-in and left-out manoeuvre. All other patrons will have to make right turn manoeuvres to enter the service station. This includes all vehicles entering the Airport as well as vehicles attracted from the R404 or R102. These right turn manoeuvres will be inconvenient and dangerous due to the limited spacing to adjacent intersections and congestion along this road link.

Accessing this site will be inconvenient for heavy vehicles. The large vehicle movement tracking as indicted on the attached drawing clearly points to the inconvenient access arrangement at this location. It is clear that the access will be ideal for a small section of the market, but inconvenient and dangerous for all other potential patrons.

The Gwayang Spatial Development Framework advocates facilities to be developed on ACSA land to relate to the basic functions of the Airport. A service station serving the larger community between Groot Brak and George is clearly not a basic function of the Airport.

The mandate of ACSA is to develop gateway precincts with associated commercial activities. It goes beyond the mandate of ACSA to compete with other service providers to provide for the non-airport related needs of the larger community between Groot Brak and George.

For reasons of road safety, mobility and proper planning the service station to be developed on Portion 84 can only gain access from the road leading to unscheduled roads. With an access in that location the service station will primarily serve airport related activities. It is ideally located to serve car hire companies and their patrons. A service station developed in this manner will also comply with the mandate of ACSA.

d. Access to Portion 4

Access to the proposed facility on Portion 4 meets all road design guidelines and will be convenient for all road users attracted from the R404, R102 and the Airport.

6. Airport – importance and future development potential

The Gwayang Local Spatial Development Framework dated November 2015 forms part of the George SDF. The document states: "*George Airport plays a significant role in the Southern Cape's tourism* industry *and whether directly or indirectly, creates and supports jobs and economic growth for the George area "* and *"Efficient airports are an essential part of the transport networks that all successful modern economies rely on. The George Airport is a crucial transport hub for the Southern Cape. As demand for travel increases, modern economies expect and demand a range of services and facilities at these transport hubs to improve their travel experience and to support their businesses. The George Airport is continuously improving on the service they render, which will also contribute to the development of the Southern Cape economy."*

It is therefore abundantly clear that the Airport plays a crucial role in the economy of the Southern Cape.

It is further relevant to consider the rapid growth rate of George Airport. According to data published by Airports Company South Africa (ACSA) an average annual growth rate of 8.1% for passengers was noticed from 2013 to 2017. This rapid growth rate is adding substantial pressure on the exiting airport facilities. Passengers making use of the Airport is currently approximately 750 000 per annum.

In his State of the Nation Address of 16 February 2018 President Ramaphosa specifically mentioned the critical role to be played by tourism and the potential doubling of tourism in South Africa. In the interest of the future development of the Southern Cape's tourism industry it is important to plan the Airport with due allowance for future expansions. This Airport will continue to play an important role in the economy of the region.

It is unthinkable to jeopardise the long-term convenience, capacity and safety of the Airport road access system in lieu of the development of a petrol service station. The service station can be provided without any impact on the future development of the Airport within the proposed development of Portion 4.

7. Conclusion and recommendations

Based on the current road and spatial planning of the Gwayang area that includes the Airport, the Airport Support Zone and the local residential, commercial and farming areas, it is clear that a service station must be developed on Portion 4. A service station serving the Airport with safe access from the road leading to unscheduled flights is also technically feasible and within the mandate of ACSA.

The following table summarises the conclusions as discussed above.

Consideration	Location	Notes	Score
Accessibility	Portion 131	• Access indirect via development on Portion 4. • Detour of 300 m to gain access	Poor
	Portion 84	• Access from main Airport access road does not meet sound road planning guidelines. It will be unsafe and will impact on mobility. • Access from the road to unscheduled flights may be technically feasible if properly integrated into the road master-plan for the Airport.	Poor
	Portion 4	• Access convenient for all road users. • Access via traffic circle at location of proposed service station.	Good
Road safety	Portion 131	• Access via Portion 4 meets all road safety requirements.	Good
	Portion 84	• Access does not meet requirements of TRH 26: South African Classification and Access	Unacceptable

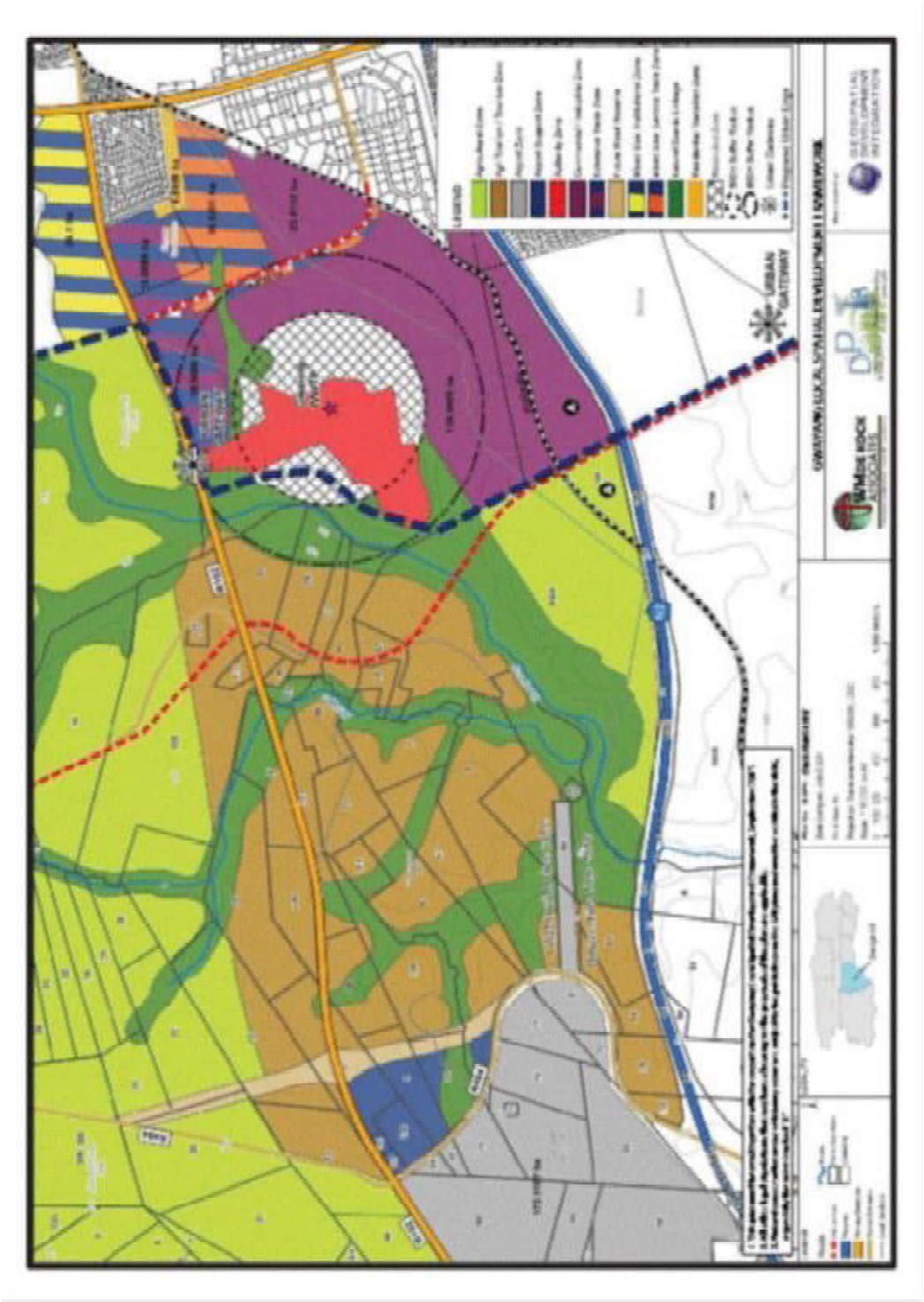
		Management Manual or Road Access Guidelines of the Provincial Administration Western Cape. • Impacts negatively on road safety and mobility. • Access via road to unscheduled flights may meet requirements of TRH 26 if properly integrated into the road master-plan of the Airport Zone.	
	Portion 4	• Access meets provincial, national and international design guidelines.	Good
Long term development considerations	Portion 131	• No impact on long term development of Airport and Airport Support Zone.	Good
	Portion 84	• Negative impact on future development of Airport road access system. • Negative impact on future public transport facilities.	Unacceptable
	Portion 4	• No impact on future development of Airport or Airport Support Zone.	Good
Ability to serve	Portion 131	• The facility will not be able to serve the market due to indirect access.	Poor
	Portion 84	• Ability to serve heavy vehicles poor due to constrained access via mini-circle. • Ability to serve vehicles exiting Airport is good through left-in-left-out movement. • Ability to serve all other road users is poor due to substandard access along congested road link. • Ability to serve all Airport related patrons via access from road leading to unscheduled flights is good.	Unacceptable
	Portion 4	• Facility will serve the market well due to properly designed access system in accordance with National and Provincial road design guidelines.	Good
Impact on long term development of Airport	Portion 131	• No impact.	Good
	Portion 84	• Significant impact on development potential of the Airport due to limited spacing along main access to Airport. • Impacts on mobility and road safety along main Airport access and circulation road.	Unacceptable

	Portion 4	• No impact.	Good

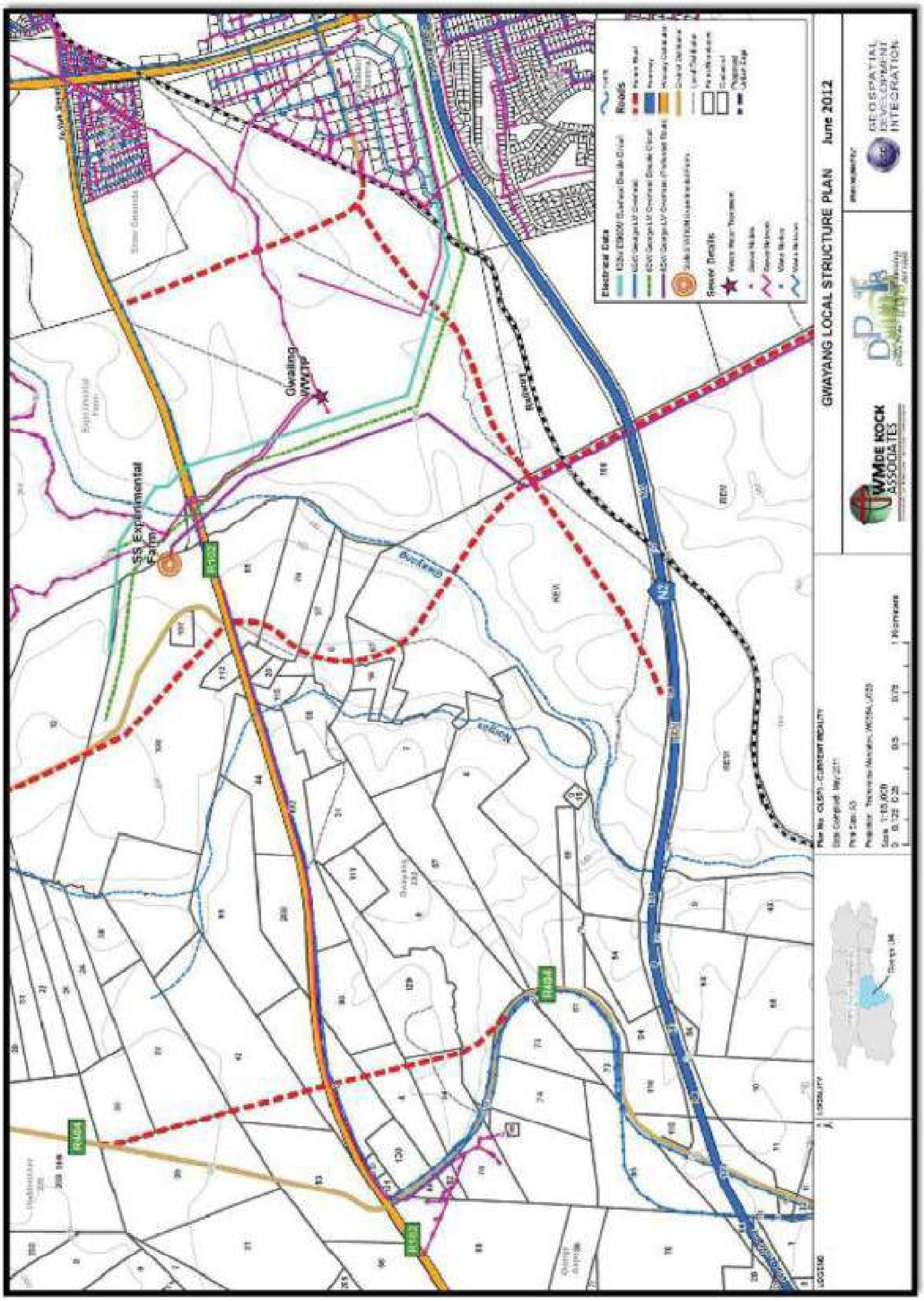
The proposed location for the development of a service station on Portion 131 is not acceptable due to poor and inconvenient access via the proposed internal road system of Portion 4.

The proposed ACSA facility on Portion 84 is fatally flawed due to the non-compliance of the proposed access mini-circle with national and provincial road design guidelines. Access via the road to unscheduled flights is however acceptable and will serve Airport related land uses.
The proposed facility on Portion 4 will meet all the road access requirements and will optimally serve the local market, including the residential, farming and commercial land uses.

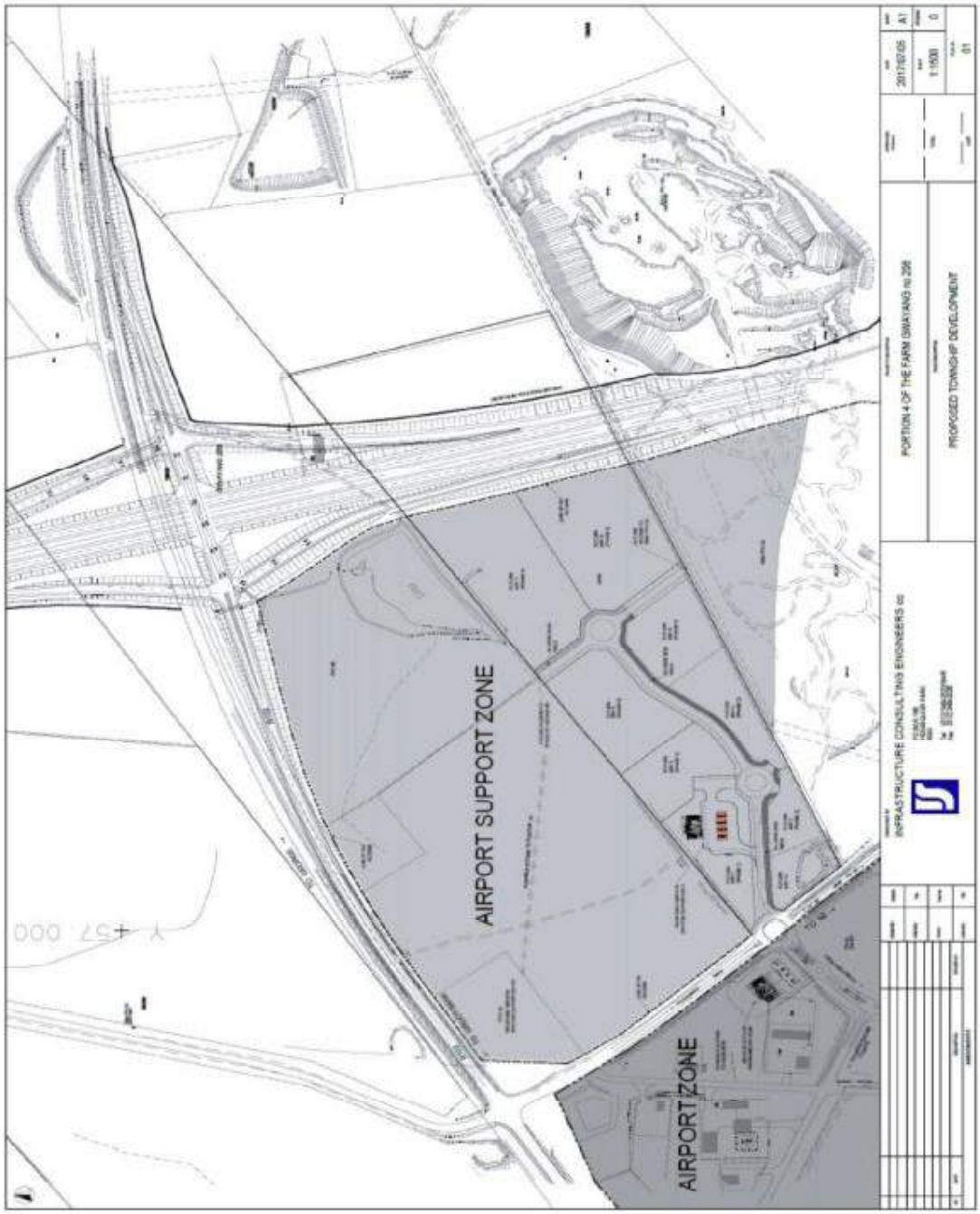
Annexure A



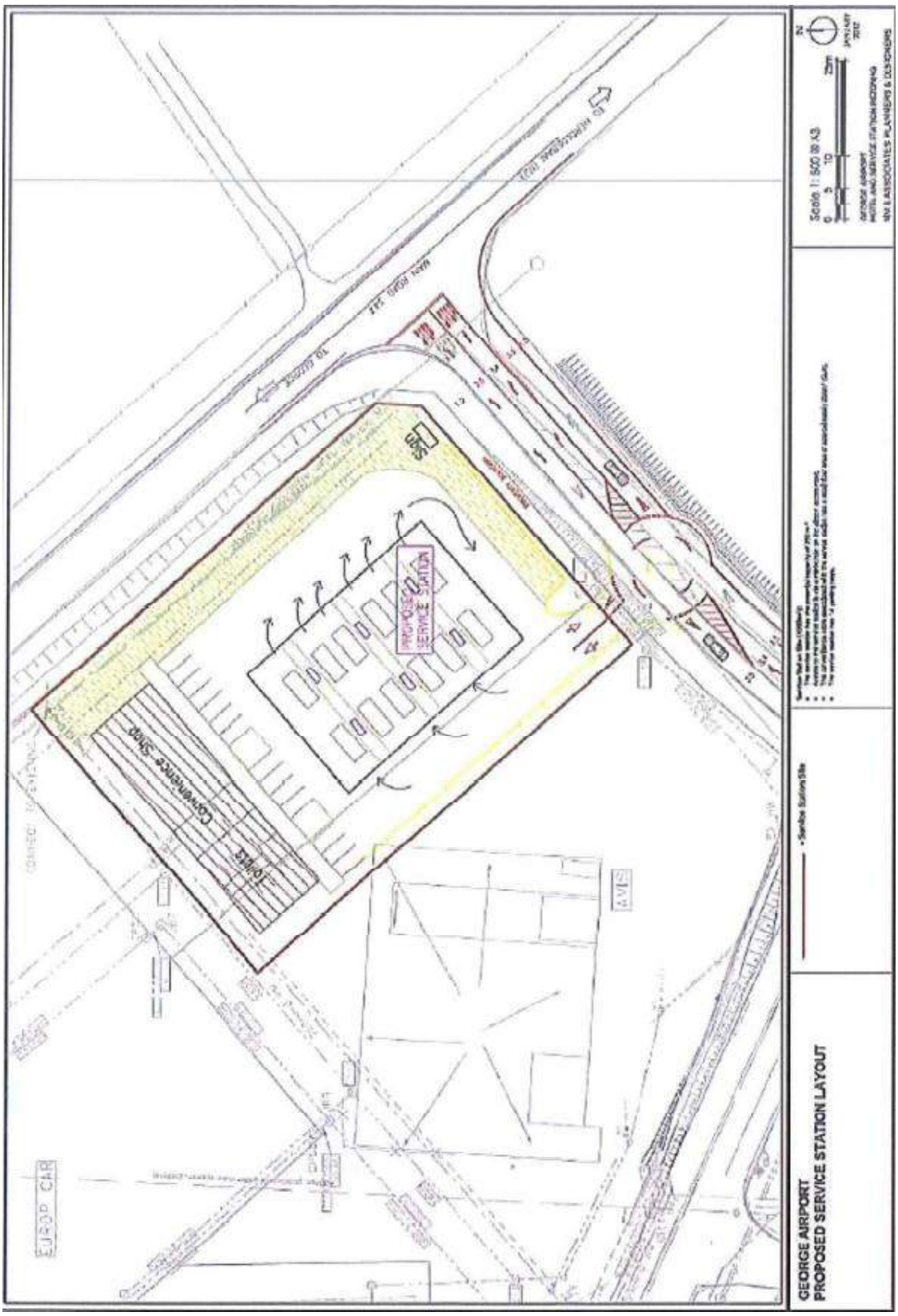
Annexure B


GWAYANG LOCAL STRUCTURE PLAN
June 2012
Gwaing WWTP
SS Experimental Farm
R102
R404
N2
Electrical Data
Roads
Sewer Results
WMDE KOCK ASSOCIATES
GEOSPATIAL DEVELOPMENT INTEGRATION

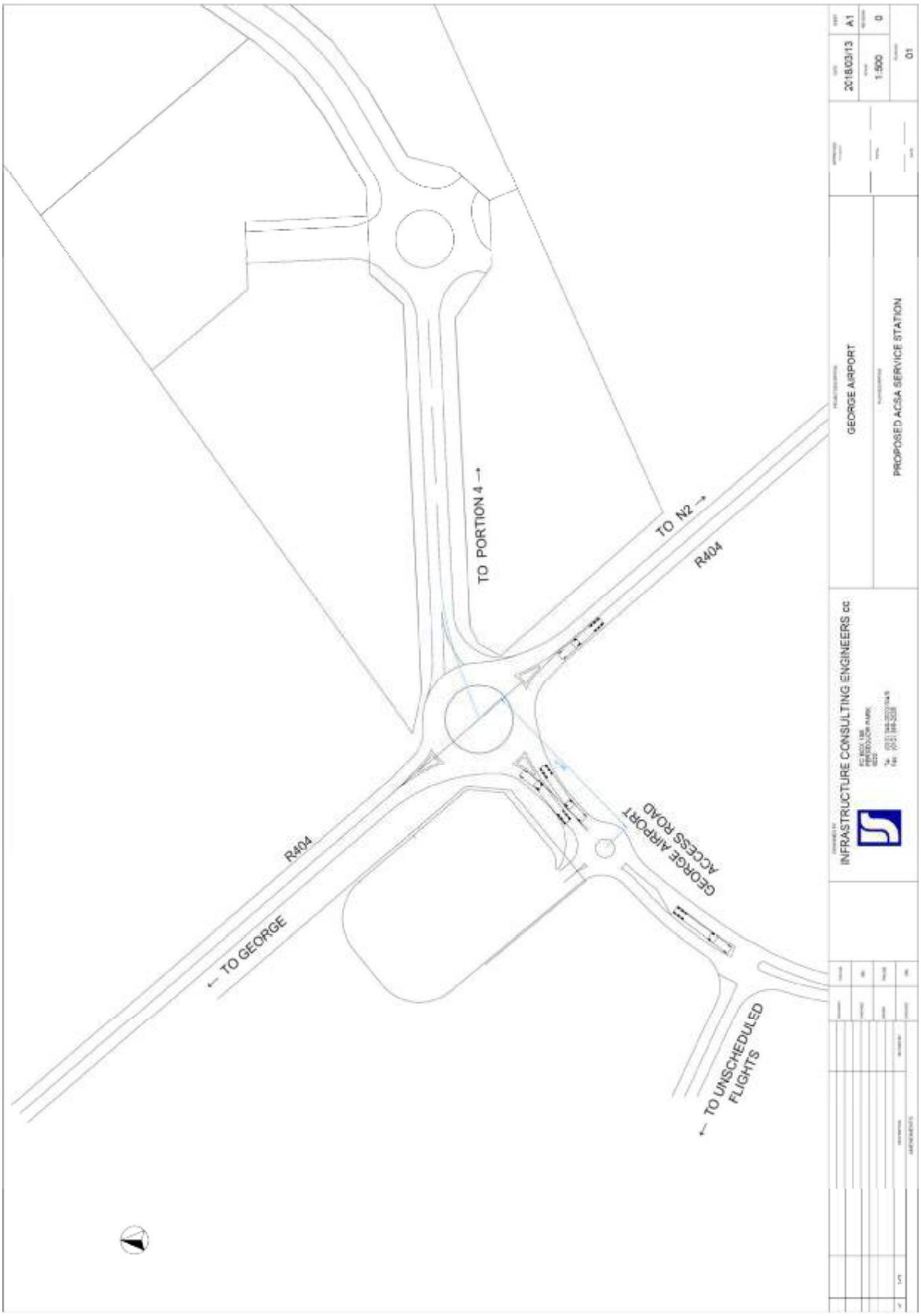
Annexure C


AIRPORT SUPPORT ZONE
AIRPORT ZONE
PROPOSED TOWNSHIP DEVELOPMENT

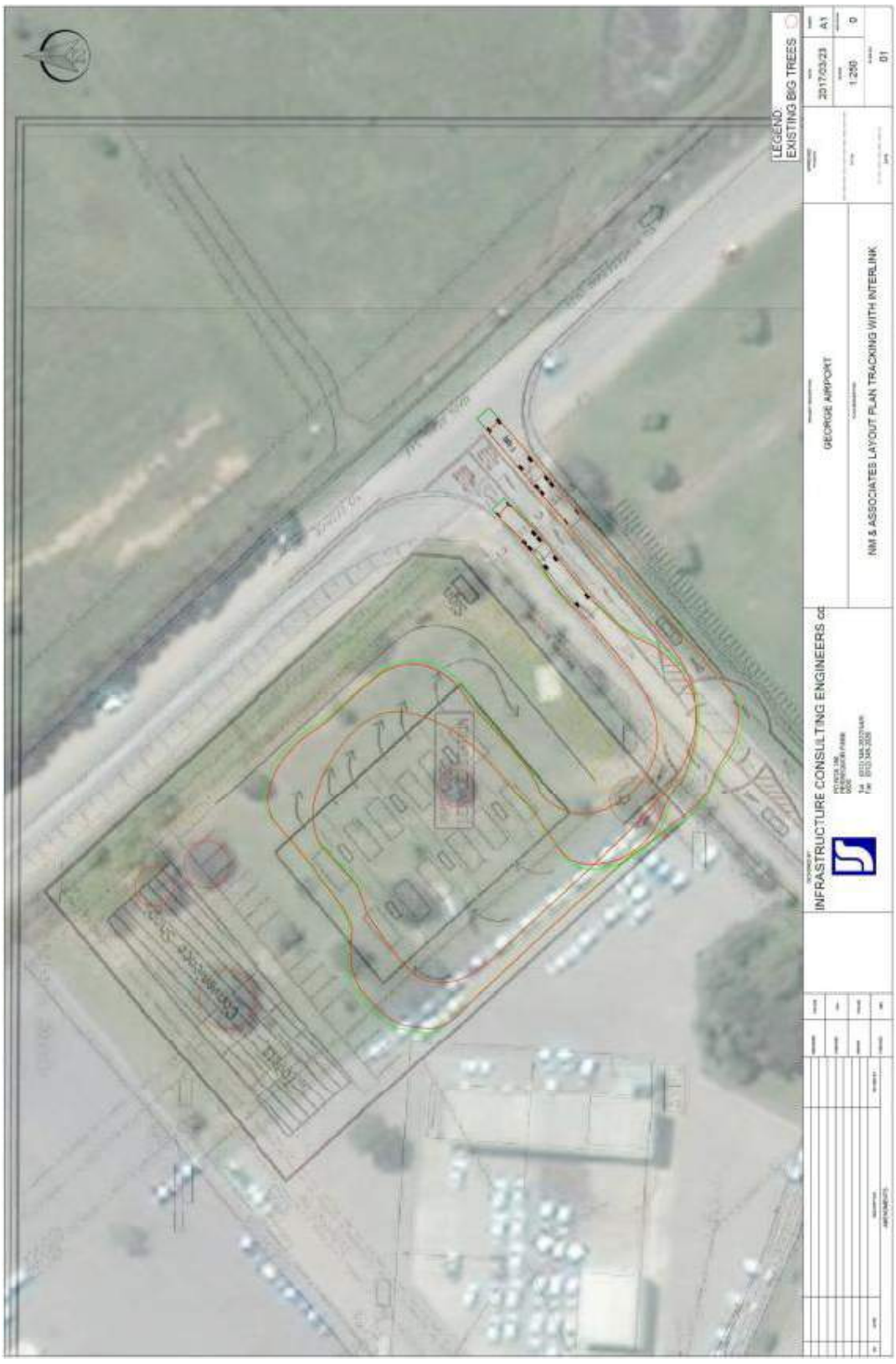
Annexure D


PROPOSED SERVICE STATION
Convenience Shop
Toilets
EUROP CAR
HAVIS
GEORGE AIRPORT
PROPOSED SERVICE STATION LAYOUT

Annexure E


TO PORTION 4 →
TO N2 →
R404
R404
← TO GEORGE
GEORGE AIRPORT ACCESS ROAD
← TO UNSCHEDULED FLIGHTS
INFRASTRUCTURE CONSULTING ENGINEERS cc
GEORGE AIRPORT
PROPOSED ACSA SERVICE STATION
2018/03/13
A1
1:500
0
01

Annexure F

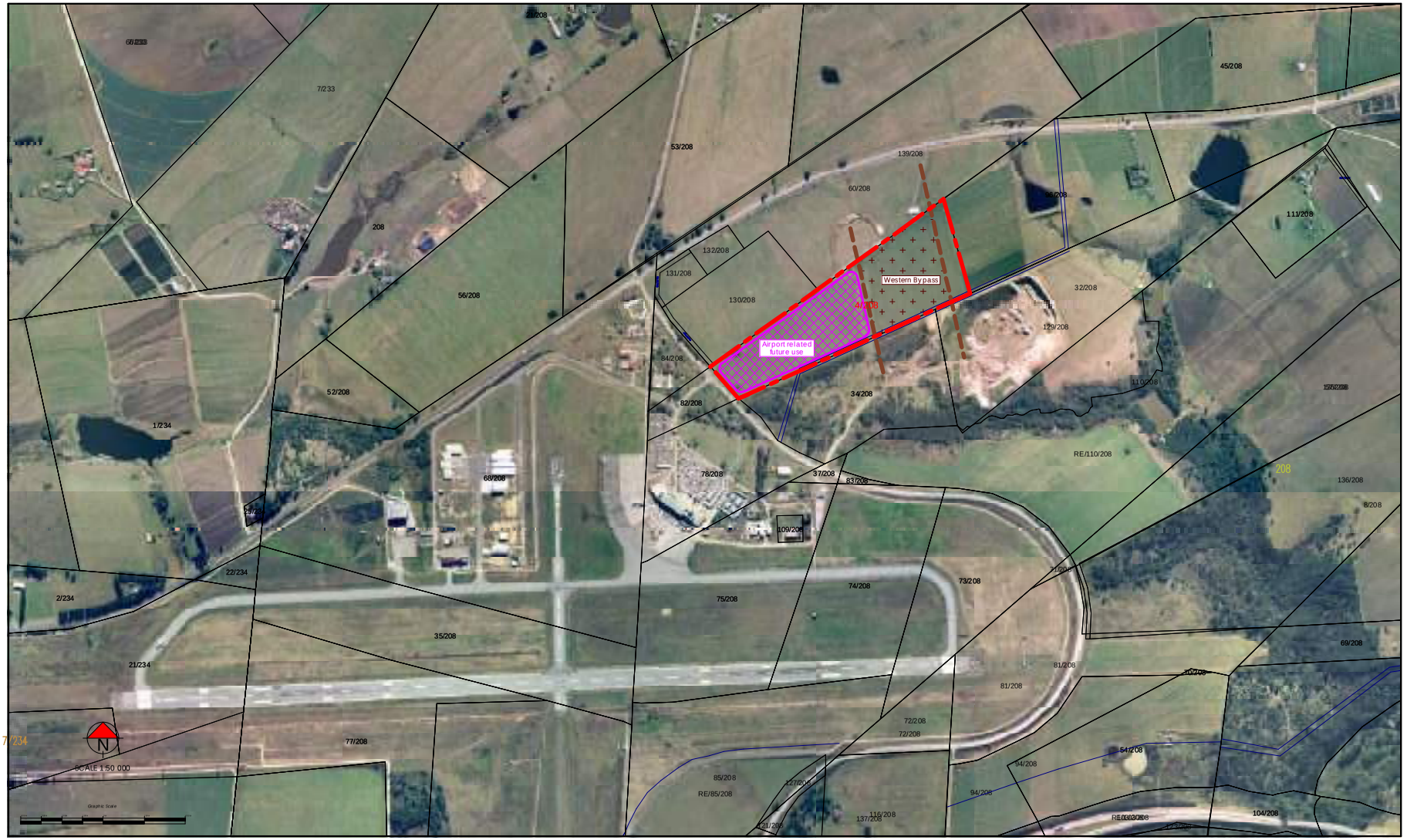

LEGEND
EXISTING BIG TREES
INFRASTRUCTURE CONSULTING ENGINEERS cc
GEORGE AIRPORT
NM & ASSOCIATES LAYOUT PLAN TRACKING WITH INTERLINK
2017/03/23
A1
1:250
0
01

Annexure G


INFRASTRUCTURE CONSULTING ENGINEERS cc
GEORGE AIRPORT
PROPOSED ACCESS TO SERVICE STATION ON PORT/ON 84
FROM ROAD TO UNSCHEDULED FLIGHTS
2017/03/23
A1
1:250
0
01

PLAN 1:

Locality Plan



PLAN 1

LOCALITY PLAN

Portion 4 of the Farm Gwayang Farm No 208,
Division George

Marike Vreken
URBAN & ENVIRONMENTAL PLANNERS
STUDS & OMGEVINGSBEPLANNERS

21 Trotter Street, PO Box 2180
KNYSNA 6570

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

PLAN 2:

Site Characteristics

PLAN 2

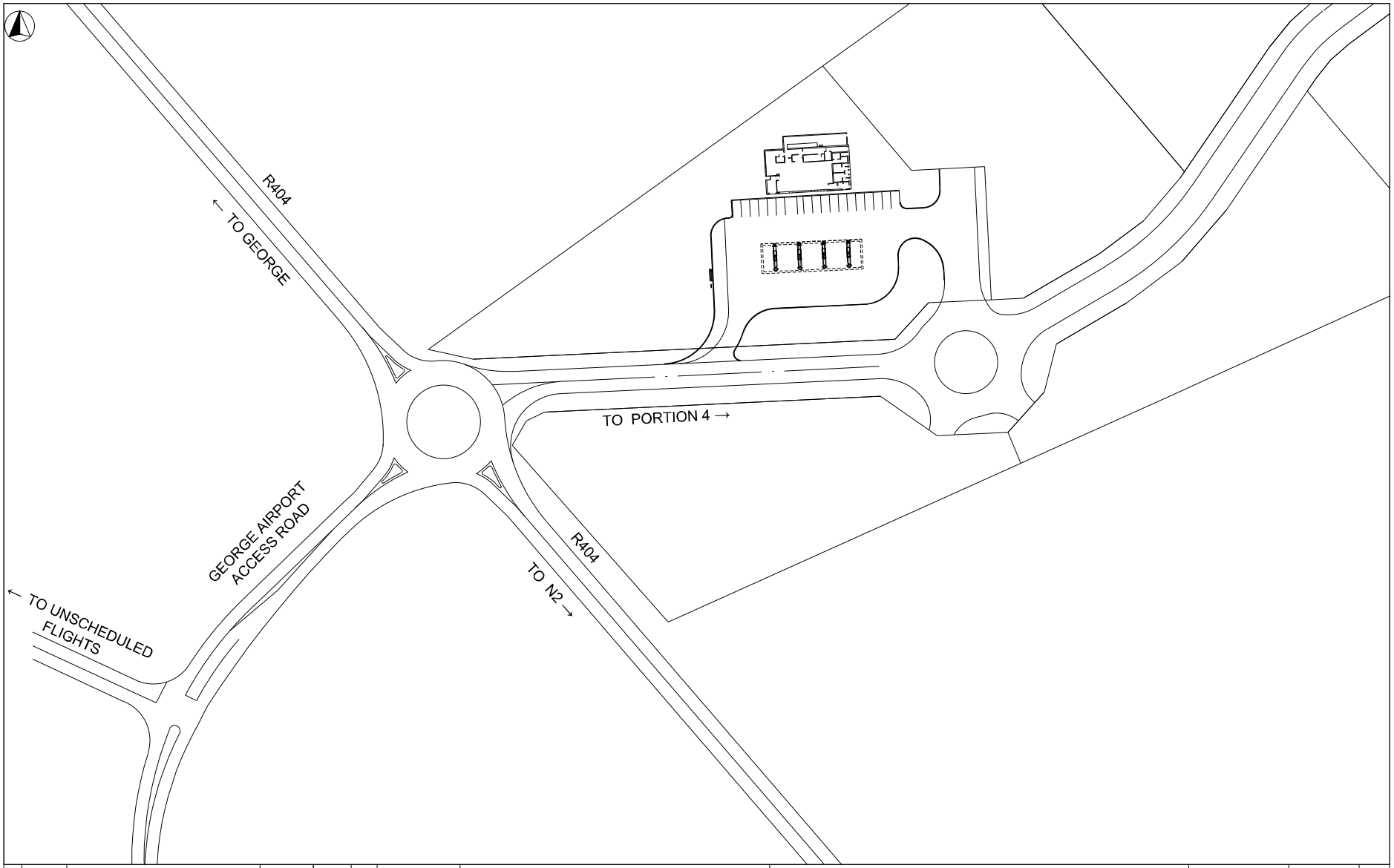
SITE CHARACTERISTICS

Portion 4 of the Farm Gwayang No 208,
Division & Municipality George

Marike Vreken
STADS & OMGEWINGSBEPLANNERS
URBAN & ENVIRONMENTAL PLANNERS
21 Trotter Street, PO Box 2180
KNYSNA 6570
(044) 382 0420
086-459-2987
e-mail: marike@vreken.co.za
www.vreken.co.za

PLAN 3:

Proposed Traffic Circle



NO	DATE	DESCRIPTION	REVISED BY

AMENDMENTS

DESIGNED	AM
CHECKED	PDJ
DRAWN	AM
CHECKED	PDJ

DESIGNED BY

INFRASTRUCTURE CONSULTING ENGINEERS cc

PO BOX 186
PERSEQUOR PARK
0020

Tel (012) 348-2022/3/4/5
Fax (012) 348-2026

PROJECT DESCRIPTION

PORTION 4 OF THE FARM GWAYANG no 208

PLAN DESCRIPTION

PROPOSED TOWNSHIP DEVELOPMENT

APPROVED

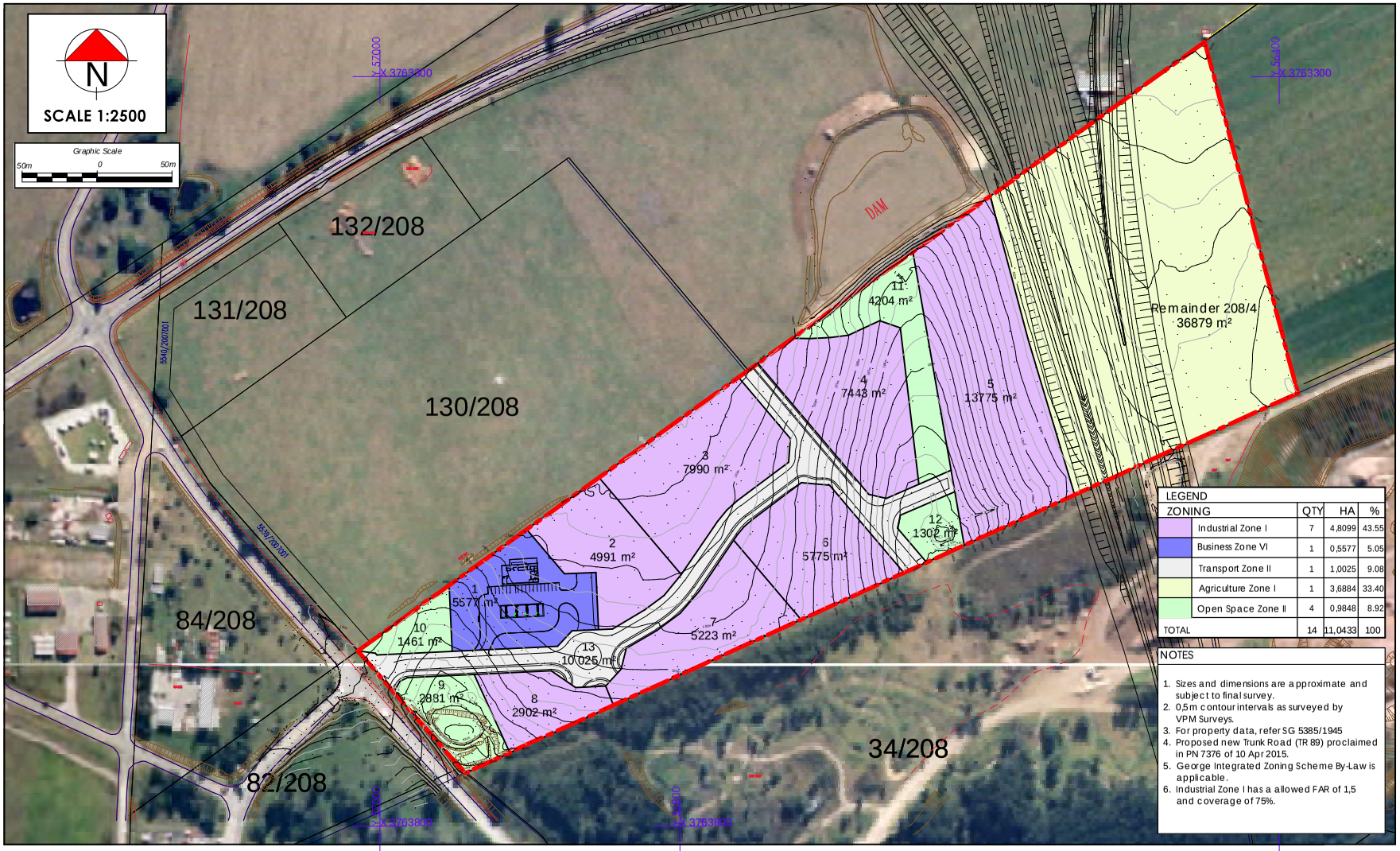
TOTAL

DATE

DATE	SHEET
2017/09/29	A3
SCALE	REVISION
1:1000	0
PLAN NO.	
01	

PLAN 4:

Layout Plan



LEGEND				
ZONING	QTY	HA	%	
Industrial Zone I	7	4,8099	43.55	
Business Zone VI	1	0,5577	5.05	
Transport Zone II	1	1,0025	9.08	
Agriculture Zone I	1	3,6884	33.40	
Open Space Zone II	4	0,9848	8.92	
TOTAL	14	11,0433	100	

NOTES

1. Sizes and dimensions are approximate and subject to final survey.
2. 0.5m contour intervals as surveyed by VPM Surveys.
3. For property data, refer SG 5385/1945
4. Proposed new Trunk Road (TR 89) proclaimed in PN 7376 of 10 Apr 2015.
5. George Integrated Zoning Scheme By-Law is applicable.
6. Industrial Zone I has a allowed FAR of 1,5 and coverage of 75%.

PLAN 4

LAYOUT PLAN

Portion 4 of the Farm Gwayang No 208, Division George

APPROVED IN TERMS OF SECTION 23(1) OF THE GEORGE MUNICIPALITY'S BY-LAW ON MUNICIPAL PLANNING AS PUBLISHED IN P.N. 7481/2015 ON 1 SEPTEMBER 2015

MUNICIPAL MANAGER

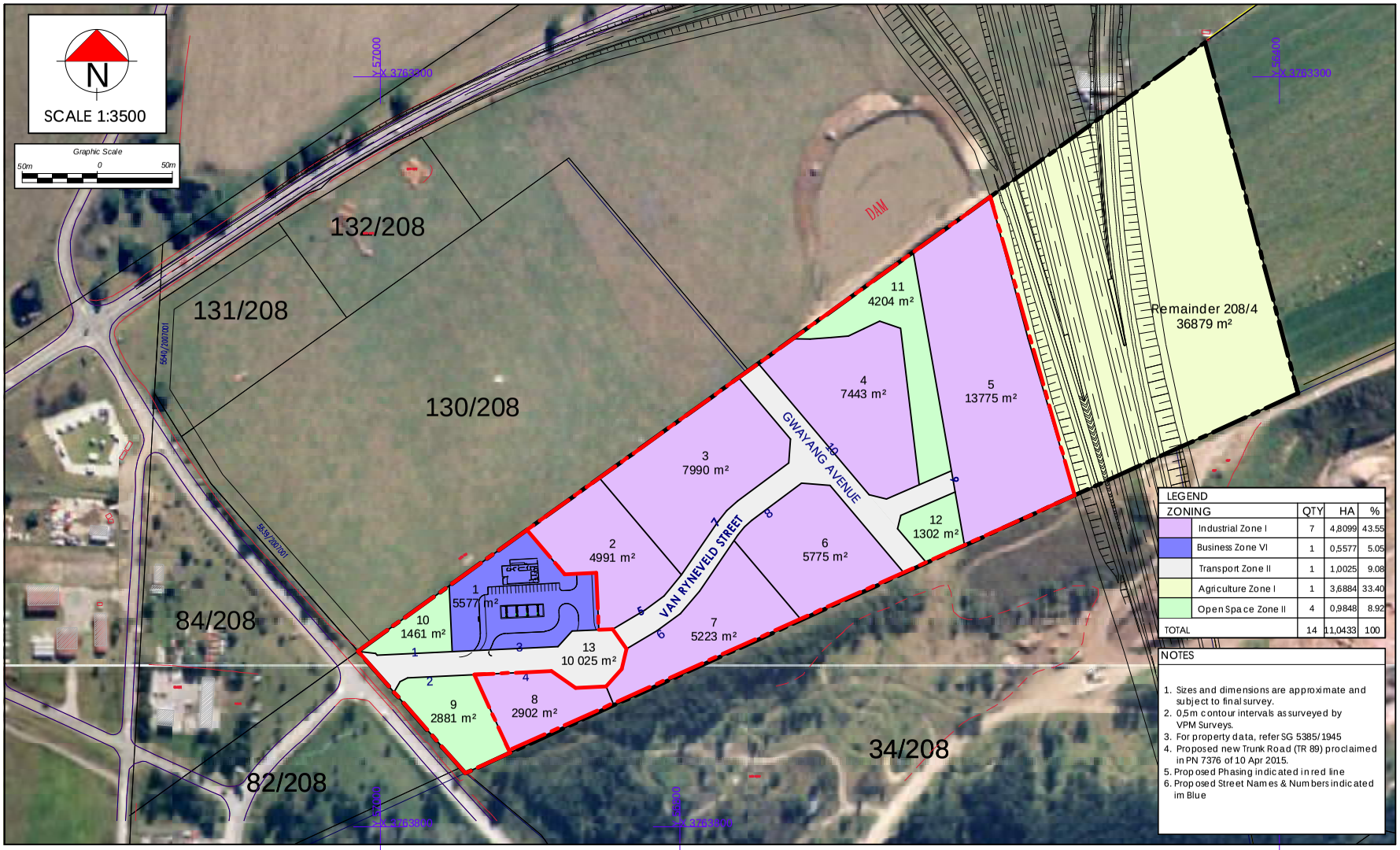
DATE: _____

DRAWN:	MV	CHECKED:	MV
PLAN NO:	Pr16/48F208Ptn4Sub06		
PLAN DATE:	18 Jul 2018		
STORED:	z:\drawings\App\Pr16/48F208Ptn4Sub06.drg		

Marike Vreken
STADS & OMGEWINGSBEPLANNERS
URBAN & ENVIRONMENTAL PLANNERS
21 Trotter Street, PO Box 2180
KNYSNA 6570
(044) 382 0420
086-459-2987
e-mail: marike@vreken.co.za
www.vreken.co.za

PLAN 5:

Phasing Plan



LEGEND				
ZONING		QTY	HA	%
	Industrial Zone I	7	4,8099	43.55
	Business Zone VI	1	0,5577	5.05
	Transport Zone II	1	1,0025	9.08
	Agriculture Zone I	1	3,6884	33.40
	Open Space Zone II	4	0,9848	8.92
TOTAL		14	11,0433	100

NOTES

1. Sizes and dimensions are approximate and subject to final survey.
2. 0.5m contour intervals as surveyed by VPM Surveys.
3. For property data, refer SG 5385/1945
4. Proposed new Trunk Road (TR 89) proclaimed in PN 7376 of 10 Apr 2015.
5. Proposed Phasing indicated in red line
6. Proposed Street Names & Numbers indicated im Blue

PLAN 5

PHASING PLAN

Portion 4 of the Farm Gwayang No 208, Division George

APPROVED IN TERMS OF SECTION 23(1) OF THE GEORGE MUNICIPALITY'S BY-LAW ON MUNICIPAL PLANNING AS PUBLISHED IN P.N. 7481/2015 ON 1 SEPTEMBER 2015

MUNICIPAL MANAGER

DATE: _____

DRAWN:	MV	CHECKED:	MV
PLAN NO:	Pr16/48F208Ptn4Sub06		
PLAN DATE:	18 Jul 2018		
STORED:	z:\drawings\App\Pr16/48F208Ptn4Sub06.drg		

Marike Vreken
STADS & OMGEWINGSBEPLANNERS
URBAN & ENVIRONMENTAL PLANNERS
21 Trotter Street, PO Box 2180
KNYSNA 6570
(044) 382 0420
086-459-2987
e-mail: marike@vreken.co.za
www.vreken.co.za