PROPOSED HOUSING DEVELOPMENT ON ERF 325, THEESCOMBE, GQEBERHA

SOCIO-ECONOMIC IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

The purpose of this Socio-Economic Impact Assessment (SEIA) is to identify and assess the socio-economic impacts associated with the proposed Housing Development on Erf 325, Theescombe, Gqeberha. This development involves a relatively large *'Urban Village'*, a residential design concept that is popular for its integration of residential, social, and other spaces and utilities, in a walkable / more sustainable land-use mix. The site for the proposed Housing Development is on the southern urban edge of the City of Gqeberha (formerly Port Elizabeth), directly adjacent to the suburbs of Providentia and Pari-Park.

The proposed Housing Development will exert its socio-economic impact at the suburban southern urban edge of the City of Gqeberha, as well as the Nelson Mandela Bay (NMB) Metro as far as economic and geographical consequences are concerned. The following prominent sensitive receptors apply:

a) The depressed economic performance of the NMB Metro, which is reflected by low Gross Domestic Product (GDP) growth rates and poor economic prospects. This does not bode well for the social wellbeing and quality of life of thousands of the Metro's poor and unemployed inhabitants. The economy of the Metro is currently under tremendous pressure in the wake of the nation-wide energy crisis. Its general performance is not likely to improve to acceptable levels soon.

b) The traditional urban development trends in the NMB Metro that eventually culminated in low density urban sprawl, which extends the urban edge unnecessarily. Not only is low density urban sprawl an inefficient, expensive to service, and socially and environmentally unsustainable form of land-use, the unique character and natural features of the NMB Metro

are at risk due to randomly leap-frogging residential developments. The southern urban edge of the City of Gqeberha, collectively with other peripheral residential areas, naturally hosts a share of this problem.

The SEIA used a mixed-methods research methodology and applied a combination of technical and qualitative techniques. To identify and assess the socio-economic impact of the proposed Housing Development, the research results were filtered through a range of possible socio-economic change processes and SEIA categories. The following categories and socio-economic impacts were subsequently identified:

Economic impacts:

- The construction phase of the proposed Housing Development will see the creation of temporary (short-term) employment opportunities. This will culminate in positive (direct / indirect) impacts 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.

- The construction phase of the proposed Housing Development will also have a positive (indirect) impact on the GDP of the NMB Metro. GDP is an important indicator because it reflects the capability of the Metro to create, sustain and develop its own economy, something with far-reaching socio-economic consequences.

- An increased demand for local goods and services during the construction phase of the proposed Housing Development will in addition have a positive (indirect) impact on the local

economy. Various other socio-economic benefits are likely to emanate from this impact, such as employment creation and poverty reduction.

- The operational phase of the proposed Housing Development will make a positive (indirect) contribution to the revenue of the NMB Municipality, through rates and taxes that will be generated by the relatively large number of residential units.

Geographical impacts:

- In its capacity as an Urban Village, with a higher density, walkable / more sustainable land-use mix, the proposed Housing Development will make a positive (cumulative) contribution to a more sustainable urban form in the City of Gqeberha.

Empowerment impacts:

- The construction phase of the proposed Housing Development could see the development and transfer of skills taking place in order to meet the necessary labour requirements. This will have an (indirect) impact that extends well beyond the period of the proposed development's construction phase. Relevant individuals will 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.

Public health and safety impacts:

- The proposed Housing Development is likely to generate an increased amount of traffic as far as the daily movement of its workforce and other construction related traffic is concerned. This could culminate in (indirect) health and safety impacts through the potential increase in motor

vehicle and pedestrian related accidents. Relevant mitigation in this case however would decrease the impact significance.

- Large construction projects are likely to attract criminal activity due to the attractiveness of the high-value onsite operations and material. Similarly, the proposed Housing Development could witness an increase in crime (direct impact), including organised crime, which plagues the construction industry of the NMB Metro currently. Relevant mitigation would decrease the impact significance.

This SEIA finally addressed a number of socio-economic concerns that were raised by Interested and Affected Parties (I & APs):

- Numerous comments by I & APs reflect concerns about the potential decrease in the value of their properties, especially if the proposed Housing Development is a social or low-cost / subsidised housing estate. This misconception about the nature and design of the proposed development usually results from inadequate stakeholder engagement and is something that can be addressed with relative ease.

- The link between the proposed Housing Development and crime is a concern of several I & APs. In addition to the assessment of this impact during the construction phase of the proposed development, it was pointed out that the construction of a secure housing estate on Erf 325 is likely to improve the safety and security of the neighbouring suburbs during the operational phase.

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The final comment relates to the sense of place of I & APs. In light of the fact that some of the I & APs specifically value the existing tranquility of the undeveloped nature of Erf 325, it is inevitable that the proposed Housing Development will have a negative impact on their sense of place. However, a reduced sense of place in such cases usually varies, in terms of impact significance, between *'negative low'* (little real effect) and *'negative moderate'* (effect not substantial) – but, on one critical condition, *i.e.* that the new land-use (or environmental change) which triggers a reduced sense of place among I & APs, is not incompatible with the receiving environment or something that is radically different in nature.

I & APs are naturally concerned with the intrusion impacts of the proposed Housing Development. As a relatively large construction project, the proposed development will impose several environmental disturbances on its immediate receiving environment. Such impacts include air pollution, noise pollution, light pollution, and visual pollution during the construction phase. However, intrusion impacts have standard forms of mitigation that should be implemented by the developer.

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LIST OF ACRONYMS

EIA	Environmental Impact Assessment
IDP	Integrated Development Plan
I & APs	Interested and Affected Parties
GDP	Gross Domestic Product
NMB	Nelson Mandela Bay
NMBM	Nelson Mandela Bay Municipality
SEIA	Socio-economic Impact Assessment
SAPS	South African Police Service

1. INTRODUCTION

The format of this socio-economic impact report follows the *'Guideline for Including a Social Assessment Specialist in the EIA process'* (Barbour, 2007), as well as Appendix 6 of the EIA Regulation concerning the requirements around specialist reports (EIA Regulations, 2017). The introductory two sections of this report subsequently present the description and location of a proposed housing development on Erf 325 (Theescombe, Gqeberha), followed by an outline of the scope of the Socio-Economic Impact Assessment (SEIA), and applicable methodology.

2. PROJECT LOCATION AND DESCRIPTION

Figure 1 shows the location of Erf 325, the site of the proposed housing development. This site is located in the larger Theescombe Municipal Allotment Area on the southern urban edge of the City of Gqeberha (formerly Port Elizabeth) (Figure 2), directly adjacent to the suburbs of Providentia and Pari-Park (Figure 1). The area immediately south of Erf 325, is occupied by mostly well-to-do small-holdings, typical of the settlement patterns of Gqeberha's southern and western peri-urban areas.

A site plan of the proposed Housing Development is shown in Figure 3. The proposed development reflects the so-called *'Urban Village'* residential design concept, popular in South Africa and abroad for its integration of residential, social, and other spaces in a walkable / more sustainable land-use mix of housing, public space, and a host of other possible amenities (See Litman, 2024).

Figure 1: The location of the site of the proposed development (Erf 325)

Figure 2: The location of the proposed development in a broader local context

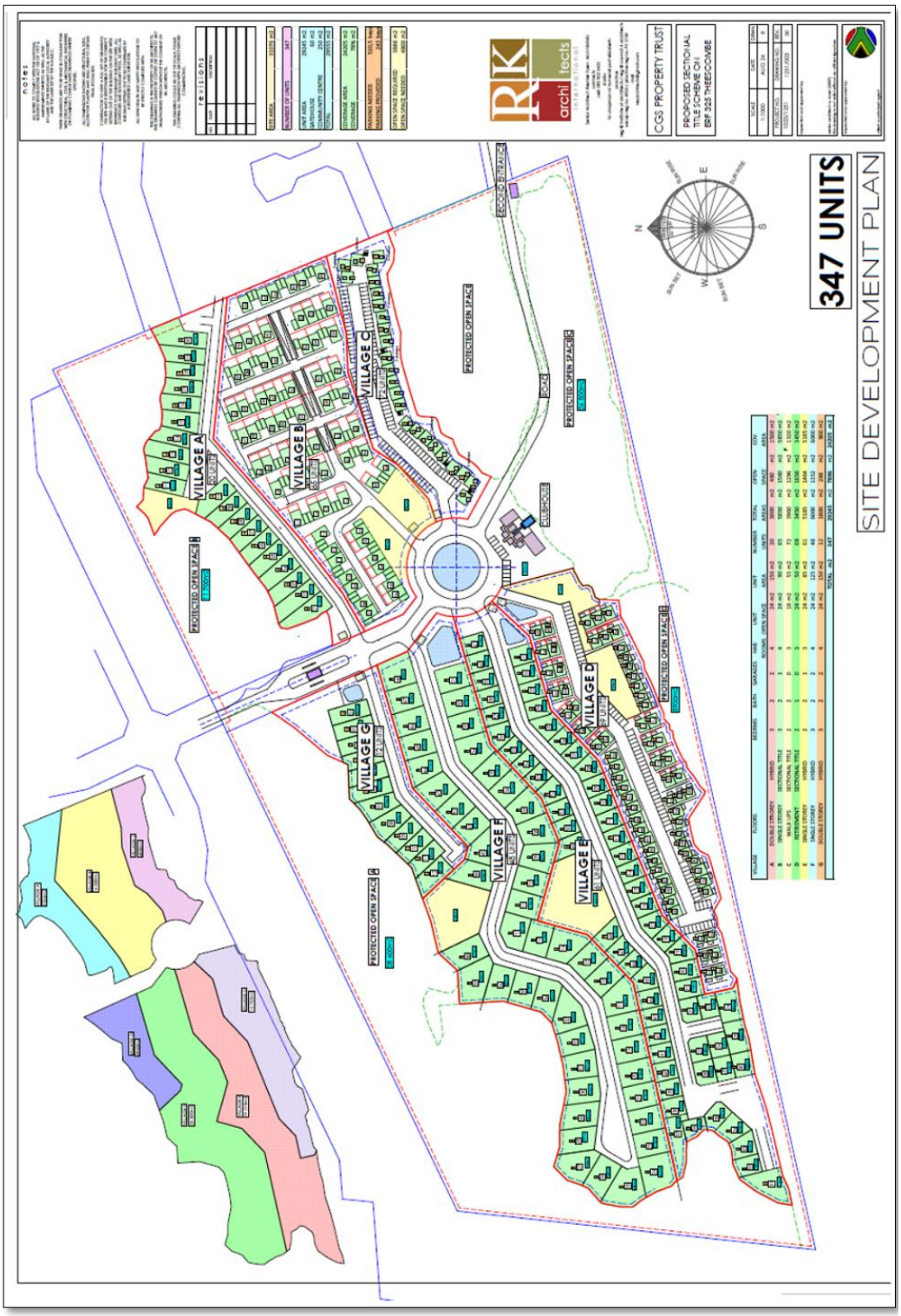

Figure 3: Plan and layout of the proposed Housing Development on Erf 325

The following footprints apply:[1]

- 32 double storey housing units (Village A and G) = 4800m^2
- 174 single storey housing units (Village B, E, and F) = 17035m^2
- 72 walk-up housing units (Village C) = 3960m^2
- 69 retirement housing units (Village D) = 3450m^2
- Open space for all housing units = 6896m^2
- Gatehouse = 60m^2
- Community Centre = 250m^2
- Parking bays = 5382m^2
- Community open space = 6364m^2
- Boundary / security wall = 1900m

3. SEIA SCOPE AND METHODOLOGY

This SEIA report includes the following components that are universally agreed upon for the study, assessment, and reporting of socio-economic impacts (See Barbour, 2007; Vanclay *et al*., 2015; EIA Regulations, 2017; Vanclay & Esteves, 2024):

– A baseline account of the affected socio-economic environment, involving qualitative and quantitative descriptive elements, to comprehend and contextualise relevant issues and impacts.

[1] Footprints are used later in the report to estimate the capital expenditure of the proposed development.

- The identification and assessment of the (direct / indirect / cumulative) socio-economic impacts of the proposed housing development in its construction and operational phases.[2]

- Recommendations regarding the mitigation of the identified socio-economic impacts (where applicable).

- Other applicable aspects that are required by the relevant South African regulation, *i.e. 'Appendix 6 of the EIA Regulation'* (EIA Regulations, 2017).

The study approach of the SEIA appears at the end of this report in **Addendum A**. This includes the methodological foundation that informed the SEIA, as well as the research process that was followed to identify and assess potential socio-economic impacts.

4. DESCRIPTION OF THE AFFECTED SOCIO-ECONOMIC ENVIRONMENT

Relatively large urban residential projects, such as the proposed Housing Development, tend to influence the surrounding socio-economic landscape at two distinctive levels: The first level is the macro-scale economic context within which large housing developments exist (such as the NMB Metro), mostly because of the significant capital expenditure and related impacts which accompany such developments. The second level involves aspects of the immediate receiving environment, particularly the question and implications of conventional suburban development *versus* the more sustainable alternative of the Urban Village / mixed-use concept.

[2] *"Direct socio-economic impacts occur at the same time and in the same space as the proposed development. Indirect socio-economic impacts can occur later in time, or at a different place, from the causal activity, or as a result of a complex pathway"* (Barbour, 2007:39, Box 5).

The economy of the NMB reached its heyday in the third quarter of the 20th century (Muller, 2000). Since then, the economy of the Metro has been in a state of steady decline. Despite industrial interventions, the trend of local economic stagnation carried on unmitigated during the first two decades of the 2000s. The local economy barely managed to grow by one percent on average between 2000 and 2013, and it added less than single percentage point to this rate in the years after 2013 (NMBM, 2024a). The impact of the Covid-19 economic restrictions in the early 2020s was economically catastrophic. The local economy did however show signs of recovery afterwards, but this is not reflected by the local unemployment situation, which, mostly due to the recent spike in South Africa's energy crisis, continues to manifest at record levels in the Metro's post-Covid era (ECSECC, 2022-2023; StatsSA, n.d.).

The contemporary unemployment rate in the NMB Metro is on average somewhere between 34% and 42% (ECSECC, 2022-2023; NMBM, 2024a). Despite the severity of such figures, even the higher of the two figures (42%) is forgiving, because it hides local extremes in some places on the urban periphery, where unemployment far exceeds the 50% mark. Furthermore, the poverty rate, which is naturally allied to unemployment, regardless of the particular definition that is used, shows a steady year-on-year increase (over the past decade) (De Wit, 2022). Other social indicators that are associated with unemployment and poverty, such as educational attainment, naturally follow. More than a tenth of the Metro's adult population in this case is illiterate and it is not uncommon for post-school education levels (including vocational training) in many of the less affluent areas to dwindle to less than one percentage point of all adults.

To focus on the NMB Metro's economic performance and associated unemployment and poverty rates is critical in a SEIA context. These metrics display highly positive correlations with other indicators of social wellbeing (including housing, education, safety and security, health, *etc*.), as

well as, in the case of South Africa, people's quality of life (a subjective expression of their happiness and satisfaction).

The immediate receiving environment of the proposed Housing Development, *i.e.* the southern urban edge of the City of Gqeberha, introduces the second focus area as far as the potential socio-economic influence of this development is concerned. Residential growth in the NMB Metro, traditionally, occurred in the conventional way, via increasing applications by developers to subdivide and rezone agricultural land. Eventually, this trend culminated in low density urban sprawl throughout the Metro, extending the urban edge unnecessarily. The consequences are far reaching. Not only is low density urban sprawl an inefficient, expensive to service, and socially and environmentally unsustainable form of land-use, the unique character and natural features of the NMB Metro are at risk due to randomly leap-frogging residential developments (NMBM, 2007a). The two low-density middle-class suburbs which borders the proposed Housing Development (Figure 1) form part of the larger urban edge of the City of Gqeberha.

The above synopsis of the relevant background for the proposed development should be viewed in the context of sensitive receptors, against which socio-economic impacts can be identified and assessed. A sensitive receptor is basically an attribute(s) of the affected socio-economic environment which leads to a heightened sensitivity to change (positive and/or negative) in that environment (EPA, n.d.). Sensitive receptors provide relevance to socio-economic impacts, as opposed to such impacts being potentially trivial or simply randomly identified. In the case of the proposed Housing Development, the economic situation in the NMB Metro on the one hand is an obvious sensitive receptor. Another, on the other hand, is the unsustainability of low-density urban sprawl in the City of Gqeberha.

5. SOCIO-ECONOMIC IMPACT ASSESSMENT

Section 5.1 contains an outline of the relevant socio-economic impact categories that are associated with the proposed Housing Development. This is followed by the presentation and assessment of the identified socio-economic impacts during the construction phase of this development (Section 5.2), as well the operational phase (Section 5.3).

5.1 Socio-economic 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 socio-economic change processes and SEIA categories. The following socio-economic impact categories (and actual impacts) surfaced throughout the course of the research process:

- **Economic impacts:** A project such as the proposed Housing Development usually contributes to increased economic activity and generates employment opportunities and other economic impacts due to knock-on effects. Impacts include:

    - Creation of employment opportunities during the Construction Phase (direct / indirect impacts).
    - Contribution to the GDP of the NMB Metro through capital expenditure during the Construction Phase (indirect impact).
    - Increased demand for local goods and services during the Construction Phase (indirect impact).
    - Increase in Municipal rates and taxes during the Operational Phase (indirect impact).

- **Empowerment impacts:** The developer is likely to engage in an economic empowerment process to supply the proposed Housing Development with the necessary local labour. The impact includes:

    - Skills development and transfer during Construction Phase (indirect impact)

- **Public health and safety impacts:** The construction of the proposed Housing Development will involve the movement of relevant heavy vehicular traffic and the daily transport of workers. The proposed development is also likely to have crime-related impacts in its immediate receiving environment. These impacts revolve around:

    - Public health and safety impacts during the Construction Phase due to increased construction related vehicular traffic (indirect impact).
    - Increased crime during the Construction Phase (direct / indirect impact).

- **Geographical impacts:** The proposed Housing Development is an example of a more sustainable alternative for conventional low density suburban development / urban sprawl. The impact in this case takes the form of:

    - A positive contribution to a more sustainable urban form in the City of Gqeberha during the Operational Phase (cumulative impact).

5.2 SOCIO-ECONOMIC IMPACTS DURING THE CONSTRUCTION PHASE

5.2.1 Economic impacts

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

A) Employment creation – impact identification and assessment

Impact identification:

The construction phase of the proposed Housing Development is a Greenfield Development on about 17ha and will involve the construction of no less than 347 residential units and a host of other forms of associated infrastructure and services (See Section 2). It is therefore a relatively large construction project with a capital expenditure which is estimated at approximately R454.6m.[3] For this reason, a noteworthy outcome of this proposed development, throughout its construction phase, will be the creation of 917 direct employment opportunities, most presumably in the semi-skilled category.[4]

[3] This value is estimated by using the latest applicable cost factors per m^2 for the construction of the range of residential buildings in question, as well as parking bays and landscaping in the case of the non-protected open space (See AECOM, 2024). Due to uncertainty and a high level of variability in values, the estimate excludes the cost of on-site infrastructure, services, roads and walkways, as well as the 1.9km boundary / security wall.

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

The number of direct employment opportunities (917) was estimated using the total construction cost of the proposed development (R454.6m) and the *Average Sectoral Employment Multipliers* of the Industrial Development Corporation (IDC, 2020). The applicable multipliers for *Construction* were applied in this case.

The creation of direct employment opportunities is not the only job-related advantage of the construction phase of the proposed Housing Development. Several 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 Footnote 4), the number of indirect and induced employment opportunities that will be created by the proposed development's construction phase and activities is estimated at 983.

The creation of employment opportunities (direct, indirect and induced jobs) is likely to have a considerable socio-economic 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. Using recent household size estimates (NMBM, 2020), the latter translates into a total of slightly more than 3117 people for the direct job category alone. In a Metro where unemployment and poverty are serious challenges, where the economy grows slower than the population, and where economic outlooks are bleak while the unemployment rate move steadily upwards, employment creation translates into a significant impact. It is also something that is strategically prioritised in South Africa, from the National Development Plan (National Planning Commission, 2024) at the national level, to the contemporary local Integrated Development Plans of the NMB Metro (NMBM, 2023, 2024a).

Impact assessment and significance rating:

Existing impact: Relatively high local unemployment and poverty levels.

Project impact: Individuals and dependents benefit from the income generated by employed persons due to employment creation during the construction phase of the proposed Housing Development.

Impact type:	Existing impact	Project impact (direct / indirect)		Cumulative impact
		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:	Some, but with no effect on the assessment.
Recommendations:	NA

B) Contribution to the GDP of the NMB Metro – impact identification and assessment

Impact identification:

GDP is an important barometer of a city's socio-economic situation. It usually receives special attention in local planning instruments, such as IDPs, because it provides a measure of the total economic and sectoral activity within a particular area (such as a municipality). Expressed as the Rand (market) value of all final goods and services that are produced and sold within a given period, GDP is a well-known measure of the status of a municipality's economic activity and prospects. It can therefore be used to reflect the capability of a municipality to create, sustain and develop its own economy. Contributions to the GDP of any place therefore carry an obvious importance. Because large construction projects are capital intensive, their contribution to GDP can be particularly noteworthy (Lewis, 2008; Nhlapo, 2013). Although the actual contribution of the proposed development to the local GDP may appear relatively small in real terms (albeit positive), it will nevertheless happen at a time when the local economy is struggling to grow post-Covid19 and in the wake of the energy insecurity crisis in the country and obviously in the NMB Metro as well. These realities alone justify the significant status of the above impact.

Impact assessment and significance rating:

Existing impact: Local GDP currently grows at a very low rate.

Project impact: Noteworthy contribution to the GDP of the NMB Metro, leading to higher levels of local economic activity and related socio-economic benefits.

Impact type:	Existing impact	Project impact (indirect)		Cumulative impacts
		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

C) Increased demand for local goods and services – impact identification and assessment

Impact identification:

The construction of large residential estates involves a multi-faceted process that is intensive in its demand for a variety of goods and services. Higher levels of local economic activity normally follow the increased demand for goods and services – and the supply thereof by local businesses – and this in turn is likely to culminate into various socio-economic benefits, such as employment creation and poverty reduction (Beveridge, 2024). 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 significant in the context of the positive effect that the demand for goods and services will have on the local economy.

Impact assessment and significance rating:

Existing impact: Relatively poor local economic growth and general performance.

Project impact: Provision of goods and services by local service providers leading to higher levels of local economic activity and related socio-economic benefits.

Impact type:	Existing impact	Project impact (indirect)		Cumulative impacts
		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

5.2.2 Empowerment impacts

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

D) Skills development and transfer – impact identification and assessment

Impact identification:

The commitment by developers to recruit local labour, as far as possible, to benefit local communities in general and the unemployed in particular, is almost standard practice in South Africa when construction projects are proposed (CIDB, 2015). The proposed Housing Development is of course no different and several employment opportunities will subsequently be created within the semi-skilled category. This is likely to have a considerable socio-economic 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 5.2.1 A).

One limiting factor that is expected to restrict the prioritisation of local labour during the construction phase of the proposed Housing Development, is the educational attainment of the prospective labour force, particularly in the case of semi-skilled workers (CIDB, 2015). The twin problems of illiteracy and low levels of post-school education and/or training are clear obstacles in this case. Thus, 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 city burdened by poverty and problematic unemployment rates and where 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 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. At present, the National Department of Human Settlements is focusing on the delivery and construction of settlement related infrastructure and services, specifically in the NMB Metro due to local backlogs, something that will take almost three decades to complete at current levels of demand (Department of Human Settlements (2023). As a spin-off, the demand for labour in the local construction sector is certain to benefit.

Impact assessment and significance rating:

Existing impact: Numerous unemployed people may be unemployable due to relatively low literacy levels.

Project impact: Skills development and transfer leading to the empowerment of affected individuals with marketable skills and greater socio-economic mobility.

Impact type:	Existing impact	Project impact (indirect)		Cumulative impacts
		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

5.2.3 Public health and safety impacts

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

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

Impact identification:

The proposed Housing Development 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 proposed Housing Development's construction phase.

It can be presumed that much of the total traffic volume that will be produced by the proposed Housing Development during this stage will share the only general approach route to the site (Glendore Avenue), and possibly the suburban Gladys Avenue and Merle Road (Providentia), or Michael Angelo Avenue (Pari Park), with regular suburban road users. The latter two 10m-wide suburban streets do not appear to have the capacity to absorb the added traffic with ease. The addition of construction related vehicles can therefore potentially affect existing mobility patterns. Michael Angelo Avenue on the one hand is a cul-de-sac, while Merle Road runs past Mount Pleasant Primary School. This could culminate in health and safety impacts through the potential increase in motor vehicle and pedestrian related accidents.

Impact assessment and significance rating:

Existing impact: Gladys Avenue, Merle Road, and Michael Angelo Avenue are relatively quiet and low-risk suburban roads.

Project impact: Increase in motor vehicle and pedestrian related accidents due to the addition of construction related traffic on the proposed Housing Development's access routes.

Impact type:	Existing impact	Project impact (indirect)		Cumulative impact
		Unmitigated	Mitigated	
Intensity:	Minor	Moderate	Minor	NA
Duration:	Long term	Short term	Short term	NA
Extent:	Local	Local	Local	NA
Consequence:	Low	Low	Low	NA
Probability:	Certain	Certain	Possible	NA
Frequency:	Sporadic	Occasional	Sporadic	NA
Impact status:	Negative	Negative	Negative	NA
Impact significance:	Negative very low	Negative low	Negative very low	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	Possible
Degree to which impacts can be avoided, managed, or mitigated:	Can be 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

Mitigation

- Establish an information-sharing link with the Safety and Security Directorate of the NMB 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.

F) Public health and safety impacts due to increased local criminal activity in the vicinity of the proposed development

Impact identification:

According to the South African Police Service (SAPS) it commonly occurs that construction work is accompanied by an increase in local (site-specific) criminal activity. This dilemma throughout the construction industry is generally linked to factors such as the vulnerability of construction sites, an increase in the presence of strangers / employment seekers in the vicinity of such areas, the attractiveness (for criminal elements) of valuable machinery, tools, and materials, and so on (See Lohne *et al.,* 2019 and Infrastructure News, 2024). A relatively new and equally realistic challenge, in addition to the latter, is the growing problem and detrimental effects of organised crime in the case of large construction projects, both nationally in general, as well as in the NMB Metro in particular (See HeraldLive, 2024). Crime is an important societal problem and any activity that is likely to affect crime rates (an increase in this case), no doubt deserves consideration as a potential socio-economic impact.

Impact assessment and significance rating:

Existing impact: Local criminal activity is at moderate levels in the residential areas around the proposed development.

Project impact: Increase in local / organised criminal activity during the construction phase of the proposed Housing Development.

Impact type:	Existing impact	Project impact (direct)		Cumulative impact
		Unmitigated	Mitigated	
Intensity:	Moderate	Major	Moderate	NA
Duration:	Long term	Short term	Short term	NA
Extent:	Local	Local	Local	NA
Consequence:	Medium	Medium	Low	NA
Probability:	Highly likely	Highly likely	Possible	NA
Frequency:	Always	Always	Regular	NA
Impact status:	Negative	Negative	Negative	NA
Impact significance:	Negative medium	Negative medium	Negative very low	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	Possible
Degree to which impacts can be avoided, managed, or mitigated:	Can be 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

Mitigation

One of the most effective measures to manage criminal activity in the context of the affected environment revolves around the critical issues of awareness and communication (crime intelligence). It is therefore proposed that the Developer, the local Community Police Forum and Neighbourhood Watch system, the SAPS (Walmer Precinct), the Safety and Security Directorate

of the NMB Municipality, and local private security companies, work closely together during the construction phase and that information regarding the following is shared among the relevant Interested and Affected Parties (I & APs):

- Duration of the construction phase of the proposed development.
- The daily movement patterns of construction workers.
- The presence of construction workers and/or other personnel on-site after hours.
- Any other information that is deemed important by I & APs in order to maintain the relative safety and security of the affected environment.

5.3 SOCIO-ECONOMIC IMPACTS DURING THE OPERATIONAL PHASE

5.3.1 Economic impacts

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

G) Increase in municipal revenue – impact identification and assessment

Impact identification:

As in the case of local authorities elsewhere, the collection of rates and taxes represents a key form of revenue for the NMB Municipality. Following the general economic decline of the Metro, an increase in unemployment, and a steep rise in the number of indigent households, this income stream is currently under severe pressure. The Metro's Budget and Treasury Directorate reports that the average collection rate has not recovered from its pre-Covid19 position of 94%, if fact, in 2023, the rate has reached new lows of just more than 63%. Consequently, the rates and taxes

arrears by households in the Metro now stands at almost R12.5bn. The local IDP process as a result has no choice but to prioritise development projects at the expense of service delivery in the Metro in general (NMBM, 2024a).

Given its five-tier housing mix across 347 units in total (See Figure 3)[5], the proposed Housing Development is likely to contribute on average about R2.5m per year in property taxes alone.[6] The proposed Housing Development comes at a time when an expansion of the Metro's rates and tax base is certain to translate into a noteworthy socio-economic impact.

Impact assessment and significance rating:

Existing impact: Decreasing household rates and tax revenue of the NMB Municipality.

Project impact: Strengthening the rates and tax base of the NMB Municipality.

Impact type:	Existing impact	Project impact (indirect)		Cumulative impacts
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Long 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

[5] To place the number of residential units in context – the proposed Housing Development is larger than many of Gqeberha's smaller middle-class suburbs, including the neighbouring Providentia and Pari Park.

[6] This value is a conservative estimation based on the municipal valuation of similar residential units elsewhere in the Metro and the latest tariff rates for this municipality (NMBM, 2024b).

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:	Some, but with no effect on the assessment.

5.3.2 Geographical impacts

Geographical impacts result from land-use related change and associated spatial patterns, densities and distributions, etc.

H) Contribution to a more sustainable urban form – impact identification and assessment

Impact identification:

One of the strategic objectives and key priorities of the NMB Municipality's five-year IDP process is to *"Ensure proactive planning for sustainable city development, conservation of resources and the natural and built environment."* (NMBM, 2024a:19). Another important guidance in this case is the Sustainable Community Planning Guide, pioneered by the NMB Municipality towards the end of the previous decade (NMBM, 2007b). The aim of the two planning instruments, among others, is to advance a more sustainable urban form, something that is more cost effective to service and at the same time less detrimental to human communities and the bio-physical environment. The target in this case is the traditional segregation of different types of land-use and the subsequent production of sprawling suburbia (See Section 4). Urban sprawl is today widely acknowledged as a key contributor to urban social, economic, and environmental unsustainability (Jabareen, 2006; Miller & Spoolman, 2021). An urban form that is more compact; produced by planning for the

integration of residential, social, and other land-use types and amenities (*i.e.* better land-use efficiency); is an essential attribute of more sustainable cities (See Litman, 2024). A long list of socio-economic benefits accompanies such spatial arrangements (See Blain, 2015, Bibri *et al*., 2020 and Litman, 2022). This includes the following:

- Creating a better quality of life and sense of community through more social interaction, community spirit, and cultural vitality, due to the proximity of residences, facilities, services, amenities, public spaces, *etc*.
- Reducing daily travel distances and enhancing convenience.
- Increasing the walkability of residential areas.
- Providing diverse housing options at varying affordability levels to a diverse population.
- Offering attractive investment opportunities.
- More cost-effective service delivery through shared services, infrastructure, and utilities.
- Reducing a great variety of environmental impacts.

The proposed Housing Development, as an Urban Village concept (See Figure 3), would clearly contribute to the above-mentioned strategic objective / key priority of the NMB Municipality's IDP, as well as the list of benefits that go with combating urban sprawl. The impact of the proposed development in this case is of a cumulative nature. As such, it adds to the effect of several other mixed-use / sustainable housing projects within the boundaries of the City of Gqeberha that collectively contribute to a more sustainable urban form. Examples include, but are not limited to the following projects that are presently in varying stages of development:

- N2 North Nodal Development
- Buffelsfontein Mixed-Use Development
- Arlington Mixed-Use Development

- Circular Drive Mixed-Use Development
- Walker Drive Residential Accommodation Development and Related Infrastructure
- Walmer Links Social-Housing Development
- Fairview Links Social-Housing Development

In summary, as a cumulative geographical impact, the proposed Housing Development is certain to reinforce the planning drive in the NMB Municipality to facilitate an urban form over time that is more sustainable in comparison to the conventional suburban development and urban sprawl of the Metro's past.

Impact assessment and significance rating:

Existing impact: Conventional suburban development and urban sprawl.

Project impact: Positive contribution to a more sustainable urban form.

Impact type:	**Existing impact**	**Project impact (cumulative)**		**Cumulative impacts**
		Unmitigated	**Mitigated**	
Intensity:	Major	Minor	NA	Major
Duration:	Long term	Long term	NA	Long term
Extent:	Local	Local	NA	Local
Consequence:	High	Low	NA	High
Probability:	Certain	Certain	NA	Certain
Frequency:	Always	Always	NA	Always
Impact status:	Negative	Positive	NA	Positive
Impact significance:	Negative high	Positive low	NA	Positive High

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

6. FINAL COMMENTS

The following comments cover aspects of the proposed Housing Development that, although they may not be significant impacts, deserve attention because of their prominence in the I & AP register of comments and responses:

The additional traffic generated by the proposed Housing Development during its operational phase is a concern for many I & APs, and rightly so. The proposed development is likely to add a considerable amount of daily traffic to the immediate road network. This has not been upgraded in recent years to cope with the amount of traffic generated by other higher density housing developments to the east and north-east of the site of the proposed Housing Development. The traffic-related impact of the proposed development during its operational phase, as a cumulative impact, should be addressed by a separate Traffic Impact Assessment.

Numerous comments by I & APs reflect concerns about the potential decrease in the value of their properties, especially if the proposed Housing Development is a social or low-cost / subsidised housing estate. This misconception about the nature and design of the proposed development usually results from inadequate stakeholder engagement and is something that can be addressed with relative ease. An interesting footnote in this case is that there is little evidence that social

housing (particularly in the form of existing projects such as Walmer and Fairview Links) has a detrimental impact of the value of surrounding residential properties. The proximity of low-cost housing (subsidised or so-called 'RDP' housing), on the other hand, would be catastrophic for the residential value of any established and socio-economically stable middle-class suburb. However, the proposed Housing Development does not fall within this category.

The link between the proposed Housing Development and crime is a concern of several I & APs. This particular impact during the construction phase of the proposed development has already been addressed in Section 5.2.3 F above. One aspect of the operational phase of the proposed Housing Development however deserves mentioning, *i.e.* the construction of a secure housing estate on Erf 325 is likely to improve the safety and security of the neighbouring suburbs. Erf 325 at present, according to some residents and members of the private security industry, is home to homeless people, vagrants, and some informal dwellings. Theft of metals and other items from residences bordering the site is currently problematic. This challenge will naturally be eliminated by developing Erf 325.

The penultimate comment relates to people's so-called *'sense of place'*. This essentially refers to an emotion of belonging and/or attachment to a place among residents (in the case of residential areas) and is developed by characteristics that make such a place special (Vanclay & Higgins, 2008). Although the range of such characteristics is possibly as wide as the scope of what people value, it often includes attributes such as an aesthetic residential environment, scenic panoramas and landscapes, or the peace, silence and tranquility that is associated with undeveloped open space. People's sense of belonging and attachment to a place(s) is at the core of their quality of life. It is well recognised in environmental legislation (Barnard *et al*., 2006) and sometimes plays a deciding role in the (environmental and socio-economic) impact assessment process (De Wit & Williams-Bruinders, 2018).

In light of the fact that some of the I & APs specifically value the existing tranquility of the undeveloped nature of the neighbouring Erf 325, it is inevitable that the proposed Housing Development, as a Greenfield Development, will have a negative impact on people's sense of place. However, it is the experience of the author of this report that a reduced sense of place in such cases usually varies in terms of impact significance between *'negative low'* and *'negative moderate'*[7] – but, on one critical condition, *i.e.* that the new land-use (or environmental change) which triggers a reduced sense of place among I & APs is not incompatible with the receiving environment or something that is radically different in nature.

I & APs are naturally concerned with the intrusion impacts of the proposed Housing Development. As a relatively large construction project, the proposed development will impose several environmental disturbances on its immediate receiving environment. Such impacts include air pollution, noise pollution, light pollution, and visual pollution during the construction phase. However, intrusion impacts have standard forms of mitigation that should be implemented by the developer.

– FIN –

[7] Negative Low = low to negligible negative impact with little real effect. Negative Moderate = negative impact that is real but not substantial. See the *SEIA Research Process* on p.48.

Addendum A: STUDY APPROACH

SEIA methodology

SEIA 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). In South Africa, the SEIA process is among others directed by DEAT (2006) and subsequent Socio-economic Impact Assessment Guidelines (Barbour, 2007; DPME, 2015).

Socio-economic processes and impacts

The above IAIA definition highlights two critical issues, namely socio-economic process and socio-economic consequence (impact), which are tied together in a cause-and-effect relationship. The influential distinction between socio-economic process and socio-economic consequence in the context of SEIA, 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 socio-economic process from socio-economic impact and ultimately supports the understanding of the processes that can result in socio-economic impacts (Aucamp, 2009).

With reference to the effects of proposed development projects, Slootweg's *et al*. (2003) model suggests pathways or socio-economic change processes which may culminate in socio-economic impacts. Accordingly, development interventions can result in intended or unintended (socio-economic 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), socio-economic change processes may ultimately result in socio-economic impacts.

Socio-economic change processes

Several socio-economic change processes can be recognised as the fundamental drivers of socio-economic 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.

- 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 spatial patterns, densities and distributions.

- 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).

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

The above list of socio-economic 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.).

Identifying socio-economic impacts

The identification of socio-economic change processes during SEIA is naturally followed by the identification of socio-economic impacts. Following the above-mentioned distinction between socio-economic process and socio-economic impact, a socio-economic 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."*

Socio-economic 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 socio-economic impacts in multifaceted human societies, a framework of SEIA categories is often referred to by practitioners for guidance. The following comprehensive set of SEIA categories is adapted by the present study from Burdge (2004) and act as essential parameters for the structured identification and presentation of socio-economic impacts:

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

- 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.

- Geographical impacts, resulting from land-use related change and associated spatial patterns, densities and distributions.

- Institutional impacts (related to government and other institutions), resulting from infrastructural demand and supply issues, changes in institutional image, land-use change, gentrification, policy related demands and changes, processes that affect urban, provincial or national governance *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 important to note the socio-economic impact variables that resort under the different socio-economic change processes may naturally overlap, while the actual socio-economic 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.

SEIA research process

The recognition of socio-economic change process categories and relevant impact categories, and the subsequent identification and assessment of the socio-economic impacts that may result from the proposed development, were the product of a mixed-methods research methodology. Within this methodology, technical and qualitative methods are used in combination.

With reference to the technical method, the SEIA practitioner is an observer of socio-economic phenomena and identifies and assess impacts by means of objective research, published literature and information, simulations, and personal experience. In a qualitative approach on the other hand, the SEIA practitioner relies on the knowledge and experience of individuals that are affected by proposed changes as the foundation from which socio-economic impacts are projected (Sogunro, 2001; Becker *et al*, 2004; DPME, 2015).

To identify and assess the socio-economic impacts of the proposed development, research results were

filtered through a range of possible socio-economic change processes and impact categories. The impacts were then identified and assessed.[8] Rating criteria of the actual assessment process, the qualitative way in which impacts are rated and presented in a tabular form in other words, are listed below (See the first column of the table below):

- Impact intensity
- Impact duration
- Impact extent
- Impact consequence
- Impact probability
- Impact frequency
- Impact status
- Impact significance

The above criteria are first applied to the so-called 'existing impact' which refers to the current and relevant status of the affected socio-economic environment. Both DEAT (2006) and DPME (2015) emphasise the importance of a proper understanding of the current socio-economic environment, because this presents the baseline for predictions in the SEIA process.

Impact assessment template with impact rating criteria

Impact rating criteria:	Existing impact	Policy / programme plan / project impact	
		Unmitigated	Mitigated
Intensity:			
Duration:			
Extent:			
Consequence:			
Probability:			
Frequency:			
Impact status:			
Impact significance:			

The technical definitions of the above-mentioned list of criteria, as well as the sequence (steps) of the impact assessment process, appear in the tables below.

[8] The tabular impact assessment process, from *'impact intensity'* at the onset of the method, to *'impact significance'* at the end, was adapted by the author of this report from the customised Environmental Assessment approach of M. Schroeder-Wolmerans (Ethical Exchange Environmental Services).

Step 1:	***Identify and Describe the Nature of the Impact***	
Existing Impacts	Current level of socio-economic depravation / degradation / predicament associated with the affected socio-economic environment.	
Project Impacts	Impacts of the proposed project and associated activities and infrastructure (also known as incremental impacts).	
Impact Status	Negative	Impacts with a potential negative / adverse effect
	Neutral	Neutral, no impact
	Positive	Impacts with a potential positive / beneficial effect

Step 2:	***Identify and Discuss Mitigation / Impact Management Measures***
Mitigation Measures (Impact Management)	Measures designed to avoid, reduce or remedy potential adverse impacts. Measures designed to compensate for residual adverse impacts. Measures designed to expand and augment the effect of potential positive impacts (enhancement measures).

Step 3:		***Rating of Impact Consequence and Significance***
Unmitigated		Impact rating assuming the proposed mitigation measures are not in place.
Mitigated		Impact rating assuming the proposed mitigation measures are in place.
Intensity *(Negative Impacts)*	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change, disturbance or nuisance. Targets, limits and thresholds of concern never exceeded. Impacts are rapidly and easily reversible. Require no or only minor interventions if these impacts occur. No complaints expected when the impact takes place.
	Moderate	Moderate change, disturbance or discomfort. Large enough to have a real effect. Targets, limits and thresholds of concern may occasionally be exceeded. Impacts are reversible but may require some effort, cost and time. Sporadic complaints can be expected when the impact takes place.
	Major	Substantial change, disturbance or degradation. Real and prominent effects. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Regular complaints can be expected when the impact takes place.
	Extreme	Extreme change, disturbance or degradation. A serious disruption to the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope. Potentially catastrophic.
Intensity *(Positive Impacts)*	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change or improvement. Minor benefits.
	Moderate	Moderate change or improvement. Real but not substantial benefits.
	Major	Prominent change or improvement. Real and substantial benefits. General community support.
	Extreme	Considerable large-scale change or improvement compared to current conditions. Widespread benefit. Favourable publicity and/or widespread support expected.
Extent Spatial (geographical) scale of the impact	Site	Impact limited to within the boundaries of the project site. Not notable impact on receptors beyond the site boundary.
	Local	Impact notable in the immediate area (< 5 km) around the project site. Individual sensitive receptors may be affected. Does not affect an entire neighbourhood, habitat or community. Does not affect large numbers of people in nearby townships.
	Regional	Widespread impact within province / district or catchment. Large area or large numbers of sensitive receptors affected. May affect an entire community, neighbourhood or habitat. May affect large numbers of people in nearby residential areas.
	(Inter) national	National and or international (transboundary) impacts.
Duration Risk or impact period. The total length of time (i.e. number of months or years)	Short-term	Less than 5 years. Impact may occur for the first few years of the project, during construction, or for up to five years. Once the impact source has been removed, the effects are reversible within a one-year period.
	Medium-term	> 5 to 10 years. Impact may occur for up to ten years. Once the impact source has been removed, the effects are reversible within a three-year period.
	Long-term	> 10 years, and for < 10 years after decommissioning or rehabilitation. May occur throughout the operational life of the project but will cease after operations ceases either because of natural processes or human intervention / remediation.
	Permanent	Permanent. Irreversible (residual impacts will remain for more than 10 years after the impact source has been removed.

Step 3:		***Rating of Impact Consequence and Significance***
Unmitigated		Impact rating assuming the proposed mitigation measures are not in place.
Mitigated		Impact rating assuming the proposed mitigation measures are in place.
Intensity *(Negative Impacts)*	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change, disturbance or nuisance. Targets, limits and thresholds of concern never exceeded. Impacts are rapidly and easily reversible. Require no or only minor interventions if these impacts occur. No complaints expected when the impact takes place.
	Moderate	Moderate change, disturbance or discomfort. Large enough to have a real effect. Targets, limits and thresholds of concern may occasionally be exceeded. Impacts are reversible but may require some effort, cost and time. Sporadic complaints can be expected when the impact takes place.
	Major	Substantial change, disturbance or degradation. Real and prominent effects. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Regular complaints can be expected when the impact takes place.
	Extreme	Extreme change, disturbance or degradation. A serious disruption to the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope. Potentially catastrophic.
Consequence		Consequence = Intensity + Duration + Extent The outcome or result of an impact / risk being realised.

Probability	Likelihood that the impact will occur.	
	Eliminated	The impact was considered and assessed but found to be not applicable to the project site or affected socio-economic environment.
	Highly Unlikely	Conceivable but will only happen in exceptional circumstances (<20% chance of happening).
	Possible	Plausible. Could happen and has occurred here or elsewhere (20 to 50% chance of happening).
	Highly Likely	Probable (>50 to 80 % chance of happening).
	(Near) Certain	Definite or expected. The impact cannot be prevented. (>80 % chance of happening).
Frequency	How often (number of occurrences) the impact would manifest over the impact duration period.	
	Sporadic	< 5% of the time. Once off occurrence. Effects only present for a short period of time, no residual effects.
	Occasional	5 to 30% of the time. Occurring from time to time without specific periodicity or pattern. Effects are reversed quickly and easily.
	Regular	> 30 to < 80% of the time.
	(Near) Always	> 80 to 100% of the time.
Significance	Significance = Consequence x (Probability + Frequency)	
	Negative Very High	Widespread negative effect. Negative impact that is of the highest order. Potential fatal flaw. Unacceptable impact / loss of a resource will occur.
	Negative High	Substantial negative impact.
	Negative Moderate	Negative impact that is real but not substantial.
	Negative Low	Low to negligible negative impact with little real effect.
	Positive Low	Low to insignificant positive impact.
	Positive Moderate	Positive impact that is real but not substantial.
	Positive High	Substantial positive impact.
	Positive Very High	Widespread/substantial beneficial effect.

Impact Rating Matrix						
CONSEQUENCE (Intensity + Duration + Extent)	***INTENSITY:***	***DURATION:***	***EXTENT:***			
			Site	*Local*	*Regional*	*(Inter)national*
	Extreme	*Permanent*	**High**	**Very High**	**Very High**	**Very High**
		Long-term	**High**	**High**	**Very High**	**Very High**
		Medium-term	**High**	**High**	**High**	**Very High**
		Short-term	**Medium**	**High**	**High**	**High**
	Major	*Permanent*	**High**	**High**	**Very High**	**Very High**
		Long-term	**High**	**High**	**High**	**Very High**
		Medium-term	**Medium**	**High**	**High**	**High**
		Short-term	**Medium**	**Medium**	**High**	**High**
	Moderate	*Permanent*	**Medium**	**Medium**	**High**	**High**
		Long-term	**Medium**	**Medium**	**Medium**	**High**
		Medium-term	Low	**Medium**	**Medium**	**Medium**
		Short-term	Low	Low	**Medium**	**Medium**
	Minor	*Permanent*	Low	Low	**Medium**	**Medium**
		Long-term	Low	Low	**Medium**	**Medium**
		Medium-term	Low	Low	Low	Low
		Short-term	Low	Low	Low	Low
	Eliminated	*Permanent*	None			
		Long-term				
		Medium-term				
		Short-term				

SIGNIFICANCE (Consequence x (Probability + Frequency)	***PROBABILITY:***	***FREQUENCY:***	***CONSEQUENCE:***				
			None	*Low*	*Medium*	*High*	*Very High*
	(Near) Certain	*Regular / Always*	None	Low	**Medium**	**High**	**Very High**
		Occasional	None	Low	**Medium**	**High**	**Very High**
		Sporadic	None	Very Low	Low	**Medium**	**High**
	Highly Likely	*Regular / Always*	None	Low	**Medium**	**High**	**Very High**
		Occasional	None	Very Low	Low	**Medium**	**High**
		Sporadic	None	Very Low	Very Low	Low	**Medium**
	Possible	*Regular / Always*	None	Very Low	Low	**Medium**	**High**
		Occasional	None	Very Low	Very Low	Low	**Medium**
		Sporadic	None	Very Low	Very Low	Very Low	Low
	Highly Unlikely	*Regular / Always*	None	Very Low	Low	**Medium**	**High**
		Occasional	None	Very Low	Very Low	Low	**Medium**
		Sporadic	None	Very Low	Very Low	Very Low	Low
	Eliminated	*N/A*	None	None	None	None	None

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