

# Proposed Walmer Housing Development, Erf 11305, Port Elizabeth

## Draft Environmental Impact Report: Volume 1- Main report and Appendices A-J

Report Prepared for

**Nelson Mandela Bay Municipality**



Report Number 475764/5 (erf 11305)

**DEDEAT Reference Number: ECm1/C/LN2/M/39-2014**



Report Prepared by

 **srk** consulting

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# **Proposed Walmer Housing Development, Erf 11305, Port Elizabeth**

## **Draft Environmental Impact Report: Volume 1- Main report and Appendices A-J**

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# Executive Summary

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## List of Abbreviations

AIA	Archaeological Impact Assessment
BID	Background Information Document
CBA	Critical Biodiversity Area
DAFF	Department of Agriculture, Forestry and Fisheries
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DEA	Department of Environmental Affairs (National)
DEIR	Draft Environmental Impact Report
DSR	Draft Scoping Report
DWS	Department of Water Affairs and Sanitation
ECBCP	Eastern Cape Biodiversity Conservation Plan
ECPHRA	Eastern Cape Provincial Heritage Resources Authority
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
FBH	Free Basic House
FLISP	Finance Linked Individual Subsidy Programme
FSR	Final Scoping Report
GDP	Gross Domestic Product
HIA	Heritage Impact Assessment
IAPs	Interested and Affected Parties

IDP	Integrated Development Plan
IDZ	Industrial Development Zone
MDC	Makhetha Development Consultants
NEMA	National Environmental Management Act 107 of 1998
NFA	National Forest Act 84 of 1998
NMBM	Nelson Mandela Bay Municipality
PES	Present Ecological State
POS	Public Open Space
PPP	Public Participation Process
RoD	Record of Decision
SAHRA	South African Heritage Resource Agency
SRK	SRK Consulting
ToR	Terms of Reference
WULA	Water Use Licence Application
+ve	Positive
-ve	Negative

## Glossary of Terms

Degraded habitat / land	Land that has been impacted upon by human activities (including introduction of invasive alien plants, light-moderate overgrazing, accelerated soil erosion, dumping of waste), but that still retains a degree of its original structure and species composition (although some species loss would have occurred) and where ecological processes still occur (albeit in an altered way). Degraded land is capable of being restored to a near-natural state with appropriate ecological management.
Development footprint	In respect of land, it is any evidence of physical alteration as a result of the undertaking of any activity.
Environment	The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group. These circumstances include biophysical, social, economic, historical and cultural aspects.
Environmental Impact Assessment (EIA)	A study of the environmental consequences of a proposed course of action.
Finance Linked Individual Subsidy Programme (FLISP)	Provides down payment assistance in the form of a grant to qualifying beneficiaries who are in a financial position to secure a Home Loan from a Lender.
Forest	Includes - (a) a natural forest, a woodland and plantation; (b) the forest produce in it, and (c) the ecosystem which makes it up.
Forest Clump	Where three or more forest species occur together.
Fully State Subsidised Housing	Housing provided by the state without any expectation of the beneficiary making financial contributions to towards the house/services/transfer and registration costs.
GAP Open Market Housing	Housing in which the state does not subsidise the beneficiary. The beneficiary relies on private mortgage finance and or individual savings. This is open to those earning above R 15,000 per month.

GAP Partially Subsidised Housing	The state subsidy is supplemented by private funding (savings, mortgages or bonds with a financial institution to develop the units). Currently this is open to beneficiaries earning a combined monthly income of between R 3,500 and R 15,000.
Indigenous vegetation	Vegetation consisting of indigenous plant species occurring naturally in an area, regardless the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.
Interested and Affected Party	Any person, group of persons or organisation interested in or affected by an activity, and any Organ of State that may have jurisdiction over any aspect covered by the activity.
Mixed-use	The presence of two or more types of land use in an area.
Natural Forest	Means a group of indigenous trees- (a) whose crowns are largely contiguous; or (b) which have been declared by the Minister to be a natural forest under section 7 (2) of the National Forest Act (Act 84 of 1998)
Plan of Study for EIA	A document which forms part of a Scoping Report and sets out how an Environmental Impact Assessment must be conducted.
Registered Interested and Affected Party (IAP)	An Interested and Affected Party whose name is recorded in the register opened for the application / project.
Scoping	A procedure to consult with stakeholders to determine issues and concerns and for determining the extent of and approach to an EIA, used to focus the EIA.
Scoping Report	A written report describing the issues identified to date for inclusion in an EIA.
Social Housing	This is for beneficiaries who wish to rent and who earn between R 1,500 and R 15,000 per month. The policy states that rentals paid should not exceed 30 % of the gross income of the tenant. This determines the size of the unit allocated to the beneficiary. The units will be managed and owned by an accredited Social Housing Institution that will hold the stock for a minimum of 15 years and may either re-finance for another 15 years or sell it off to tenants thereafter.
Topsoil	The upper, outermost layer of soil, usually the top 5 cm to 20 cm. It has the highest concentration of organic matter and microorganisms and is where most of the Earth's biological soil activity occurs.
Transformed habitat / land	Land that has been significantly impacted upon by human activities (such as cultivation, urban development, mining, landscaping, severe overgrazing), and where the original structure, species composition and functioning of ecological processes has been irreversibly altered. Transformed habitats are not capable of being restored to their original states.
Untransformed habitat / land	Land that has not been significantly impacted upon by human activities. These are ecosystems that are in a near-pristine condition in terms of structure, species composition and the functioning of ecological processes.
Riparian	The area of land adjacent to a stream or river that is influenced by stream-induced or related processes. Riparian areas which are saturated or flooded for prolonged periods would be considered wetlands and could be described as riparian wetlands. However, some riparian areas are not wetlands (e.g. an area where alluvium is periodically deposited by a stream during floods but which is well drained).
Wetland	Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which under normal circumstances supports or would support vegetation typically adapted to life in saturated soil (Water Act 36 of 1998).

## Disclaimer

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (South Africa) (Pty) Ltd. (SRK) by various parties, including the Nelson Mandela Bay Municipality (NMBM). SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

# 1 Background and Introduction

## 1.1 Background of the project

The Nelson Mandela Bay Municipality (NMBM) proposes to construct housing and associated facilities and infrastructure on erf 11305, in Walmer. The erf is located to the west of Walmer Gqebera along Victoria Drive, Port Elizabeth, and bordered by the suburb of Walmer Heights to the North West, the Walmer Country Club to the north, and Arlington Race Course, to the east (see Site Locality Plan, Figure 1-1 below).

SRK Consulting (SRK) has been appointed by the NMBM, as the independent consultants, to conduct the Environmental Impact Assessment (EIA) in terms of NEMA, as amended, and the EIA Regulations, 2010, for the proposed Walmer housing development.

In terms of the National Environmental Management Act 107 of 1998 (NEMA), as amended, and the Environmental Impact Assessment (EIA) Regulations, 2010, an environmental assessment process must be undertaken for certain listed activities. The main activity associated with the proposed development is listed under GNR 545 of 18 June 2010 and as such requires a full Scoping and Environmental Impact Assessment.

Authorisation (Ref: ECm1/N/107-04) was previously granted by the Department of Economic Affairs, Environment and Tourism (DEAET) in April 2006 to a private developer for a change in land use and construction of housing units on erf 11305. This authorisation has since expired, the land has been purchased by the NMBM, and the nature of the development has changed, necessitating a new application for environmental authorisation. In July 2014 an application to commence the current EIA process was submitted to the Department of Economic Affairs, Environmental Affairs and Tourism (DEDEAT)<sup>1</sup>, who acknowledged receipt of the application on 20 August 2014 and supplied a reference number (see Appendix A).

The first phase of the EIA, the scoping study has been completed and included a Public Participation Process (PPP), aimed at identifying issues and concerns of Interested and Affected Parties (IAPs). The objective of the Scoping Study was to identify those issues and concerns that must be investigated in more detail, and included a Plan of Study for the EIA. An amended Final Scoping Report (FSR) was released in response to additional information requests and this Plan of Study was approved by DEDEAT on 19 June 2016, noting some additional requirements for the Environmental Impact Report (EIR) (see Appendix D).

The second phase of the EIA commences with the Draft Environmental Impact Report (this report). The aim of this report is to present the results of investigations of the issues and concerns identified in the Scoping Study, identify and assess the potential impacts of the development and provide recommendations with the objective of minimising negative environmental impacts and maximising benefits.

## 1.2 Applicant Details

Nelson Mandela Bay Municipality	Contact person: Mr Walter Shaidi
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6000	Email: <a href="mailto:wshaidi@mandelametro.gov.za">wshaidi@mandelametro.gov.za</a>

<sup>1</sup> Formerly known as DEAET

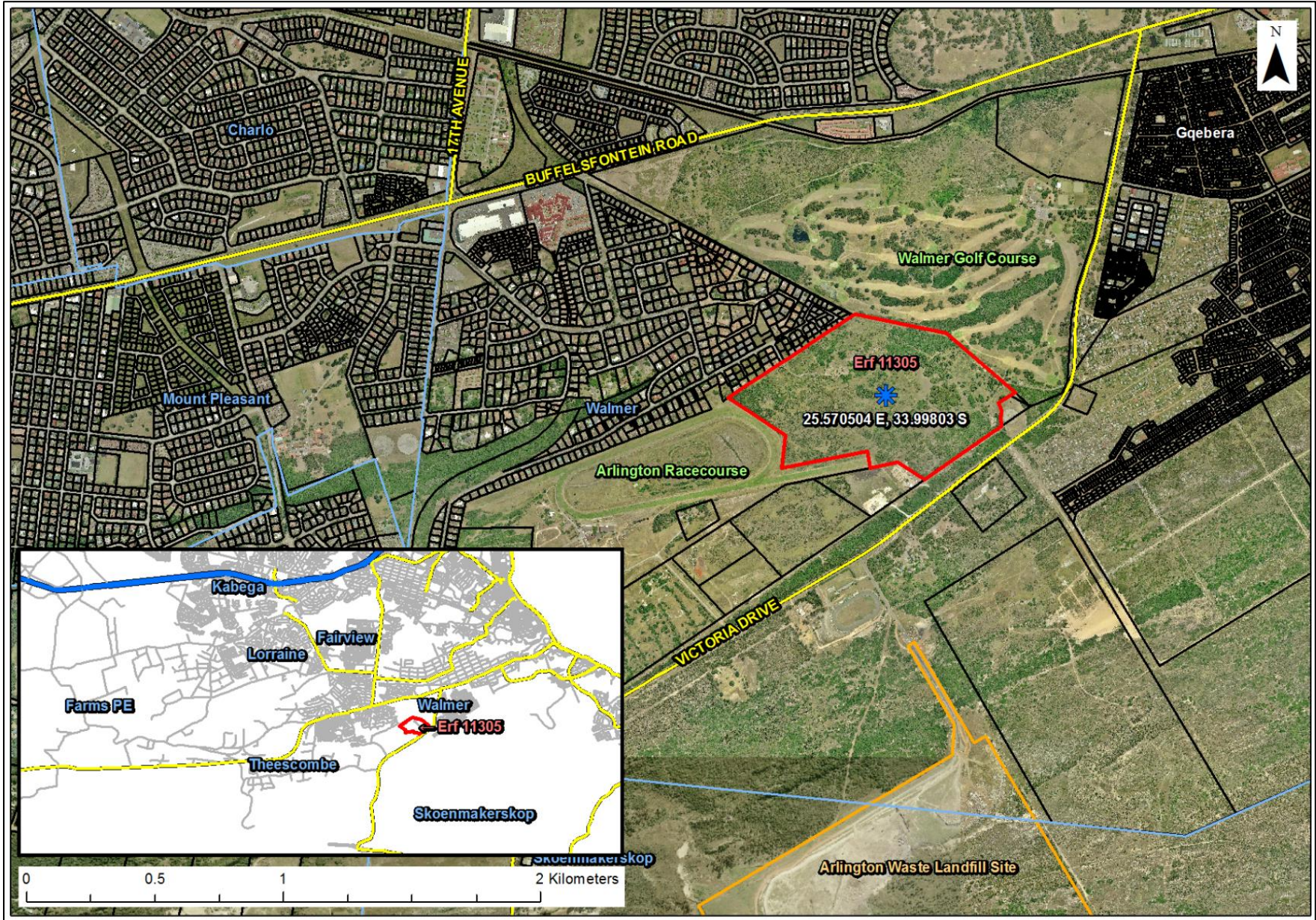


Figure 1-1: Site Locality Plan for the proposed Walmer Housing Development



## 1.2.1 Environmental Assessment Practitioner Details

SRK Consulting	Contact person: Ms Nicola Rump
PO Box 21842	Tel: (041) 509 4800
Port Elizabeth	Fax: (041) 509 4850
6000	Email: <a href="mailto:nrump@srk.co.za">nrump@srk.co.za</a>

## 1.3 SRK Profile and Expertise of Relevant Environmental Assessment Practitioners (EAP's)

SRK has been appointed by the NMBM as the independent consultants to undertake the EIA Process required in terms of applicable legislation.

SRK is a South African founded international organisation of professionals providing a comprehensive range of consulting services, expert advice and solutions to the natural resource industry, public sector and other niche sectors. SRK provides focused advice and solutions for clients requiring specialised services, mainly in the fields of the environment and development, exploration, mining, water, rail and civil-geotechnics. Established in 1974, the SRK Group employs over 1500 people operating from about 40 established practices in Africa, Asia, Australasia, Europe, North and South America. SRK is registered as a member of the Consulting Engineers South Africa (CESA) and has a formal quality management system that is ISO9001 certified.

**Project Manager:** Nicola Rump, MSc, EAPSA

Nicola Rump is a Principal Environmental Scientist and has been involved in environmental management for the past 10 years working on South African and international projects including EIAs and ISO 14001 auditing for a variety of activities. Her experience includes Basic Assessments, Environmental Impact Assessments, Environmental Management Plans, Environmental Auditing and Stakeholder Engagement.

**Project coordinator:** Tanya Speyers, BSc Hons.

Tanya is an Environmental Scientist with five years' experience in Basic Assessments, Environmental Impact Assessments, Water Use Licence Applications and Environmental Control Officer Work.

**Project Director and Internal Reviewer:** Rob Gardiner, MSc, MBA, Pr Sci Nat

Rob Gardiner is the Principal Environmental Scientist and head of SRK's Environmental Department in Port Elizabeth. He has more than 22 years environmental consulting experience covering a broad range of projects, including Environmental Impact Assessments (EIA), Environmental Management Systems (EMS), Environmental Management Programmes (EMPr), and environmental auditing. His experience in the development, manufacturing, mining and public sectors has been gained in projects within South Africa, Lesotho, Botswana, Angola, Zimbabwe, Suriname and Argentina. Clair

### Box 1: Environmental Assessment Practitioner expertise

## 1.4 Statement of SRK Independence

Neither SRK nor any of the authors of this Report have any material present or contingent interest in the outcome of this Report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of SRK.

SRK's fee for completing this Report is based on its normal professional daily rates plus reimbursement of incidental expenses. The payment of that professional fee is not contingent upon the outcome of the Report.

As required by the legislation, SRK has completed and submitted a declaration of interest, as part of the EIA application form. A copy of this is included in Appendix A of this report and the qualifications and experience of the individual practitioners responsible for this project are detailed in Box 1 above.

## 1.5 Legal Requirements Pertaining to the Proposed Project

The environmental legislation which is applicable to the authorisation of the proposed project is summarised in this Section.

### 1.5.1 National Environmental Management Act (Act No. 107 of 1998) (NEMA)

NEMA provides for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of the State, as well as to provide for matters connected therewith. Section 2 of NEMA establishes a set of principles that apply to the activities of all organs of state that may significantly affect the environment. These include the following:

- Development must be sustainable;
- Pollution must be avoided or minimised and remedied;
- Waste must be avoided or minimised, reused or recycled;
- Negative impacts must be minimised; and
- Responsibility for the environmental health and safety consequences of a policy, project, product or service exists throughout its life cycle.

Section 28(1) states that:

*“Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring.”*

If such degradation/pollution cannot be prevented, then appropriate measures must be taken to minimise or rectify such pollution. These measures may include:

- Assessing the impact on the environment;
- Informing and educating employees about the environmental risks of their work and ways of minimising these risks;
- Ceasing, modifying or controlling actions which cause pollution/degradation;
- Containing pollutants or preventing movement of pollutants;
- Eliminating the source of pollution; and
- Remedying the effects of the pollution.

### Legal requirements for this project

The NMBM has a responsibility to ensure that the proposed housing development construction activities and the EIA process conform to the principles of NEMA. The proponent is obliged to take action to prevent pollution or degradation of the environment in terms of Section 28 of NEMA.

## 1.5.2 NEMA EIA Regulations

### 2010 EIA regulations

Sections 24 and 44 of NEMA make provision for the promulgation of regulations that identify activities that may not commence without an environmental authorisation or existing activities in respect of which an application for environmental authorisation is required. In this context, EIA Regulations contained in four General Notices in terms of NEMA (GN R 543, 544, 545 and 546) came into force on 18 June 2010.

GN R 543 lays out two alternative authorisation processes. Depending on the type of activity that is proposed, either a Basic Assessment process or a Scoping and EIA process is required to obtain environmental authorisation. GN R 544 lists activities that require Basic Assessment, while GN R 545 lists activities that require Scoping and EIA. The regulations for both alternative processes stipulate that:

- Public participation must be undertaken at various stages of the assessment process;
- The assessment must be conducted by an independent Environmental Assessment Practitioner;
- The relevant authorities respond to applications and submissions within stipulated time frames; and
- Decisions taken by the authorities can be appealed by the proponent or any other interested and affected party.

The following listed activities, identified in GN R 545 as requiring an Environmental Impact Assessment are relevant to the establishment of the proposed low income housing development in Walmer:

GN R 545 15. *Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more, except where such physical alteration takes place for (i) linear development activities, or (ii) agriculture or afforestation.*

### 2014 EIA regulations, as amended (2017)

The 2014 revision of the EIA regulations came into effect on 8 December 2014, with subsequent amendments in April 2017. Although the project's application for environmental authorisation was made under the 2010 EIA regulations and therefore remains subject to the procedural requirements thereof, the assessment is also required to take into account all relevant equivalent or additional listed activities in terms of the 2014 EIA regulations.

The following listed activity in terms of the 2014 EIA regulations (as amended) is triggered by the proposed development:

GNR 325 Activity 15. *The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for – (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.*

Additional activities that may be triggered by the development include:

GNR 324 Activity 12. *The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan a. Eastern Cape i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;*

GNR 324 Activity 15. *The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial or institutional use, where, such land was zoned open space,*

*conservation or had an equivalent zoning, on or after 02 August 2010. a. Eastern Cape i. Outside urban areas,*

### Legal requirements for this project

The proposed housing development includes the listed activity in terms of GN R 545, as well as the equivalent activity in terms of the 2014 EIA regulations, as amended in GN R 325, as listed above. As such, the proponent is obliged to conduct an Environmental Impact Assessment for the proposed activity in accordance with the procedure stipulated in GN R 545.

### 1.5.3 National Heritage Resources Act No. 25, 1999

The protection and management of South Africa's heritage resources is controlled by the National Heritage Resources Act 25 of 1999. The enforcing authority for this act is the South African Heritage Resources Agency (SAHRA).

In terms of the Act, historically important features such as graves, trees, archaeological artefacts/sites and fossil beds are protected. Similarly, culturally significant symbols, spaces and landscapes are also afforded protection. In terms of Section 38 of the National Heritage Resources Act, SAHRA can call for a Heritage Impact Assessment (HIA) where certain categories of development are proposed. The Act also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is deemed adequate, a separate HIA is not required.

The Act requires that:

*“...any person who intends to undertake a development categorised as the ... or any development or other activity which will change the character of a site exceeding 5 000 m<sup>2</sup> in extent or involving three or more existing erven or subdivisions thereof must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development...”*

### Legal requirements for this project

ECPHRA has been notified of the proposed housing project as per the requirement of the National Resources Heritage Act. A Phase 1 Archaeological Assessment as well as a Phase 2 Historical Structures Impact Assessment has been completed. The Palaeontologist has provided a letter of exemption.

### 1.5.4 National Forests Act: Act No. 84 of 1998

The NFA promotes the sustainable use and development of forests, and provides special measures for the protection of certain forests and trees. Section 3(3) of the National Forest Act (NFA) sets out principles to guide sustainable forest management. The principles of the Act in Section 3 include that “...*natural forests may not be destroyed save in exceptional circumstances where, in the opinion of the Minister, a proposed new land use is preferable in terms of its economic, social or environmental benefits*”. This prescribes that no development affecting forests may be allowed unless “exceptional circumstances” can be proven.

In terms of Section 7 of the National Forests Act:

1. No person may –
  - a. Cut, disturb, damage or destroy any indigenous tree in a natural forest; or
  - b. Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree contemplated in paragraph (a), except in terms of –
    - i. A licence issued under subsection (4) or section 23; or

- ii. An exemption from the provisions of this subsection published by the Minister in the Gazette on the advice of the Council.

The definition of “natural forest” in the NFA is as follows (Section 2(1)): ‘A natural forest means a group of indigenous trees whose crowns are largely contiguous or which have been declared by the Minister to be a natural forest under section 7(2)’

Thus in terms of the NFA, all indigenous forests are protected and no trees may be cut, damaged or removed without a licence from DAFF (or a delegated authority). If not satisfied that proper consideration has been given to the protection of a forest, DAFF has the legal right to refuse a licence, even if authorisation for development has been granted by another sphere of government.

### Legal requirements for this project

A forest survey was conducted to determine the remaining extent of forest on erf 11305 as per the Department of Agriculture, Forestry and Fisheries (DAFF) request, and the proposed layout has been amended to accommodate the forest clumps where possible. Forest clumps identified during the survey are protected in terms of the National Forests Act and will require authorisation from DAFF to destroy. The relevant applications will be made to DAFF should environmental authorisation be granted for the project.

### 1.5.5 Notice of the List of Protected Tree Species under the National Forests Act, 1998 (GN R 716, 7 September 2012)

Government Notice 716 provides a schedule listing all protected tree species in South Africa. In terms of section 15 (1) of the National Forests Act, 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree, except under a licence granted by the Minister to an applicant and subject to such period and conditions as may be stipulated. The published list includes white milkwood (*Sideroxylon inerme*), which is found on the site. In order to destroy or remove protected species, a permit must first be obtained from DAFF.

### Legal requirements for this project

Milkwood and any other protected species as listed in GN R 716, will require permits from DAFF before removal, damage or destruction. These were mapped as part of the forest survey that was undertaken. The relevant applications will be made to DAFF should environmental authorisation be granted for the project.

### 1.5.6 National Water Act No. 36 of 1998

The National Water Act 36 of 1998 (NWA) provides for the promotion of efficient, sustainable and beneficial use of water in the public interest; for the facilitation of social and economic development; for the protection of aquatic and associated ecosystems and their biological diversity; and for the reduction and prevention of pollution and degradation of water resources. The Act also provides for emergency situations where pollution of water resources occurs. Section 21 of the Act describes activities that will require prior permitting before these activities may be implemented, including any changes to the river course and banks, changes to water flows and the discharge of water containing waste.

### Legal requirements for this project

No watercourses were identified on or close to the site, and no activities listed under section 21 of the NWA, requiring Water Use Licence Applications (WULAs) have been identified as being applicable to the project.

## 1.6 Approach to the EIA

### 1.6.1 Objectives of the EIA

The broad objectives of the EIA are to:

- Inform the broadest possible range of Interested and Affected Parties (IAPs) about the proposed project and the EIA process followed;
- Obtain contributions from IAPs and stakeholders (including the applicant, consultants, relevant authorities and the public) and ensure that all issues, concerns and queries raised are fully documented and addressed in this report;
- Identify and assess significant impacts associated with the proposed development;
- Formulate mitigation measures to minimise impacts and enhance benefits; and
- Produce a Final Environmental Impact Report (EIR), including a Draft Environmental Management Programme, that will provide all the necessary information for the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) to decide whether (and under what conditions) to authorise the proposed development.

### 1.6.2 Approach to the EIA

The general approach adopted in this assessment has been guided by the principles of Integrated Environmental Management (IEM) as described in the IEM guidelines published by the Department of Environmental Affairs and Tourism in 1992 (now known as the Department of Environmental Affairs). The approach is therefore guided by the principles of transparency which is aimed at encouraging accountable decision-making. The underpinning principles of IEM are:

- Informed decision-making;
- Accountability for information on which decisions are made;
- A broad interpretation of the term “environment”;
- Consultation with IAPs;
- Due consideration of feasible alternatives;
- An attempt to mitigate negative impacts and enhance positive impacts associated with the proposed project;
- An attempt to ensure that the social costs of the development proposals are outweighed by the social benefits;
- Regard for individual rights and obligations;
- Compliance with these principles during all stages of the planning, implementation, and operations of the proposed development or activity; and
- Opportunities for public and specialist input in the decision-making process.

The activities that have been conducted to date as part of this Scoping Study are as follows:

- Advertisements of the development in “Die Burger” newspaper on 22 August 2014 and placement of an on-site poster on 8 September 2014 (see Appendix B);
- Distribution of the Background Information Document (BID) from 22 August 2014 to identified Interested and Affected Parties (IAPs), stakeholders and neighbouring residents. A copy of the

BID is attached in Appendix C, and the list of notified authorities, stakeholders and IAPs is given in Appendix D1;

- Distribution of the BID to the relevant Ward Councillors caretaking for Wards 1, 3 and 4 on 22 August 2014;
- Collation of public and IAP comments on the BID and adverts, including responses to these issues;
- Preparation of a Draft Scoping Report, including comments that were raised on the BID (Table 4-2);
- Distribution of the Draft Scoping Report to authorities and making it available online and in public venues for review by IAPs and distribution of an Executive Summary to all IAPs registered for this project for a 40 day comment period (30 March – 14 May 2015);
- Collation of public and IAP comments on the DSR (see Table 4-2), and incorporation of these into the Final Scoping Report;
- Distribution of the executive summary of the Final Scoping Report to IAPs and making the full report available electronically and in public venues, and distribution to authorities, for a 21 day comment period (9 June – 2 July 2015);
- Submission of Final Scoping Report and Plan of Study for EIA to DEDEAT for a decision regarding authorisation to proceed to the Impact Assessment phase of the EIA on 12 June 2015;
- Correspondence from DEDEAT (received 7 September 2016) requesting amendments to be made to the FSR, and compilation of an Amended FSR including IAP comments on the FSR; and
- Distribution of the executive summary of the Amended FSR to IAPs for a 21 day comment period (29 March – 19 April 2016) and making the full report available electronically and in public venues, and distribution to authorities before submission to DEDEAT for a decision regarding authorisation to proceed to the Impact Assessment phase of the EIA.

The activities that have been conducted to date as part of this Impact assessment phase are as follows:

- Specialist studies and assessment of impacts as per the terms of reference included in the FSR;
- Compilation and distribution of the Draft EIR (this report), including comments received on the FSR and how these have been addressed to public venues, making it available online, and to identified government departments, as well as the distribution of an Executive Summary to all registered IAPs, and provision of a 40-day comment period;

Activities that will still be carried out in completing this EIA process are as follows:

- Responding to all comments received on the Draft EIR by means of a Comments & Response table in the Final EIR, and where required, making amendments in the EIR to accurately reflect responses;
- Making the Final EIR available for public comment for a period of 30-days;
- Submission of the Final EIR to DEDEAT for a decision, and notifying all registered IAPs of the submission and the responses to comments received; and
- Notifying all registered IAPs of DEDEAT's decision.

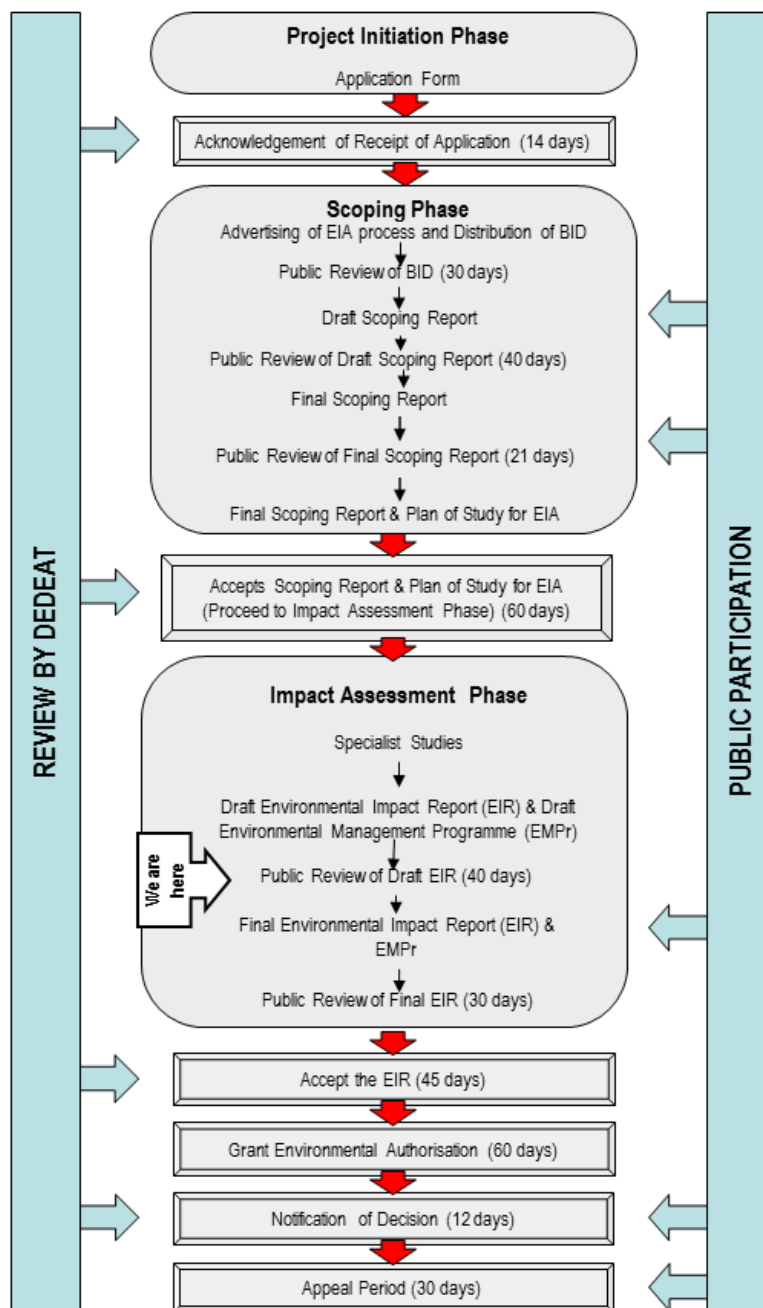


Figure 1-2: Environmental Impact Assessment (EIA) Process

## 1.7 Assumptions and Limitations

The following assumptions have been made in the compilation of this document:

### 1.7.1 General

- The free basic house portion of the development will cater primarily for qualifying beneficiaries of informal settlements in the Walmer Gqebera area (i.e. not for residents who do not currently reside in the area);
- Due to the cost of preparing detailed designs and plans, such detailed design/ planning information would only be developed in the event of environmental authorisation being granted. As such, it is anticipated that, as is typically the case in an EIA process, the EIA will assess broad land uses; and



- That sufficient capacity for the provision of bulk services (e.g. waste management, sewage treatment, water supply, electricity supply) exists, or alternatively, if such services need to be upgraded, is it assumed that this is outside of the scope of this environmental assessment. This EIA process is therefore limited to the assessment (where relevant) of connections to existing bulk services and infrastructure.

### 1.7.2 Traffic Impact Assessment

- The Traffic Impact Assessment (TIA) is based on the assumption that the project would be 50% developed by 2022 and 100 % developed by 2027.

### 1.7.3 Socio-economic Impact Assessment

- The socio-economic study calculations assume that the development will take place in 2018/19 with 600 subsidy, 241 affordable and 259 social (rental) units to increase the number of properties to 1 746 including the 905 bonded properties for the estimation of property rates and taxes impacts.

### 1.7.4 Ecological Impact Assessment

- Due to the scope of the work presented in this report, a detailed investigation over time / seasons was not possible;
- Information, as presented in this document, only has reference to the study area(s) as indicated on the accompanying maps;
- Additional information may come to light during a later stage of the process or development particularly as the area during the survey was dry and cool. This limited the number of species being observed, especially any bulbs, forbs or invertebrates; and
- The survey period was limited by constant high winds, which affected the avifaunal observations, within the site, the bird species that utilise the area are however well known and information was thus drawn from past records and observations.

Notwithstanding these assumptions, it is our view that this EIR provides sufficient detail regarding the potential impacts associated with the proposed development, as well as proposed mitigation measures to manage these impacts, for the Competent Authority to make a decision on the proposed development.

### 1.7.5 Archaeological Impact Assessment

The survey was limited to surface and exposed area observations and does not eliminate the possibility that archaeological heritage remains may occur below the surface.

### 1.7.6 Historical Structures Assessment

- The expectations of a Phase 1 heritage report apply; and
- There has not been a formal public participation process as part of this specialist study.

## 1.8 Structure of this Report

This report is divided into nine chapters:

#### Chapter 1 Background and Introduction

Introduces the EIA, and the legal context, for the proposed low income housing development.

#### Chapter 2 Description of Development Proposal

Describes the various components of, and the motivation for, the proposed low income housing development.

**Chapter 3 Nature of the Affected Environment**

Provides an overview of the affected biophysical and socio-economic environment in the Walmer Gqebera area as relevant to erf 11305.

**Chapter 4 The Public Participation Process**

Describes the Public Participation Process (PPP) followed, and the issues & concerns that have been raised by Interested and Affected Parties (IAPs).

**Chapter 5 Assessment of Environmental and Social Impacts**

Describes the potential positive and negative environmental and social impacts of the proposed low income housing development.

**Chapter 6 Findings, Evaluations and Recommendations**

Concludes and summarises the findings and recommendations of the Environmental Impacts Study.

**Chapter 7 Draft Environmental Management Programme**

Stipulates the environmental management guidelines that should be implemented in the planning, design, pre-construction, construction and operation stages of the proposed development.

**Chapter 8 The Way Forward**

Describes the next step in the EIA process.

**Chapter 9 References**

Cites any texts referred to during preparation of this report.

**Appendices**

Supporting information is presented in various appendices.

**Note that Appendix K (Specialist Reports) is bound separately as Volume 2 of the DEIR, and will not be provided again with the FEIR.**

## 2 Description of Development Proposal

### 2.1 Motivation for Proposed Activity

Housing and service delivery is a key challenge facing the Nelson Mandela Bay Municipality (NMBM). According to the NMBM's Metropolitan Strategic Development Framework (MSDF, NMBM, 2015) the NMBM has a housing backlog of approximately 72,000 units (23,000 units in informal areas and 49,000 backyard shacks), with a projected growth demand of 6-7,000 units per year. The bulk of this housing need falls within the subsidised housing category. It has therefore identified the provision of quality housing and the structured upgrading of informal settlements as one of their main objectives.

In terms of the Municipal Systems Act 32 of 2000, all municipalities (i.e. metropolitan, district and local) have to undertake an Integrated Development Plan (IDP) process to produce IDPs. As the IDP is a legislative requirement it has a legal status and it supersedes all other plans that guide development at local government level. The provision of integrated and sustainable human settlements is listed as one of the strategic objectives of the Municipality's IDP (15<sup>th</sup> ed.), which means that housing must be accompanied by the provision of other services and amenities required to improve the socio-economic conditions of the residents of that area (i.e. access to community facilities such as educational, entertainment, cultural, health, sports and welfare services). This places considerable pressure on the need for land and infrastructure. The MSDF (NMBM, 2015) notes the efficient use of existing infrastructure as imperative for meeting the objectives of the IDP, adding that to avoid urban sprawl, new housing developments must implement principles that promote integration, sustainable use of resources, densification and mixed land uses.

The area of Walmer was identified in the 13<sup>th</sup> edition of the NMBM IDP (2014/2015 financial year) as a restructuring zone for social housing and Walmer Gqebera was identified as a precinct where residential expansion needs to take place. The most recent edition of the IDP (2017/18 – 2021/22) lists the purchasing of Erf 11305 as a ward priority. According to The Mandela Bay Development Agency Annual Report 2012/13, Walmer Township (Gqebera) is home to more than 65,000 people. The proposed development aims to alleviate the population pressure and to lower housing density in the township by providing formal housing and services. In order to achieve this, additional land outside of the current Walmer Gqebera footprint is required to accommodate the overflow of residents. Erf 11305 is one of a few undeveloped municipally owned land areas in the vicinity of Walmer Gqebera, with relatively direct access to existing bulk services infrastructure connections.

### 2.2 Proposed Activities

The Nelson Mandela Bay Municipality (NMBM) proposes to develop an integrated residential area with low income housing together with associated facilities and infrastructure on erf 11305 in Walmer, primarily to cater for the overflow of residents currently living in informal settlements in the Walmer Gqebera area. A maximum of approximately 1,600 residential units are proposed (depending on the layout alternative), but this number will depend on the environmental and other constraints of the site and layout agreed to with the beneficiaries. The development will connect onto existing bulk services infrastructure in the area. The proposed site is previously disturbed land which extends over an area of approximately 43.74 ha and is located on municipally owned property (see the Title Deed included in Appendix G).

The project planning is currently at Preliminary Subdivisional Plan stage, which has as far as possible accommodated social sensitivities (relating to socio-economic differences between the adjacent Walmer Heights residential area and the proposed development), forest identified on the site (as per the legal requirements) as well as low areas of the site where stormwater would accumulate. Four provisional layout alternatives were presented in the Scoping Stage of the EIA, two of which (alternatives 3 and 4, with minor modifications and now labelled as layout Option A and layout Option B, will be assessed in

this DEIR, and are described in Section 2.4.2. The other two options, based on the previously authorised layout for the property, are no longer considered to be viable, as described in Section 2.4.2 of the Amended FSR and therefore will not be assessed in this DEIR.

## 2.2.1 Housing typologies

Each of the layout alternatives considered so far in the EIA process provides for a mix of housing typologies to accommodate beneficiaries to be relocated from informal settlements in Walmer Gqebera, and in the case of Open Market houses, from further afield. A short description of the housing typologies is provided in below, and illustrations showing typical examples of each housing type are provided in Table 2-1.

Eligible beneficiaries will receive a formal structure (Free basic house/RDP) to be built in accordance with NHBC Standards and the National Building Regulations. The remainder of the units will be offered to beneficiaries who qualify for Social Housing, GAP Housing (possibly Finance Linked Individual Subsidy Programme (FLISP) units).

### Free Basic House/RDP

- Fully State Subsidised Housing – for beneficiaries earning up to R3,500 per month;
- Each unit at least 40 m<sup>2</sup>, and costing approximately R160,000 each to build;
- Beneficiaries will depend entirely on being housed by the state without any expectation of making financial contributions towards the house/services/ transfer/ registration costs for the property to be received; and
- Units will be either free standing or semi-detached single storey buildings.

### GAP / FLISP Housing

- Partially subsidised housing, where the state subsidy is supplemented by private funding;
- Each unit >40 m<sup>2</sup>;
- For financially employed individuals who can afford mortgage loans of up to R300,000; and
- Units will be detached, semi-detached single storey or double storey buildings.

### Social Housing

- Units offered for rent to beneficiaries earning between R1,500 and R15,000 per month. Policy stipulates that the rentals paid should not exceed 30% of the gross income of the tenant. This would determine the size of unit allocated to the beneficiary. The units will be owned and managed by an accredited Social Housing Institution that will hold the stock for a minimum of 15 years, and may either re-finance for another 15 years or sell it off to tenants thereafter; subject to providing remaining tenants who still wish to rent with equivalent rental( social) accommodation for another period of 15 years
- Each unit ±30-54 m<sup>2</sup> and one to two bedroom apartments; and
- Units will be in 3 or 4 storey apartment buildings, in an access controlled complex, similar to those in the nearby Walmer Link development.

### Open/GAP market housing

- Stand-alone units priced at above R400,000, for beneficiaries earning above R15,000 per month, with those properties adjacent to Walmer Heights and north of the 12 m internal road providing future connection to Arlington Race Course property being designated for development to a minimum value of R620,000.

**Table 2-1: Typical examples of housing typologies proposed**

	
<p>Free standing single storey RDP house</p>	<p>Semi-detached single storey Gap/ FLISP Housing</p>
	
<p>Semi-detached single storey social housing</p>	<p>Social Housing Units: 1, 2 &amp; 3 Bedroomed Apartments</p>
	
<p>Social housing apartments</p>	

### 2.2.2 Other land uses

The development will be an integrated settlement including different land use zones (in accordance with the Section 8 Scheme regulations, which are applicable to the area) in addition to the housing component. The proposed land use zonings are summarised in the table below.

**Table 2-2: Proposed land uses for the Walmer housing development**

Zoning	Description of typical uses
Business Zone I	Includes provision for businesses such as bottle-store, supermarket, service trades, and parking provision at 3.33 bays per 100m <sup>2</sup> .
Institutional Zone III	Church, crèche, community facility, or similar
Institutional Zone I	Place of instruction
Authority Zone	Authority uses such as police stations, fire services, telecommunications facilities etc.
Special Zone	Informal (Street) Trading, Service Trades, Tourist facilities and utilisation for business purposes
Open Space Zone I	Public Open Space
Transport Zone II	Public Road

### 2.3 Infrastructure required

No internal infrastructure is currently in place on site, however electricity, sewer and water will be connected onto existing bulk infrastructure currently servicing the surrounding areas. Details of existing

and proposed services infrastructure are shown on the conceptual services infrastructure map in Appendix F, the relevant components of which are presented in Figure 2-4. The engineering Bulk Services Report and Stormwater Management Plan included as Appendix I provide further details regarding the proposed infrastructure.

## **Access Roads**

The concept of integrated planning requires the development of settlements that are physically and functionally integrated with the immediate area as well as broader linkages to facilities, where mobility is promoted. The layouts aim to address this need as far as possible.

Two main access routes to the site are proposed, both of which will be 6 m wide (16 m road reserves) tarred road surfaces. Access to the majority of the area will take place from Victoria Drive, where a 60 – 80 m length of road is proposed from an access point on Victoria Drive. This road will service the southern section of the site, including all the Free Basic House units. The location and design of this access point has been determined, based on the relevant road design and safety considerations, and recommendations of the Traffic Impact Assessment where appropriate. Additional or different locations for the access point onto Victoria Drive have been found not to be feasible from an engineering and traffic safety perspective, as planning guidelines regarding minimum intersection spacing would not permit more than one access point to Victoria Drive. The proposed alignment has been positioned to also limit destruction of forest, and therefore from an environmental as well as design perspective is preferred relative to previously proposed alignments, which were situated further east.

A second access road, from an existing road linking up to Beethoven Drive in Walmer Heights, is proposed for access from the northern side of the site, and will service the freehold and Gap housing areas, as well as the social housing developments in that portion of the site. No direct access through to the southern portion of the site will be provided from the Walmer Heights access route.

The road design also allows for possible future linkages to adjacent areas to the east and west of the site, should these sites be developed for public facilities.

## **Internal roads**

The proposed internal road layout is shown on the site development plans (Figure 2-2 and Figure 2-3, and Appendix F for A3 versions). Where possible, forest clumps have been accommodated in the layout. Internal roads are appropriately sized to accommodate municipal services vehicles (e.g. waste collection), and will include surface and sub-surface stormwater drainage capacity. All roads will be surfaced and the majority will have 12 m road reserves, except for the main roads, which will have 16 m reserves. Internal water reticulation pipelines will be situated in the road reserves.

## **Stormwater drainage**

The natural stormwater flow on site is indicated by the directional arrows on the map included in the Stormwater Management Plan (see Appendix I), which includes details of the proposed stormwater management system for the site. It is proposed that the 1:5 year recurrence interval minor stormwater drainage system is controlled via the use of pipelines, while the 1:50 year recurrence interval major drainage will make use of open channels, detention ponds and the road system. During construction, stormwater will be controlled via temporary ponds and berms.

During operation, stormwater from the site will be accommodated in three on-site stormwater detention ponds (as indicated on the development layout plans), ranging in capacity from 1,331 to 7,598 m<sup>3</sup>, which will be fenced to prevent access by the public. The ponds will have 525 mm diameter concrete pipeline outlets, from where the stormwater will be directed as described below. The ponds and surrounding public open space areas will remain vegetated and monitored for obstructions to drainage.

Currently the only feasible option is for the stormwater to be conveyed via a pipeline to the edge of the site and from there in a vegetatable concrete block lined channel into the new detention pond situated in the southern portion of the Walmer golf course. The new golf course pond is designed for a capacity of 18,300 m<sup>3</sup> with a footprint of 22,520 m<sup>2</sup>. The pond is designed for a depth of 4.15 m and a concrete outlet pipe of 525 mm. The pond will attenuate overland runoff from erf 11305.

SRK has been informed by DEDEAT that this stormwater detention pond, and the associated stormwater infrastructure currently under construction along Buffelsfontein road, require environmental authorisation. The NMBM has informed SRK that this matter is being attended to independently of this EIA process and consequently the assessment of the off-site stormwater detention pond and downstream infrastructure fall outside of the scope of this EIA process. The stormwater infrastructure to this detention pond does however fall within the scope of the EIA process.

A second option of directing the stormwater from the on-site detention ponds via a pipeline to the existing stormwater management infrastructure along Victoria Drive has been confirmed by the design engineers not to be feasible due to capacity limitations (see Appendix A of the Bulks Services Report in Appendix I). In the event that environmental permits or authorisations required for the construction of this detention pond are not forthcoming, or require realignment of stormwater infrastructure, an additional option of directing the stormwater via pipelines to connect to existing infrastructure in 3<sup>rd</sup> Avenue Walmer is proposed. Given the length of pipeline involved, the additional cost implications of this option are however likely to prevent it from being feasible.

### **Bulk Water supply**

The existing water reticulation pipelines in the area are insufficient to service the proposed development. Water will therefore be supplied from the Emerald Hill reservoir via a new 450 mm diameter (4,620 m long) gravity main pipeline running within the servitude of the existing airport reservoir feeder pipeline which runs along Victoria Drive past the southern boundary of erf 11305 and services the current Walmer Heights area. This pipeline will run within the existing road reserves of Victoria Drive and Glendore Road, with the exception of a 500 m long section between the Emerald Hill Reservoir and Glendore Road, and will have the capacity to service other developments in the area if required.

### **Bulk sewer infrastructure**

A conventional fully waterborne sewage system is proposed, with separate connections to each erf. On-site sewer lines will run within the road reserves and sewage from the site will be discharged via two discharge points – an existing 225 mm pipe situated north-east of the site in the golf course, and a proposed 250 mm diameter pipeline running south-east of the site along Victoria Drive (this pipeline is however outside the scope of this project).

From these discharge pipelines, sewerage from the development will be conveyed via an existing 1200 mm diameter bulk sewer pipeline to the Driftsands Wastewater Treatment Works.

The NMBM has indicated that a connection point will be made available for erf 11305 on the Walmer Heights to Mount Pleasant phase 1 sewer services, and has confirmed capacity for the proposed development (Refer to NMBM capacity confirmation letter in Appendix A of the bulk services report in Appendix I).

### **Bulk Electricity Supply**

Overhead powerlines run to the south east of the proposed development, and the NMBM has confirmed that electricity supply can be made available to the proposed development, and it is proposed that existing powerlines in the area will be used.

Substations may be required but the location thereof has not yet been determined, and any environmental authorisations required fall outside the scope of this EIA.

## **Solid Waste Management**

Solid waste management services are to be provided by the NMBM, in accordance with the national Domestic Waste Collection Standards. This will include regular weekly removal of domestic refuse to the Arlington Landfill site.

## **2.4 Project Alternatives**

### **2.4.1 Site alternatives**

Erf 11305 is proposed by the NMBM as a suitable location for the proposed integrated residential development for several reasons. The site is in close proximity to the Walmer Gqebera settlement and is intended to form a logical extension for beneficiaries who are currently living in the area and need to be accommodated in new destination areas. The land is municipal property and will not require a lengthy/costly process of land acquisition. Although forest patches are present on site, the property is no longer pristine as it has previously been disturbed through grazing and dumping. The site is bordered by developed land and falls within an area allocated for medium and high density residential development in terms of the Walmer Local Spatial Development Framework (Metroplan, 2014), therefore service infrastructure will be connected onto existing bulk services and will not require extensive additional connections. As most of the housing recipients work in the areas close to the site, the socio-economic impacts of relocating resided elsewhere in the NMBM are unacceptable.

Other municipal owned properties that are available for development, such as erf 1266 and erf 1256 Summerstrand, were found by the NMBM to be unsuitable due to the distance from Walmer Gqebera and serviceability constraints. Other undeveloped sites in the vicinity of erf 11305 (such as erf 7005, on which the Walmer Country Club is located) are privately owned, and given the constraints of these sites, are unlikely to produce higher housing yields or be more cost effective to develop (even if the cost and timeframes involved in purchasing the land is not taken into account). Erf 4195 (formerly Arlington Race Course) is also being considered for housing by the NMBM as part of a separate project. No other site alternatives are therefore proposed as part of this application.

### **2.4.2 Layout and design alternatives**

During project planning, several iterations of the site development plan were considered to accommodate as far as possible the existing forest on the site, stormwater management and access road requirements, as well as socio-economic sensitivities relating to the adjacent residential areas and various access alternatives. These alternatives are briefly described below and presented in Figure 2-2 and Figure 2-3. A3 versions of these layouts are provided in Appendix F.

#### **Layout Options A and B**

These options are based on Layout Alternatives 3 and 4 as provided in the Amended FSR, with the following main changes (which have also resulted in slight changes to the housing yields):

- The alignment of the access road to Victoria Drive has been amended to accommodate engineering, traffic safety and environmental considerations;
- The alignment of the internal road network has been modified to allow for separation of traffic flows between the northern and southern portions of the development;
- Provision for three on-site stormwater detention ponds (in Public open Space areas) and two different options regarding off-site stormwater management, is made.

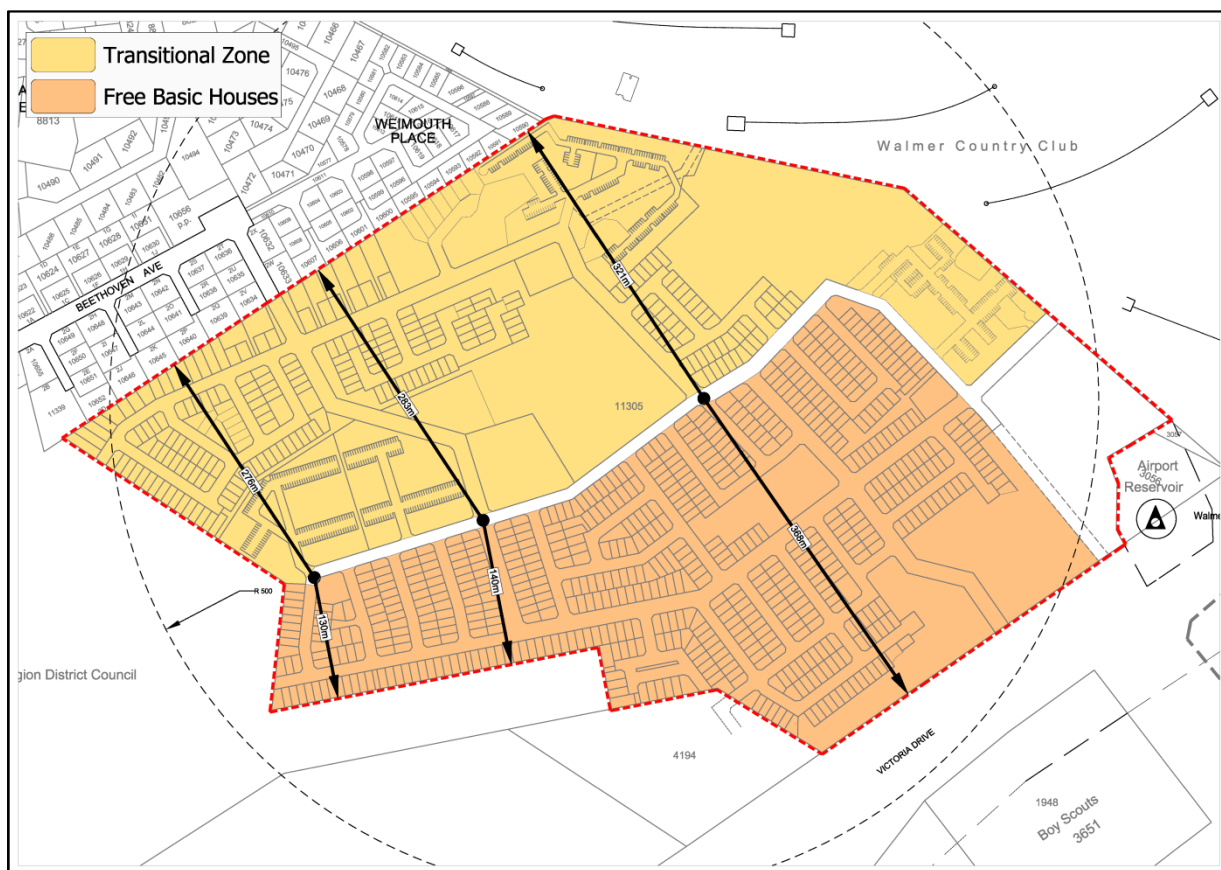
Both layout options are based on updated information regarding the distribution of forest on the site, as well as the removal of the Driftsands Arterial road reserve, and adoption of the concept of a transition zone (between 276 and 300 m wide) to act as a buffer (see Figure 2-1 below) between Walmer Heights and the areas allocated for free basic houses / RDP units. This transition zone is intended to address



socio-economic concerns of the adjacent higher income residential areas, while still in line with national policy for integrated residential development, and is made up of the following:

- The free basic houses/ RDP Units are located closer to Victoria Drive way from Walmer Heights;
- A transition zone comprising Social Housing Units, a school site and public open space (forest clumps) is provided along the southern-edge of the Golf Course; and
- The transition area between the RDP units and Walmer Heights ranges from 276 to 321 m wide, and is made up of FLISP/GAP housing, business and public open space areas, and Open Market Housing. The sites directly abutting Walmer Heights are proposed for open market housing priced over R620,000.

Anticipated typical views of what the proposed development is likely to look like (based on Layout Option A as described below) from various viewing points are provided in Table 2-3.



**Figure 2-1: Proposed transition zone (for layout Options A and B)**

**Layout Option A** (Figure 2-2) resulted from various iterations of the layout in an attempt to accommodate the forest on the site as much as possible while still meeting the NMBM’s development objectives for the site. An initial draft layout was submitted to DAFF for comment early in the EIA process, and comments received from DAFF are included in Appendix D. Layout Option A therefore shows the amended layout in accordance with DAFF’s comments, which include that no residential erven may overlap with forest patches. This layout results in a housing yield of approximately 1,720 units, covering 46% of the site. This layout assumes that stormwater from the site will be accommodated via the new stormwater detention pond to the north-east of the site on the Walmer golf course.

**Layout Option B** (Figure 2-3) is based on Layout Option A, with the inclusion of a 20 m buffer around forest patches, as requested by DEDEAT. This has resulted in a significant reduction in housing yield for the site, both directly (due to loss of houses that would have fallen within this buffer zone) and indirectly, as the buffers would make some areas of the site inaccessible or otherwise not viable for development. Layout Option B would result in a total housing yield of approximately 1,236 units, covering only 38% of

the site, meaning that the shortfall in the required number of houses would need to be accommodated elsewhere.

## 2.5 Employment during construction

The engineering bulk services report (Appendix I) recommends that where possible, labour-intensive methodologies will be encouraged to maximise job creation. It is also recommended that SMMEs are engaged for the project as per the NMBM requirements, and that certain portions of the work are allocated to SMMEs, with proper engagement and supervision. The construction period is expected to last approximately four years, and is anticipated to result in approximately 320 unskilled and 80 skilled direct work opportunities, with approximately 95% of the labour value being allocated to previously disadvantaged individuals.

## 2.6 Relocation Procedure

The process of relocating residents from Walmer Gqebera to erf 11305 is based on the NMBM's standard procedure as provided by the NMBM Human Settlements Directorate in Table 2-3 below. The procedure will be implemented by the NMBM, at an appropriate time in accordance with the overall project schedule.

**Table 2-3: Relocation Procedure**

Activity	Implementer
Meet with the Ward Councillor & Ward Committees.	Senior Informal Housing Officer
Discuss the plans to relocate the families, why and where they will relocate to.	Senior Informal Housing Officer
Request the Councillor to arrange a public meeting to discuss the relocation plans as well as electing a Task team (from the community) that will assist with the relocations.	Senior Informal Housing Officer/ Informal Housing Officer & Community Development Facilitator (CDF)
Decide of the list of names that will relocate and send them for pre-screening (to Province – 3 to 5 days to process).	Assistant Informal Housing Officer & Ward Councillor/ Task teams
Conduct Housing Consumer Education to prepare the potential beneficiaries on the upcoming relocations and related matters.	Community Development Facilitator
Outline the relocation process as well as informing them about the service-providers that will be relocating the families (loading & offloading of furniture).	Informal Housing Inspector
Present the pre-screening results to the Councillor and the Ward Committees.	Informal Housing Inspector
Decide on the dates of relocations and the number of families that will relocate per day.	Informal Housing Inspector/ Task team
Once all the above have been done and agreed upon, then relocations can commence, under the following conditions: <ul style="list-style-type: none"> <li>The responsible official will make sure that all shacks are dismantled completely before any material can be loaded on the truck (shack materials are Owner's responsibility to dispose of. Abandoned material will be removed to the tip-site);</li> <li>All the necessary paper work will be done on site by the responsible officials;</li> <li>On rainy days, no relocations will take place;</li> <li>Relocations should start at 08:00 and the last load should be not later than 13:00 to give the family enough time to rebuild the shack (in cases where there is no provision of temporary structure);</li> <li>No person should dismantle the shack unless told to do so by the official or the task team members;</li> <li>Only people that are on the Municipal database will be relocated (note that the database may include people other than South African citizens).</li> </ul>	Informal Housing Inspectors/ Task team

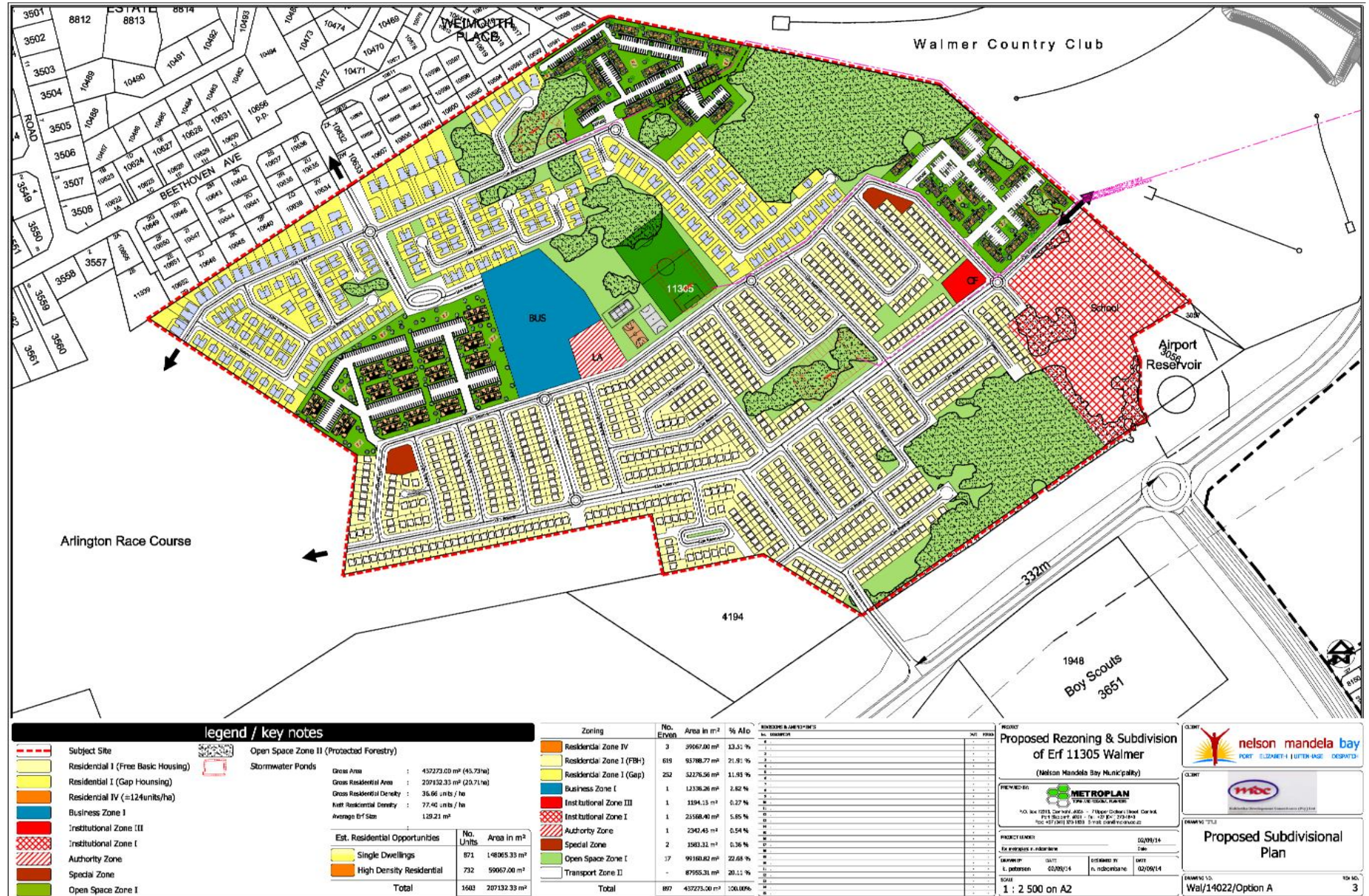


Figure 2-2: Preliminary proposed site development plan Layout Option A

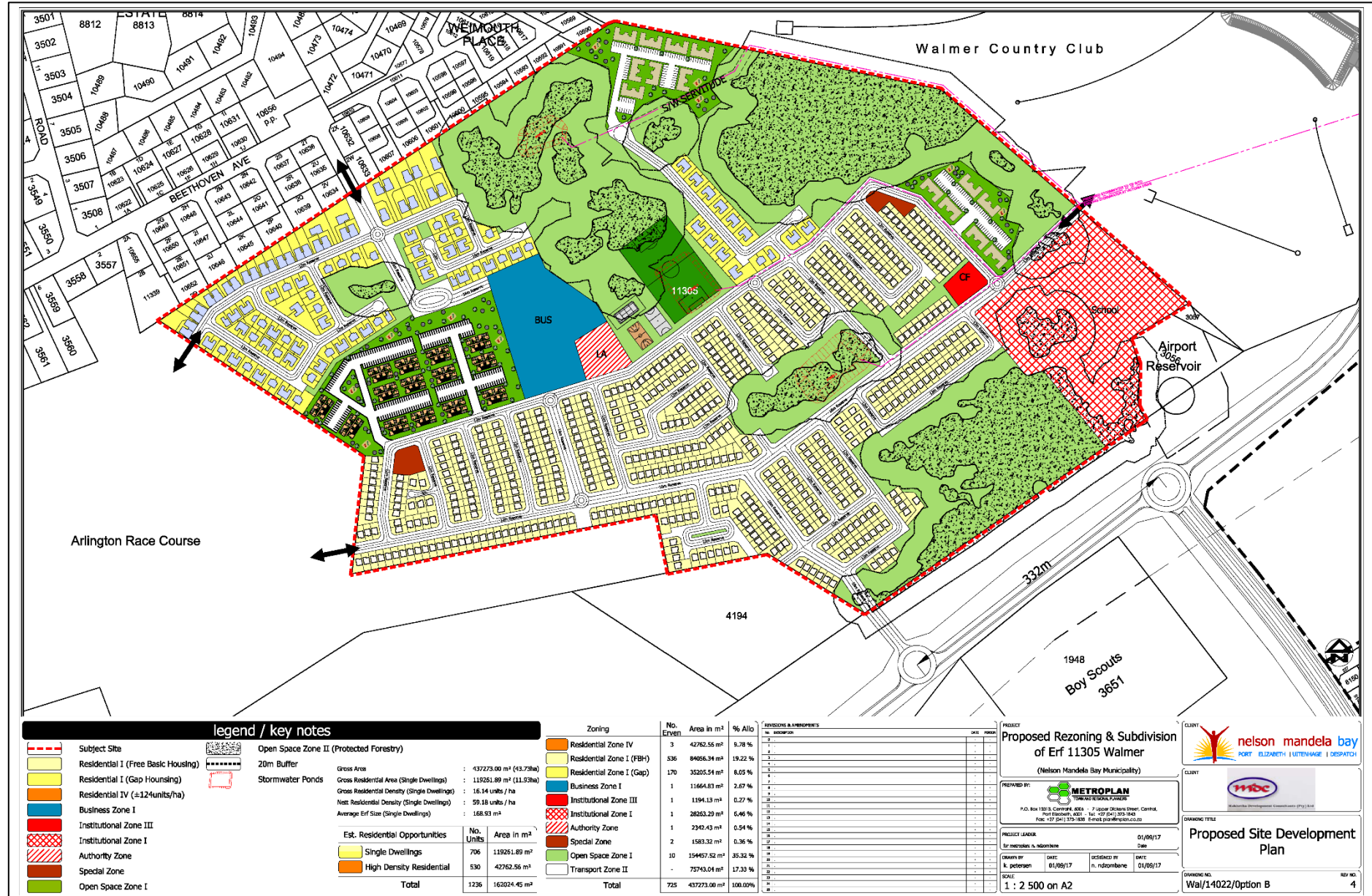


Figure 2-3: Preliminary proposed site development plan Layout Option B (with 20m forest buffers)

**Table 2-4: Anticipated typical views of the proposed development from various viewing points, based on Layout Option A (Source: Metroplan)**



View of gradient in housing typologies, with Walmer Heights on the left-hand side



View to the southeast over the development from Walmer Heights in the foreground



View over the development from the southeast



View southwards over the development from Walmer Heights

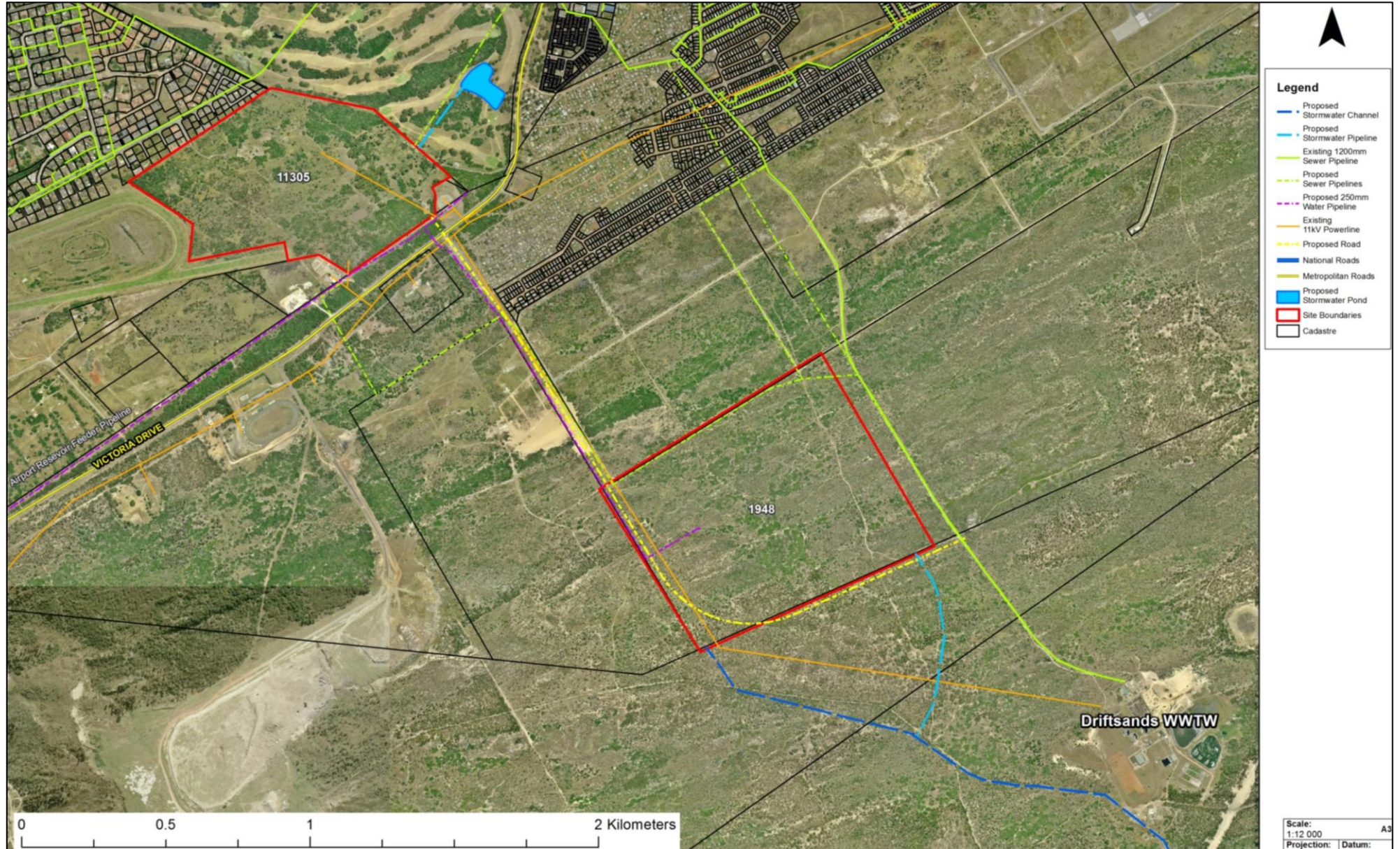



Figure 2-4: Conceptual drawing showing existing and proposed bulk service connection alignments for the development

## 2.7 Management of the development during operation

The houses to be owned individually on free hold basis will be maintained by the households who benefit as is the case in the other suburbs and other housing projects in the NMBM. Public roads, facilities, infrastructure and public open spaces will be maintained by the NMBM. Social Housing Apartments will be developed and owned by an accredited Social Housing Institution (SHI) that will be responsible for the management, rent collection, maintenance, and liaison with tenants etc. The SHI will also maintain all the private open spaces within the social housing projects including the provision of play equipment, etc. Social Housing is to be managed in line with the requirements of the Social Housing Regulatory Authority (SHRA) who would regularly visit the projects to ensure compliance.

The area will be managed in accordance with the Section 8 Zoning Scheme relating to Residential Zone (single dwellings), Residential Zone IV for flats/residential buildings, Business Zone 1, Institutional Zone I and III, Open Space Zones I and III, Transportation Zone II, Authority Zone and Special Zones. The NMBM will deal with building contraventions in a manner similar to other formally planned suburbs in the City.



## **3 Nature of the Affected Environment**

The receiving environment has been described using a combination of on-site observations (by both specialists and SRK), spatial information and previous studies currently available to SRK.

### **3.1 Biophysical Environment**

#### **3.1.1 Geology**

The geology of the site is described in the palaeontological specialist's exemption letter by Dr John Almond, a copy of which is provided in Appendix K3 of Volume 2 and a summary of which is provided below.

Erf 11305 is underlain by coastal aeolianites (ancient, wind-blown dune sands) of the Nanaga Formation (Algoa Group) of Pliocene to Early Pleistocene age. These ancient dune sands crop out extensively to the west and east of Port Elizabeth (Le Roux 1992). In the present study area they unconformably overlie Palaeozoic sandstones and quartzites of the Peninsula Formation (Table Mountain Group; Op, pale blue in the map included as Figure 3-1). The Nanaga beds comprise calcareous sandstones and sandy limestones that often display large scale aeolian cross-bedding - well seen, for example, in deep N2 roadcuts between Colchester and Grahamstown. They may reach thicknesses of 150 m or more (Maud & Botha 2000). The Nanaga aeolianites are normally partially to well-consolidated, although unconsolidated sands also occur west of Port Elizabeth (Le Roux 2000). The upper surface of the aeolianites weathers to calcrete and red, clay-rich soil, and the dune sands themselves may be profoundly reddened. The age of the palaeodunes decreases towards the modern coastline, reflecting marine regression (relative sea level fall) during the period of deposition. The oldest outcrops located furthest from the modern coast are the most elevated, having experienced some 30 m of uplift in the Pliocene, and may even be Miocene in age (Roberts et al., 2006). Typically the ancient dunes are preserved as undulating ridges of rounded hills trending parallel to the modern shoreline (Le Roux 1992).

#### **3.1.2 Topography**

The topography of the area is relatively flat to undulating, with slopes of approximately 0.5%, and high and low points of approximately at 113 and 102 m amsl respectively. Depressions have been noted where water could collect, making stormwater detention ponds necessary (Refer to Bulk Services Report in Appendix I)

#### **3.1.3 Land Use**

The proposed site is currently undeveloped and is municipally owned (see Title Deed in Appendix G). Although no formal development has taken place the site is used by the Walmer Gqebera residents for growing crops, grazing livestock, recreational purposes (soccer field), and is also a transit area for pedestrians between the existing Gqebera and Walmer Heights and surrounds. As is typical of vacant land in the urban environment, the site is also used for illegal dumping of rubble.

The site is bounded by Walmer golf course to the east, Victoria Drive and Walmer Gqebera to the southeast, the former Arlington racecourse to the southwest and the middle to high income residential suburb of Walmer heights to the north.

#### **3.1.4 Palaeontological resources**

The potential for palaeontological resources on the site was investigated via desktop study by Dr John Almond of Natura Viva. In accordance with the specialist's recommendations, a letter of exemption from more detailed palaeontological studies was submitted to ECPHRA, as the specialist concluded that the



sedimentary rocks underlying the site are largely unfossiliferous. A summary of the study findings is included below, and a copy of the full report is included as Appendix K3 of Volume 2.

The site is located in an area underlain by Quaternary Aeolian sands of the Nanaga Formation, which are characteristically of low palaeontological significance. According to Le Roux (1992) and Almond (2010) the fossil biota of the Pliocene to Early Pleistocene Nanaga Formation consists of fragmentary marine shells, foraminifera and a small range of terrestrial snails. Dense arrays of calcretised rhizoliths commonly occur in these and cotemporary aeolianites along the southern and south-western coast. A wider range of terrestrial fossils might be found here in future, albeit only rarely due to extensive post-depositional diagenesis. The overall sensitivity of the Nanaga Formation is assessed as low, although pockets of locally high sensitivity may occur.

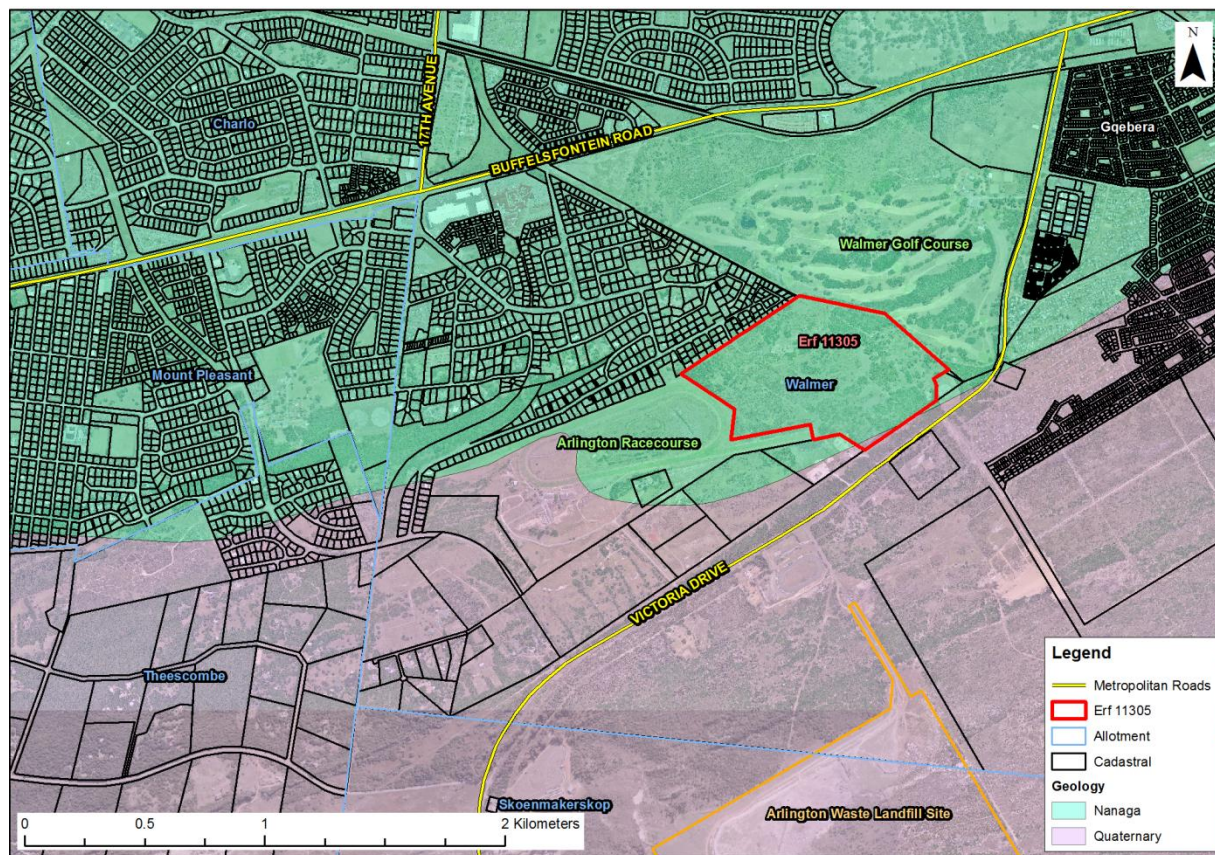


Figure 3-1: Geological map showing the location of the study area on Erf 11305.

### 3.1.5 Archaeological and historical sites

A phase 1 archaeological impact assessment of the site was undertaken by Celeste Booth of the Albany Museum. A summary of the study findings is included below, and a copy of the full report is included as Appendix K4 of Volume 2.

The proposed area for the housing development is situated on the boundary of the generally accepted 5 km archaeologically sensitive coastal zone. Little systematic archaeological research has been conducted within the immediate area of the proposed development. However, several relevant archaeological and heritage impact assessments have been conducted within the immediate surrounding vicinity and along the wider coastal region between Kings Beach and Van Stadens River. These impact assessments have identified several Early, Middle, and Later Stone Age stone artefacts and sites distributed along the coastline as well as evidence of Khoekhoen pastoralist occupation and/or interaction by the presence of broken earthenware pot sherds. Historical research on the early settlement in Walmer

shows that the area proposed for the development and surrounds was situated on the farm Welbedacht and was later divided into several properties.

Archaeological sites in the form of shell middens and scatters have also been reported along this coastline and within the 5 km archaeologically sensitive coastal zone. However, no archaeological heritage remains or expected shell midden sites were observed within the proposed area for development.



**Figure 3-2: Historical structures identified on site (Wintermeyer 2015)**

The ruins of a farmstead, dwelling, and associated infrastructure were documented on the property. These structures were investigated by Mr Bryan Wintermeyer of SVA International. The archaeological report identifies four potential resources (QBE1, QBE2, QBE3 and QBE4), as identified Figure 3-2. Wintermeyer (2015) identifies two additional potential resources namely: historical association to the 'Welbedacht' farm and Muller family and evidence of garden planting and tree groves. The resources are as follows:

- Site QBE1 – Dipping Tank -The history of this dipping tank is uncertain. It was probably created in the later period of the use of the site for the ongoing use of the site as commonage, farming and planting. Not significant.
- Site QBE 2 – Ruin. This is a minor ruin to the north of the site, currently in a heavily overgrown area. It is suggested that it is of a similar age to QBE3 – from the 1930's.
- Site QBE 3 – Ruin. The largest ruin identified on the site that has the remains of the foundations and chimney still visible.
- Site QBE 4 – Sub Station Contemporary substation. Not significant.
- Historical association of the site - The historical association to the early farms of Port Elizabeth and the creation of the suburb of Walmer.

- Commonages, Garden Planting and Tree Groves - Evidence of commonages, garden planting and historical tree planting is relatively rare in Port Elizabeth because ongoing development (such as this development) has destroyed it.

### 3.1.6 Surface Water

A wetland and aquatic ecology impact assessment of the site was undertaken by Dr Brian Colloty of Scherman Colloty and Associates. A summary of the study findings is included below, and a copy of the full report is included as Appendix K5 of Volume 2.

The study area is located within the Baakens River catchment, however no connections via channels, streams, or rivers occur between the site and the Baakens River. Any potential connectivity has been further reduced by the roads (present and past).

This is further supported by the National Freshwater Ecosystems Priority Atlas (NFEPA - Nel *et al.*, 2011) and Eastern Cape Biodiversity Conservation Plan (ECBCP) spatial databases. The NFEPA project has captured and rated the importance of rivers and wetlands on a national basis and indicates that no such habitats (riverine or wetland) or priority areas are located within or adjacent to the site. This is a similar case for the ECBCP and NMBM Bioregional Plan (NCAP) data.

The study area is therefore characterised by the high degree of modification linked to the development of roads, housing (formal and informal) and alien tree invasion and high levels of illegal solid waste and building rubble disposal.

Several areas were shown in the available aerial photographs as likely wetland areas, but on-site verification proved them to be either bare soils areas or dune hummocks (slack) with alien / secondary vegetation. Therefore no wetland areas were found within or adjacent to the study site.

### 3.1.7 Groundwater

Groundwater seepage (very weak to weak) can be expected within 0.9 - 1.6 m below surface. Conditions for the development of a perched water table are likely to develop at the contact of the underlying calcrete particularly within areas underlain by well-cemented calcrete zones with minimal fracturing. Storm water is envisaged to infiltrate downwards through the unconsolidated Aeolian sand and collect at the contact with the underlying calcrete layer.

### 3.1.8 Vegetation

#### National Vegetation Context - Mucina and Rutherford

Mucina and Rutherford (2006) have developed the National Vegetation map as part of a South African National Biodiversity Institute (SANBI) funded project: "It was compiled in order to provide floristically based vegetation units of South Africa, Lesotho and Swaziland at a greater level of detail than had been available before." The map was developed using a wealth of data from several contributors and has allowed for the best national vegetation map to date, the last being that of Acocks developed over 50 years ago. This is a Regional scale mapping tool presented at 1:250 000 and supplies a general idea of vegetation types in the area which forms the base of finer scale bioregional plans.

Mucina and Rutherford (2006) define the following vegetation types that occur within the identified sites and from which source these descriptions are derived:

#### Algoa Sandstone Fynbos

Algoa Sandstone Fynbos occurs in the coastal flats at Port Elizabeth from Van Stadens River in the west to Southdene-Summerstrand in the east. Vegetation consists of grassy shrubland (mainly graminoid fynbos). Grasses become dominant especially in wet habitats. In the south this fynbos unit borders on the Albany Coastal Belt and Algoa Dune Strandveld and forms transitional mosaics with both. It also borders

on patches of Southern Coastal Forest in this area. This vegetation unit is classified as Endangered with a conservation target of 23%. About 2% is conserved in the Van Stadens Wild Flower Reserve, The Island Nature Reserve as well as in several private nature reserves. More than 50% of this vegetation type is transformed (cultivation, urban sprawl of the Nelson Mandela Metropolitan Area). S

### Algoa Dune Strandveld

Algoa Dune Strandveld occurs in a narrow coastal strip from the Tsitsikamma River to the Sundays River Mouth in the Eastern Cape. Vegetation consists of tall dense thickets on dunes dominated by stunted trees shrubs, and lianas. The conservation status is least threatened with a target of 20% in the Final Conservation Assessment and Plan for the NMBM (2010). About 4% is statutorily conserved in various reserves. More than 10% has been transformed by cultivation, urban development and road building

### Local Vegetation Context – Nelson Mandela Bay Municipality Bioregional Plan

The NMBM conservation Assessment (2010) identified a total of 58 vegetation types within the municipal area. Erf 11305 is found in an area where Sardinia Bay Forest Thicket dominates (See Figure 3-4). This vegetation type consists of Indian Ocean Forest (typically <3.5 m tall) dominated by thicket clumps typical of Algoa Dune thicket. The matrix is forest characterised by Cape ash (*Ekebergia capensis*) and coral trees (*Erythrina caffra*). Sardinia Bay Forest Thicket is classified as 'Vulnerable'.

A forest survey was conducted by Dr Belinda Clark of CEN Integrated Environmental Management Unit on the request of the Department of Agriculture, Forestry and Fisheries (DAFF). A summary of the report findings is included below and a copy of the full report is included in Appendix K7 of Volume 2. Figure 3-3 indicates the findings of the forestry survey which identified several forest clumps and clumps within the proposed site boundaries. A list of the dominant forest species recorded including *Sideroxylon inerme* and *Pittosporum viridiflorum* (protected species) is provided in Table 3-1. Where a protected species was observed within a forest clump, the clump was designated as 'protected'<sup>2</sup>. The findings of this survey were incorporated into an ecological assessment of the site by Dr Brian Colloty of Scherman Colloty and Associates (see report in Appendix K6 of Volume 2).

**Table 3-1: List of dominant tree species recorded on the site (alien invasives indicated by \*)**

<b>Anacardiaceae</b>	<b>Salicaceae</b>
<i>Searsia crenata</i>	<i>Dovyalis rhamnoides</i>
<i>Searsia glauca</i>	<b>Solanaceae</b>
<i>Searsia pterota</i>	<i>Lycium ferocissimum</i>
<i>Searsia tomentosa</i>	<b>Myrtaceae</b>
<b>Apocynaceae</b>	<i>Eucalyptus sp. *</i>
<i>Carissa bispinosa</i>	<b>Pittosporaceae</b>
<b>Asphodelaceae</b>	<i>Pittosporum viridiflorum</i>
<i>Aloe africana</i>	<b>Ranunculaceae</b>
<b>Asteraceae</b>	<i>Clematis brachiata</i>
<i>Brachylaena discolor</i>	<b>Rhamnaceae</b>
<i>Osteospermum moniliferum</i>	<i>Scutia myrtina</i>
<i>Tarchonanthus camphoratus</i>	

<sup>2</sup> Note that a clump that consists of three or more forest species is considered a forest community/ecosystem and is protected in terms of the NFA irrespective of whether it has protected species (listed in terms of NFA) in it or not.

<b>Bigoniaceae</b>	<b>Rutaceae</b>
<i>Tecoma capensis</i>	<i>Clausena anisata</i>
<b>Celastraceae</b>	<i>Zanthoxylum capense</i>
<i>Lauridia tetragona</i>	<b>Salvadoraceae</b>
<i>Mystroxydon aethiopicum</i>	<i>Azima tetracantha</i>
<i>Pterocelastrus tricuspidatus</i>	<b>Sapotaceae</b>
<i>Putterlickia pyracantha</i>	<i>Sideroxylon inerme</i>
<b>Ebenaceae</b>	<b>Tiliaceae</b>
<i>Euclea racemosa</i>	<i>Grewia occidentalis</i>
<b>Fabaceae</b>	<b>Meliaceae</b>
<i>Acacia spp. *</i>	<i>Ekebergia capensis</i>
<i>Acacia karoo</i>	<b>Rhamnaceae</b>
<b>Lamiaceae</b>	<i>Rhamnus prinoides</i>
<i>Leonotis leonurus</i>	

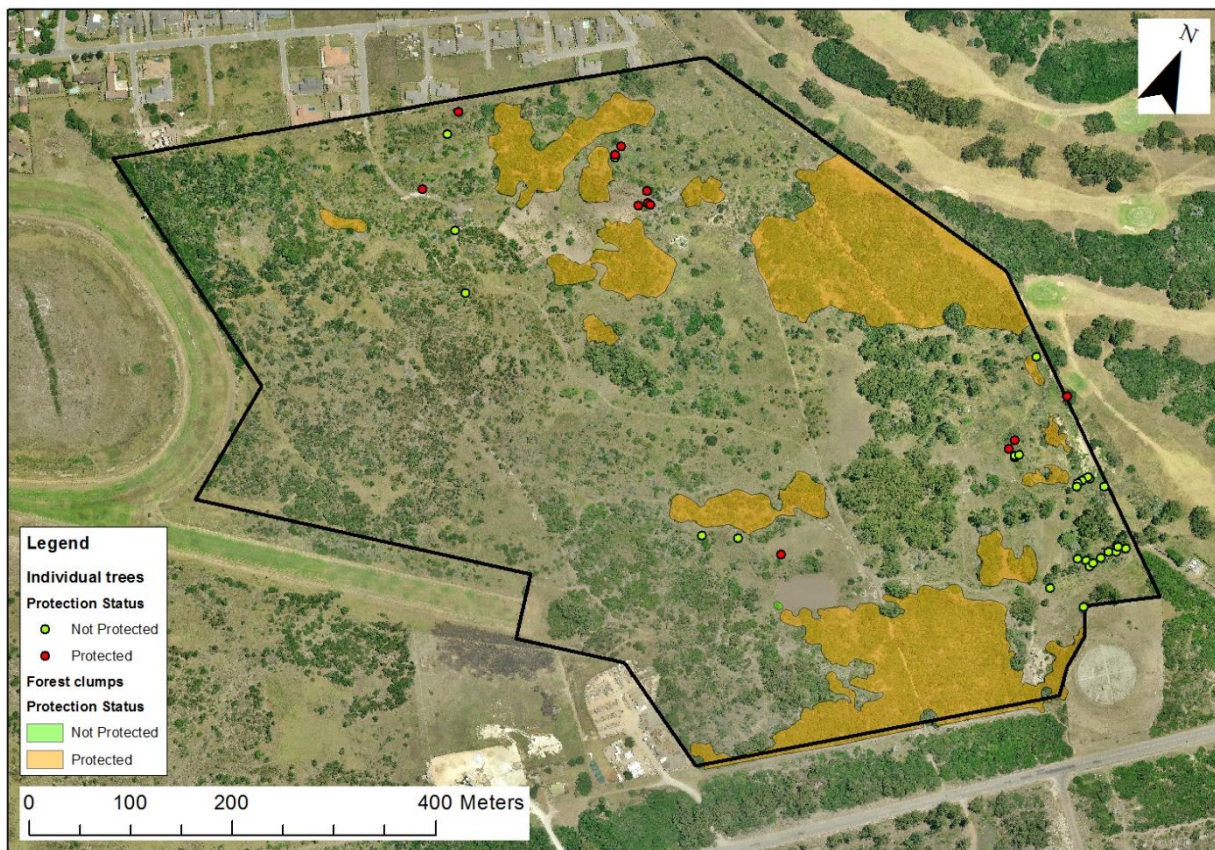
The specialists identified two major forest clumps on the northern and south-eastern borders of the site. These clumps comprise a matrix of forest species interspersed with alien vegetation and pioneer species indicative of transformed land. The forest has been impacted by current and historic activities that have taken place on the property include clearing for planting of crops, fires, and dumping. This has led to large parts of the site becoming infested with alien vegetation.

Indigenous species on site, identified by the aquatic specialist included *Conyza obscura*, *Felicia erigroides*, *Cynadon dactylon*, *Eragrostis curvula*, *Eragrostis plana* and *Hypparrhenia hirta*.

### 3.1.9 Fauna

An ecological assessment was conducted by Dr Brian Colloty of Scherman Colloty and Associates in October 2016 (see report in Appendix K6 of Volume 2). The faunal assessment was based on known distribution records or supported by field observations. The majority of species listed as well as observed with a conservation status were found in association with the Forest/Thicket vegetation or beyond the site associated with local water features such as the ponds found on the golf course. The majority of these species were listed by the PNCO.

According to the South African Bird Atlas Project (SABAP2), an average of 271 bird species has been recorded in the quarter degree grid cells (QDGC) that overlaps with the study site. ([www.sabap2.adu.org.za](http://www.sabap2.adu.org.za)). However, several of the birds listed are marine species or water birds and would not be observed within the site due to the lack of these habitat within the site. Although several raptors use or fly over the site, only one is listed as Regionally Vulnerable (but of Least Concern globally), namely the Lanner Falcon (*Falco biarmicus*). The observed species mostly make use of the forest pockets or open grass areas for roosting or foraging. The vast majority of species were observed flying over the site.



**Figure 3-3: Identified locations of protected forest clumps and individual trees (as per CEN forest survey, 2014)**

### 3.1.10 Conservation Planning Tools

#### **Nelson Mandela Bay Municipality Final Bioregional Plan (2014)**

The NMBM Bioregional Plan (2014) is a gazetted spatial plan that shows terrestrial and aquatic features that are critical for conserving biodiversity and maintaining ecosystem functioning. These areas are referred to as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs). Management objectives relating to each of the CBA categories and descriptions of these categories (as per the NMBM Bioregional Plan) are provided in Table 3-2. In addition, the Bioregional plan provides a profile of priority biodiversity in the bioregion, outlines other measures for effective management of biodiversity, and includes recommendations for review, monitoring and updating. The Bioregional Plan is underpinned by the Conservation Assessment and Plan for the Nelson Mandela Bay Municipality (SRK Consulting 2010), a systematic biodiversity plan that was developed according to established protocols, and maps the priority areas for conservation at a finer scale than the ECBCP.

The purpose of the Bioregional Plan is to provide a map of biodiversity priorities and accompanying guidelines to inform land-use planning, environmental assessment and authorisations and natural resource management by a range of sectors whose policies and decisions impact on biodiversity.

A small isolated portion of land located on erf 240 is marked as a CBA as the area potentially contains SSC. The northern boundaries of Erf 590 and Portion 10 of Farm 28 lie adjacent to a CBA, ecological support area as well as the Island Forest Nature Reserve and Seaview Game Park Protected areas). The Bioregional Plan recommends the following minimum buffers between CBAs and development nodes:

- 100 m around CBAs in forested areas outside urban areas;
- 30 m around CBAs in forested areas inside urban areas;

- 100 m around Protected areas; and
- 50 m around CBAs in other biomes.

Figure 3-4 shows that no protected areas are present within the proposed area to be developed, and CBAs and their minimum buffer requirements as listed above also fall outside the development area.

**Table 3-2: Description of CBA categories and land management objectives (Source: NMBM Bioregional Plan, 2014)**

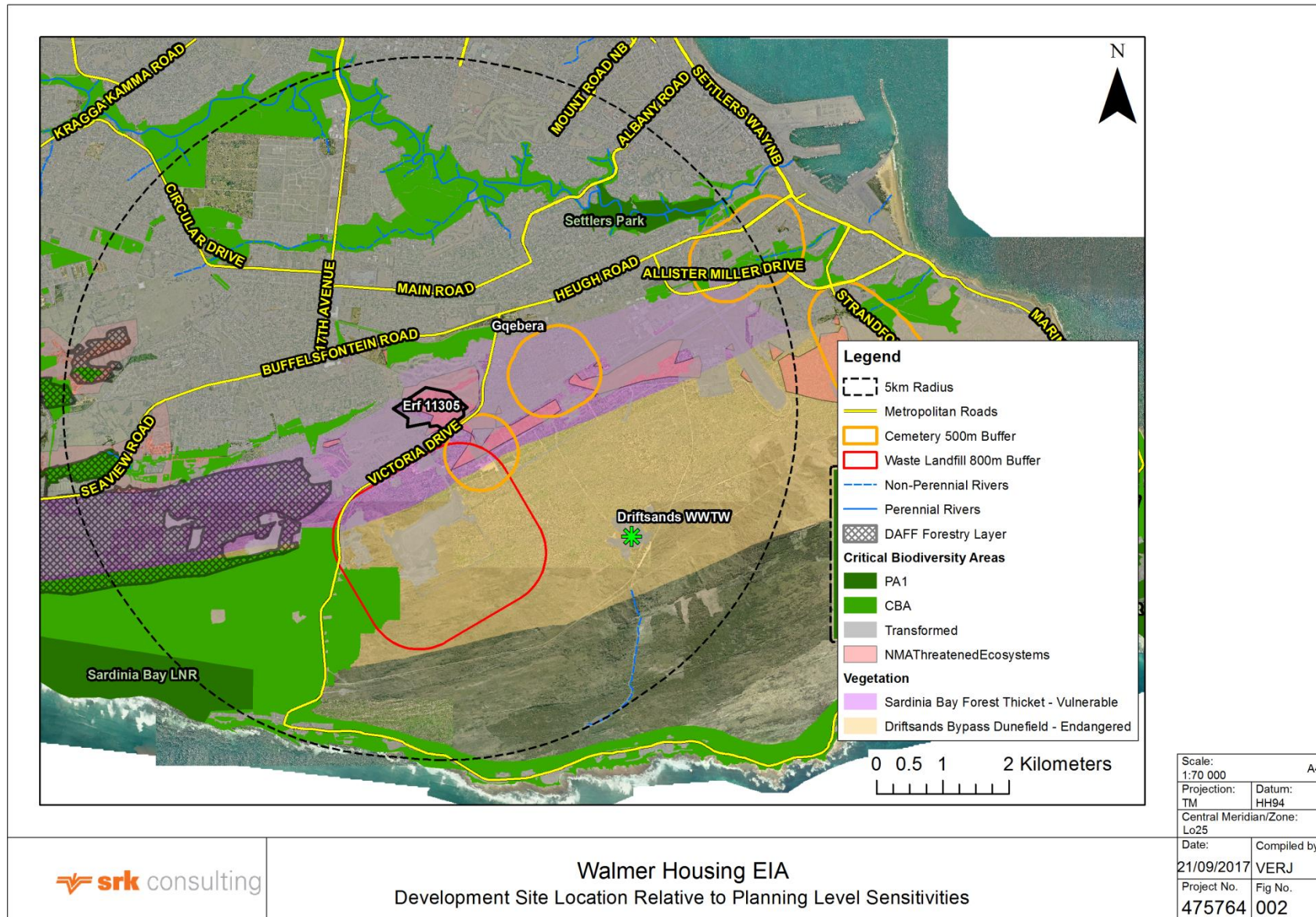
Category	Code	Description	Land Management Objective
Protected Area 1	PA 1	Protected areas managed by SAN Parks, provincial or local authorities, parastatals (e.g. NMMU), or the private sector. Includes National Parks, Provincial, Local and Private Nature Reserves.	To be maintained as Protected Areas.
Protected Area 2	PA 2	National Parks, Provincial, Local, Private Nature Reserves pending declaration.	To be declared and maintained as Protected Areas.
Critical Biodiversity Areas	CBAs	All <i>Critically Endangered</i> habitats, ecological process areas, ecological corridors, habitats for Species of Special Concern, and some <i>Endangered</i> , <i>Vulnerable</i> or <i>Least Threatened</i> habitats.	Such areas must be managed for biodiversity conservation purposes and incorporated into the protected area system.
Ecological Support Area 1	ESA 1	Agricultural land that plays an important role in ecosystem functioning and / or provides connectivity between natural areas.	Such areas must be maintained for extensive agricultural purposes and managed to promote ecological connectivity.
Ecological Support Area 2	ESA 2	Areas severely disturbed or transformed by human activities (e.g. mining), requiring restoration or rehabilitation.	Such areas must be restored or rehabilitated to support ecological connectivity. Such areas must not be developed.

### 3.1.11 Air Quality

Air quality levels around the development site are consistent with the land uses surrounding the site, being largely residential, with some light industry. Smoke from occasional fires at the Arlington waste landfill site is likely to be the most significant contributor to air emissions in the area. Victoria Drive which runs alongside the southern section of the property is a road which experiences heavy traffic.

### 3.1.12 Noise

The noise levels in the study area are typical of those in an urban residential setting, and increase from west to east as a result of the busy road (Victoria Drive) to the east, which experiences industrial as well as commuter traffic.



Walmer Housing EIA  
Development Site Location Relative to Planning Level Sensitivities

Path: G:\Projects\Current\475764 Walmer Housing EIA\_RUMP\8GIS\GISPROJ\MXD\Erf 11305\475764\_Erf\_11305\_Sensitivity\_20092017.mxd

Figure 3-4: Sensitivity Map for Erf 11305 relative to the surrounding area



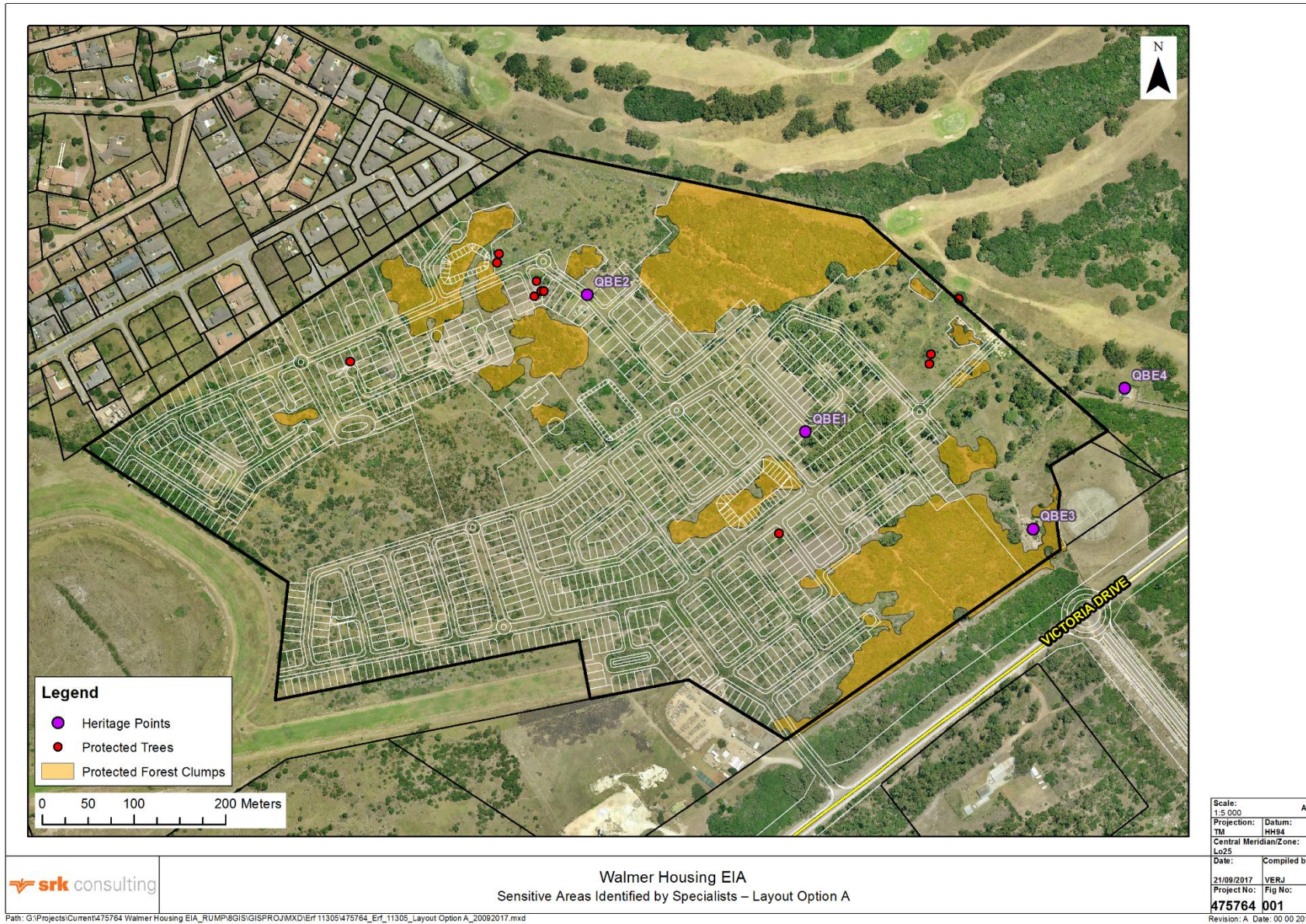
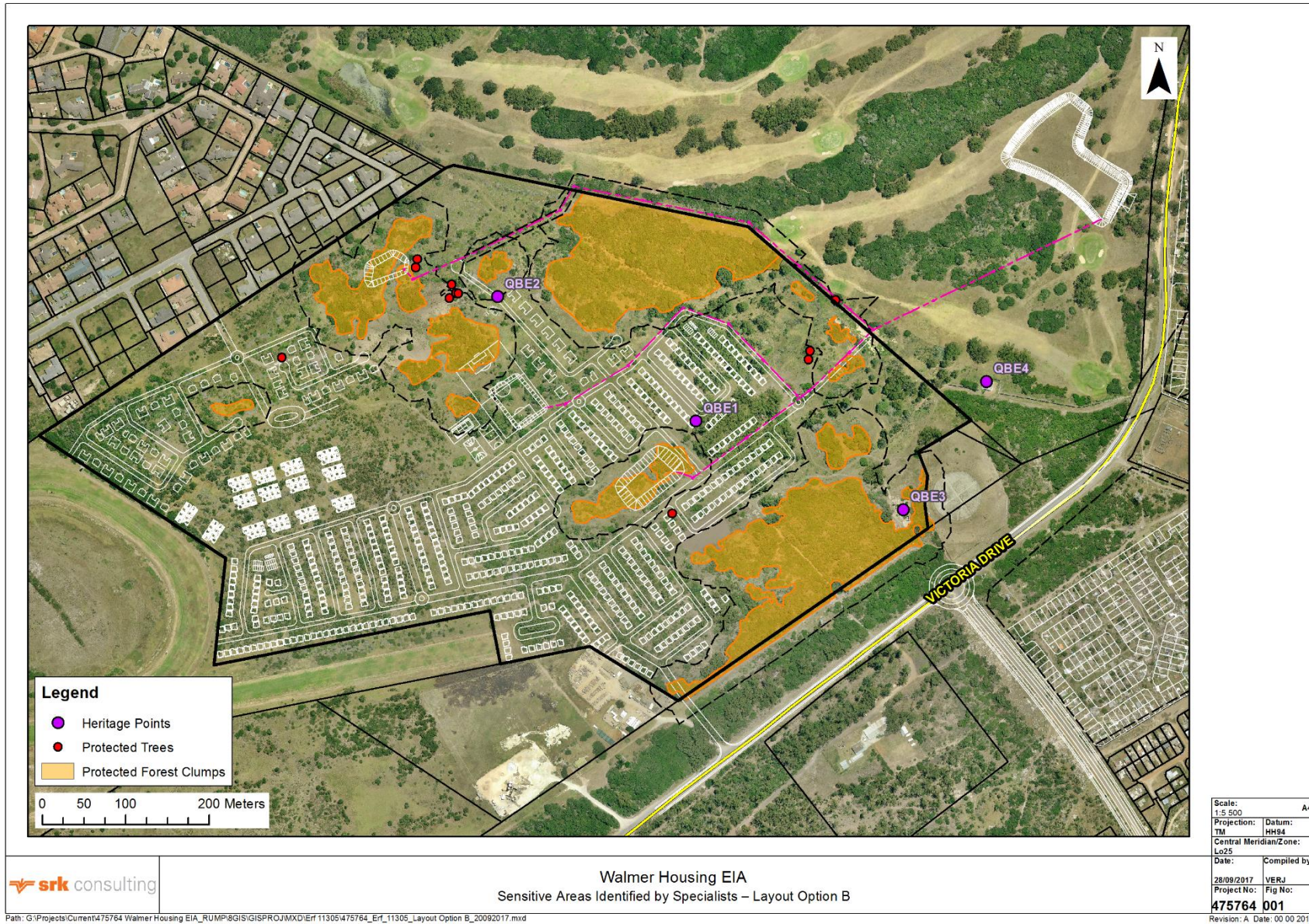


Figure 3-5: Sensitive areas on erf 11305 identified by the specialists relative to layout option A



**Figure 3-6: Sensitive areas on erf 11305 identified by the specialists relative to layout option B**

## 3.2 Social and Economic Environment

A socio-economic study for the project was completed by Demacon (see Appendix K1 of Volume 2 for specialist study report). The specialists were initially asked to provide recommendations regarding the layout in 2015, so that these recommendations (along with those of other key specialist studies such as forest) could be incorporated into the proposed layout where possible. The report has subsequently been updated taking into account the updated layouts proposed as part of this DEIR.

### 3.2.1 Local Economy of the NMBM municipal area

The NMBM municipal area is the economic powerhouse of the Eastern Cape, contributing 35.1% to the provincial GDP. The manufacturing sector is the main contributing industry in the local economy; and the automotive industry alone accounts for approximately 7% of the country's GDP. The automotive industry remains one of the most established industries locally, as well as in the Eastern Cape Province (Fernridge Consulting, 2008). Most other industries in the NMBM are geared towards the motor vehicle industry, providing parts such as wiring harnesses, catalytic converters, batteries and tyres to the vehicle manufacturers.

The heavy industries are mainly located to the northern side of NMBM, whilst lighter industries are located in the Newton Park, Walmer, South End, Fairview and Greenbushes area to the south and south-west of Port Elizabeth. Apart from manufacturing, tourism is an active contributor to the local economy, while services and creative industries have been targeted for robust development and have the potential to support economic growth ([www.investinnelsonmandelabay.co.za](http://www.investinnelsonmandelabay.co.za)).

NMBM is also a major seaport, with the most significant ore loading facilities in the southern hemisphere. The Coega IDZ and deep-water port are intended to be the main employment node in the future as most of the industrial areas have reached capacity. While Coega IDZ currently also accommodates some smaller industries, it is primarily intended to host heavy and large-scale industry and transport functions relating to the bulk handling harbour.

The population of the NMBM was counted as 1,152,115 in the census of 2011 with approximately 324,292 households. For the purposes of this report the concept 'unemployed' refers to the portion of the economically active population (15 to 65 years) actively looking for work, but that are unable to find employment. The average unemployment rate of the NMBM is estimated to be 36.6% (Census 2011)

#### Healthcare facilities

The NMBM is serviced by four public hospitals, i.e. Dora Nginza Hospital (KwaZakhele), Livingstone Hospital (Korsten), PE Provincial Hospital (Central) and Uitenhage Provincial Hospital (Channer Street). These hospitals have Trauma Units and are serviced by the regional ambulance service. Three TB Hospitals are located in Greenbushes, New Brighton and Uitenhage respectively. According to the Integrated Development plan (2006-2011) of the NMBM, Nelson Mandela Bay has 50 permanent and satellite municipal clinics and 13 mobile clinics; these include three day hospitals and nine Eastern Cape Department Clinics

#### Education Facilities

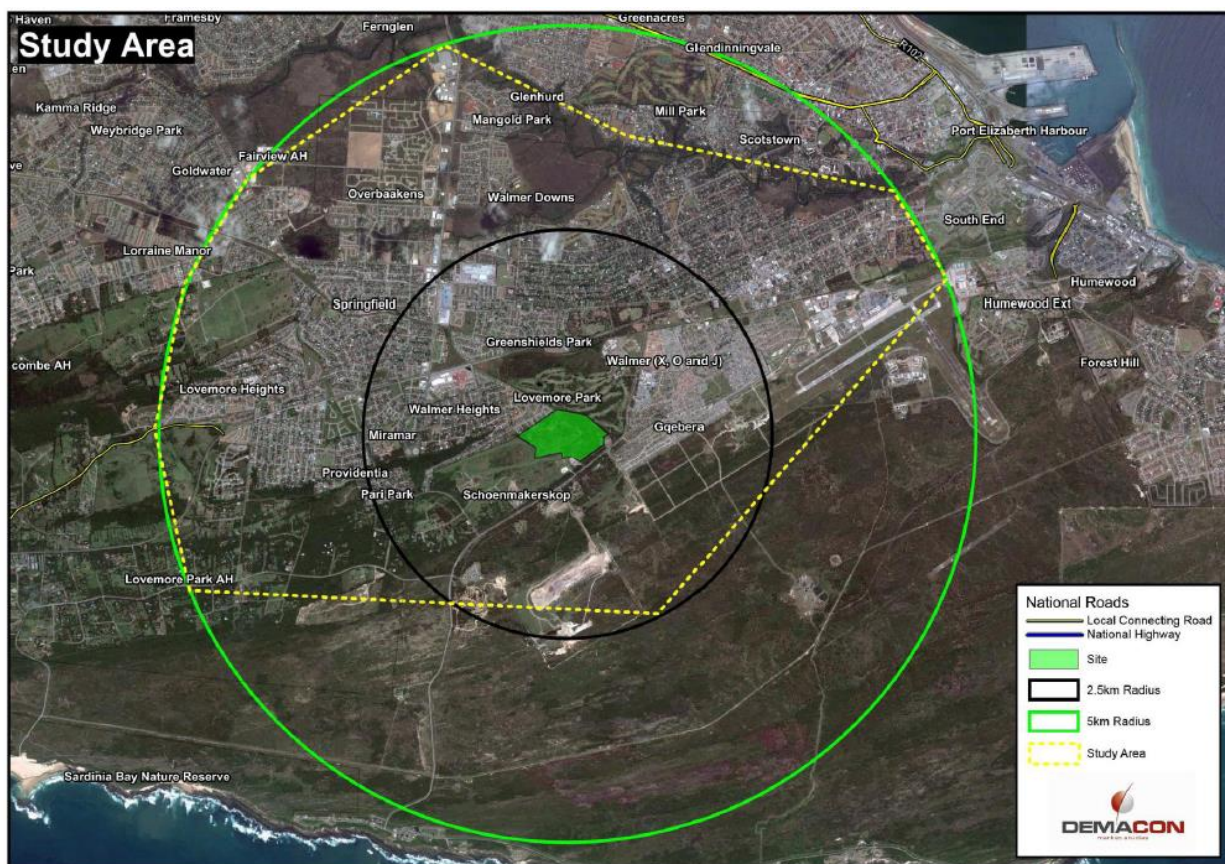
There are approximately 273 schools within the NMBM, one university (Nelson Mandela Metropolitan University), four technical colleges and two FET institutions (NMBM IDP 2006-2011).

### 3.2.2 Study area

Erf 11305 falls within Ward 1 of the NMBM. A portion of Walmer Heights (Beaumont Estates) is also located in this ward, while the largest part of Walmer Heights is located in Ward 3 that includes the suburb

of Walmer . Gqebera, to the south east of the site is located in Ward 4. The residential suburbs in Ward 1 include Theescombe, Lovemore Park, Mount Pleasant amongst others.

The study area as defined by Demacon and used as the basis for the socio-economic assessment was determined by establishing a radius of approximately 5 km for the development, as shown in Figure 3-7.



**Figure 3-7: Study area as defined by Demacon**

The study area is characterised by the following:

- The site itself is situated adjacent Walmer Heights, the Walmer Country Club, Arlington Horse Race Course (which has been decommissioned and is currently available for sale and redevelopment) and Victoria Drive.
- The area is mainly characterised by low density formal houses. The expanding areas to the east is mostly characterised by new townhouse developments while the Port Elizabeth CBD area has a large segment of flats/townhouses. Gqebera is characterised by a mixture of formal (mostly subsidy) and informal structures.
- The majority of new residential development is taking place to the east at Lovemore Heights, Kamma Park and Lorraine Manor.
- The site lend itself to a residential development as it is adjacent an existing residential suburb to the north a golf course to the east and a (former) race track on the west, while road access to major economic nodes via Victoria Drive (M18) to the south
- The Victoria Drive provides road access between the periphery of the urban area with economic nodes such as the airport, industrial areas adjacent the airport and commercial / retail activity.
- The proximity of the site to the Port Elizabeth airport, with associated noise impact would impact the value of the site. High-income suburbs are mostly located in quiet, pristine and aesthetic locations.
- The proximity of Gqebera to the site implies that the site is not optimally located for exclusive high-income residential development but rather a mixture of bonded and affordable bonded units. The layout of such a development will be crucial for successful development

- Walmer Heights is characterised as a mostly low-density suburb with houses and estates with limited apartments. It is one of the high-income suburbs in Port Elizabeth with an average sales price of R1.5 million (2014/2015) for freehold properties.

Key socio-economic statistics relating to the study area are provided in Table 3-3.

**Table 3-3: Socio-economic indicators of the study area (Demacon, 2017)**

Variable	Study Area		
Study Area Population (2015)	✓ 59 874 people	✓ 20 248 households	
Average household size (2015)	✓ 3 persons per household		
Age & Gender profile (2011)	Age	Female	Male
	0-19	29.5%	30.8%
	20-34	25.7%	26.6%
	35-64	36.2%	35.3%
	64+	8.6%	7.3%
Level of education (2011)	✓ 2.6% - No schooling		
	✓ 32.5% - Grade 12		
	✓ 25.1% - Higher education		
Level of employment (2011)	✓ 67.1% - Economically active of which 81.1% is employed and 18.9% is unemployed		
Weighted Average Annual Household income (2015) - All LSM (only income earning households)	✓ R253 554 per annum	✓ R21 129 per month	
Weighted Average Annual Household income (2015) - LSM 4-10+	✓ R382 829 per annum	✓ R31 902 per month	
Living Standard Measurement 1 – 3 group*	✓ 35.5%		
Living Standard Measurement 4 – 10+ group	✓ 64.5%		
Dwelling Type	✓ 63.4% - House or brick structure	✓ 16.2% - Informal	
Tenure Status	✓ 36% - Occupy rent free	✓ 33.9% - Owned and not paid off	✓ 17.8% - Owned and paid
		✓ 12.4% - Rent	

Source: Demacon ex Stats SA, 2015

\* The LSM index is an internationally recognised instrument designed to profile a market in terms of a continuum of progressively more developed and sophisticated market segments. The LSM system is based on a set of marketing differentiators, which group consumers according to their standard of living, using criteria such as degree of urbanisation and ownership of assets (predominantly luxury goods). Essentially, the LSM system is a wealth measure based on standard of living, rather than income alone. The market segmentation continuum is divided into ten LSM segments, where LSM 1 signifies the lowest living standard and LSM 10+ signifies the highest living standard. The LSM categories are defined and weighted in terms of the following 29 variables (refer to Table 3.2). It is important to note that the LSM system is widely applied internationally for marketing and branding purposes, and that it is therefore not an instrument developed locally to label or stereotype certain market segments.

### 3.2.3 Ward 4 (beneficiary) socio-economic environment

The main residential area included in Ward 4 of the NMBM is Walmer Gqebera (see ward boundary map in Figure 3-8), and 2011 census statistics for this ward (obtained from the Statistics South Africa website, [www.statssa.gov.za](http://www.statssa.gov.za)) quoted in the subsections below are therefore assumed to be reflective of those for Gqebera.

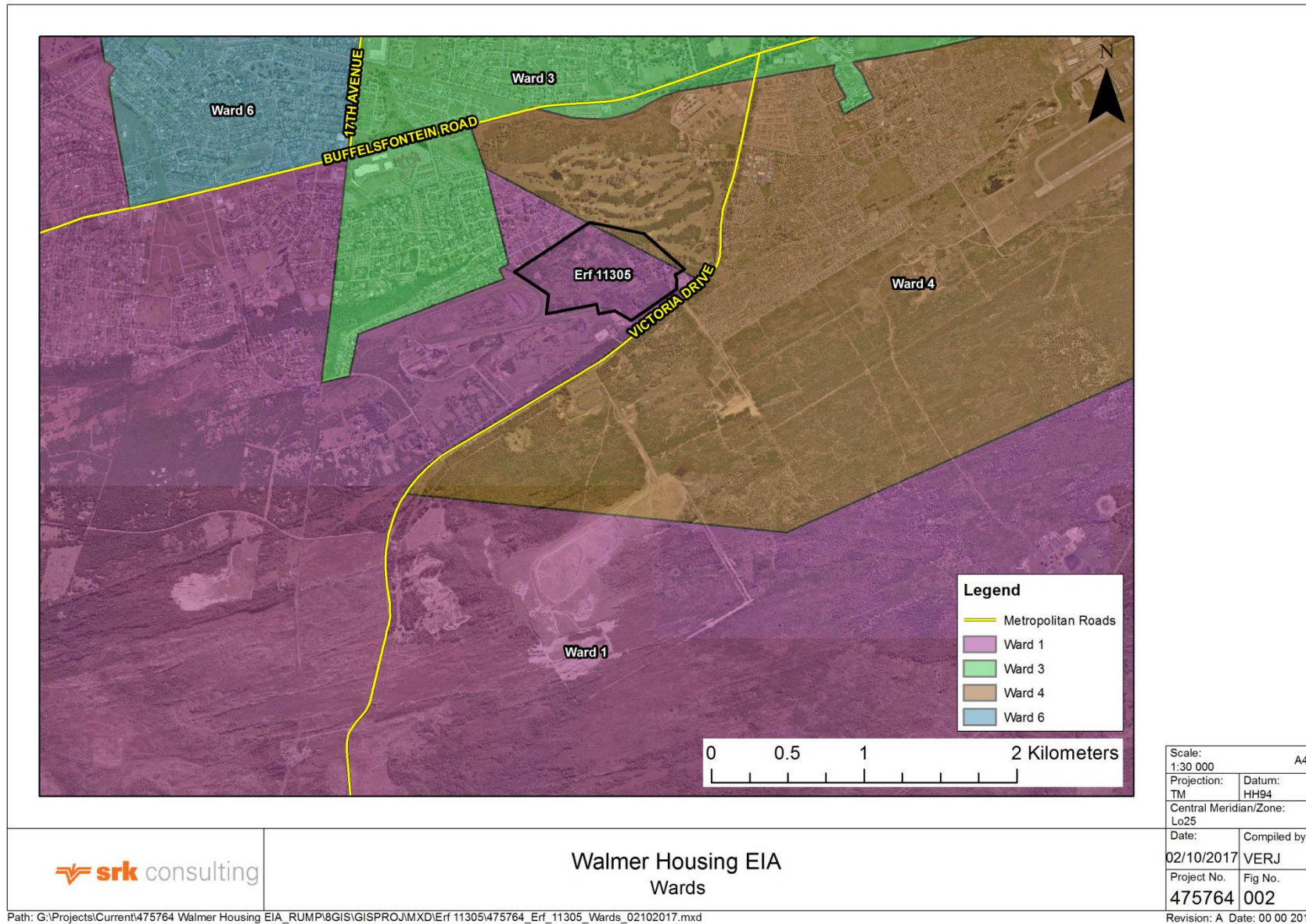


Figure 3-8: Map showing ward boundaries for the area surrounding the site

## Population demographics

The recipients of formal housing to be moved to Erf 11305 are currently residing in Ward 4. Ward 4 has an estimated population of approximately 26,000 people (as per 2011 Census data), making up approximately 2% of the total population of the NMBM municipal area, and consists of approximately 49% males and 51% females. The most commonly spoken first language is Xhosa (87%).

Household size in Ward 4 generally follows the trends for NMBM, with the majority of households (80%) consisting of between one and four occupants. It is unclear however whether this includes backyard shack dwellers or children.

## Standard of living

The majority of residents of Ward 4 (approximately 50%) live in informal dwellings, either in backyards or in informal settlements. As expected, this proportion roughly correlates with those that do not receive formal municipal services.

Delivery levels for most municipal services in Ward 4 for the 7,800-odd households surveyed during the 2011 national census, are significantly lower than those for the NMBM as a whole, however comparative figures for other townships in the NMBM are not available.

Approximately 46% of the households in Ward 4 reportedly do not have waterborne sewage (as opposed to 13% for the greater NMBM). Of these, the vast majority were reliant on bucket ablution facilities.

Approximately 38% of households in Ward 4 reported to have potable water on tap in the dwelling (this increases to 74% for the greater NMBM), 18% have access to a tap in their yard as the closest water source, and the remaining majority of residents being reliant on community stands up to 1 km from their dwelling (42%).

The main energy source for household lighting and cooking in Ward 4 was reported to be electricity (approximately 58%, as opposed to 90% in the broader NMBM), of which informal connections make up a large proportion. The most common alternative energy source is paraffin (39%). Wood and coal collectively make up approximately 1% of the energy source for cooking in Ward 4. For household heating, electrical appliances make up a much smaller proportion (27% for Ward 4), and paraffin (41%) and wood (5%) are the most commonly used sources.

Contrary to other reported services, refuse removal rates for Ward 4 were reported to be higher than those for NMBM as a whole, with 95% of households reportedly receiving weekly collections (83% for NMBM).

## Employment and education levels

Employment rates reported for Ward 4 were slightly higher than those for the broader NMBM (approximately 46% for males and 35% for females), with unemployment rates at about 21%. The majority of the households (approximately 85%) in Ward 4 fall below the R 3,500 per month income threshold for GAP housing, with approximately 50% of households falling in the R 800-R3,200 per month category. Income is generally lower than for the broader NMBM, which shows higher representation in the higher income categories.

Education levels for Ward 4 show the majority of census respondents had some secondary education (48%) or has passed matric (25%) as their highest qualification, however significantly less higher education graduates (2%). These are lower than the reported levels for matriculation and higher education for the broader NMBM (31% and 11% respectively). There was no significant difference in education levels between males and females.

## 4 Public Participation

The Public Participation Process (PPP) forms a key component of the EIA process. The objectives of the PPP are outlined below, followed by a summary of the approach taken.

### 4.1 Objectives and Approach

The overall aim of the PPP is to ensure that all Interested and Affected Parties (IAPs) have adequate opportunities to provide input into the process. More specifically, the objectives of the PPP are as follows:

- Identify IAPs and notify them of the proposed project and of the EIA process;
- Provide an opportunity for IAPs to raise issues and concerns; and
- Provide an opportunity for IAPs to review the Environmental Impact Report prior to its finalisation.

### 4.2 Public Participation Activities

The Public Participation Process that was undertaken to solicit public opinion regarding the proposed activity has included the following activities so far:

- Advertisements of the development in “Die Burger” newspaper on 22 August 2014 (see Appendix B) and the placement of two on-site posters (see Appendix B);
- Distribution of the Background Information Document (BID) on 22 August 2014 to identified Interested and Affected Parties (IAPs), stakeholders and neighbouring residents. A copy of the BID is attached in Appendix C, and the list of notified and registered IAPs and authorities is given in Table 4-1 D1;
- Collation of public and IAP comments on the BID and adverts, including responses to these issues (see comments and responses in Table 4-2);
- Inclusion of original correspondence from IAPs in the Draft Scoping Report, as well as minutes of relevant meetings with potential housing recipients from Gqebera;
- Preparation of a Draft Scoping Report including a Plan of Study for EIA;
- Distribution of the Draft Scoping Report to public venues for review by IAPs, and submission to relevant authorities;
- Distribution of the Executive Summary to all IAPs registered for this process;
- Provision of a 40 day comment period on the Draft Scoping Report (31 March - 14 May 2015);
- Collation of public and IAP comments on the DSR, and incorporation of these into the Final Scoping Report (FSR) (see comments and responses in Table 4-2);
- Distribution of the Executive Summary to all IAPs registered for this process;
- Distribution of the FSR to public venues for review by IAPs, and submission to relevant authorities for a 21 day comment period (9 June – 2 July 2015);
- Collation of public and IAP comments on the FSR, including responses to these issues (see comments and responses in Table 4-3);
- Inclusion of original correspondence from IAPs in an Amended FSR (requested by DEDEAT to address certain issues prior to acceptance of the FSR), as well as minutes of relevant meetings with potential housing recipients from Gqebera (see Appendix E);



- Distribution of the Amended FSR to public venues for review by IAPs, and submission to relevant authorities for a 21 day comment period (29 March – 19 April 2016);
- Distribution of the Executive Summary to all IAPs registered for this process; and
- Submission of the Amended FSR to DEDEAT for approval of the Plan of Study for EIA and a decision regarding authorisation to proceed to the Impact Assessment phase of the EIA (received on 19 May 2016);
- Inclusion of original correspondence from IAPs on the Amended FSR and incorporation of these into the Draft Environmental Impact Report (DEIR) (see comments and responses in Table 4-4);
- Distribution of DEIR (this report) to public venues for review by IAPs, and submission to relevant authorities; and
- Distribution of the Executive Summary to all IAPs registered for this process and provision of a 40-day comment period on the DEIR (11 October – 20 November 2017).

The activities that must still be conducted as part of the Assessment process are described below:

- Inclusion of original correspondence from IAPs on the DEIR and incorporation of these into the Final Environmental Impact Report (FEIR);
- Distribution of FEIR to public venues for review by IAPs, and submission to relevant authorities;
- Provision of a 30-day comment period on the FEIR;
- Submission of the FEIR to DEDEAT for a decision regarding environmental authorisation; and
- IAP notification of the decision and appeal process once received.

#### 4.2.1 Availability of Draft Environmental Impact Report

The Executive Summary of this Draft EIR has been distributed to registered IAPs. Printed copies of this report will be available for public review at the Walmer Library (Main Road, Walmer, Port Elizabeth).

The report can also be accessed as an electronic copy on SRK Consulting's webpage via the 'Public Documents' link: <http://www.srk.co.za/en/page/za-public-documents>

Comments on the DEIR should be sent to SRK by **17h00 on 20 November 2017**. Any comments received will be integrated into the Final EIR.

#### 4.2.2 Registered IAPs and issues raised

A list of all notified relevant authorities, stakeholders and IAPs is included in Appendix D1. A list of all commenting IAPs, relevant authorities and stakeholders is included in Table 4-1, along with the reference number assigned to each comment sheet submitted by that particular IAP (where relevant). These reference numbers correspond with those in the comments and responses table (Table 4-2, 4-3 and 4-4 respectively).

Comments received from IAPs in response to the BID and subsequently on the DSR (comments indicated in bold font) are summarised in Table 4-2, which includes responses from relevant members of the project team, outlining (where relevant) how these issues will be addressed in the Impact Assessment Phase.

Comments made on the FSR are summarised in Table 4-3, while comments made on the Amended FSR are summarised in Table 4-4 below. Copies of the original numbered correspondence received from IAPs on the Amended FSR is included in Appendix D3. For copies of all earlier IAP correspondence, please refer to the Amended FSR.

**Table 4-1: Registered IAPs and commenting authorities, and corresponding comment reference numbers**

Please note that the list below only reflects the authorities, stakeholders and IAPs who have submitted comments during the public participation process conducted to date. For a full list reflecting all authorities, stakeholders and IAPs notified to date, please refer to Appendix D1.

<b>Name &amp; Surname</b>	<b>Organisation</b>	<b>Comment ref no<sup>3</sup></b>
Mr Thabo Nokoyo	DAFF	464
The Manager Walmer Country Club	Neighbouring Landowner	318
Chris Roberts (The President Walmer Country Club)	Neighbouring Landowner	318
Albert Pretorius (HSH Vehicle and Plant Hire CC)	Neighbouring Landowner	208
KG Gojo	Neighbouring Landowner	327
JG Nel	Neighbouring Landowner	119
LC Ewers	Neighbouring Landowner	298
Anton Swart Projects CC	Neighbouring Landowner	172, 375
AK & Z Ntlokwana	Neighbouring Landowner	115, 334,430
J Nel	Home Owners Associations	105,111
AJ & MM Booysen	Home Owners Associations	106,250, 366
Andrew Southby	Home Owners Associations	42, 376
Paul Cobbold	Home Owners Associations	166
Kevin Toulmin	Home Owners Associations	246, 459
Gillian Gifford	Home Owners Associations	341
Wandile Gxekwa	IAP	463
Vuyokazi Jafta	IAP	55; 455
Richard & Anita Weatherall-Thomas	IAP	20, 363
Marino Gherbavaz	IAP	51
ML & K Greyvenstein & D Breetzke	IAP	50, 281
Lawrence Joubert	IAP	26,49,79,156,179,186,252, 291, 293, 347; 409
J Snetler	IAP	48
Christo Zeelie	IAP	47
LC Ewers	IAP	46
Suzette Smith	IAP	45, 353, 371
M, M & L McSorley	IAP	44,234, 332, 368
Lorna Brown	IAP	43, 331, 370
Sarah Jane Hall	IAP	41
Peter Chilcott	IAP	40, 309, 440
Andrew Serfontein	IAP	39
ACM & E Orrey	IAP	38, 258, 305, 319, 394, 402
Graham Mould	IAP	37, 410

<sup>3</sup> If applicable – corresponds with numbers on comment sheets in Appendix D

<b>Name &amp; Surname</b>	<b>Organisation</b>	<b>Comment ref no<sup>3</sup></b>
Chris De Lauwere	IAP	259, 360
RC de Lauwere	IAP	36
Rosalind Sugden	IAP	35, 294, 350, 414
Louise de Vos	IAP	34; 409
DH, Y, M & L Rivas	IAP	33, 267, 411
J Greenwood	IAP	32
Noel Harvey	IAP	31
Vernon de Vos	IAP	30
Lynn McGregor	IAP	29
Elizabeth Prins	IAP	28
J & M Hopkins	IAP	27,250
Sheryl-lyn Lee	IAP	25
Bruce & Shantell Hieldon	IAP	24
Molyneux	IAP	23, 371
W Baartzes & N Jonas	IAP	22
Patricia Scott	IAP	21
BE & MJ Cheater	IAP	19,255, 372
JC Eastwood	IAP	18
Nicolette Leonard	IAP	17
Mario Kleynhans	IAP	16
Wim& Anna-Marie De Waard	IAP	15, 267; 411
JJ van Wyk (HSH)	IAP	14
Alan & Joanne Moore	IAP	13, 308
JA & S Neuschafer	IAP	12, 303, 333, 368
Andre Victor	IAP	11, 288
G Paneras	IAP	10
Venessa Smuts	IAP	9
GJ Swanepoel	IAP	8,250, 375
Sybrand Fourie	IAP	7, 297, 324, 365
Jonathan Swatts	IAP	6
Karin van der Vyver	IAP	357
Jolandie Pretorius	IAP	120
Nicki & Frank Vorrath	IAP	118, 438, 457
Clifford Bradley Pocock	IAP	117, 365
S & M den Drijver	IAP	116
Brian Basson	IAP	114, 314, 320
Charles & Carol Jackson	IAP	113, 390
Karen Hollely	IAP	112, 315
John & Sharon Puffett	IAP	110; 458
Andre Odendaal	IAP	109, 299, 335, 365
Peter John Lyle	IAP	108

<b>Name &amp; Surname</b>	<b>Organisation</b>	<b>Comment ref no<sup>3</sup></b>
Ronald & J Sinden	IAP	107, 372
M Lemberger	IAP	104
Cedric & Wendy Kleingeld	IAP	102,103
RM & RE Claassen	IAP	101, 254, 368
Sally Rowe	IAP	100
TA Mollison	IAP	99
Candice Rowe	IAP	98
D Tassiopoulus	IAP	97,192
Alwyn du Preez	IAP	96, 329, 373
EW Engelbrecht	IAP	95
Gail du Preez	IAP	94, 373; 407
Kevin Raymond Williams	IAP	93
Tanya Erasmus	IAP	92, 376
Gary Paul	IAP	91
JJD Liston	IAP	90
AJ & BC van Vuuren	IAP	89, 410
Cathy & Willem Bosch, Caryn Coetzer	IAP	88
Maura & Michael Jarvis	IAP	87, 432
Beres Gregory Bosman	IAP	86, 395
Deane Lo-Ning	IAP	85
Jean Deysel	IAP	84
Maureen Trower	IAP	83, 272
H van Eck	IAP	82, 416
B Connolly	IAP	81, 422
TJ & EMM le Grange	IAP	80, 257
N Redelinghuys	IAP	78, 365
MA Finlay	IAP	77, 348
Lee Perry	IAP	76, 336, 425
Matt Jamneck & Katie Martin	IAP	75, 277, 296, 367
Barbara Blom	IAP	74
Riaan van Rensburg	IAP	73
A Oxenham	IAP	72
Carol-Anne Brent	IAP	71
Tania Crouse	IAP	70
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Gavin & Wendy Ridge	IAP	68, 410, 431
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Michelle Pretorius	IAP	177
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Elani Eckert	IAP	175
Graeme, Angela, Bradley & Alexa van Zyl	IAP	174,249
Gavin M April	IAP	173
Debbie Hustler	IAP	171
Tobeka Nguza	IAP	170
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Brett, Janice, Kristin & Rachel Giddy	IAP	5, 285
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Rob & Cindy Millar	IAP	2,3
HL Wagner	IAP	184
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Trevor Burley & Monique Channon	IAP	263, 362, 464
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Allan & Kathleen Botha	IAP	149,237, 364
Rynhard & Rene Jonker	IAP	145,148,227
Nicholas Kruger	IAP	147
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Stephen Smuts	IAP	143
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Andrea & Darryl Buchanan	IAP	275
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Janine Lee	IAP	140, 311, 360, 390
Charl Smuts	IAP	139
Ronnie, Sheryl & Megan Smith	IAP	138
Keith, Janet & Jenna-Lee Meyer	IAP	276
Johan van Dyk	IAP	61,62,198
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Linda & C Fourie	IAP	385
Gary Paul	IAP	60
Bill Sanderson	IAP	59
Errol du Preez	IAP	58, 278
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John & Mary McQuaide	IAP	57, 286, 345
Johan Claassen & Betty Stroebel	IAP	279
Robert & Ann Moresby-White, Cynthia Walker	IAP	284, 413
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AA & R Verster	IAP	242, 282
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Fiona Richard	IAP	136, 313, 325, 360, 390
Michael Pow Chong & Rita Anderson	IAP	135, 394
L & C vd Berg, E & D Schmidt, T Kenny	IAP	248
Colin Ingram	IAP	247, 356
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C & D Pedersen	IAP	385
T Landman	IAP	133,245
Kathy, Morne & Christopher Zaayman	IAP	244
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D Myburgh	IAP	227
TV Nqini	IAP	227
R Clark	IAP	227
I Wegner	IAP	227
J Nel	IAP	227
Jan vd Westhuizen	IAP	227
Elmare Le Gras	IAP	217,227
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T, V G and R Raepsaet	IAP	235
Shaun & Amanda Grieb	IAP	218,229
RP Robinson	IAP	215
Sally-Anne Huppelschoten	IAP	213
Tracey Smith	IAP	212, 354, 401, 415

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EF & TC De Bruin	IAP	209
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Chantelle de Wit & Erik Meyer	IAP	233,346
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B Hall	IAP	203,229, 387
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JB Hansen	IAP	229
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M.W Ildestra	IAP	229
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Sharon Samuel	IAP	307, 379
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Louise Barnett (Sardinia Bay Conservancy)	IAP	304



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CP van der Merwe	IAP	337, 446
Juan & Hilda Batt	IAP	343
Debbie Pretorius	IAP	338
Candice Perry	IAP	336
Melanie Thompson	IAP	349
Derick Vosloo	IAP	339, 412
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Y&R Higgs	IAP	351, 362
Elmarie Knoetze	IAP	340, 417
Karen Goldfarb	IAP	401, 415
Edgar Quinton	IAP	401, 415
G&R Morris	IAP	358
R Truelove	IAP	358
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N Mhlaba	IAP	359
F Keller	IAP	359
L Ownhouse	IAP	360
L Boucher	IAP	359
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S Louw	IAP	362
M Long	IAP	362
T Ngqakuza	IAP	362
J Charlwood	IAP	363
J Strydom	IAP	363
D Theron	IAP	364
J Raffa	IAP	364
F Pow Chow	IAP	365
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A Tyropolis	IAP	367
R Anderson	IAP	367
Z Tshentu	IAP	368
B Vabaza	IAP	369
M Reichell	IAP	369
K Kruger	IAP	370
G & A Duvenhage	IAP	370
M White	IAP	370
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M Morgan	IAP	374
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B Brito	IAP	375
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E Noack	IAP	377
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C Muller	IAP	378
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P Marais	IAP	380
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BM & JC Paddey	IAP	381, 391
G Esterhuizen	IAP	381
DC Hancock	IAP	382
W Parker	IAP	383
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N Wood	IAP	384
J Potgieter	IAP	384
D Christian	IAP	385
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L Alexander	IAP	385
J Withey	IAP	386
A de Beer	IAP	387
I Baand	IAP	387
M Ilderton	IAP	387
B Trzebiatorsky	IAP	441
L Smith	IAP	439
C Wilson	IAP	447
Ferisi Roha	IAP	409
Frank Larkin	IAP	409
Chris Pow Chong	IAP	410
Jolene Lerm	IAP	423
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N Donald	IAP	388
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P Britz	IAP	388
A Rhodes	IAP	388
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D van Niekerk	IAP	389
Gary Collier	IAP	390
P Stockwell	IAP	391
V Gouws	IAP	395
B McNicol	IAP	395
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S Burger	IAP	397
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**Table 4-2: Summary of comments received from IAPs on the BID & DSR<sup>4</sup>, and responses provided**

Comment ref. no.	Issue raised	Response
<b>Comments relating to the process</b>		
23; 39; 43; 45; 66; 90; 91; 93; 94; 95; 97; 105; 106; 111; 120; 192; 214	The Background Information Document is too vague to give comprehensive feedback or objections.	[SRK]: The intention of the BID is merely to inform IAPs of the project and the EIA process which will follow. More detailed information regarding the project will be provided in subsequent reports during the EIA process.
293	The Background Information Document is misleading /deceptive	
18; 19; 23; 26; 28; 35; 38; 39; 40; 43; 45; 55; 57; 58; 66; 71; 79; 82; 88; 90; 91; 93; 94; 95; 96; 97; 105; 111; 115; 120; 121; 124; 125; 135 - 138; 140; 141; 144; 147; 169; 188; 192; 207; 214, <b>293, 303, 317</b>	The Background Information Document was not distributed to all interested and affected parties.	[SRK]: The Regulations do not require SRK to distribute the BID to every potential IAP. The BID was distributed to all IAPs who we are legally required to notify directly, as well as any other relevant potential IAPs or stakeholders SRK was aware of.
293	Which parties do the Regulations require SRK Consulting to notify directly of the project?	[SRK]: The direct notification of individuals is governed by Regulation 54(2)(b) of the National Environmental Management Act 107 of 1998. Also kindly refer to Section 4.2 for more detailed information regarding the notification process.
188;	Concern that the deadline for comment on the BID was not extended.	[SRK]: The BID is not a legally required document. IAPs will be provided with further opportunities during the EIA process to comment, and will be informed of these. It is however noted that the responsibility of the IAP is to ensure that comments reach SRK within the allocated timeframe. Note also that in this case all comments received up to completion of the DSR have been included.
189;	Were the onsite posters displayed prominently? Where?	[SRK]: Refer to Section 4.2 and Appendix B of the FSR for detailed information regarding the onsite posters.
293	The information distribution methods are not satisfactory	[SRK] The legal requirements with regard to public participation have been followed.
292,293, 316, 317	Responses given in the draft scoping report where too vague.	[SRK] It is unclear which specific responses are being referred to. At scoping stage, the potential impacts of the

<sup>4</sup> Note: comments on the DSR are indicated in **bold font**.

Comment ref. no.	Issue raised	Response
		project had not yet been assessed. More specific information on these is provided in Section 5 of the DEIR.
<b>Comments relating to design</b>		
12; 28; 40; 51; 69; 73; 95; 107; 124; 126; 138; 180; 186; 227 - 287	High density population.	[SRK]: information regarding the anticipated density of the proposed housing is described in the project description in Section 2.2.
38; 51; 71; 107; 132; 136; 140; 175; 186;  289, 292, 293, 303, 305, 317	Design will allow for informal settlements to be developed. How will future additions of shacks to these houses be monitored?  Concern regarding ability of council to control this.	[Metroplan]: The layout provides for the development of formal residential units to accommodate beneficiaries to be relocated from informal settlements in Walmer Township. The beneficiaries will receive a formal structure (brick and mortar with tiled roofs) to be built in accordance with NHBRC Standards and National Building Regulation. The rest of the units will be offered to beneficiaries who qualify for Social Housing, GAP Housing and Open Market from other areas other than just Walmer Township once the needs of the target groups are met.  The area will be managed in accordance with the Section 8 Zoning Scheme relating to Residential Zone (single dwellings), Residential Zone IV for flats/residential buildings, Business Zone 1, Institutional Zone I and III, Open Space Zones I and III, Transportation Zone II, Authority Zone and Special Zones. The NMBM will deal with building contraventions in a manner similar to other formally planned suburbs in the City.
123; 141; 151;  293  289, 293, 305, 311, 313	What are the constraints of the erf determining the possible number of dwellings that may be built and how many could that be?  Concern regarding ability of council to control this.  How will the municipality regulate the population numbers?	[Metroplan]: Residential Zone I permits the development of the primary dwelling together with associated outbuildings. It makes provision for an additional dwelling by Special Consent of Council. Due to the size of erven it is proposed that additional dwellings are not allowed and therefore the special consent procedure will not be invoked. No other consent uses are set out.
289, 292, 293, 294, 303, 305, 309, 311, 313, 317	<b>How will the municipality control the erection of illegal dwellings and informal settlements?</b>  Require a formal contract to be drawn up restricting owners from erecting illegal dwellings, conform to current urban standards found in Walmer Heights.	
292, 312, 317	<b>Legislation needs to be in place to have control over who owns a RDP home and a plan to control illegal occupants.</b>	[SRK] the process for allocation of RDP homes is controlled, the aim being to avoid this problem.
292, 317	<b>Legislation to have control over population in RDP zone and other zones</b>	[SRK] the process for allocation of RDP homes is controlled, as is the process of allocation of subsidised housing.
115;	How many metres of open ground will there be between the boundary walls of existing houses adjacent to the proposed development and the first row of low cost houses?	[Metroplan]: The design has adopted the concept of a transition zone to buffer and protect existing developments. Free basic houses/ RDP Units are located closer to Victoria Drive and further away from Walmer Heights. The last row of housing is set back by approximately 100m - 120m from the eastern edge of

Comment ref. no.	Issue raised	Response
		<p>Walmer Heights and 75m - 150m from the southern edge of the Golf Course.</p> <p>[SRK]: the proposed layout has as far as possible taken into account both social and environmental challenges presented by the site. Refer to Section 2.2. Please note the differences between the various housing typologies proposed in the project description.</p>
38;	Does the municipality intend to build a boundary wall to prevent residents of the housing development being able to walk directly through all the undeveloped erven along the boundary area?	<p>[Metroplan]: The development is not planned as a hybrid subdivision with a single controlled entrance and exit gate. It will largely be a conventional suburb where interaction and movement is promoted in order to ensure access and promote social cohesion. Only the Social Housing sites will have 'gated status' where access and control will be via a manned gate.</p> <p>The layout provides flexibility for FLISP/Open Market units to also become "gated" communities with controlled access/exit points as required by potential beneficiaries.</p> <p>The intention is that all the other erven in the proposed development will be developed. Boundaries around undeveloped privately owned erven outside the project boundary are the responsibility of private land owners.</p>
22; 41; 71; 173;	All suburbs require public open space.	[SRK]: Public Open Space areas are shown on the site development plan (Figure 2-2 and Figure 2-3) and amount to approximately 25% of the development area.
11;  <b>293</b>	<p>The number of the units should be reduced and the size of the units increased.</p> <p>We do not agree on the size of units and the size of Erf units' subdivision. The number of the units should be reduced and the size of the units increased.</p>	<p>[Metroplan]: The values of the units to be built are based on the subsidies allocated to the respective prospective beneficiaries (see house product prices below) and therefore the size of units cannot be arbitrarily increased.</p> <ul style="list-style-type: none"> <li>• Free Basic &gt;40m<sup>2</sup> ±R160,000.00</li> <li>• Social Housing ±30-45m<sup>2</sup> ±R340,000.00</li> <li>• FLISP &gt;40m<sup>2</sup> ±R300,000.00</li> <li>• Open Market &gt;50m<sup>2</sup> ±R400,000.00 (with a minimum of R620,000 for houses bordering on Walmer Heights)</li> </ul> <p>The number of units planned has been to accommodate some 50% or 1500 households to be relocated as part of the de-densification of Walmer Township. The number of units has not been arbitrarily determined and can also not be limited based on unsubstantiated requests. Limits on the numbers of households from Walmer to be relocated below the 50% allocation would mean that another piece of land would have to be laid out for the households that are excluded from the area.</p>
38; 123; 140;	Residents were under the impression that Erf 11305 would be used to build government subsidised 'Links' style developments like those under construction along Buffelsfontein Rd and William Moffett. Is this not the case? If not, what exactly is defined as 'low cost housing'?	[Metroplan]: Erf 11305 Walmer was purchased by the Eastern Cape Provincial Department of Human Settlements (EC DoHS) for the development of a mixed residential area, which would accommodate some of the households to be relocated from Walmer Township, where they currently live in informal structures, overcrowded conditions and without access to basic services (including reliance on bucket sanitation) and lack of security of tenure. The EC DoHS also promotes residential development in line with the BNG 2004 Policy Statement

Comment ref. no.	Issue raised	Response
		<p>which would accommodate Social Housing and FLISP/ GAP housing in line with the Walmer Link Development.</p> <p>The proposed layout makes provision for FLISP/ GAP Housing and Social Housing to act as a transition zone between the Free Basic Houses, to be built closer to Victoria Drive, and Walmer Heights to the west.</p> <p>The developments in Walmer Link and Fairview are fully or partially subsidized by the State through subsidies made available to qualifying beneficiaries. A similar approach will be followed in the development of Erf 11305 Walmer except that the area will also cater for Free Basic House (RDP) units closer to Victoria Drive.</p> <p>A portion of the transition zone will be developed for single residential dwellings (FLISP/GAP and Open Market Housing) to facilitate the integration with Walmer Heights. The transition zone can either be developed as a conventional suburb with unlimited public access or as a “gated” community depending on the preference of potential beneficiaries</p> <p>[SRK]: Refer to project description and layout in Section 2.2, which includes a description of the various housing typologies proposed.</p>
14;	We were under the impression that the agreement was to build upmarket housing.	[SRK]: It is assumed that this is a reference to a previous Record of Decision (RoD) granted for a housing development on the property. This RoD has subsequently expired, necessitating a new EIA process for development of the site.
31; 145;	Rather develop medium to upmarket homes to cater for emerging market	[SRK]: Upmarket housing as a design alternative will not be assessed in the EIA, as this is outside the NMBM’s housing delivery mandate.
314 38; 114; 157;	<p>There is a disparity between conditions governing residents of the Walmer Heights Home Owners Association (WHHOA) and the absence of any conditions pertaining to the building standards and environmental issues of the development.</p> <p>The objectives of the WHHOA is clearly defined in the constitution insofar as creating an environment for secure, healthy, harmonious and hygienic living; the control of environmental pollution; and the care, maintenance, upkeep and control over the entire development area. It further dictates that owners shall repair and maintain their properties. Failure to comply with these conditions will entitle the WHHOA to remedy the member’s failure to do so, and recover the associated costs for doing so. Control measures are in place to ensure</p>	<p>[Metroplan]: The potential disparity between areas managed by WHHOA and that of the proposed development is acknowledged. There is no denying that Walmer Heights is a high income residential area affordable to a select few households. The demand for the Walmer Heights type development is likely to be limited for the same reasons.</p> <p>This would partly explain why the previous owners of Erf 11305 Walmer opted to sell the land to the State rather than to develop it themselves. The land was also offered to private buyers but none were able to conclude a deal with the owners partly because of the high level of risk in this property market.</p> <p>The plan not only recognises this affordability and demand context but also provides a gradual transition between Walmer Heights and the proposed development, through the development of Social Housing and FLISP/ GAP Projects that lend themselves to being managed on similar grounds as the Home Owners Association (i.e. Social Housing is managed by Accredited Social Housing Institutions in line with guidelines set by the SHRA).</p> <p>The layout has taken into account the environmental constraints as follows:</p>

Comment ref. no.	Issue raised	Response
	that no construction, erection or implementation of any improvements on properties is commenced without the prior approval of plans for any such improvements.	<ul style="list-style-type: none"> <li>• Over 80% of forest clumps will be preserved in the layout (Option A – Option B allows for almost 100%)</li> <li>• Protected forest is retained within Public Open Space areas or within larger school sites (except for areas required for stormwater ponds)</li> </ul> <p>[SRK]: Environmental authorisation conditions specific to this project, will be specified by DEDEAT. The development will have to adhere strictly to these conditions.</p>
155;  <b>293, 315</b>	<p>The proposed development flouts the most desirable principles of urban planning.</p> <p><b>RDP homes do not integrate into an established wealthy suburb.</b></p>	<p>[Metroplan]: The development is based on the principles of urban planning in that it fulfils the following:</p> <ul style="list-style-type: none"> <li>• Seeks to make better utilisation of well-located land and services infrastructure to accommodate as many households as possible and promote functional integration</li> <li>• Provides for Mixed and Varied Tenure Options. It provides for free basic houses for qualifying beneficiaries, on a freehold basis, social housing for household not ready to own but who prefer to rent, bank financed households on freehold title basis with assistance from partial state subsidies and open market fully privately funded houses.</li> <li>• Caters for households with a range of income, ranging from housing that is fully subsidized to partially subsidised by the State and housing fully funded by the private sector and other combinations in between. This is also in line with the NMBM Housing Policy, Outcome 8 Policy Statement and National Development Plan amongst other strategic national policy.</li> <li>• De-densification and upgrading of informal settlements: Erf 11305 Walmer is one of the destination areas for families living in squalor, without access to basic services, security of tenure, sanitation (who also continue to use bucket toilets). Some of the families have been living under these conditions for over 10 years. Due to the overcrowding in the informal settlement it is not possible to accommodate all households in situ, hence the need to relocate some out of the area. This will also enable formal tenure, services and upgraded top structures to be provided to remaining households as well as to the households who relocate. The alternative is for households to relocate to other places on the urban periphery and far from places of employment and without social and public amenities. This would exacerbate inherited urban patterns reminiscent of apartheid planning principles and ideology.</li> <li>• Spatial Transformation of inherited urban settlement patterns: This will extend the development of affordable housing to the west</li> </ul>



Comment ref. no.	Issue raised	Response
		<p>of Victoria Drive (already pioneered by Walmer Link Project) to improve spatial integration and bridge the separation between income and social groups, develop underutilised well located vacant land that is close to a community that has continued to live in squalid conditions partly due to the lack of land.</p>
<p>141;  <b>312</b></p>	<p>Potential to use different zonings to buffer and protect existing developments.</p> <p><b>Establishment of an adequate buffer zone.</b></p>	<p>[Metroplan]: The design has adopted the concept of a transition zone to buffer and protect existing developments as follows:</p> <ul style="list-style-type: none"> <li>• Free basic houses/ RDP Units are located closer to Victoria Drive and further away from Walmer Heights. The last row is set back by approximately 100m - 120m from the eastern edge of Walmer Heights and 75m - 150m from the southern edge of the Golf Course.</li> <li>• A buffer zone comprising Social Housing Units, a school site and public open space (forest clumps) provided along the southern-edge of the Golf Course.</li> <li>• The buffer area between the RDP units and Walmer Heights is made up of: <ul style="list-style-type: none"> <li>○ FLISP/ GAP Housing for employed individuals who can afford mortgage loans of up R300,000.00</li> <li>○ Open Market Housing costing above R300, 000.00. It is envisaged that most units will be in the R400,000.00 price range, with a minimum of R620,000 for houses bordering on Walmer Heights.</li> </ul> </li> <li>• Can be developed as a “gated” area or conventional suburb</li> </ul>
<p>121;</p>	<p>Restriction on minimum erf size in Walmer Heights.</p>	<p>[Metroplan]: The development falls outside the Walmer Heights area and is therefore not subject to the minimum erf sizes for Walmer Heights. The Section 8 Scheme does not set a minimum erf size for erven in the Residential Zone 1 and Residential Zone IV zones. The Land Use Planning Ordinance provides for the “departure” route from the provisions in any scheme to enable specific types of developments to be approved in certain areas. This has already been implemented in Walmer Link, Greenshields Park, Kings Court and other high or medium density residential developments in the immediate area.</p> <p>The layout plan is also in line with the following policy plans that guide land use in the NMBM and in the local area:</p> <ul style="list-style-type: none"> <li>• NMBM SDF 2009: Plan calls for densification to contain urban sprawl, improve spatial efficiency by making better use of well-located land and services and to enable the retention of lower income families closer to the CBD and places of employment and to existing social and public amenities.</li> </ul>

Comment ref. no.	Issue raised	Response
		<ul style="list-style-type: none"> <li>• Walmer LSDF: Designates the area for higher and middle density development at: <ul style="list-style-type: none"> <li>○ High Density: 120 units/ ha</li> <li>○ Medium Density: 80 units/ ha</li> </ul> </li> </ul> <p>The layout covers a gross area of 43.73Ha and Option A is planned for 1603 units at a gross density of 36.66 units/ ha and a nett density of 77.4 units/ ha. Numbers for Option B would be lower than this.</p>
18; 141;	No plans / layout of the development have been made available.	[SRK]: Please refer to Section 2.2 and Figure 2-2 and Figure 2-3 & Appendix F
19; 38; 51; 81; 90; 91; 93; 94; 95; 96; 148;	Lack of sufficient schools, clinics and creches in the area.	[SRK]: Provision is made in the preliminary layout plan (see Section 2.2 and Figure 2-2 and Figure 2-3) for these establishments.
38; 51; 96; 153; <b>292; 293; 317</b>	Lack of socio-urban infrastructure (parks, sporting facilities, theatres, shopping centers, entertainment & libraries).	[SRK]: Provision is made in the preliminary layout plan (see Section 2.2 and Figure 2-2 and Figure 2-3) for appropriate amenities.
292, 293, 317	Lack of socio-urban infrastructure (parks, sporting facilities, theatres, shopping centres, entertainment & libraries).	
289, 293	An additional 6800 residents would fall in a high density population.	<p>[SRK]: Information regarding the anticipated density of the proposed housing is described in the project description in Section 2.2.</p> <p>[Metroplan] The layout covers a gross area of 43.73Ha and Option A is planned for 1603 units at a gross density of 36.66 units/ ha and a nett density of 77.4 units/ ha. Numbers for Option B would be lower than this.</p>
311, 313, 316	Appears to be more that 600 RDP houses on the map.	[SRK] The preliminary layouts shown in Figure 2-2 and Figure 2-3 provide for 536 or 619 Residential 1 (free basic) units, depending on the layout option.
293, 311, 313, 317	Excessive number of houses and occupants for size of area	<p>[SRK]: Information regarding the anticipated density of the proposed housing is described in the project description in Section 2.2.</p> <p>Proper planning principles have been followed.</p>
292, 293, 303, 305, 309, 317	The 150m blending zone needs to be built first to guarantee its development.	[SRK] The schedule for development will depend on various factors, however any changes to the design post-authorisation (should authorisation be granted) will require an amendment process.
293, 303, 305, 311, 312, 313, 314	<p>We require a perimeter / boundary wall around the development.</p> <p><b>Controlled access to the development.</b></p>	<p>[Metroplan]: The development is not planned as a hybrid subdivision with a single controlled entrance and exit gate. It will largely be a conventional suburb where interaction and movement is promoted in order to ensure access and promote social cohesion. Only the Social Housing sites will have ‘gated status” where access and control will be via a manned gate.</p> <p>The layout provides flexibility for FLISP/Open Market units to also become “gated” communities with controlled access/exit points as required by potential beneficiaries.</p>

Comment ref. no.	Issue raised	Response
292, 293, 317	The Sports fields are not on the same design scope as Walmer Heights, they only cater for a select portion of the population and not the entire family like an open park would.	[SRK] In addition to sports fields, public open spaces, which would function as parks, are also included in the development layout.
310	The public Open Spaces should border the North Westerly boundary of Erf 11305.	[SRK] The location of public open spaces is determined to a large extent by the location of forest patches, which are required to be preserved (primarily as public open spaces).
293	Residents were under the impression from the BID that only 1200 homes are proposed for the site.	[SRK] The intention of the BID was to provide an overview of the project, based on the information available at the time. Subsequent refinement of the project description has occurred as reported in the DEIR.
292, 293, 317	The Taxi rank does not come into line with the urban design of Walmer Heights.	[SRK] The layout has been designed in accordance with the relevant planning requirements and includes provision for facilities required to best serve the anticipated residents. Due to differences in requirements of the residents between Walmer Heights and the proposed development, design differences are inevitable.
293, 311, 313, 316	There is no tar road connection onto Victoria drive.	[SRK] The design proposal includes provision for a road which will be of a surfaced standard, which may include being paved, connecting Victoria Drive to the development. See Section 2.3 for details.
310	The high density housing area should move to the central areas of the erf 11305 or border Victoria Drive.	<b>[SRK] The preliminary layout alternatives of the development have been developed taking the various environmental, social and design constraints of the site into consideration.</b>
310, 314	The proposed development has impacted negatively on the property values in the Walmer Heights area. Provision must be made to increase the layout abutting Walmer Heights for an increased number of FLISP / GAP type units to allow for a greater transitional area between the free basic type units and Walmer Heights.	[SRK]: A socio-economic study has been conducted and has included an assessment of impacts on property values in neighbouring areas, as well as recommendations regarding mitigation of any impacts. A summary of the impacts on property values is provided in Section 5.7.7 of the DEIR and the full specialist report is provided as Appendix K1 of volume 2 of the DEIR.
294	Street lights (solar solutions) should be placed all along the streets of these new developments.	[SRK] comment noted. Street lighting will be provided in terms of the NMBM's standard specifications. Where technically feasible, the use of solar technologies will be encouraged.
292, 312, 317	<b>Legislation needs to be in place to control how a RDP home will be maintained as the residents will have no invested interest in a free home.</b>	[SRK] the same issue is likely to apply to any home owner, and is not legally enforceable.  <b>[Metroplan]: It must be understood that the ability of households to maintain their houses is also related to their affordability levels. The houses provided, in terms of size, construction costs and quality are in keeping with the affordability of the prospective beneficiaries. If the prospective households do not have to spend a large portion of their income on expensive units or on travel to and from work, shops, social and public amenities, the more disposable income they will have in order to maintain their units</b>

Comment ref. no.	Issue raised	Response
		<b>and look after their private gardens. Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit.</b>
312	Establishment of a management company with authority to uphold and maintain the development adequately.	[Metroplan]: The houses to be owned individually on free hold basis will be maintained by the households who benefit as is the case in the other suburbs and other housing projects in the Metro. Public roads and public open spaces will be maintained by the NMBM. Social Housing Apartments will be developed and owned by an accredited Social Housing Institution (e.g. Imizi Housing Association) that will be responsible for the management, rent collection, maintenance, and liaison with tenants etc. The SHI will also maintain all the private open spaces within the social housing projects including the provision of play equipment, etc. Social Housing is to be managed in line with the requirements of the Social Housing Regulatory Authority (SHRA) who regularly visit the projects to ensure compliance.
<b>292, 317</b>	Legislation and a management team with authority to control the RDP zone on scheduled basis needs to be in place.	[SRK] The same by-laws etc. would apply to the proposed development as to any other development in the NMBM.
305	Will informal settlements be allowed to occupy all the other erven mentioned on page 62 (of the FSR) until more RDP houses are built?	[SRK] the primary motivation of the project to move some people out of currently occupied areas so that current informal settlements can be formalised (which will entail dedensification of Gqebera). Key to this will be controlling influx of additional shack dwellers, by way of careful scheduling of relocations and construction.
<b>Comments relating to the environment</b>		
12;91; 92; 93; 289, 290, 298, 304	Concern of impact of development on environment.	[SRK]: The EIA has assessed this (see Section 5).
153;	Carbon footprint will increase.	[SRK]: SRK is of the view that the carbon footprint of the proposed development is unlikely to be significantly higher than the current housing arrangement for the beneficiaries and/or any other alternative to address formal housing needs. As such this issue has not been investigated further.
176; 177;	Area is close to a nature reserve and bird sanctuary and birds use this area to travel across, as well as for feeding purposes.	[SRK]: The potential impacts on the surrounding ecology of the development has been assessed in the EIA (See Section 5 and Appendix K6 of Volume 2 for ecological specialist report), as well as sensitivity map in Figure 3-4. We are however unaware of any nature reserve and/or bird sanctuary in close proximity to the proposed site.
12; 21; 22; 23; 29; 35; 38; 41; 42; 43; 45;56; 63; 64; 65; 66; 90; 94; 95; 96; 97; 112; 116; 118; 120; 136; 141; 153; 176; 177; <b>304</b>	There are indigenous trees and plants on the proposed land i.e. milkwoods and harperfillums. The development will break up the current natural vegetation on the site. How will the indigenous flora be protected and the National Forestry Act be applied?	[SRK]: A specialist forestry mapping survey of the site has been undertaken (see report in Appendix K7 of Volume 2 of the DEIR) and the preliminary development layout plan has accommodated its findings as well as DAFF's comments. DEDEAT has requested that an additional layout (Layout Option B – refer to Section 2.2 for details) is provided, which includes 20 m buffers around all forest patches. The layout plan will require final approval from

Comment ref. no.	Issue raised	Response
		DAFF to ensure that forest is sufficiently protected. Where damage to protected species is unavoidable, the necessary permits will be obtained.
6; 12; 21; 22; 24; 35; 38; 41; 43; 63; 64; 65; 71; 112; 116; 118; 136; 153; 173; 176; 177;	There are many small animals including rabbits, hare, deer, duiker, grysbok, mongoose, snakes and tortoises; and birds including eagle, hawk, Egyptian geese, guinea fowl and blue crane in the area which will be displaced by the development. How will the indigenous fauna be protected?	[SRK]: potential impacts on fauna have been evaluated as part of the EIA – refer to Section 5 and the specialist study report in Appendix K6 of Volume 2. The Environmental Management Programme (EMPr) (Section 7) also includes measures to minimise or mitigate impacts on fauna.
177;	Guinea fowl, hares and rabbits will be hunted as a food source.	[SRK]: It is likely that any impacts relating to hunting of fauna are already occurring on the site and surrounding areas. Clearing and development of the site will result in migration of fauna to adjacent areas, which may or may not make them more vulnerable to hunting, depending on the area. The EMPr (Section 7) includes measures to prevent hunting on the site by construction workers, and the relevant legislation governing hunting of wildlife would apply.
25; 29; 289,292, 311, 313, 316, 317	The area is Indian Ocean Forest, more specifically Sardinia Bay Forest Thicket, which is protected.	[SRK]: A forest specialist survey has been conducted and the development layout has taken the identified forest areas into account where possible (see Section 2.2 and Appendix K7 of Volume 2 for specialist report). The relevant approvals from DAFF are being sought.
64; 167;	The development has the potential to affect the natural flow of water.	[SRK]: A stormwater management plan has been developed for the site (see Appendix I), taking the natural topography into account, and the layout has been amended to accommodate on-site stormwater management (see Section 2.3 and drawing indicating services infrastructure in Appendix F).
132; 136;	Resultant destruction of the green belt.	[SRK]: The site falls outside the designated Critical Biodiversity Areas (CBA's) of the Metro, in terms of the Gazetted Bioregional Plan for NMBM. Ecological impacts resulting from the proposed development have been assessed in the EIA (refer to Figure 3-4 for map showing CBAs and Section 5.4 and Appendix K6 of Volume 2 for specialist report).
172; 175;	Increase in water pollution.	[SRK]: A wetland study was undertaken (refer to Section 3.1.6 and Appendix K5 of Volume 2 for specialist report) which did not identify any surface water resources in the area which could potentially be polluted. The EMPr (Section 7) includes standard management measures to prevent pollution of stormwater and groundwater resulting from the proposed development.
315	Impact on Heritage Resources (An old farmhouse exists on the site)	[SRK]: An historical structures impact study has been conducted (see Section 5.2 and Specialist study report in Appendix K8 of Volume 2) to address this impact.
315	The loss of bird, veld and wild life vistas.	[SRK]: potential impacts on fauna and flora have been evaluated as part of the EIA (See section 5.4 and Appendix K6 of Volume 2 for specialist reports). The Environmental Management Programme (EMPr) (Section 7) includes measures to minimise or mitigate impacts on fauna and flora.

Comment ref. no.	Issue raised	Response
294	For every tree removed, new trees should be planted. This will improve the aesthetics of the proposed developments and help with air pollution. It will also encourage the bird species to return to the neighbourhood.	[SRK] Noted. The preliminary layout allows for the preservation of almost all of the forest clumps on the site (depending on the layout alternative), in accordance with DAFF's requirements. See Figure 2-2 and Figure 2-3 for layout options relative to identified indigenous forest clumps. The remainder of the site is largely vegetated with alien invasive vegetation.
294	People should be educated about the dangers of using pesticides, which are endangering our beautiful owls, hawks and eagles in this area.	[SRK] agreed. Pesticide use is a universal problem in most urban areas.
<b>Comments relating to social impacts</b>		
38; 293	What social upliftment strategies form part of the development?	[SRK]: The development entails the provision of housing which includes the provision of sanitation, electricity, water. Provision is also made in the development layout for social facilities such as schools, sports fields and churches (refer to section 2.2.2 and the layout drawings).
67; 125; 289, 297	Increase in vagrants in area.	[SRK]: Public vagrancy is an issue that cannot be controlled and is symptomatic of broader socio-economic issues which are outside the scope of this EIA to address. The socio-economic study (see Section 5.7.9 and specialist report in Appendix K1 of Volume 2) has however attempted to address impacts on crime and social ills in neighbouring areas.
38; 148; 293; 305	Alcohol abuse in public areas.	[SRK]: Public drinking is controlled by the relevant municipal by-laws and is symptomatic of broader socio-economic issues, which are outside the scope of this EIA to address.
23; 32; 38; 39; 42; 43; 45; 76; 90; 91; 92; 93; 95; 97; 109; 120; 135; 192; 289; 293; 311; 313	Increase in loitering.	[SRK] It would be difficult for an EIA to assess the impacts of loitering and make predictions with regard thereto. The socio-economic study (see Section 5.7.9 and specialist report in Appendix K1 of Volume 2) has however attempted to address impacts on crime and social ills in neighbouring areas.
301; 303	Different social and cultural norms will pose difficulties	[SRK]: a socio-economic study has been conducted as part of the EIA (see Section 5.7 and specialist report in Appendix K1 of Volume 2) and includes an assessment of the appropriateness of the development in the context of social gradients with neighbouring areas.
293	Slaughtering of animals and other such act's is also common practice in RDP developments	[SRK] differences in cultural practices between residents in mixed suburbs are universal. The municipal health by-law, currently published as a second draft, includes provisions to regulate the traditional or cultural slaughtering of animals on any premises other than in an abattoir.
<b>Comments relating to the economic impacts</b>		
1; 5 - 14; 16; 20 -; 33; 36 - 46; 49; 51; 55; 58 - 61; 63 - 69; 72 - 78; 80; 81; 82; 85; 86; 88; 90; 91; 92; 93; 95; 97 - 101; 107; 108; 110; 112; 113; 115; 116; 117; 118;	Danger of depreciation of property values. Desirability of Walmer Heights will decline. Potential homeowners to the area will be deterred as a result of the proposal. Rental activity will increase, as owners will not be	[Metroplan]: Property values are a function of the market and demand and availability. The support for Walmer Link type development by some of the respondents would seem to suggest that the Walmer Link type of development would not be perceived negatively by the market. It would therefore not be less likely to impact the local market negatively either. Otherwise the market would already be

Comment ref. no.	Issue raised	Response
120; 121; 124; 125; 126; 131; 132; 134; 135; 136; 137; 139; 140; 141; 145; 147; 149; 157; 158; 165; 167; 169; 170; 172; 173; 175; 179; 180; 182; 184; 186; 192; 193; 196; 198; 199; 202; 204; 206; 207; 213; 215; 218; 219; ;226 – 287; <b>288, 289, 292, 293, 296, 297, 298, 299, 301, 302, 303, 304, 305, 306, 307, 308, 309, 311, 312, 313, 314, 317</b>	able to sell. Rental amounts will drop.	experiencing a downward spiral. None of the respondents have pointed to any evidence of a fall resulting from the Walmer Link project, on the development of Walmer Heights closer to Walmer Township. In fact there seems to be support for Walmer Link type housing to act as the transitional zone with Walmer Heights  [SRK]: the socio-economic study (see Section 5.7.7 and Appendix K1 of Volume 2 for specialist report) includes an assessment of impacts on property values in neighbouring areas.
8; 49; 88; 147; 186; <b>289, 293</b>	Who will be held accountable for losses in property value?	[SRK]: the socio-economic study (see Section 5.7.7 and Appendix K1 of Volume 2 for specialist report) includes an assessment of impacts on property values in neighbouring areas., as well as recommendations regarding mitigation of any impacts.
6; 8; 27; 38; 49; 58; 135; 141; 172; 186; 215; <b>293, 296, 303, 305</b>	Will the rates and taxes and land evaluation be done again after the project to adjust for losses in property value?	[SRK]: the socio-economic study (see Section 5.7.7 and Appendix K1 of Volume 2 for specialist report) includes an assessment of impacts on property values in neighbouring areas., as well as recommendations regarding mitigation of any impacts. It would be up to the NMBM to come up with a strategy in this regard, if and when a loss in property values in the area that can be directly linked to the proposed development becomes evident.
1; 49; 126; 131; 132; 134; 136; 138; 145; 147; 149; 186; 198; ;227- 287; <b>289, 293, 311, 312, 313</b>	Possibility of insurance premium increases due to close proximity of the housing development.	[SRK]: Increases in insurance premiums cannot be predicted at this stage. The socio-economic study (see Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has however attempted to address impacts on crime and social ills in neighbouring areas.
115; 183; <b>293, 314</b>  <b>305</b>	The development will deter further development in the area.  <b>Query regarding developments planned for other vacant land in the area (including erf 1953), and implications of these on the buffer zone included in the development plans for erf 11305</b>	[Metroplan]: The proposed development is on vacant land that has remained undeveloped for a long time due partly to low demand within the higher income residential market. The immediate area has over 140Ha of vacant land that has also remained undeveloped due to the lack of bulk infrastructure services and which would require significant capital outlay from a private developer or the respective land owners (including erven 559, 1953, 3988, 4195, 6991 & 11302 Walmer and land south-west of Glendore Road). The purchase of the land by the State will enable the State to utilise the Urban Settlement Development Grant (USDG) to install the much need bulk infrastructure that will not only serve Erf 11305 Walmer but the rest of the vacant land south of the subject site up to Glendore Road.  The prospective developers of Walmer Cosmo who presented their concept plan to the NMBM already (and has been approved by Council) are fully aware of the proposed development on Erf 11305 Walmer. They acknowledge that the two projects can co-exist and also complement one another.  [SRK] any other developments proposed for the surrounding area are separate to this development and are outside the scope of this EIA, although they may form part of broader development plans for the area. The buffer

Comment ref. no.	Issue raised	Response
		zone included in the preliminary layout for erf 11305 is not conditional on any other developments.
22; 41; 112; 131; 135; 136; 172; 207; <b>289,292, 293, 311, 312, 313, 315, 317</b>	Added security will be needed and it will be the burden of the owner to add it.	[SRK]: This is a universal issue in many parts of South Africa. The socio-economic study (see Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has however attempted to address impacts on crime and social ills in neighbouring areas, and recommend mitigation measures.
19; 78; 293, 303, 305	Lack of employment opportunities in area.	[SRK]: The proposed Free Basic (RDP) housing recipients are all current residents of Gqebera, many of which are employed in the surrounding area. No significant impact on employment levels is therefore anticipated. Relocation of the residents away from Gqebera area is however likely to result in an increase in unemployment due to transportation challenges.
293	<p>The development should not be drastically different to Walmer Heights as it will devalue the area (and has already done so).</p> <p>We do not believe that the development will compliment Walmer Heights in its current form.</p> <p>Homes in Walmer Heights will not be upgraded due to value already lost in market by home owners.</p> <p>A study should be conducted to estimate the effect on future building and development demand in the area.</p>	[SRK]: the socio-economic study (see Section 5.7.7 and Appendix K1 of Volume 2 for specialist report) includes an assessment of impacts on property values in neighbouring areas., as well as recommendations regarding mitigation of any impacts.
289, 292, 317	Long term sustainability study should be conducted as to not devaluate established rate paying WH	
292, 317	Legislation needs to be in place to allow proper management the RDP development to protect Walmer Heights home owners property investment values.	
305	How will the socio-economic impact assessment study be carried out? (How will they gather data, will the local residents be contacted)	[SRK] the methodology used for the socio-economic impact assessment is described in the specialist report (see Appendix K1 of Volume 2) and mainly entails analysis of existing information and modelling of future trends. The specialist has also reviewed issues raised in the EIA process by IAPs.
<b>Comments relating to safety concerns</b>		
1; 6; 8; 12; 13; 15; 19; 21; 26; 27; 31; 32; 33; 37 - 40; 42-45; 50; 51; 55; 61; 65; 66; 67; 69; 70; 74; 76; 89; 91; 92; 95; 97; 101; 118; 120; 121; 124; 125; 126; 131; 134; 136; 137; 139; 141;	Danger of increased crime rate.	[SRK]: the socio-economic study (see Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas and provide mitigation measures



Comment ref. no.	Issue raised	Response
144; 145; 147; 148; 149; 158; 169; 170; 172; 175; 182; 184; 186; 192; 196; 198; 200; 203; 205; 213; 218; 227- 287; <b>289, 292, 293, 296, 301, 302, 305, 311, 312, 313, 314, 315, 317</b>		
5; 9 -12; 16; 23 - 26; 28; 29; 30; 35; 36; 40; 45; 46; 48; 59; 64; 66; 67; 73; 77; 78; 80; 81; 82; 85; 86; 88; 90; 94; 98; 99; 100; 107; 110; 113; 116; 117; 120; 131; 132; 135; 136; 137; 145; 167; 169; 171; 175; 182; 204; 205;207;215; <b>289, 292, 293, 297, 298, 302, 303, 305, 311, 312, 313, 317, 318</b>	Safety and security concerns.	
6; 13; 26; 30; 34; 48; 75; 79; 86; 139; 171; 186; 187; 193; 199; 206; 219; <b>289, 293</b>	Will increase burglaries and robberies. The bush between Beethoven Avenue and the settlement will be used as a direct escape route to the housing development.	[SRK]: Development of the site, especially Development Option A, will result in loss of much of the vegetation on the site, which may reduce the attractiveness of the site for criminal activities relative to the current situation. The socio-economic study (Section xx and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas.
51; 74; 289,292, 293, 305, 317	Poor local municipal law enforcement and lack of effective policing in the area.	[SRK]: These are broader issues and are outside the scope of this EIA to assess.
73; 171; <b>293</b>	Vandalism of property by unemployed prospective residents.	[SRK]: Vandalism is a universal problem indicative of broader socio-economic issues. The proposed housing recipients are however already resident in the Gqebera area (and many are already employed) and it is hoped that vandalism of municipal property will decrease as service delivery to these residents is effected. The socio-economic study (Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has however attempted to address impacts on crime and social ills in neighbouring areas
38; 51; <b>293, 315</b>	Risk of fires due to houses being built close together and fire used for cooking and heating. What protection will boundary properties have?	[Metroplan]: The units will be built in accordance with building line restrictions applicable to Residential Zone 1 and Residential Zone IV as set out in the Section 8 Scheme Regulations.  It is proposed to depart from some of the building line and bulk factor restrictions applicable to Residential Zones 1 and IV but this will not compromise the safety and fire protection in the proposed development. Similar guidelines have already been implemented in Walmer Link  It is proposed to depart from the 4m street building line to a 1 m all round building line. A zero (0) metre side building line where no opening windows are provided is also required to enable the development of row and semi-detached units.

Comment ref. no.	Issue raised	Response
		<p>The fact that the erven are smaller and narrower does not increase the risk of fire damage as units will be built in accordance with applicable building lines, building coverage will be restricted to less than 80% (40m<sup>2</sup> - ±110m<sup>2</sup> floor area) and the units will comply with the National Building Regulations, the NHBRC and SCCCA requirements.</p> <p>[SRK]: the houses will be electrified and therefore it is assumed fire will not be the primary source of heat for cooking and heating (as is currently also not the case – see Section 0).</p>
19; 51; 207; <b>293</b>	Rise of 'shebeen' type establishments and illegal trading of food and associated items will lead to lawless behaviour.	[Metroplan]: Taverns within residential areas can only be allowed subject to the Special Consent of Council following a formal application process and with the consent of the Liquor Board and require the extensive consultation and participation of the resident population. Dedicated areas are set aside for mixed use purposes where informal stalls can be set up. These will be managed in full compliance of the NMBM Informal Trading and Licensing Policy. Allowing informal business on designated sites will enable the NMBM to extend municipal infrastructure services, provide management support to the traders and set strict health and licensing guidelines. Informal business areas will also provide an opportunity for entrepreneurs to earn more income from small business ventures to supplement family income and broaden affordability levels as well as provide services within walking distance to the households that don't have the funds and time to travel and access day to day services outside the area.
1; 9; 12; 13; 21; 25; 28; 32; 38; 40; 44; 49; 50; 65; 67; 73; 76; 77; 78; 80; 81;85; 99; 101; 113; 121; 124; 125; 126; 131; 132; 134 - 137; 144; 145; 147; 148; 186; 207;227-287; <b>289, 292, 293, 296, 301, 317</b>	Service delivery protest and strikes will affect all residents. Risk of damage to property, roads and burning of tyres.	[SRK]: The purpose of the proposed development is to provide housing and essential services to residents currently lacking these, and therefore a reduction in service delivery protests is anticipated.
1; 26; 126; 136; 138; 149; 186; 207;227- 287; <b>289, 292, 293, 311, 313, 317</b>	Danger of taxi violence, drug dealers, turf wars and gang violence.	[SRK]: While these are broader socio-economic issues that are not limited to the project area, the socio-economic study (Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas
4; 6; 22; 41; 49; 70; 84; 88; 112; 115; 126; 131; 135; 136; 138; 149; 169; 173; 174; 186; 226- 287; <b>288, 292, 293, 304, 317</b>	The development will adversely affect the suburb's character and lifestyle prevalent in Walmer Heights.	[SRK] The socio-economic study (Appendix K1 of Volume 2 for specialist report) has attempted to address the impacts of social gradients. It is noted however that government policy calls for integration of living areas.
293 , 305	We do not believe that any law enforcement will take place in this development as is the case with current RDP developments in Port Elizabeth.	[SRK] law enforcement is the responsibility of the relevant authorities and is outside the scope of this assessment.  The socio-economic study (Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas
293	Introduction of universal problems into an area that is free of those	[SRK] it is unclear which specific universal problems are referred to, however the socio-economic study (Section

Comment ref. no.	Issue raised	Response
	problems does not limit the responsibility of the developer of that land.	5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas.
292, 293, 311, 312, 313, 316, 317	Security services need to be implemented to secure the entrance and patrol the development.	[SRK] The socio-economic study (Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas, and make recommendations regarding mitigation.
293	The Arlington Race way is currently being utilised by thieves to rob homes and escape without entering Walmer Heights roads.  Clearing the bush will allow them to use motorised transport in those areas this will allow for easier and faster escape from the crime scene.	[SRK] Development of the site will result in loss of much of the vegetation on the site, which may reduce the attractiveness of the site for criminal activities, as well as land invasion, relative to the current situation. The socio-economic study (Section 5.7.9 and 5.7.10 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas. The fate and control of land outside erf 11305 is outside the scope of this EIA.
318	Require a security wall between the Walmer golf club and the development.	[SRK] The proposed development layouts include Social housing (Residential IV) units, and a school adjacent to the golf course, all of which will be access controlled. The property boundary is not currently fenced, and it is anticipated that development of the site may lessen its attractiveness to criminals as a hideout. The socio-economic study (Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has attempted to address impacts on crime and social ills in neighbouring areas.
<b>Comments relating to traffic</b>		
1; 26; 138; 186; 288, 289, 292, 293, 303, 304, 311, 313, 317	Lack of sidewalks / pedestrian walkways will force pedestrians to walk in heavily congested roads leading to pedestrian fatalities.	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.6 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding pedestrian safety and the need for pedestrian facilities.
79; 186;  <b>312</b>	Additional residents will make timely evacuation in case of emergency impossible.  Additional access to Victoria Road should congestion, protest or natural disasters affect the access.	[Metroplan]: It is not clear why “timely evacuation” is flagged as a potential problem and neither have the circumstances leading to this “evacuation” been well explained.  The area is planned in accordance with applicable Municipal by laws, design standards and policies. The roads are wide enough to cope with any emergency evacuation out of the area.  All the road reserves permit the construction of tarred roads to full municipal standards. Given the low levels of vehicular ownership and the reliance on public transport amongst the majority of the envisaged residents, the existing roads are anticipated to adequately cater for the area. Emergency Vehicles (Fire trucks and Ambulance services) will be adequately accommodated.  Furthermore the link to both Victoria Drive and Beethoven Street is required to ensure that the area has access to a number of “escape” routes rather than be boxed in and to be only accessible to and from Victoria Drive. The layout makes provision for future potential linkages to and through the Golf Course to the north and the continuation of road linkages towards the proposed Walmer Cosmo Development.

Comment ref. no.	Issue raised	Response
		[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.2 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding mitigation measures.
38;	Will Walmer Heights be the access point for trucks during the construction process?	[SRK] it is anticipated that most trucks will access the site from Victoria Drive as opposed to Walmer Heights, as this route is more suited to heavy vehicle traffic. The Traffic Impact Assessment (TIA) (see Section 5.8.1 and Appendix K2 of Volume 2) and EMPr (Section 7) include recommendations regarding traffic management measures.
1; 5 - 13; 15; 20; 21; 24; 25; 27; 28; 29; 32; 35; 36; 38; 40; 42; 44; 49; 50; 51; 61; 65; 67; 70; 72; 73; 75 - 83; 85; 86; 88;90; 91; 97 - 101; 104; 108; 110; 112; 113; 121; 125; 126; 131; 132; 137; 139; 140; 145; 147; 148; 149; 151; 167; 171; 172; 175; 180; 184; 186; 189; 196; 199;200;202;205;206;207;213;215;218;219; 227-287	Increase in traffic congestion. How will this be catered for?	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.2 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding mitigation measures.
7; 51; 63; 74; 80; 84;104; 124; 131; 157; 159; 183; 186; <b>299, 308</b>	Feeder roads unable to handle additional traffic loads (specifically Beethoven Ave, Glendore Rd, Sebelius Rd, Titian Rd, Buffelsfontein Rd & 17th Ave).	
8; 9; 12; 15; 25; 38; 44; 48; 49; 78; 89; 90; 94; 96; 101; 110; 113; 115; 116; 123; 124; 141; 188;	Which routes are proposed as access roads to the development?	[Metroplan]: The site will be accessed mainly from Victoria Drive with an alternative access for the top western section of the site planned through Beethoven Street and Schubert Street towards Buffelsfontein Road and William Moffett Expressway. Future linkages may be possible through Walmer Cosmo to Glendore Road and to Buffelsfontein Road via the Golf Course.
4; 167; 193;222	Access should be from Victoria Drive as it is on taxi routes and would otherwise alter the nature of Walmer Heights.	[Metroplan]: Access to the bulk of the area will take place from Victoria Drive but areas closer to Walmer Heights would be more conveniently accessed through Buffelsfontein Road and the William Moffett Expressway.  Having only one access from Victoria Drive would create a landlocked and poorly integrated residential area. It will also make the sale of Open Market and FLISP/GAP housing bordering Walmer Heights more difficult to market and sell to the target group. This in turn would attract the opposite of the target group for households who would be able best to develop their housing on the transitional zone that can better integrate with Walmer Heights.  Access to local and regional size shopping facilities at the Kings Mall, Moffett on Main and Walmer Park respectively would only be possible via either Victoria Drive/ Buffelsfontein or Victoria Drive/ Glendore Road, both of which will be long and necessitate additional journey time

Comment ref. no.	Issue raised	Response
		<p>and increased travel costs and increased effort for the prospective residents.</p> <p>The de-proclamation of part of the Driftsands Drive link between Victoria Drive and Buffelsfontein Road, across the Walmer Golf Course, with the active support of some households now living along the Golf Course, has taken away another potential road link that may have addressed the concerns of residents about traffic through Walmer Heights.</p> <p>Beethoven Avenue and Schubert Road are wide enough to handle any additional traffic to and from Titian Avenue.</p> <p>[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.2 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding mitigation measures.</p>
167; 294, 300, 310	Access to development via Titian/Beethoven St is not feasible due to road geometry <b>and safety issues for residents and pets.</b>	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding mitigation measures.
6; 81; 109; <b>289, 303</b>	Additional traffic will damage roads in area.	
38;	Will traffic calming measures be built along Beethoven Rd?	
183;	No plan in place to widen Buffelsfontein Rd where the development in area is growing exponentially.	
104; <b>294</b>	<p>Double lane traffic could be a help to ease traffic congestion.</p> <p>Double lanes need to be built all along Buffelsfontein and Heugh Road.</p> <p>A Double lane needs to be built at the Victoria Drive /Buffelsfontein intersection with a turning lane traffic light.</p> <p>Glendore and Genadendal will require double lanes with the multitude of houses that are being built in Salisbury Park.</p>	
159;	Victoria Drive should be a double lane with adequate facilities for pedestrians and cyclists.	
293	A long term traffic assessment should be implemented.	
289,292, 304, 312, 314, 317	The present infrastructure will not support the increase in pedestrians, traffic, taxis and other forms of transport.	
292, 317	A dedicated bicycle lane next to pedestrian walk way is required.	

Comment ref. no.	Issue raised	Response
294	Glendore road needs a pedestrian path.	
295	There is no provision for pedestrian nor motor exit on the eastern end into Victoria Drive. This implies a 4-5 Km detour for those using vehicles. Pedestrians will simply create their own route out of the new development.	
293	The upgrading of roads infrastructure in Walmer Heights needs to be done to accommodate residents.	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding mitigation measures.
311, 312, 313	Inadequate access roads (in terms of number and placement.)	
299, 303, 314	Increase in public transport. Difficulty in exiting your property, danger to pedestrians, and damage to road surfaces.	
310	Buffelsfontein Road should be upgraded from Wentworth Road to 8 <sup>th</sup> Avenue Walmer due to the new application for development on erven 559 and 7005 Walmer.	
294	William Moffett Expressway needs and extra lane.	[SRK]: A Traffic Impact Assessment (TIA) (See Section 5.8 and Appendix K2 of Volume 2 for full report) has been completed as part of the EIA, however William Moffett expressway is outside the scope of this assessment.
294, 304	Roads in and around the area need to be upgraded and maintained (Victoria drive had potholes etc.).	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.4 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding upgrades. Maintenance will be subject to the NMBM's road maintenance schedule.
288	An alternative road should be constructed between the Walmer heights/Walmer Golf Course boundary linking Buffelsfontein with the proposed development.	[Metroplan] The de-proclamation of part of the Driftsands Drive link between Victoria Drive and Buffelsfontein Road, across the Walmer Golf Course, with the active support of some households now living along the Golf Course, has taken away another potential road link that may have addressed the concerns of residents about traffic through Walmer Heights.
38; 43;	What provision is being made for roads?	[SRK]: Please refer to the description in Section 2.3 and the draft layout plans (Figure 2-2 and Figure 2-3).
7; 20; 23; 26; 36; 38; 39; 43; 45; 50; 61; 91; 92; 93; 95; 101; 107; 109; 120; 121; 126; 131; 134; 138; 140; 147; 149; 169; 172; 186; 227- 287; <b>288, 289, 292, 293, 296, 299, 303, 306, 309, 311, 313, 314, 317</b>	Increase in foot traffic.	[SRK]: Comment noted. It is assumed that the comment relates to a safety concern. The Traffic Impact Assessment (TIA) (See Section 5.8.6 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding pedestrian safety.

Comment ref. no.	Issue raised	Response
44; 50; 116; 289, 290,292, 293, 304, 311, 313, 317	Roaming of animals in suburbs / stray animals.	[SRK]: Presumably this concern relates to traffic safety. The Traffic Impact Assessment (TIA) (See Section 5.8.6 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding traffic safety, however it is unlikely to directly address issues relating to stray animals, which are addressed under the NMBM bylaws.
292,293, 317	There needs to be additional entrance to the facility to decrease traffic.	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.2 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding traffic flow. Information regarding proposed access roads is provided in Section 2.3.
293, 300	The map of the development shows only one entrance. This will result in high motor and pedestrian traffic.	<b>[Metroplan]: The site will be accessed mainly from Victoria Drive with an alternative access for the top western section of the site planned through Beethoven Street and Schubert Street towards Buffelsfontein Road and William Moffett Expressway. Future linkages may be possible through Walmer Cosmo to Glendore Road and to Buffelsfontein Road via the Golf Course.</b>
305	Beethoven Avenue should not become an access road until such time as the buffer zone has been developed and all surrounding road infrastructure upgraded and developed including the widening of Buffelsfontein Road to cater for the increase in traffic.	[SRK]: The Traffic Impact Assessment (TIA) (See Section 5.8.2 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding traffic flow etc.
293	The Taxi rank area needs to be on Victoria drive to keep traffic out of WH.	
305, 311, 313	Taxis and busses must use Victoria Drive as their main access point to transport the residents from the RDP houses.	
292, 293, 311, 313, 316, 317	Concern regarding location of the Bus stop or Taxi rank.	
305	Speed humps along Beethoven Avenue from Schubert Street to Weymouth place and on the road to the right of Weymouth Place that enters the buffer zone will need to be built to slow down traffic.	
305	<b>Traffic impacts on Titian Road during peak hours will need to be addressed as the traffic lights currently only allow very few cars through during peak times.</b>	
289, 292, 293, 301, 303, 317	Additional access road into Victoria road should be created	

Comment ref. no.	Issue raised	Response
<b>Comments relating to pollution</b>		
109; <b>293, 299</b>	Urination and discarding of food waste on pavements.  The existing plan is not applicable here a new strategy needs to be implemented	[SRK]: These issues will be addressed in terms of the NMBM's existing waste management plan.  It is assumed that this plan will be updated at regular intervals and will accommodate new suburbs as they are developed.
1; 5; 6; 7; 15; 33; 35; 36; 38; 55; 64; 88; 109; 116; 131; 144; 148; 175; 184; 207; <b>289, 290, 293, 309</b>	General pollution, lack of pride in the environment, dumping and littering will be prevalent.	[SRK]: This is a widespread problem, not specific to low cost housing developments. The NMBM has a waste management strategy to address these issues as far as possible.
51; 61; 116; 131; 172; 177; 186;  289, 293	Danger of air pollution. Effect of coal or wood burning fires used as primary source of heat / cooking.  Please provide evidence that paraffin is used as main fuel source.	[SRK]: Residents will have access to electricity for heating / cooking purposes. In addition, paraffin is currently the main fuel source rather than coal/ wood (see Section 0).  <b>[SRK] information regarding fuel sources was obtained from the 2011 census statistics for this ward (obtained from the Statistics South Africa website, www.statssa.gov.za.)</b>
301	Will create dirt and disruption during the construction phase.	[SRK] A draft Environmental Management Programme (EMPr) included as Section 7 of the EIR includes standard mitigation measures to minimise impacts during construction.
315	Waste generated while building will impact current owners adversely.	[SRK] The draft EMPr (Section 7 of the EIR) includes standard mitigation measures to minimise impacts during construction, including waste management.
107; 289, 293	Increase in household rubbish is a health risk to the community if not properly and regularly disposed of.	[SRK]: the development will be subject to the NMBM's regular waste collection schedule (weekly collections). Waste management is described in Section 2.3.
292, 304, 317	No facilities for Refuse Collection in the area.	
294	<b>Litter needs to be controlled.</b>  <b>No dumping signs need to be placed in these areas and rubbish bins need to be provided so pedestrians can throw away their litter.</b>  NMBM needs to ensure they collect the rubbish on a weekly basis, and litter pickers need to be placed in these areas to keep the neighbourhood looking clean.	
293	What guarantee does WH have the council will continue to provide free services to the area indefinitely?	[SRK]: no service can be guaranteed indefinitely, however the development proposal includes that the area will be subject to the NMBM's regular waste collection schedule (weekly collections). Waste management is described in Section 2.3.
<b>Comments relating to noise pollution</b>		
1; 5 - 8; 12; 15; 20 - 23; 26; 28; 33; 35; 36; 38 - 43; 45; 46; 49; 51; 55; 61; 64; 66; 67; 70; 79; 82; 84; 88; 89; 92; 97;	Danger of increased noise pollution and disturbance of the peace due to increased pedestrian traffic, vehicular traffic, music, dogs constantly barking etc.	[SRK]: The development will be subject to the NMBM's noise control regulations, which are intended to manage noise levels. Noise impacts are assessed in Section xx and the draft EMPr (Section 7) includes standard



Comment ref. no.	Issue raised	Response
101; 107; 109; 110; 112; 113; 115; 117; 118; 120; 121; 124; 125; 126; 131; 135; 136; 137; 141; 144; 145; 147; 148; 149; 172; 173; 175; 176; 184; 186; 192; 199; 200; 202; 204; 206; 215; 218; 227- 287; <b>289,292, 293, 297, 298, 299, 301, 303, 304, 305, 309, 311, 312, 313, 316, 317</b>	<b>Concern that the NMBM cannot manage the noise levels</b>	mitigation measures to minimise noise impacts during construction.
186;	Inhabitants will have trouble sleeping due to noise pollution on roads. Lack of sleep due to noise pollution will lead to job losses and poverty. Will these people be able to get a grant or sue the municipality for these losses?	[SRK]: The NMBM noise control regulations include mechanisms for addressing noise disturbance, should it occur.
<b>Comments relating to infrastructure</b>		
6; 38; 50;  <b>293</b>	Increase in electricity theft. How does the municipality intend to handle this?  We do not believe providing electrified homes will reduce the number of illegal connections.  We would want stable power to Walmer Heights homes before these homes are electrified for free as WH pays for electricity.	[SRK]: Houses will be electrified which should decrease the frequency of illegal connections  Power provision issues relating to Walmer Heights are outside the scope of this EIA and therefore should be taken up directly with the NMBM.
6; 12; 18; 23; 26; 29; 38; 39; 43; 44; 45; 51; 63; 66; 69; 73; 78; 84; 91 - 96; 104; 107; 109; 118; 120; 136; 140; 141; 145; 151; 153; 157; 174; 180; 182; 186; 196; 197; 201; 202; <b>289,292, 293, 300,301, 303, 305, 308, 311, 312, 313, 317</b>	The existing infrastructure is inadequate to support proposed development. Bulk services to area will be placed under strain and compromise quality of current services. Will existing infrastructure be upgraded to accommodate the increased pressure?	[SRK]: Please refer to the project description (Section 2.3), as well as Appendix I for the Engineering Bulk Services report.
172; <b>293</b>	Where will NMBM be getting the funds for the provision of necessary services?	[Metroplan]:The purchase of the land by the State will enable the State to utilise the Urban Settlement Development Grant (USDG) to install the much need bulk infrastructure that will not only serve Erf 11305 Walmer but the surrounding areas as well.
22; 112; 145; 173;	I object to individuals receiving services (sewer, water, electricity) for minimal charge or no charge	[SRK]: This is in line with NMBM policy and is outside the scope of this EIA.
38;	Will the development have flush toilets and proper sewerage connections or will the 'bucket system' be in use?	[SRK]: Please refer to the project description in Section 2. Flush toilets with connections to bulk sewer infrastructure will be included.
183; 226	No stormwater drainage in Buffelsfontein Road and Victoria Drive	[SRK]: A stormwater management plan for the site has been developed and is included in Appendix I. Stormwater will be directed into the proposed new stormwater

Comment ref. no.	Issue raised	Response
167;	Vast amount of stormwater comes through Arlington and surrounds. The development will cut off the natural flow.	detention pond under development in the adjacent golf course (see Section 2.3).
51;	High levels of rainfall in area will result in damage to houses due to poor drainage and result in people moving to higher grounds.	
315; 289	Stormwater drains blocking due to erosion and inadequacy	
289, 292, 317	Sand Dune and land erosion	
308	When will the sewer upgrade be done?	[SRK] the exact timeframes for this have not yet been determined, and will depend on related development schedules
312	Concern regarding infrastructure to support the proposed increased population.	[SRK] the required supporting infrastructure forms part of the development proposal. The NMBM has confirmed capacity to accommodate the development with regard to services (See Appendix I for engineering bulk services report).
289, 292, 293, 294, 301, 317, 308	Concern over deterioration of existing services eg water pressure and supply problems.	[SRK] the NMBM has confirmed capacity to accommodate the development with regard to services (See Appendix I for engineering bulk services report).
<b>Comments relating to visual impact</b>		
16; 22; 41; 51; 136; 140; 171; 172; 173; 186; <b>290, 315</b>	Proposed development will have a negative visual impact. The general view and scenery will be adversely affected.	[SRK]: Anticipated typical views of the proposed development from various viewing points are provided in Table 2-4 and an assessment of visual impacts is provided in Section 5.12.
6;	What will the proposed structures look like?	[SRK]: Please refer to the project description in Section 2.2.1, as well as Table 2-1, which provides images of what the housing typologies proposed typically look like.
67; 78; 107;	Washing hanging over/on fences and balconies.	[SRK]: This is a visual impact of very low significance which will not be addressed in the EIA.
136; 140; 186; 289, 292, 293, 307, 311, 313, 317	Can those who receive these houses maintain them in keeping with the aesthetics of the area?	[Metroplan]: The houses to be owned individually on free hold basis will be maintained by the households who benefit as is the case in the other suburbs and other housing projects in the Metro. Public roads and public open spaces will be maintained by the NMBM. Social Housing Apartments will be developed and owned by an accredited Social Housing Institution (e.g. Imizi Housing Association) that will be responsible for the management, rent collection, maintenance, and liaison with tenants etc. The SHI will also maintain all the private open spaces within the social housing projects including the provision of play equipment, etc. Social Housing is to be managed in line with the requirements of the Social Housing Regulatory Authority (SHRA) who regularly visit the projects to ensure compliance.  It must also be understood that the ability of households to maintain their houses is also related to their affordability levels. The houses provided, in terms of size, construction costs and quality are in keeping with the affordability of the prospective beneficiaries. If the prospective households

Comment ref. no.	Issue raised	Response
		do not have to spend a large portion of their income on expensive units or on travel to and from work, shops, social and public amenities, the more disposable income they will have in order to maintain their units and look after their private gardens. Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit. Erf 11305 Walmer is adjacent to Walmer Township and beneficiary households would therefore be spared relocation to the urban periphery in Wells Estate, Motherwell and Zanemvula. It is also within 7kms of the CBD and is close to the PE Airport and closer to the Beach than other low income residential areas.
<b>Comments relating to site alternatives</b>		
2; 3; 6; 15; 26; 33; 89; 118; 172; <b>293, 298, 305; 307</b>	An alternative, more suitable location for the development must be considered.	[SRK]: Location alternatives are not being considered as part of this EIA. The current site was selected for the development as (among other reasons) it is state owned and would involve minimal relocation distance. See Section 2.4.1 for discussion on site alternatives.
38; 293, 305	The municipality owns extensive property on the same side of Victoria Drive as the current Gqebera area which can be used for this development.  It appears there was never any intention to seek more suitable land for RDP houses.	[SRK]: It is SRK's understanding that much of the developable portion of this land may be under a lease agreement, and is subject to serviceability or other development constraints.
172;	NMBM has hundreds of hectares (Madiba Bay Development) of land next to the existing Walmer Township which can be used.	[SRK]: It is SRK's understanding that much of the developable portion of this land may be under a lease agreement, and is subject to serviceability or other development constraints.
56; 293; 305	More appropriate municipal-owned land located adjacent to the airport  This project should be fully developed FIRST to give time for the buffer zone to be completed before any RDP houses are built on erf 11305.	[SRK]: A separate project is underway for a housing development on the piece of land referred to, to provide additional housing for residents who cannot be accommodated on erf 11305. This project has already received environmental authorisation and bulk service connections are currently being installed. The area available for development is however insufficient to accommodate the required housing numbers to facilitate dedensification of Gqebera.
155;  <b>293</b>	We suggest the Fairview area where an upgraded and socially improved environment could be created for low-cost housing.  The lack of land ownership by the developer should not grant them impunity to develop land in an irresponsible manner as they please.	[SRK]: The rationale for the selection of erf 11305 is to keep relocation distance to minimum to minimise disruptions to social cohesion and existing livelihoods. The NMBM does not own suitable property in the Fairview area.  [SRK] The proposed development would be subject to the same legal requirements as any other development in this regard.
6; 136; <b>293</b>	The current Walmer Township should rather be converted into housing developments, moving	[SRK]: The project motivation (as described in Section 2.1) is to move some people out of currently occupied areas so that current informal settlements can be formalised (which

Comment ref. no.	Issue raised	Response
	residents out of Walmer Township will just create more space for new residents to move in.	will entail dedensification of Gqebera) and also to house people currently residing in uninhabitable areas of Gqebera.
<b>Comments of a general nature</b>		
51; 293	Loss of privacy. Introducing 1000+ pedestrians poses a serious privacy problem for residents. This result in value lost on properties	[SRK]; The nature of the IAPs' concerns are unclear. Clarity is requested to enable us to address these comments.
48;	Will have an effect on marathons and sport runners.	
305	Why is the school not a priority?	[SRK] provision for schools is allowed for in the layout, however these are the department of education's responsibility to implement.
301, 305	Laws and By laws need to be observed.	[SRK] agreed

**Table 4-3: Summary comments received from IAPs on the FSR, and responses provided**

Comment ref. no.	Issue raised	Response
<b>Comments relating to the process</b>		
319	Hard copy of FSR was only received by Walmer Public Library on 22 June 2015 despite comment period commencing on 9 June 2015.	[SRK] Please refer to Appendix E of the Amended FSR which includes a delivery receipt showing that the FSR was delivered to Walmer Public Library on 9 June 2015.
320	SRK to provide a list of the legally required and other relevant potential stakeholders to whom the BID was distributed.	<p>[SRK] The EIA regulations require that the following potentially interested and affected parties received written notice of the application (text below is paraphrased from the regulations):</p> <ul style="list-style-type: none"> <li>• The owner of the land if the applicant is not the owner;</li> <li>• The occupiers of the site;</li> <li>• Owners and occupiers of adjacent land;</li> <li>• The ward councillor and any organisation of ratepayers that represent the community in the area;</li> <li>• The municipality;</li> <li>• Any organ of state having jurisdiction in respect of any aspect of the proposed development;</li> <li>• Any other party specified by DEDEAT.</li> </ul> <p>Notwithstanding the requirements of the regulations, IAPs are encouraged to distribute documents and notices related to this EIA process widely to ensure that all environmental impacts are reported and taken into consideration in DEDEAT's decision whether or not to authorise the development.</p>
320	Why was notice of the proposed development published in Die	[SRK] SRK routinely places notices in Die Burger and are not aware of readership statistics for the various newspapers, nor whether these are available per suburb.

Comment ref. no.	Issue raised	Response
	Burger instead of The Herald which has a wider circulation?	SRK is of the view that despite the limitations of newspaper notices, the overall objective of ensuring that potential IAPs are aware of the proposed development has been achieved.
320	How were the number and positions of the onsite posters decided upon?	[SRK] The regulations require a single onsite poster to be placed at a position that is “ <i>conspicuous to the public at the boundary or at the fence</i> ” of the site. In many instances property boundaries are not visible from readily accessible, or frequently accessed, locations. With this in mind, SRK placed posters with consideration for the visibility from passers-by and ensuring at least one poster is on the actual site boundary.  SRK is of the view that despite the limitations of onsite posters, the overall objective of ensuring that potential IAPs are aware of the proposed development has been achieved.
322	The proposed project does not trigger any Water Use in terms of the National Water Act and no Authorisation of this activity is required from DWS.	[SRK] Noted.
323	Required to submit a surface usage application to the DMR for approval as the proposed project will in effect sterilize the area for the extraction of any potential minerals.	[SRK] This information has been communicated to the proponent.
<b>Comments relating to the design</b>		
319	Homes of similar style and value should be built closer to Walmer Heights in the buffer zone. The buffer zone must also be developed first as a priority.	[SRK] The provisional site layout alternatives (Section 2.4.2) include free standing houses, sold on the open market, on the boundary with the existing Walmer Heights houses. These would have a value in the order of R400,000 (with a minimum value of R620,000 adjacent to Walmer Heights). It is important to note that as these are intended for the open market, it is unlikely that they would be developed first.
319	Vacant plots bordering proposed development will become thoroughfare entrances and must be fenced off.	[SRK] Vacant plots in the development proposal have been set aside to protect forests on the site and as such the intention is that these areas remain natural. As for other projects, fencing of forest patches may become a condition of authorization by DAFF.  The efficacy of fencing, in the absence of ongoing monitoring and maintenance, is low and must be taken into consideration in the impact rating.
<b>Comments relating to the environment</b>		
322	A geotechnical investigation should be conducted.	[SRK] The design of housing and other infrastructure (e.g. sewers) will be according to national engineering standards that include, where appropriate, geotechnical considerations. It is anticipated that this will occur as part of the engineering design, outside of the EIA process.
<b>Comments relating to the social impacts</b>		
319	More information and transparency required regarding how the socio-economic study will be conducted.	[SRK] The Socio-Economic Impact Assessment Report, including the methods used, the experience of the persons undertaking the assessment, and the findings of

Comment ref. no.	Issue raised	Response
		the assessment has been included in the EIR as Appendix K1 of Volume 2. Registered IAPs have an opportunity to examine this report and submit comments on this and any other aspects of the DEIR.
<b>Comments relating to the economic impacts</b>		
320; 321	Property values already negatively affected by proposed development.  Will the NMBM be held accountable for the devaluation of the properties, and will they reduce the rates and taxes proportionately?	[SRK] As property rates are dependent on property values, any reduction of property values would have a direct impact on the NMBM. This impact has been assessed as part of the Socio-economic study (see Section 5.7.6 & 5.7.7 and Appendix K1 of Volume 2 for the full report).
319	Housing of equivalent value should be developed adjacent to Walmer Heights	[SRK] The socio-economic impact assessment has recommended that houses with a value not less than R620,000 immediately adjacent to Walmer Heights would reduce the impact on property values in that suburb. The provisional site layout alternatives have been amended to as far as possible accommodate that recommendation.
<b>Comments relating to safety concerns</b>		
319	Lack of enforcement of municipal Regulations must be taken into account during EIA.	[SRK] In instances where the significance of impacts to be reported in the Environmental Impact Report will be affected by the enforcement of regulations, such significance ratings will consider the probability of the mitigation measure being implemented as outlined in the impact rating method (Section 5.1).  However, it is important to point out that many of the concerns raised (e.g. slaughtering of animals, drinking in public) do not lend themselves to assessment in a project specific EIA process and the plan of study for EIA does not make provision for such an assessment.
<b>Comments relating to traffic</b>		
319, 321	Beethoven Avenue should not be used as main access point. Access should be via Victoria Drive and Glendore Rd only.	[SRK] Refer to Section 2.3 as well as the layout drawings for detail on the site access routes proposed. It is anticipated that the majority of the development will be accessed from Victoria Drive, and only the northern section (consisting of freehold and social housing) will be accessed from Beethoven Ave. A single access road from Victoria Drive only is the least preferred option from a planning perspective.  The Socio-economic Impact Assessment has made recommendations relating to access roads, which have been incorporated into the layout where possible (see Appendix K1 of Volume 2 for full report).
321	A further entrance into the development needs to be considered from lower down Victoria Drive.	[SRK] Refer to Section 2.3 as well as the layout drawings for detail on the site access routes proposed. Traffic Safety standards prevent more than one access from the development to Victoria Drive.
319, 321	Traffic Impact Assessment done was of unsatisfactory quality. Longer monitoring period necessary.	[SRK] The traffic impact assessment has been undertaken by suitably qualified and experienced specialists according to recognized and generally accepted standards for traffic impact assessments, including (but not limited to) the duration of monitoring periods. A verification traffic count was carried out in September 2017, which yielded similar results to the July 2015 traffic counts.

Comment ref. no.	Issue raised	Response
321	Proposed development of erf 1953 and students travelling to NMMU will also negatively impact traffic volumes.	[Gibb] This comment refers to other planned (latent) developments in or nearby the study area. As explained in Section 6.4 Latent Developments of the TIA report (see Appendix K2 of Volume 2), there are numerous factors (e.g. implementation timelines; development rate of available land; income levels; vehicle ownership levels; availability of public transport; etc.) that influence the amount of traffic that may be generated by latent developments in future. The allowance for background traffic growth in the TIA should be adequate to cater for this occurrence over the 10 year forecast period of the study.
<b>Comments relating to noise pollution</b>		
319	Impact of foot traffic noise not considered thoroughly.	[SRK] Although SRK can include an impact rating table for disturbing noise during the operational phase of the development, we believe that this would not change the management measures available to manage noise impacts (i.e. the existing Noise Control Regulations) nor would it be material to the DEDEAT's decision whether to authorise the project or not. In accepting the Amended FSR, DEDEAT has not requested that the Environmental Impact Report includes a significance rating table of noise impacts.
<b>Comments relating to infrastructure</b>		
322	Stormwater Management Proposal must accommodate anticipated stormwater from development and must consider any negative impacts to neighbouring properties.	[SRK] A Stormwater Management Plan is included in Appendix I, and the layout options proposed include stormwater management measures. Provided this plan is effectively implemented, no stormwater impacts on adjacent properties are anticipated.
322	NMBM Waste & Engineering Services must be consulted and consent to the proposal regarding the bulk sewer network.	[SRK] The NMBM has indicated that sufficient capacity exists for bulk services. Refer to Appendix I for Bulk services engineering report and confirmation from NMBM regarding sewer capacity.
322	Integrated waste management must be dealt with in accordance with the NEMA: Waste Act	[SRK] At the very least the objective of the EMP is to ensure legal compliance. DWS's comment has been captured as a recommendation in the Environmental Impact Report and as management measures in the Environmental Management Programme (section 7).
<b>Comments relating to site alternatives</b>		
319	No satisfactory answer to the alternative site on the airport side of Victoria Drive or Coega being used for the proposed development. To state that most people work in the area is misleading.	[SRK] The commentator is directed to Section 0 for statistics for the whole of Ward 4. It is quite clear that the majority of the households (approximately 85%) earn less than R 3,500 per month and as such are particularly vulnerable to the social and economic impacts of relocation. It is also important to recognise that despite such a low income level, the unemployment rate in Ward 4 is about 21%, which would suggest that most of the people in the Ward are in fact employed.  Notwithstanding this, even in the unlikely scenario that the beneficiaries for this particular development happened to be the 21% unemployed, it is not unreasonable to assume that many of these individuals have chosen to live in Walmer Gqebera at least in part due to improved employment prospects associated with the area.

Comment ref. no.	Issue raised	Response
		Please refer also to Section 2.4.1 regarding site alternatives.
320	Queried why municipally owned land which is located adjacent to the Airport, with more direct access to existing bulk services, is not considered to cater for the overflow of the Walmer Gqebera residents?	<p>[SRK] A short summary of the process of site selection that preceded the EIA process is provided in Section 2.4.1. That process involved screening of a number of properties on the basis of ownership, serviceability, and environment sensitivity.</p> <p>In addition to the comments regarding alternate sites discussed in that section, it is noteworthy that an Environmental Authorisation for development of erf 1948 (south of the Airport) has been obtained.</p> <p>An important factor in terms of need &amp; desirability is that the proposed use of erf 11305 is consistent with the Local Spatial Development Framework (see Appendix F), which sees erf 11305 and the adjoining properties being developed for medium and high density residential use.</p>
320	Queried whether it would not have been more appropriate to consider the whole of erf 11305 for subsidised housing.	[SRK] Comment on provisional site layout alternatives is provided in Section 2.4.2. This shows that a number of housing typologies are proposed on erf 11305 and that various site alternative around Walmer have been considered. Development proposals that cater for households with a range of income are consistent with the NMBM Housing Policy, Outcome 8 Policy Statement and National Development Plan.
<b>Comments of a general nature</b>		
322	The Department of Water & Sanitation has no objection to proposed development, provided that the content of the DWS letter dated 23 July 2015 is considered in its implementation.	[SRK] The DWS's comments have been captured as recommendations in the Environmental Impact Report and as management measures in the Draft Environmental Management Programme (Section 7).

**Table 4-4 Summary comments received from IAPs on the Amended FSR and responses provided**



Comment ref. no.	Issue raised	Response
<b>Comment relating to process</b>		
331	It seems that the environmental assessment is still not complete.	[SRK] Refer to section Figure 1-2 for a summary of the environmental process, indicating progress.
333; 402	The 21-day comment period on the Amended FSR is inadequate considering:  That it included school holidays and public holidays during which many people were travelling; and  the gravity of the issue at hand.	[SRK] Public holidays are excluded from the calculation of all comment periods.  A shortened comment period was provided as this was an amended version of the previous report and no time period is prescribed in the regulations in this instance. Opportunity is still provided to comment on the DEIR (this report) and the Final EIR.
333	Advertisement of proposed development appearing in “Die Burger” newspaper on 1 day and 2 onsite posters is insufficient exposure for public to be alerted to the proposal. No public meetings have been called to get feedback from residents who do not have access to internet.	[SRK] The public participation activities have been conducted according to the legal requirements. SRK is of the view that despite the limitations of newspaper and on-site notices, the overall objective of ensuring that potential IAPs are aware of the proposed development has been achieved. Access to documentation is not limited to those with internet access – faxed and posted comments are accepted.
355	ATNS and SACAA should be included as IAPs and comments should be sought from them.  Please revert back to ACSA once approval has been obtained from ATNS and CAA.	[SRK] ATNS and SACAA were provided with the opportunity to comment on the contents all reports released so far during the EIA process. Both are included on the register of IAPs (refer to Appendix D) and all IAPs will be notified of any authorisation decision obtained.
357	SRK response to DEDEAT Comment #1 refers to Section 2.4 No such section exists.	[SRK] Section 2.4 is found in the amended FSR and relates to project alternatives.
<b>Comments relating to design</b>		
328	Will the area at the bottom of Beethoven on the Weymouth Park side to the vacant land/soon to be developed area, be the official link between the suburbs?	[SRK] The proposed link to Beethoven Ave is via an existing access road to the site – please refer to the layout drawings in Appendix F for the exact location. Most of the development will however be accessed from Victoria Drive.
347	How many RDP houses are envisaged?	[SRK] Approximately 530 - 620 units depending on which layout option is chosen (see section 2.2 for details).
334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433;	The southeast view on page x shows all erven with residential houses. This is not the case. This is important as many of IAP concerns relate to free access to Walmer Heights through these undeveloped plots.	[SRK] The proposal is to develop all developable areas of the site for residential purposes, as well as the other land uses indicated on the layout drawings. Allocation of areas for public open space is a town planning requirement. In this case these are based on the distribution of protected forest patches on the site, for which DAFF will not grant authorisation for destruction for residential purposes. The images provided are for visual representational purposes only and are not intended to provide detail regarding the proposed layout, for which readers should refer to the layout drawings provided.

<p>434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458;</p>		
<p>324</p>	<p>The people employed by industry work in Deal Party, Perseverance and even Uitenhage areas. There is infrastructure already there. House people closer to industry to reduce travel time and costs.</p>	<p>[SRK] While this may be the case for some of the residents of Gqebera, it is understood that many of the beneficiaries work in the Walmer / CBD area, and for that reason choose to remain there.</p> <p>[Metroplan] Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit. Erf 11305 Walmer is adjacent to Walmer Township and beneficiary households would therefore be spared relocation to the urban periphery in Wells Estate, Motherwell and Zanemvula. It is also within 7kms of the CBD and is close to the PE Airport and closer to the Beach than other low income residential areas.</p>
<p>333</p>	<p>Suggestion that the area be developed as an upmarket resort or eco village which will create employment.</p>	<p>[SRK] The project motivation is to move some people out of currently occupied areas so that current informal settlements can be formalised (which will entail de-densification of Gqebera) and also to house people currently residing in uninhabitable areas of Gqebera.</p> <p>[Metroplan] The demand for the Walmer Heights type development is likely to be limited in the area.</p> <p>This would partly explain why the previous owners of Erf 11305 Walmer opted to sell the land to the State rather than to develop it themselves. The land was also offered to private buyers but none were able to conclude a deal with the owners partly because of the high level of risk in this property market.</p>
<p>333; 347; 353; 404</p>	<p>Design does not make provision for pedestrians.</p>	<p>[SRK] The Traffic Impact Assessment has included recommendations in this regard (See Section 5.8.6 and Appendix K2 of Volume 2), and the road design makes provision for pavements within the development (see Bulk services report in Appendix I).</p>
<p>331</p>	<p>Proposal should be amended to exclude construction of a secondary access road in to the new development via Beethoven Drive. This would limit traffic and aid in security.</p>	<p>[SRK] Detail regarding the proposed access roads is provided in Section 2.3.</p> <p>[Metroplan] The Traffic Impact Assessment has concluded that the dual access approach proposed would be acceptable from a traffic impacts perspective. The design aims to limit the amount of through traffic from Beethoven Avenue by splitting access for the northern and southern sections of the site.</p> <p>The successful marketing of the Affordable/GAP/Social Housing in the top half of the area also relies on good access from an area perceived to be more secure (i.e. Beethoven Ave). The property values are also more likely to escalate more quickly.</p> <p>To prevent access via Beethoven Drive would mean that beneficiaries of the Affordable/GAP/Social Housing projects would be solely reliant on access from Victoria Drive. This is more likely to make the area unattractive to the development of GAP/Affordable/Social Housing.</p>

332; 431	Larger buffer zone is required. Buffer zone of minimum of 50 / 100 m should be created.	[SRK] The layout options provided allow for a transitional zone between the free basic houses and Walmer Heights of approximately 300 m. Buffer (undeveloped) zones of 20 m around forest patches have been allowed for in layout Option B, as requested by DEDEAT.
333	A 20 m buffer zone around forest clumps sounds like the very minimum.	[SRK] DAFF has been given the opportunity to comment on the proposed layout and has not specified any buffers in this regard, however at DEDEAT's request, a layout option (option B) which includes 20 m buffers around forest has been assessed. Increasing this buffer is unlikely to be economically viable, and may be detrimental in terms of security.
333	What guarantee do the residents of Walmer Heights have that NMBM does not start building RDP houses and then decide to continue them all the way up to the abutting side of Walmer Heights?	[SRK] Should environmental authorisation be granted, it will be based on the preliminary layout provided in the EIR for authorisation. The scenario presented would require an amendment process prior to development. Public participation would be required as part of this process.
355	Height of the proposed structures including building and lights masts should be kept to an absolute minimum. All building / site development plans must be approved by ACSA, SACAA and ATNS.	[SRK] ACSA, SACAA and ATNS have been notified of the proposed development and given the opportunity to comment. The regulated Site Development Plan and Building Plan approval processes will be followed. No additional commitments / approval processes are proposed.
355	The materials used for the proposed structures should not give rise to glare. All lights must be kept below airport's obstacle surfaces.	[SRK] These considerations will be conveyed to the detailed design team, and have been included in the EMPr (Section 7). The designs included for the purposes of the EIA are at subdivisional design stage only.
355	As a result of the proposed development being in close proximity to the airport, the following are discouraged: <ul style="list-style-type: none"> <li>• retention ponds;</li> <li>• water features such as fountains; and</li> <li>• waste facility</li> </ul>	[SRK] None of these facilities are proposed as part of the development. Stormwater detention ponds will however be required, as indicated on the proposed layouts (refer to Appendix F), however similar and larger ponds are already being developed as part of the stormwater management plan for the broader area.
357	What if the proposed open market housing does not sell?	[Metroplan] The erven will remain undeveloped until demand is achieved. The area will also be developed in phases. Other marketing and sales strategies would be considered no doubt and this is normal for all other developments in the City.  If all fails the area would be considered for alternative use, which would be planned in consultation with the residents as set out in any change of use process.  [SRK] Changes of the nature referred to above to an approved development layout would require an amendment to the environmental authorisation, which would involve a public participation process.
<b>Comments relating to environment</b>		
464	Residential erven and sports facilities cannot qualify as exceptional circumstances for destruction of natural forest and	[SRK] This has been noted and taken into account in the updated development layouts proposed (see Appendix F).

	must be taken out or re-allocated elsewhere.	
464	Low-key nature-orientated recreation activities can be created where height and structure of vegetation allows to keep canopy intact if a botanist and zoologist can report that no critical biodiversity element occur in the area contemplated.	[SRK] The ecological specialist study (see section 5.4 and Appendix K6 of Volume 2) has not reported any particular sensitive habitat for conservation, apart from the forest patches which through their legal protection status require conservation. The layout has provided that the forest patches largely fall within areas designated for public open space.
464	On large erven or public facilities, the buildings have to be placed in such a manner that natural forest is avoided.	[SRK] This condition has been noted in the EMPr (Chapter 7) and is reflected in the proposed development layouts (see Appendix F)
464	Application must be made to DAFF for destruction and damaging of trees in a natural forest. Conditions could be set in the licences to keep disturbance of natural forest to a minimum and be limited to road reserves.	[SRK] This condition has been noted in the EMPr (Chapter 7). Applications for forest destruction will be made if and when environmental authorisation is obtained.
325	Resultant destruction of the green belt and protected tree and plant species.	[SRK] An ecological and forest survey have been conducted to assess these impacts. Refer to section 5.4 and Appendix K6 and K7 of Volume 2 for full specialist reports.
331	Concern regarding Milkwood trees being destroyed.	[SRK] Individual milkwood trees not forming part of a forest patch will need to be removed however the development layouts have accommodated forest patches in their design. Forest patches consist of several tree species including milkwoods and will be preserved.
333; 347	Concern regarding eradication of forest.  Soccer field will eradicate designated forest area.	[SRK] The proposed development layouts have taken the forest into consideration as shown in Appendix F. Sports fields have been positioned so as not to overlap with the forest.
325; 460	Disturbance of animal and bird life due to influx of people and high noise pollution.	[SRK] An ecological study has been conducted to address these impacts. Refer to section 5.4 and Appendix K6 of Volume 2 for full specialist report.
347	Sand dune erosion and land erosion on proposed building site. Storm water drains blocking due to erosion.	[SRK] Erosion mitigation and stormwater management measures are listed in the EMPr (see section 7).
333	Concern regarding pollution levels especially in winter with fires and smoke with little vegetation.	[SRK] Residents will have access to electricity for heating / cooking purposes. In addition, paraffin is currently the main fuel source rather than coal/ wood.
354;	Dust during and after the construction period.	[SRK] Standard dust control measures will be implemented during construction. These conditions are included in the EMPr that will manage construction activities from an environmental perspective. Refer to section 7.
<b>Comments relating to safety concerns</b>		
324; 325; 330; 331; 332; 347; 352; 353; 354; 406; 407; 431; 460;; 462;	Safety and security is a concern. Crime figures have already increased.	[SRK] Increases in crime have been seen in a number of areas and are related to broader socio-economic issues. The current increase referred to cannot be attributed to development that has not yet taken place. The socio economic study has attempted to assess impacts relating

		to crime and social ills as part of the EIA (see Section 5.7.9 and Appendix K1 of Volume 2).
325; 328; 329; 330; 341;	Potential high increase in crime How will this be managed as NMBM is incapable of doing so?	[SRK] Security measures and the management of crime would be in terms of the NMBM's city wide policies and no project specific policies have been proposed.
330	Proposed project will simplify access to Walmer Heights resulting in increase in crime and render our SRA and security measures meaningless.	[Metroplan] The main road into Walmer Heights (Beethoven Avenue) is a public road with unrestricted access for the public. The proposed link into the top half of the proposed development on erf 11305 Walmer will and can obtain access off Beethoven Street.  There is no basis to assume that the development will introduce crime into the area. The security measures in place before the area is developed is proof that crime is already a real concern. The development of the area will reclaim the vacant land that has the potential to attract and harbour criminal activities and criminals.
347	Efficient emergency evacuation of Walmer Heights not possible due to overcrowding.	[Metroplan]: It is not clear why "timely evacuation" is flagged as a potential problem and neither have the circumstances leading to this "evacuation" been well explained.  The area is planned in accordance with applicable Municipal by laws, design standards and policies. The roads are wide enough to cope with any emergency evacuation out of the area.  All the road reserves permit the construction of tarred roads to full municipal standards. Given the low levels of vehicular ownership and the reliance on public transport amongst the majority of the envisaged residents, the existing roads are anticipated to adequately cater for the area. Emergency Vehicles (Fire trucks and Ambulance services) will be adequately accommodated.  Furthermore the link to both Victoria Drive and Beethoven Street is required to ensure that the area has access to a number of "exit" routes rather than be boxed in and to be only accessible to and from Victoria Drive. The layout makes provision for future potential linkages to and through the Golf Course to the north and the continuation of road linkages towards the proposed Walmer Cosmo Development.
325; 347	Threat of drug dealer presence.	[SRK] The socio economic study has attempted to assess issues relating to crime and social ills. See Section 5.7.9 and Appendix K1 of Volume 2 for the specialist report.
325; 347	Threat of gang / taxi related violence.	
325; 329; 347; 353;	Threat of strikes, protest action and related violence.	[SRK] The purpose of the proposed development is to provide housing and essential services to residents currently lacking these, and therefore a reduction in service delivery protests is anticipated.
326; 329; 347	Threat of road closures due to protest / unrest action.	
330	Additional and easier access roads will have a negative effect on crime and affect the ability of Walmer Heights residents to ensure their safety and security. Establishment of buffer zone does not address this.	[Metroplan] The northern half of the development to be set aside for Affordable/GAP/Social Housing only will gain access from Beethoven Drive. The rest of the site (including all RDP houses) will only gain access from Victoria Drive.  The affordable/GAP/social housing development will constitute the transition zone between Walmer Heights and the rest of the development towards Victoria Drive.

		This is a better and more functional buffer than a green passive buffer.
330; 347	Proposal should include establishment of a Walmer Heights gated community with 24 hours security patrols and controlled access for Walmer Heights residents and other authorised persons only at all points of access.  A police station or some type of security building should be constructed at the entrance of Beethoven Avenue	[SRK] Security measures and the management of crime would be in terms of the NMBM's city wide policies and no project specific policies have been proposed.  [Metroplan] Security is normally provided by the residents of a suburb (even in high security complexes and estates) and the law enforcement authorities. It is not practical to stipulate the establishment of gated communities and patrols as a condition of approval of a development.  The new residents are likely to be as concerned about crime as the current residents and there is currently no objective way of knowing where the source of crime is.
330; 347	Design should be amended to include construction and maintenance of security fencing around the affected areas of Walmer Heights.	[Metroplan] The design allows for a gated/security complex with a fence or wall to be put thus effectively providing a physical barrier around the top half of the development. The layout has opted for closed loop roads to facilitate such a scenario.  The cost of construction and the maintenance of the wall/fence will be borne out by the property owners as is normal practice with other similar developments.
332; 347	Presence of vacant Arlington Racecourse and adjacent bush with overgrown plots create quicker access and getaway for potential thieves.	[SRK] Development of the site (especially layout option A) will result in loss of much of the vegetation on the site, which may reduce the attractiveness of the site for criminal activities relative to the current situation. The socioeconomic study has attempted to address impacts on crime and social ills in neighbouring areas (see Section 5.7.9 and Appendix K1 of Volume 2). The fate and control of land outside erf 11305 is outside the scope of this EIA.
333	What kind of security can be expected for the social housing with cars entering and exiting and how would this influence the safety of the adjacent area of Walmer Heights?	[Metroplan] The layout provides flexibility for FLISP/Open Market units to also become "gated" communities with controlled access/exit points as required by potential beneficiaries.  [SRK] The socioeconomic study has attempted to address impacts on crime and social ills in neighbouring areas (see Section 5.7.9 and Appendix K1 of Volume 2).
347	Livestock roaming the streets.	[SRK]: Presumably this concern relates to traffic safety. The Traffic Impact Assessment (TIA) (See Section 5.8.6 and Appendix K2 of Volume 2 for full report) has investigated and made recommendations regarding traffic safety, however it is unlikely to directly address issues relating to stray animals, which are addressed under the NMBM bylaws.
<b>Comments relating to social impacts</b>		
357	How will influx of additional shack dwellers be controlled? What if it is not controlled?	[NMBM] The NMBM proposes to manage the risk through site inspections to monitor and address any illegal dwellings, as well as establishing a team of community representatives as whistle blowers in this regard.
325	Unrestricted informal settlement structures and resident numbers.	
325; 326; 329; 330;347; 431	Complete decline of urban tranquillity (disturbance of the peace).	[SRK] The development will be subject to the NMBM's noise control regulations.

333; 404	Victoria Road is bound to be plagued by litter, noise and criminal element which bodes badly for tourists and residents using the road to access tourist attractions of Sardinia or Schoenies.	[SRK] The management of litter, noise, and crime would be in terms of the NMBM's city wide policies and no project specific policies have been proposed. It is therefore reasonable to assume that the proposed development would have a similar impact on an additional ±500 m section of Victoria Drive as is currently experienced along the 1,500 m section from the intersection with Buffelsfontein road to the site boundary.
334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458	Only socio-economic interests of the housing recipients have been considered.	[SRK] Please refer to the Socio-economic specialist report in Appendix K1 of Volume 2 and summary of impacts in Section 5.7, which includes impacts on the adjacent residential areas.
	The report is still vague on the timeframe when the transitional zone will be developed. There will no stopping of squatters on the vacant transitional land in the interim.	[Metroplan] The development of the transitional area will be subject to the approval of the layout, the appointment of an Implementing Agent, the sales and marketing plan and the availability of funding for servicing the sites.  This is normal for all other township developments.
	When is it envisaged that the school will be built? To merely state that it is the Department of Education's responsibility is unacceptable.	[Metroplan] A school is typically built either by parents of the students (private school) or by the state (public school). Most of the beneficiaries of fully housing will be sourced from Walmer Township, where the children already attend adjacent schools.  The date on when the school will be built will depend on demand, available budget, the availability of space elsewhere and choice of parents as to where to send their children.  It is clear that there is a need for quality and affordable schools in the area based on the well-publicised attempts by St Christopher's Private School to convert the Walmer Country Clubhouse onto a low fee school.
347; 354;	Foresee a constant problem of trash in street from pedestrians. What recourse will current residents have if refuse is dumped in Walmer Heights due to non-collection by municipality?	[SRK] The development will be subject to the NMBM's regular waste collection schedule (weekly collections) and by-laws.
347	Shack dwellings being built in RDP fashion in the backyard of homes.	[Metroplan] The area will be managed in accordance with the Section 8 Zoning Scheme relating to Residential Zone (single dwellings), Residential Zone IV for flats/residential buildings, Business Zone 1, Institutional Zone I and III, Open Space Zones I and III, Transportation Zone II, Authority Zone and Special Zones. The NMBM will deal with building contraventions in a manner similar to other formally planned suburbs in the City.
347	The majority of current residents do not want to live in close proximity to a RDP development due to known problems associated with them. This is why they chose to live there in the first place. How will you address this?	[Metroplan] It is not clear what is meant by "known problems associated with RDP development".  The layout provides a transitional zone between Walmer heights and the RDP units made up of Social Housing/Affordable Housing and GAP Housing (all of which are not RDP housing) to manage the interface.  [SRK] The views of residents in Walmer Heights have been captured in this EIR and would be taken into consideration by DEDEAT when deciding whether or not to authorise this development.

329; 331; 333; 347; 353;	Creation of informal taxi ranks e.g. taxies waiting for fares in the public park at the gate of Weymouth Park will result in congestion, noise, public nuisance etc.	[Metroplan] Most of the residents in RDP housing projects (>65%) are reliant on public transport for mobility. It is incumbent that layouts make provision for public transport (taxis and buses) and associated trading facilities. The bulk of South Africans are reliant on public transport for mobility and it is essential that facilities are provided. The issue of noise, congestion and public nuisance is a law enforcement matter and cannot be used to deny law abiding citizens access to basic services such as mobility.
<b>Comments relating to the economic impacts</b>		
324; 325; 332; 341; 347; 352; 353; 354; 357; 406; 431; 460	Value of property will depreciate.	[SRK] Please refer to the Socio economic study report in Appendix K1 of Volume 2 as well as the summary of impacts on property values in Section 5.7.5.
325	Devaluation of area and resultant undesirability for resale.	
330	Establishment of low cost residential units will negatively affect surrounding areas. It is a well-accepted economic principle.	
327; 333; 341; 431; 461	Need for evaluation of municipal rates and taxes due to property value depreciation.	[SRK] Please refer to the Socio economic study report in Appendix K1 of Volume 2 as well as the summary of impacts on property values in Section 5.7.6.
341	No rates will be paid by housing recipients thus prime property will be given away when it could be incorporated into municipal budget.	[SRK] The impact of the proposed development on NMBM rates income has been assessed as part of the socio-economic study (see Section 5.7.6 and Appendix K1 of Volume 2).  [Metroplan] the demand for the Walmer Heights type development in this area is likely to be limited.  This would partly explain why the previous owners of Erf 11305 Walmer opted to sell the land to the State rather than to develop it themselves. The land was also offered to private buyers but none were able to conclude a deal with the owners partly because of the high level of risk in this property market.
325; 332; 347	Higher insurance rates for existing homeowners and residents.	[SRK]: Increases in insurance premiums and security upgrade requirements cannot be predicted at this stage. The socio-economic study (see Section 5.7.9 and Appendix K1 of Volume 2 for specialist report) has however attempted to address impacts on crime and social ills in neighbouring areas.
325; 332; 347; 353;	Cost to existing homeowners and residents to install adequate security systems.	
324	A financial study needs to be carried out to illustrate financial viability of developing extra housing vs developing current area under use. Must be illustrated with supporting evidence.	[SRK] Please refer to Section 2.1, which outlines the motivation for the proposed development. Additional sites are needed to enable the redevelopment and associated de-densification of parts of Gqebera, which does not have sufficient developable area to accommodate the current residents living in informal housing.  [Metroplan] The residents in Gqebera Informal Settlements lack security of tenure and thus cannot benefit from the available state housing subsidy programs they are entitled to.



		<p>The evidence is that the state has already spent some R43million to buy erf 11305 Walmer to assist these communities. In addition, the state sets aside annual budgets for the planning, servicing and construction of top structures with proper legal tenure for the households in areas such as Gqebera.</p>
325; 347	<p>Inability of informal residents to adequately maintain their dwellings.</p>	<p>[Metroplan]: Social Housing Apartments will be developed and owned by an accredited Social Housing Institution (e.g. Imizi Housing Association) that will be responsible for the management, rent collection, maintenance, and liaison with tenants etc. The SHI will also maintain all the private open spaces within the social housing projects including the provision of play equipment, etc. Social Housing is to be managed in line with the requirements of the Social Housing Regulatory Authority (SHRA) who regularly visit the projects to ensure compliance.</p> <p>It must also be understood that the ability of households to maintain their houses is also related to their affordability levels. The houses provided, in terms of size, construction costs and quality are in keeping with the affordability of the prospective beneficiaries. If the prospective households do not have to spend a large portion of their income on expensive units or on travel to and from work, shops, social and public amenities, the more disposable income they will have in order to maintain their units and look after their private gardens. Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit.</p>
333; 357	<p>How was it established that most of the housing recipients work close to the site allocated?</p>	<p>[Metroplan] The potential beneficiaries for the RDP units already live in Walmer Gqebera Township.</p> <p>The 2011 Census report shows that the Walmer Area has one of the lowest unemployment rates in the City so it can be assumed that the residents would like to continue staying in the area to be close to job opportunities.</p> <p>The Greater Walmer Suburbs of main Walmer, Walmer Heights/Downs and Miramar are home to some of the most highly educated and high-income households in the NMBM. It is not in dispute that a lot of the people from Gqebera work in domestic and gardening services in the greater Walmer Area.</p> <p>Furthermore, evidence from Walmer Link and Fairview Link show that the bulk of the beneficiaries for Social/Affordable Housing originally lived on the urban periphery due amongst other reasons to the inherited spatial patterns from the pre-1994 era.</p> <p>They now have the opportunity to move closer to the City and places of employment and amenity rich areas. The other benefits include reduced cost of travel which in turn improves affordability.</p>
357	<p>Where are the improved employment prospects in Walmer?</p>	<p>[SRK] It is assumed that this comment relates to a statement in the FSR, the intention of which was that</p>

		employment prospects for Gqebera residents would be better than for those of many other low income housing areas, due to close proximity to potential employment opportunities.
<b>Comments relating to visual impacts</b>		
325; 347	Total decline in the aesthetics of the suburb.	[SRK] Artistic representations of what the development may typically look like are provided in Table 2-3.
352	Proposed development will be unsightly.	
<b>Comments relating to traffic</b>		
325; 326; 328; 331; 332; 347; 352; 353; 354; 460; 461	Excessive / increased vehicular and pedestrian traffic. How will this be managed?	[SRK] Recommendations in this regard have been provided in the TIA (refer to Section 5.8 and Appendix K2 of Volume 2 of the DEIR).
333; 347; 353; 354; 404	Increased presence of public transport vehicles e.g. taxis and busses will heighten traffic congestion	[SRK] It should be noted that many of the beneficiaries of the proposed development are already living in the Gqebera area, and therefore are already contributing to traffic in the area. Impacts on traffic flow as a result of the proposed development have been assessed as part of the TIA and recommendations in this regard have been provided (see Section 5.8.2 and Appendix K2 of Volume 2).
330	Proposal highlighting the need for multiple access points is indication that exponential increase in traffic is expected.	[SRK] Most of the residents of the proposed development will make use of public transport. Predictions regarding increases in traffic are provided and have been assessed in the TIA (see Appendix K2 of Volume 2 for TIA report). Provision of multiple access points is a standard design element to facilitate traffic flow as well as safety issues.
330; 345; 404; 407; 431	Existing road infrastructure would be insufficient to cater for increase in traffic.	Refer to the recommendations of the TIA in section 5.8.7 and full report in Appendix K2 of Volume 2.
402	Has the second TIA been completed? Was one day of monitoring enough?	[SRK] The methodology used for the TIA is outlined in the specialist report in Appendix K2 of Volume 2, and was conducted in accordance with recognised good practice. The monitoring included an updated traffic count in September 2017 to verify and update the previous monitoring information.
355	The results of the TIA should be shared with ACSA.	[SRK] The results of the TIA are presented in section 5.8 of this report, and the full TIA report is provided as Appendix K2 of Volume 2.
345	Will access to proposed development be from Beethoven Avenue or from Victoria Drive?	[SRK] Both access routes are proposed as part of the development, with the Beethoven Ave access serving the northern section of the development, and the Victoria Drive access serving the majority of the development, including all free basic houses. Please refer to Section 2.3 and the layout drawings provided for details.
333	No substantial response given to objection to access road running through Beethoven Avenue.	[SRK] As the Walmer Heights access route is to service the northern (open market, GAP and social housing) sections of the proposed development, it is anticipated that this access road would only be developed once those areas have been constructed.  The TIA has confirmed capacity of the existing roads to accommodate the proposed development, and has provided recommendations in this regard (see Section 5.8.7 and Appendix K2 of Volume 2)
335; 354; 406; 462	Objection to access road via Beethoven / Schubert roads.	

<p>334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367;</p>	<p>General dissatisfaction in respect of the way TIA conducted.</p>	<p>[SRK] It is not possible to respond to this comment without specific reasons for the dissatisfaction. The TIA was conducted by qualified and experienced professionals, using recognised methodology as described in the TIA (Appendix K2 of Volume 2).</p>
<p>368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422;</p>	<p>Objection to any access route through Walmer Heights. All access should solely be through Victoria Drive until transitional zone is complete, roads are upgraded and traffic calming measures constructed. Thereafter access through Beethoven Ave can be considered.</p>	<p>[SRK] As the Walmer Heights access route is to service the northern (open market, GAP and social housing) sections of the proposed development, it is anticipated that this access road would only be developed once those areas have been constructed.  The TIA has confirmed capacity of the existing roads to accommodate the proposed development, and has provided recommendations in this regard (see Section 5.8.7 and Appendix K2 of Volume 2)</p>
<p>423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458</p>	<p>Comments regarding increased foot traffic not adequately addressed.</p>	<p>[SRK] Please refer to Section 5.8.6 and the TIA report (see Appendix K2 of Volume 2). Recommendations are made to safely accommodate pedestrians.</p>
<p>333; 357; 402;</p>	<p>Would this access road only be made available to the social / link housing or the whole development?  Suggestion that access via Walmer Heights only be provided to the open market housing.</p>	<p>[SRK] Refer to the updated layouts provided in Appendix F, and description of access roads in Section 2.3. Access to the majority of the development will be via Victoria Drive, with the housing in the transitional zone (freehold and GAP housing, as well as some social housing) gaining access mainly via Beethoven Ave. No direct thoroughfare will be provided.</p>
<p>333</p>	<p>Danger of taxis breaking down on steep incline from both sides of Schubert street resulting in other traffic not being able to easily pass.</p>	<p>[Gibb] This is considered to be an existing risk. Schubert Street is classified as an existing public transport route (local feeder route) according to the NMBM's Comprehensive Integrated Transport Plan, which means that buses and taxis make use of the route. This also implies that Schubert Street meets Municipal standards for this type (function) of road. The risk of a taxi breaking down in the road, causing an obstruction, is thus the same as for any other vehicle type that makes use of the road.</p>
<p>347;</p>	<p>No tar connection onto Victoria Drive on map. Why? This will force all traffic into Walmer Heights.</p>	<p>[SRK] Refer to Section 2.3 for information on the proposed access roads. The access roads will be of a surfaced standard, which may include being paved.</p>
<p><b>Comments relating to infrastructure</b></p>		
<p>325; 347; 352; 354; 357</p>	<p>Failing / Inadequate existing infrastructure.  Currently not enough electricity for existing users which will lead to air pollution due to wood fires.  Currently a water shortage for existing users. Where will the additional water come from? Extra strain will lead to drop in water pressure.  Sewerage needs to be taken into account.</p>	<p>[SRK] Please refer to the engineering bulk services report in Appendix I, including letter from the NMBM confirming sewer capacity for the proposed development., as well as Section 2.3 for descriptions of the proposed bulk services supply.</p>
<p>334; 336; 337; 338; 339; 340; 342; 343; 344; 346;</p>	<p>Full engineering reports need to be obtained in respect of current bulk</p>	

<p>348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458</p>	<p>services to ensure that sewerage infrastructure and other bulk services will be able to adequately cope with development of this magnitude.</p>	
	<p>How is it right to plan such a development when the city's bulk water sources are under enormous strain?</p>	<p>[SRK] Provision of housing and essential services is a key development mandate of the NMBM and cannot be prevented due to water shortages. The provision and equitable distribution of water, which is a separate issue, needs to be addressed regardless of additional housing development.</p>
<p><b>Comments relating to noise pollution</b></p>		
<p>334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458;</p>	<p>IAP concerns regarding increased noise levels from traffic / foot traffic not adequately addressed.</p>	<p>[SRK] Although SRK can include an impact rating table for disturbing noise during the operational phase of the development, we believe that this would not change the management measures available to manage noise impacts (i.e. the existing Noise Control Regulations) nor would it be material to the DEDEAT's decision whether to authorise the project or not.</p>
<p>325; 326; 332; 460</p>	<p>Substantial increase in noise pollution.</p>	<p>[SRK] The NMBM noise control regulations include mechanisms for addressing noise disturbance, should it occur.</p>
<p>431</p>	<p>Already suffers noise disturbance from Walmer Township</p>	
<p>355</p>	<p>The proposed development is within the 55-60 decibel noise contour. ACSA advises that necessary measures be taken by developer to protect this noise sensitive land use from aircraft noise and emission.</p>	<p>[SRK] The majority of the housing recipients currently reside in areas of Walmer Gqebera close to the airport, in informal structures which are likely to provide them with less noise shielding than formal housing would. A significant increase in noise impact relative to their current situation is therefore not anticipated. Due to the timeframes before the airport expansion strategy is anticipated to commence and potential technology and other changes during this time, accurate predictions regarding potential noise emissions associated with a possible future expansion of the airport, cannot be made.</p>


Comments relating to site alternatives		
333	Why were only 2 other site layout put forward without considering other site where there would be no interference with beauty or vegetation?	<p>[Metroplan] The rationale for the selection of erf 11305 is to keep relocation distance to minimum to minimise disruptions to social cohesion and existing livelihoods.</p> <p>Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit. Erf 11305 Walmer is adjacent to Walmer Township and beneficiary households would therefore be spared relocation to the urban periphery in Wells Estate, Motherwell and Zanemvula. It is also within 7kms of the CBD and is close to the PE Airport and closer to the Beach than other low income residential areas.</p> <p>[SRK] Site selection was based on ownership by the NMBM and proximity to the Walmer Gqebera settlement, amongst other factors, via a site screening process. Refer to Section 2.4.1 for further detail in this regard. The proposed site is largely covered in alien invasive vegetation and is not of high ecological sensitivity.</p>
333; 335; 402;	A comparison of the site layouts should be highlighted and the pros and cons given for the choice of this site. No in-depth motivation / negations for any of the other sites have been put forward. Why were other sites found unsuitable?	[SRK] Site selection was based on ownership by the NMBM and proximity to the Walmer Gqebera settlement, amongst other factors, via a site screening process. Refer to Section 2.4.1 for further detail in this regard.
334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412;	Site alternatives lack thorough insight and consideration. Erf 1266 and 1256 already owned by NMBM and have no services.	[SRK] These erven are located in Summerstrand and were found by the NMBM to be unsuitable due to the distance from Walmer Gqebera and serviceability constraints, and therefore are not proposed as site alternatives.
413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458	Erf 1948 needs to be seriously considered due to less impact in respect of crime, traffic and thoroughfare through Walmer Heights. Full working plans not provided as to why Erf 1948 is not suitable.	[SRK] A separate project for a housing development on the piece of land referred to, to provide additional housing for residents who cannot be accommodated on erf 11305 has been authorised.
	Reasons given for not considering alternative sites are weak, vague and evasive.	<p>[Metroplan]The rationale for the selection of erf 11305 is to keep relocation distance to minimum to minimise disruptions to social cohesion and existing livelihoods.</p> <p>Most low income families in need of formal shelter in the NMBM have traditionally been relocated far away from their current places of residence, often to the urban periphery, where they have to spend over 30-40% of gross income on travel. This leaves very little or no disposable income with which to invest on their current unit. Erf 11305 Walmer is adjacent to Walmer Township and beneficiary households would therefore be spared relocation to the urban periphery in Wells Estate, Motherwell and Zanemvula. It is also within 7kms of the CBD and is close to the PE Airport and closer to the Beach than other low income residential areas.</p>

		[SRK] refer to Section 2.4.1 for discussion on site alternatives.
335	Proposes the vacant land on the eastern side of Victoria Drive.	[SRK] A separate project for a housing development on a piece of land (Erf 1948) behind Walmer Gqebera has been authorised. This land is to provide additional housing for residents who cannot be accommodated on erf 11305.
<b>Comments of a general nature</b>		
334; 336; 337; 338; 339; 340; 342; 343; 344; 346; 348; 349; 350; 351; 356; 358; 359; 360; 361; 362; 363; 364; 365; 366; 367; 368; 369; 370; 371; 372; 373; 374; 375; 376; 377; 378; 379; 380; 381; 382; 383; 384; 385; 386; 387; 388; 389; 390; 391; 392; 393; 394; 395; 396; 397; 398; 399; 400; 401; 405; 409; 410; 411; 412; 413; 414; 415; 416; 417; 418; 419; 420; 421; 422; 423; 424; 425; 426; 427; 428; 429; 430; 432; 433; 434; 435; 436; 437; 438; 439; 440; 441; 442; 443; 444; 445; 446; 447; 448; 449; 450; 451; 452; 453; 454; 455; 456; 457; 458	Thanks to DEDEAT for requesting coloured A3 sized maps.  SRK has failed to address IAP concerns in an acceptable and satisfactory manner.	[SRK] Coloured A3 sized maps are provided in Appendix F.  [SRK] As no specific examples have been provided, it is not possible to provide a meaningful response to this comment or provide further responses to comments made previously. SRK is of the view that comments have been investigated and responded to in a manner that would enable DEDEAT to make an informed decision.
345	Will Walmer Township be benefitting from an upgrading?	[SRK] This project forms part of the greater redevelopment plans for Gqebera. The movement of beneficiaries will reduce the overcrowding in the Walmer Gqebera and allow for redevelopment of the areas where beneficiaries have been relocated from.
355	ACSA will not be held liable for negative impact of aircraft noise or any other impact associated with the close proximity to the airport that could jeopardise the future success of the development.	[SRK] Noted. Most of the housing recipients currently reside in areas of Walmer Gqebera close to the airport, in informal structures which are likely to provide them with less noise shielding than formal housing would. A significant increase in noise impact relative to their current situation is therefore not anticipated.
460	Construction will cause large scale impact including high level of dust and debris, municipal services interruptions and damage to surrounding infrastructure.	[SRK] The Draft EMPr in section 7 contains measures to manage construction impacts.
463	We as community of Walmer are saying we want erf 11305 for people of Walmer.	[SRK] Noted.

While no formal comment has been received from the beneficiary community, regular meetings are held with them regarding the broader redevelopment plans for Gqebera, including the area subject to this EIA. Minutes of these meetings are provided in Appendix E. The NMBM has also appointed a social facilitator, who is included in the regular project progress meetings, to liaise directly with the beneficiary community regarding the redevelopment plans.

## Key environmental and social concerns identified during the PPP

Based on the comments received from IAPs, the following key potential social and environmental concerns have been identified:

- Economic concerns – decrease in property values in adjacent more affluent areas;
  - Social issues – increased crime and social ills in adjacent more affluent areas;
  - Traffic – issues relating to flow and safety (of both motorists and pedestrians);
  - Site selection – why alternative sites are not being considered as part of this EIA;
  - Services infrastructure – capacity to handle the additional load;
  - Stormwater management;
  - Ecological impacts – loss of fauna and flora;
  - Visual impacts and change in visual character;
  - Pollution and litter resulting from the development;
  - Increased risk of fires affecting surrounding residential areas;
  - Noise.
- 

## 5 Assessment of Environmental Impacts

The identification of potential impacts of the proposed activity is based on the following factors:

- The legal requirements;
- The nature of the proposed activity;
- The nature of the receiving environment; and
- Issues raised during the public participation process.

Considering the factors listed above, the following environmental impacts were identified which could potentially result from the proposed housing development on erf 11305:

- Impacts on heritage resources;
- Terrestrial ecological impacts;
- Socio-economic impacts;
- Impacts on aquatic environments;
- Traffic impacts;
- Waste management impacts;
- Visual impacts;
- Noise Impacts;
- Air quality impacts;
- Stormwater and erosion impacts;
- Fire safety risks; and
- Construction related impacts.

Several of the impacts listed above require specialist input. A number of specialist studies were conducted during the scoping phase, with the aim of identifying any environmental constraints posed by the site at an early stage and where possible and necessary accommodate them in the proposed layout. Where relevant (socio-economic, traffic and ecological), these studies have been revised taking into account the amendments to the layout proposed in this DEIR. Baseline descriptions summarised from the specialist reports are included in Chapter 3. Details of the specialist team are included in Table 5-1. Waste management, air quality, visual, noise, stormwater and erosion, fire safety and construction related impacts were assessed in-house by the EAP.

**Table 5-1: Details of specialist studies (bound separately as Volume 2 of the DEIR)**

Study	Specialist	Appendix
Socio-economic	Hein du Toit - Demacon	Appendix K1
Traffic	Charl Swanepoel - Gibb	Appendix K2
Palaeontology	Dr John Almond - Natura Viva	Appendix K3
Archaeology	Celeste Booth – Albany Museum	Appendix K4
Wetland and aquatic ecology	Dr Brian Colloty – Scherman Colloty and Associates	Appendix K5
Ecology	Dr Brian Colloty – Scherman Colloty and Associates	Appendix K6
Forest survey	Dr Belinda Clark - CEN	Appendix IK7
Historical Structures	Bryan Wintermeyer - SVA International	Appendix K8

### 5.1 Impact Rating Methodology

The assessment of impacts will be based on the professional judgement of specialists at SRK Consulting, fieldwork, and desk-top analysis. The significance of potential impacts that may result from the proposed



development will be determined in order to assist the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) in making a decision.

The significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur. The criteria used to determine impact consequences are presented in Table 5-2 below.

**Table 5-2: Criteria used to determine the Consequence of the Impact**

Rating	Definition of Rating	Score
<b>A. Extent– the area over which the impact will be experienced</b>		
None		0
Local	Confined to project or study area or part thereof (e.g. site)	1
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	2
(Inter) national	Nationally or beyond	3
<b>B. Intensity– the magnitude of the impact in relation to the sensitivity of the receiving environment</b>		
None		0
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions or processes are severely altered	3
<b>C. Duration– the time frame for which the impact will be experienced</b>		
None		0
Short-term	Up to 2 years	1
Medium-term	2 to 15 years	2
Long-term	More than 15 years	3

The combined score of these three criteria corresponds to a **Consequence Rating**, as follows:

**Table 5-3: Method used to determine the Consequence Score**

Combined Score (A+B+C)	0 – 2	3 – 4	5	6	7	8 – 9
Consequence Rating	Not significant	Very low	Low	Medium	High	Very high

Once the consequence has been derived, the probability of the impact occurring will be considered using the probability classifications presented in Table 5-4.

**Table 5-4: Probability Classification**

Probability– the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

The overall **significance** of impacts will be determined by considering consequence and probability using the rating system prescribed in the table below.

**Table 5-5: Impact Significance Ratings**

Significance Rating	Possible Impact Combinations		
	Consequence		Probability
Insignificant	Very Low	&	Improbable
	Very Low	&	Possible
Very Low	Very Low	&	Probable
	Very Low	&	Definite
	Low	&	Improbable
	Low	&	Possible
Low	Low	&	Probable
	Low	&	Definite
	Medium	&	Improbable
	Medium	&	Possible
Medium	Medium	&	Probable
	Medium	&	Definite
	High	&	Improbable
	High	&	Possible
High	High	&	Probable
	High	&	Definite
	Very High	&	Improbable
	Very High	&	Possible
Very High	Very High	&	Probable
	Very High	&	Definite

Finally, the impacts will also be considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The system for considering impact status and confidence (in assessment) is laid out in the table below.

**Table 5-6: Impact status and confidence classification**

Status of impact	
Indication whether the impact is adverse (negative) or beneficial (positive).	+ ve (positive – a ‘benefit’)
	– ve (negative – a ‘cost’)
Confidence of assessment	
The degree of confidence in predictions based on available information, SRK’s judgment and/or specialist knowledge.	Low
	Medium
	High

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

- **Insignificant:** the potential impact is negligible and will not have an influence on the decision regarding the proposed activity/development.
- **Very Low:** the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity/development.

- **Low:** the potential impact may not have any meaningful influence on the decision regarding the proposed activity/development.
- **Medium:** the potential impact should influence the decision regarding the proposed activity/development.
- **High:** the potential impact will affect the decision regarding the proposed activity/development.
- **Very High:** The proposed activity should only be approved under special circumstances.

Practicable mitigation measures will be recommended and impacts will be rated in the prescribed way both with and without the assumed effective implementation of mitigation measures. Mitigation measures will be classified as either:

- **Essential:** must be implemented and are non-negotiable; or
- **Optional:** must be shown to have been considered and sound reasons provided by the proponent, if not implemented.

## 5.2 Archaeological & Historical Structures impacts

According to the Phase 1 Archaeological Study (Appendix K4 of Volume 2), no archaeological heritage remains or shell midden sites were observed within the proposed area for development, and these are unlikely to be present on the site.

The archaeologist did however note the presence of historical structures (buildings etc.) on the site, which were consequently assessed by an expert in this field (see report in Appendix K8). Points of heritage significance/ sensitivity identified by the specialists are indicated on Figure 3-5 and Figure 3-6, relative to the two layout options.

### 5.2.1 Potential Impact A1: Potential impact on archaeological resources during construction

Although no archaeological resources were observed on site, it is possible that construction activities (especially excavation and earth-moving activities) may uncover and potentially damage or destroy concentrations of historical and pre-colonial archaeological heritage material, and or human remains. SRK has therefore provided the impact rating below based on the unlikely event that archaeological materials may be exposed during construction. The no-go option would not result in any impacts, and no cumulative impacts were identified.

**Table 5-7: Significance rating of impact A1 and mitigation measures – both development Options**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Long-term	Medium	Improbable	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>• All workers on site should be informed of the types of resources that may be found and the correct procedure to follow should any archaeological resources be found; and</li> <li>• Should any archaeological resources be uncovered, work in the area must immediately be stopped and a qualified archaeologist, ECPHRA and SAHRA must be informed.</li> </ul>								
After Management	Local	Low	Long-term	Low	Improbable	Very Low	-	High

## 5.2.2 Potential Impact A2: Potential impact on historical structures

The ruins of a farmstead, dwelling and associated infrastructure were documented on the property during the archaeological assessment. A historical structures assessment was undertaken by Bryan Wintermeyer of SVA International to describe the significance of the built structures on the site (see report in Appendix K8 of Volume 2). The structures were noted to be over 60 years old, and would therefore require destruction permits from the Eastern Cape Provincial Heritage Resources Agency (ECPHRA). Descriptions of the various structures found on the site are provided in Section 3.1.5. Development option A will result in the need to demolish all of the structures as these fall within the path of proposed infrastructure however QBE 3 falls within the forest buffer for Option B and will most likely be left untouched. While no mitigation measures are proposed to reduce the impact (and therefore the impact significance would remain unchanged), the following recommendations are noted to ensure legal compliance:

- Submission of a Notification of Intent to Develop (NID) to the EC PHRA. This is to include an interest party comment from the Mandela Bay Heritage Trust.
- Submission for demolition of existing structures to the EC PHRA.

The most important heritage aspect of the site is its historical association to the early farms of Port Elizabeth and the creation of the suburb of Walmer. There may be 'interested communities' that could claim this heritage and describe it as important. The use of the land and this consequent relation to the development of the suburb of Walmer is considered to be of modest heritage significance. Evidence of commonages, garden planting and historical tree planting is relatively rare in Port Elizabeth because ongoing development has destroyed it.

**Table 5-8: Significance rating of impact A2 and recommendations – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
QBE 1 – Dipping Tank	Local	Low	Long-term	Low	Definite	Low	-	High
QBE 2 - Ruin	Local	Medium	Long-term	Medium	Definite	Medium	-	High
QBE 3 - Ruin	Local	Medium	Long-term	Medium	Definite	Medium	-	High
Historical Association of the Site	Local	Medium	Long-term	Medium	Definite	Medium	-	High
Commonage, Garden Planting and Tree Groves	Local	Medium	Long-term	Medium	Definite	Medium	-	High
Management Measures								
<ul style="list-style-type: none"> <li>• A small information panel (similar to the traditional 'blue plaques' typically used in heritage areas) with a short heritage description be placed at site QBE3;</li> <li>• Material findings such as further structures, human remains or 'middens' or any other evidence of human habitation are to be reported to the relevant heritage authority; and</li> <li>• All demolitions and unearthing's are to be recorded by means of photographs.</li> </ul>								

**Table 5-9: Significance rating of impact A2 and recommendations – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
QBE 1 – Dipping Tank	Local	Low	Long-term	Low	Definite	Low	-	High

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
QBE 2 - Ruin	Local	Medium	Long-term	Medium	Definite	Medium	-	High
QBE 3 - Ruin	Local	Medium	Long-term	Medium	Improbable	Low	-	High
Historical Association of the Site	Local	Medium	Long-term	Medium	Definite	Medium	-	High
Commonage, Garden Planting and Tree Groves	Local	Medium	Long-term	Medium	Definite	Medium	-	High
Management Measures								
<ul style="list-style-type: none"> <li>See recommendations for Option A</li> </ul>								

The no-go option will see no negative impacts on archaeological resources, and no cumulative impacts were identified.

### 5.3 Palaeontological Impacts

The palaeontological letter of exemption (Appendix K3 of Volume 2) noted that the site is not known to contain paleontological resources of value. However, a small chance remains of such items being damaged or disturbed during excavation and other earth works related to construction. The impact significance will remain unchanged with mitigation. The no-go option will see no positive or negative impacts on palaeontological resources, and no cumulative impacts were identified.

#### 5.3.1 Potential Impact P1: Potential impact on palaeontological resources during construction

**Table 5-10: Significance rating of impact P1 and recommendations – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Low	Long-term	Low	Possible	Very Low	-	High
Management Measures								
<ul style="list-style-type: none"> <li>All workers on site should be informed of the types of paleontological resources that may be found and the correct procedure to follow should any paleontological resources be found;</li> <li>Should any substantial fossil remains (e.g. vertebrate bones and teeth, petrified wood, plant fossil assemblages) be encountered during excavation, however, these should be safeguarded, preferably in situ, and reported by the ECO to ECPHRA (i.e. The Eastern Cape Provincial Heritage Resources Authority. Contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; smokhanya@ecphra.org.za) and a suitably qualified palaeontologist so that specimens can be examined, recorded and, if necessary, professionally excavated at the developer's expense</li> </ul>								

### 5.4 Terrestrial ecological impacts

The descriptions and impact ratings below have been summarised from the Ecological Specialist Study Report (Appendix K6 of Volume 2), which took into account the findings of the Forest mapping Survey report (Appendix K7).

Vegetation will need to be cleared in order to prepare the site for installation of services infrastructure and construction of houses and other associated structures. According to the ecological assessment of the site the study area is dominated by a mosaic of alien tree / shrubs and fynbos species that ranges from

100% alien tree / grass cover to small fynbos areas with one or two alien plants. These small areas of natural vegetation are however important as they contain the highest proportion of plants protected under the Eastern Cape Provincial Nature Conservation Ordinance of 1974, while the forest clumps contain species protected under the National Forestry Act.

The proposed development could impact on a number of sensitive and / or important terrestrial habitats. For this purpose, the terrestrial ecologist recommended that the natural coastal forest be avoided and no new infrastructure is placed within this habitat. Layout Option B, due to its additional buffer areas, is preferred from an ecological perspective. This would firstly retain all the forest areas observed as well provide a buffer or ecotone that surrounds these areas. The buffer area would be dominated by grassy fynbos species, thus ensuring that all the current habitats observed will be protected/ conserved. Secondly this would promote or retain some degree of habitat corridor with the surrounding areas, while providing a variety of habitat, i.e. not only forested areas. In doing so the loss of vegetation, protected species and corridors will not only be reduced from Medium to Low / Very Low, but from definite to probable in most instances.

Furthermore, alien clearing must take place during the construction and operational phases to bring about a positive impact in this regard. It is suggested that the stormwater ponds be placed within any disturbed areas within these forest patches and not within any intact or mature forest areas. It is also suggested that the smaller ponds be located as far as possible within non-forest areas of the public open spaces. The final placement should then be reviewed by a botanist to ensure each of the remaining habitats will be viable.

**5.4.1 Potential Impact E1: Loss of habitat and removal of vegetation during construction**

Due to the nature of the project, vegetation will be cleared and replaced with roads, housing and supporting infrastructure (e.g. pipelines and transmission cables) resulting in loss of vegetation as well as loss of habitat for resident fauna. This will have the greatest impact in areas where intact vegetation is unavoidable in particular the forest areas.

Although the scale of disturbance in the construction period on the surrounding vegetation is small the state and importance of the forest types make the magnitude high.

For Option A, the impact would be long-term as additional habitat (fynbos) is also lost, that would have been contained in the buffer zone (Option B).

**Table 5-11: Significance rating of impact E1 and mitigation measures – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Long-term	Medium	Definite	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>• Clearing of vegetation must be kept to a minimum, keeping the width and length of the earth works required;</li> <li>• Construction activities must not exceed the proposed construction boundaries to avoid the secondary impact of construction and increasing the areas that would require clearing and rehabilitation;</li> <li>• A search and rescue operation for both plants and fauna (particularly reptiles) must be initiated prior to the commencement of any clearing once the required permits are in place. Applications must be submitted to relevant authorities where applicable;</li> <li>• Re-vegetation of disturbed sites must be implemented as part of a rehabilitation plan</li> </ul>								

<ul style="list-style-type: none"> <li>The shallow topsoil layer must be stockpiled separately from the subsoil layers, for use during rehabilitation. When the construction has been completed, the topsoil layers, which contain seed and vegetative material, should be reinstated last thus allowing plants to rapidly re-colonise the bare soil areas; and</li> <li>Alien plant regrowth must be monitored, and any such species should be removed during the construction and defects notification phase.</li> </ul>								
After Management	Local	Low	Long term	Low	Definite	Low	-	High

**Table 5-12: Significance rating of impact E1 and mitigation measures – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Long term	Medium	Definite	Medium	-	Medium
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>See measures provided for Option A</li> </ul>								
After Management	Local	Low	Short term	Very Low	Definite	Very Low	-	Medium

**5.4.2 Potential Impact E2: Loss of habitat and removal of vegetation during operation**

The operational phase of the project would have limited impact on the surrounding vegetation once the plants are allowed to re-establish themselves in any remaining areas however, the irreversible loss of species assemblages could occur. Impacts similar to those during construction (but on a smaller scale) may however result from any maintenance or additional construction activities during operation.

**Table 5-13: Significance rating of impact E2 and mitigation measures – Development Option A&B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Long term	Medium	Definite	Medium	-	Medium
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>See measures provided for Impact E1.</li> </ul>								
After Management	Local	Low	Short term	Very low	Definite	Very low	-	Medium
No-go Option	Regional	Medium	Long term	High	Definite	High	-	Medium

**5.4.3 Potential Impact E3: Loss of CBAs and habitat fragmentation during construction and operation**

Based on the information contained within the NMBM Bioregional Plan, the site is not within any fine scale Critical Biodiversity Areas (CBAs), or Ecological Support Areas. The site is also isolated from the North and East by transformed areas however, it is important to retain the forest areas within the site. These could then act as corridors between the site and surrounding areas that still contain natural vegetation to the west and south. However due to rate of grazing and alien tree growth currently on the site, this would occur within the No-Go option.

With the mitigation measures in place, the impact on fragmentation would remain local, resulting in a Low (with mitigation) significance. This is assuming that the proposed infrastructure will be placed leaving the forest areas (inclusive a buffer) intact as proposed for layout Option B. Option B will still result in a long-

term reduction in habitat fragmentation within the greater site, but does allow for continued connectivity between many of the forest sites.

The significance of layout Option A was rated as Medium, as it increases the degree of fragmentation resulting in even smaller isolated forest areas, which have difficulty in retaining any of their current form or function, particularly within an urban setting.

**Table 5-14: Significance rating of impact E3 and mitigation measures – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+-	Confidence
Before Management	Local	Medium	Long-term	Medium	Definite	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Construction activities must not exceed the proposed construction boundaries to avoid the secondary impact of construction and increasing the areas that would require clearing and rehabilitation; and</li> <li>Alien plant regrowth must be monitored, and any such species should be removed during the construction and defects notification phase.</li> </ul>								
After Management	Local	Medium	Long term	Medium	Definite	Medium	-	High

**Table 5-15: Significance rating of impact E3 and mitigation measures – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+-	Confidence
Before Management	Local	Medium	Long-term	Medium	Definite	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>See measures for Option A</li> </ul>								
After Management	Local	Low	Long-term	Low	Probable	Low	-	High
No-Go option	Regional	Medium	Long term	High	Definite	High	-	High

#### 5.4.4 Potential Impact E4: Loss of species of special concern during construction and operation

Any loss of systems could possibly result in the loss of species of special concern within the habitats as a result of their destruction during the construction phase. However, only a few flora and fauna species of special concern were evident during the study within the fynbos and coastal forest areas. The lack of any rainfall seemed to have precluded the early growth or appearance of species known to occur in the area so as precautionary step, it is important that as much of the natural forests be retained and allowed to function, as a number of protected, species listed do occur. No Threatened or Endangered plant species were observed directly within the site (i.e. only one bird species the Vulnerable Lanner Falcon, which flew over the site but usually avoids forests / thickets), was observed during the site visit.

The impact would persist into the long-term however with the proposed mitigations both the magnitude and significance of the impact would be Very Low for Option B, and Low for Option A. This is based on the fact that with no buffer, a number of Protected Fynbos species, would still be lost, and little to no remaining habitat for these species would be retained. The loss of any species would also continue during the No-Go option.



**Table 5-16: Significance rating of impact E4 and mitigation measures – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Low	Long-term	Medium	Definite	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>A search and rescue operation for both plants and fauna (particularly reptiles) must be initiated prior to the commencement of any construction once the required permits are in place;</li> <li>Re-vegetation as part of a rehabilitation plan is advocated, however due the nature of the vegetation, this may not be practical. It is suggested that the shallow topsoil layer be stockpiled separately from the subsoil layers, should the excavation exceed 0.5 m. When the construction has been completed, then the topsoil layers, which contain seed and vegetative material, should be reinstated last thus allowing plants to rapidly re-colonise the bare soil areas; and</li> <li>Alien plant regrowth must be monitored, and any such species should be removed during the construction phase.</li> </ul>								
After Management	Local	Low	Long-term	Low	Probable	Low	-	High

**Table 5-17: Significance rating of impact E4 and mitigation measures – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Low	Long-term	Low	Probable	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>See measures for Option A</li> </ul>								
After Management	Local	Low	Long term	Low	Possible	Very Low	-	High
No-Go option	Regional	Medium	Long term	High	Definite	High	-	High

**5.4.5 Potential Impact E5: Spread of alien or invasive species during construction and operation**

Twelve invasive plant species were recorded during the survey and only small areas of the site did not contain any of these trees or shrubs.

Without mitigation measures in place, the impact on the alien vegetation would continue to cover the site over time (no-go), however site clearing in the construction phase will result in removal of the alien plants resulting in Low impact. This is also based on the fact that during the operational phase on-going clearing and maintenance practices will be employed by the applicant

**Table 5-18: Significance rating of impact E5 and mitigation measures – Development Option A&B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Low	Long-term	Low	Definite	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Alien plant regrowth must be monitored, and any such species should be removed during the construction and operational phases.</li> </ul>								
After Management	Local	Low	Short-term	Very low	Probable	Very low	-	High

No-go Option	Regional	Medium	Long term	High	Definite	High	-	High
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## 5.5 Air Quality Impacts

Windblown dust from material stockpiles and cleared areas, and vehicle entrainment on dirt access roads may affect residents of Walmer Heights by creating a nuisance impact during construction. Pedestrians and motorists may also experience reduced visibility along Victoria drive.

No air quality impacts are anticipated during operation, and no impacts are associated with the no-go option.

### 5.5.1 Potential Impact AQ1: Air Quality impacts during construction

**Table 5-19: Significance rating of impact AQ1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Short term	Very Low	Probable	Very low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Minimise disturbance and clearing of vegetation;</li> <li>Clear vegetation in a phased manner;</li> <li>Limit vehicle speeds and pave access roads if dust remains a problem to residents or motorists;</li> <li>When transporting fine materials, dust tarps should be installed on vehicles;</li> <li>Dust suppression by wetting and / or covering of stockpiles etc. Potable water is not to be used for dust control however; and</li> <li>Maintain a complaints register to monitor levels of nuisance experienced by people in the area.</li> </ul>								
After Management	Local	Low	Short term	Very Low	Possible	Insignificant	-	High

## 5.6 Noise Impacts

### 5.6.1 Potential Impact N1: Noise impacts during construction

Construction activities will generate noise due to the operation of machinery and vehicles, potentially causing a nuisance to residents living in Walmer Heights, however this impact is not considered to be significant.

**Table 5-20: Significance rating of impact N1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Short term	Very Low	Probable	Very Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>No construction to take place before 06:00 and after 18:00 from Monday to Saturday and before 08:00 and after 14:00 on a Sunday in line with NMBM noise by-law (2010);</li> <li>Should after-hours work be required, residents will be informed before-hand;</li> <li>A complaints record must be kept to record any complaints lodged resulting from noise disturbance; and</li> </ul>								

<ul style="list-style-type: none"> <li>Exceedances of the noise limits must be investigated and corrective actions implemented.</li> </ul>								
After Management	Local	Low	Short term	Very low	Possible	Insignificant	-	High

### 5.6.2 Potential Impact N2: Noise impacts during operation

During operation, noise generated from the communities may cause disturbance to residents of Walmer Heights who are in close proximity to the development areas. While noise disturbance is subjective and can be difficult to control in residential areas, the NMBM noise control bylaws provide legal recourse for offenders. No impacts are associated with the no-go option.

**Table 5-21: Significance rating of impact N2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Long term	Medium	Possible	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Strict implementation of the NMBM noise control bylaws.</li> </ul>								
After Management	Local	Low	Long term	Low	Possible	Very low	-	High

## 5.7 Socio-economic impacts

A socio-economic study was conducted by Demacon as part of this EIA, the full report for which is included as Appendix K1 of Volume 2. The specialists were initially requested to make recommendations regarding layout and design in 2015, which have been incorporated where possible in the layout options currently proposed. The descriptions of the impacts provided below as based on the specialists’ findings, however to ensure consistency across all impacts, the impact ratings provided in the report (which were based on Demacon’s impact rating methodology) have been adapted to conform with SRK’s standard impact rating methodology. Unless specified, the no-go option will not result in any socio-economic impacts.

While the proposed development would result in positive impacts such as job creation and improvements to the standard of living of beneficiaries, the location of low income households in close proximity to high income households may negatively impact on property values in the adjacent high income suburb of Walmer Heights. This may also be associated with a decrease in the NMBM’s income from municipal rates in the area. In addition, there is widespread concern from IAPs in this area that the proposed development would result in an increase in crime associated with the positioning of low income housing adjacent to high income areas.

The specialists have made recommendations regarding mitigation of negative impacts through optimising project (housing) composition, pricing, layout and access. Ideally the residential typology mix should maximise investment for the buyer, maximise income for the local authority and address the housing needs of the area whilst protecting and nurturing existing upmarket residential investment.

The report concluded that while the development still encompasses a large subsidy component, layout Option B closely aligns with their recommendations, demonstrating an attempt to create price contours that are sensitive to possible price impacts on adjacent properties. They further concluded that from an economic perspective, Option B is preferred, as it would result in less negative impacts than Option A.

### 5.7.1 Potential Impact SE1: Employment opportunities during construction

The construction of the proposed development will create new employment opportunities (both direct and indirect), stimulating the local economy however these will be temporary for the duration of the construction period. Approximately 320 unskilled and 80 skilled direct work opportunities will be created, and use of local labour will be maximised. The impact significance will not differ between development options.

**Table 5-22: Significance rating of impact SE1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Medium	Medium term	Medium	Definite	Medium	+	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Ensure that use of local employees is maximised during the construction phase.</li> </ul>								
After Management	Regional	Medium	Medium term	Medium	Definite	Medium	+	High

### 5.7.2 Potential Impact SE2: Employment opportunities during operation

Although only a limited number of new job opportunities are expected to directly result from the development, increased production as a result of the Walmer Housing Project will indirectly create and sustain new job opportunities in various sectors of the economy. No enhancement measures are proposed, and the impact significance will not differ between development options.

**Table 5-23: Significance rating of impact SE2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Low	Long term	Medium	Definite	Medium	+	High

### 5.7.3 Potential Impact SE3: Local economic growth during construction

New construction activity will create capital investment that will in turn benefit the local economy. The project will furthermore make a positive contribution in respect of the creation of productive, rateable real estate assets. The impact significance will not differ between development options.

**Table 5-24: Significance rating of impact SE3 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Medium	Medium term	Medium	Definite	Medium	+	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Maximise benefits to the local economy through capital investment</li> <li>Maximise creation of productive, rateable real estate assets</li> </ul>								
After Management	Regional	Medium	Medium term	Medium	Definite	Medium	+	High

### 5.7.4 Potential Impact SE4: Local economic growth during operation

The proposed development will facilitate investment in key local sectors, which will translate into additional business sales and additional GGP. No enhancement measures are proposed, and the impact significance will not differ between development options.

**Table 5-25: Significance rating of impact SE4 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Low	Long term	Medium	Definite	Medium	+	High

### 5.7.5 Potential Impact SE5 Infrastructure investment and development during construction

The proposed development will facilitate investment in infrastructure development and expansion. Albeit that the initial infrastructure investment constitutes a short-term impact, prolonged benefits are created in the local economy. No enhancement measures are proposed, and the impact significance will not differ between development options.

**Table 5-26: Significance rating of impact SE5 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Low	Medium term	Low	Definite	Low	+	High

### 5.7.6 Potential Impact SE6: Rates and tax base expansion during operation

The development is predicted to result in a reduction of rateable income to the NMBM of up to R53 million (cumulatively, over 10 years). Over time and if optimally implemented however, the development could facilitate real estate investment, job creation and economic growth, which, in turn will contribute to the creation of productive, rateable assets, resulting in a positive impact of low significance. The no-go option assumes surrounding property values will increase as projected and that associated with this, rateable income to the NMBM for these properties will increase.

**Table 5-27: Significance rating of impact SE6 and mitigation measures – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	High	Long term	Very High	Definite	Very High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Maximise real estate investment, job creation and economic growth, which, in turn will contribute to the creation of productive, rateable assets, resulting in a positive impact</li> </ul>								
After Management	Regional	Low	Long term	Medium	Possible	Low	+	High

**Table 5-28: Significance rating of impact SE6 and mitigation measures – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Medium	Long term	High	Definite	High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Maximise real estate investment, job creation and economic growth, which, in turn will contribute to the creation of productive, rateable assets, resulting in a positive impact</li> </ul>								
After Management	Regional	Low	Long term	Medium	Possible	Low	+	High
No-go option	Regional	Low	Long term	Medium	Possible	Low	+	High

### 5.7.7 Potential Impact SE7: Decrease in surrounding property values during operation

The development of low income housing next to the upper income area of Walmer Heights will negatively impact property prices in the area.

The current price differential in Walmer Heights is 40%-50% and could be increased to be a maximum of 50%-60%. This implies that new properties adjacent to Walmer Heights should be priced from a minimum not below R620 000 which, consistent with the above, will limit deceleration of price growth and municipal income. However, properties below this minimum entry level value will, in all probability, decelerate prevalent price growth and concomitant municipal property tax income.

The market demand modelling did, however, indicate that there is a potential demand for residential units from as low as ±R400 000 for the area. The appropriate placement of such units will be crucial in order not to exert negative forces on price growth. Through a deliberate, planned arrangement the lower value offering should be situated adjacent Victoria drive opposite Gqebera to mitigate negative price growth and associated impacts. The proposed layouts have where possible taken this recommendation, as well as others made in the socio-economic report, into account already.

**Table 5-29: Significance rating of impact SE7 and mitigation measures – Development Option A**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Medium	Long term	High	Definite	High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Not deviating from definite pricing contours in the layout;</li> <li>The area directly adjacent Walmer Heights must be reserved for higher income households, with lower priced housing along Victoria Drive; and</li> <li>Dual access to the development with lower density, higher priced units making use of a Walmer heights link and higher density, lower priced units making use of a Victoria Drive link.</li> </ul>								
After Management	Regional	Low	Long term	Medium	Probable	Medium	-	High

**Table 5-30: Significance rating of impact SE7 and mitigation measures – Development Option B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Regional	Low	Long term	Medium	Definite	Medium	-	High

Management Measures								
• See recommendations for Option A								
After Management	Regional	Low	Long term	Medium	Possible	Low	-	High

**5.7.8 Potential Impact SE8: Contribution to meeting the housing need**

The proposed project will impact positively on the current housing problem experienced in the Nelson Mandela Metropolitan area. Provision of formal housing as well as services will significantly improve the standard of living of the beneficiaries currently living in informal settlements, and people with different accommodation needs and income levels will have access to housing as different housing typologies are proposed. No mitigation or enhancement measures are proposed, and the impact significance will not differ between development options. The no-go option will mean that alternative development sites will need to be identified, which may delay or limit redevelopment plans for Gqebera (affecting housing delivery), and potentially add to the cost if additional sites are purchased.

**Table 5-31: Significance rating of impact SE8 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Regional	Medium	Medium term	Medium	Probable	Medium	+	High
No-go option	Regional	Medium	Long term	High	Probable	High	-	Medium

**5.7.9 Potential Impact SE9: Security issues affecting surrounding areas during operation**

According to research subsidized housing doesn't bring crime or disinvestment if it's well designed and managed and if the neighbourhood is safe and stable to begin with. Some research has found that an influx of subsidized households may affect crime rates, but only in communities that are already struggling with disinvestment and worsening crime. A much larger body of evidence confirms Massey's new findings that crime and property values are unaffected by the construction of subsidized housing.

Mitigations to limit the possible increase in crime rates in the area, include the site arrangement proposed above – locating higher priced units next to Walmer Heights would limit increased crime rates in the area. Another mitigation measure would include the use of defensible space. Defensible space is achieved both through "target hardening," design features that repel criminal activity such as fences, gates, and locks, and through design elements that encourage residents to assert control over their public spaces and neighbourhood environments (Newman 1972, p.4).

The incidences of crime may over time, decrease as the community becomes increasing socially upward mobile. As evidenced by the comments from IAPs living in Walmer Heights, crime and security is already a concern in this area, and it is possible that the presence of undeveloped and unmanaged land (including erf 11305) contributes to this problem by providing refuge for criminals. The no-go option would see continuation of this problem.

**Table 5-32: Significance rating of impact SE9 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+-	Confidence
Before Management	Regional	Medium	Medium term	Medium	Probable	Medium	-	High

Management Measures								
<ul style="list-style-type: none"> <li>The use of defensible space through design features that repel criminal activity such as fences, gates, and locks; and</li> <li>The layout should respond to pricing contours and permeability of the development should be limited. This would include relocating the business site from the northern section of the site closer to Victoria Drive</li> </ul>								
After Management (option A)	Regional	Medium	Long term	High	Possible	Medium	-	High
After Management (option B)	Regional	Low	Long term	Medium	Possible	Low	-	High
No-go option	Regional	Medium	Long term	High	Possible	Medium	-	Medium

### 5.7.10 Potential Impact SE10: Reduced risk of illegal land invasion

Vacant land in metropolitan regions will continue to be subjected to risks associated with land invasion, especially as the housing need increases and available land decreases. The proposed development site (and others in the area) is subject to this risk as long as it remains undeveloped. Development of erf 11305 would therefore reduce this risk (and the associated social and security risks associated with land invasion).

**Table 5-33: Significance rating of impact SE10 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Regional	Medium	Long term	High	Possible	Medium	+	High
Management Measures								
<ul style="list-style-type: none"> <li>If developed as a secure access controlled estate, even in lower income communities, the risk will be minimised.</li> </ul>								
After Management	Regional	Medium	Long term	High	Definite	High	+	High
No-go option	Regional	Medium	Long term	High	Possible	Medium	-	High

## 5.8 Traffic impacts

A traffic impact assessment was conducted by GIBB, the full report for which is provided in Appendix K2 of Volume 2. The study included traffic counts at key intersections that are anticipated to be affected by the proposed development, to quantify baseline traffic conditions, and modelling to determine projected traffic volumes, taking into account the proposed development as well as a growth rate to allow for additional surrounding development.

It is anticipated that this development will increase the traffic on nearby roads and intersections, both during construction and operation. Although most of the housing beneficiaries will not own cars and will rely on public transport (as per the current situation, as they are already resident in the Gqebera area), changes in traffic flow in certain areas are expected. The most significant change is likely to be to traffic flow in the Walmer Heights area, as vehicles from the proposed development use interconnecting roads in this area to connect onto the already congested Buffelsfontein road. Pedestrian traffic in these areas could also be expected to increase. The increased traffic and pedestrians may have impacts on traffic safety and wear and tear on roads.



Development option A (considered to be the worst case scenario due to the greater housing yield relative to Option B) is estimated to generate a total of 1220 external vehicle trips and development option B a total of 962 external vehicle trips during the weekday AM and PM peak traffic hours. The modelling and impact assessment below was therefore based on Option A, and it is not anticipated that Option B would result in the same or slightly lower impact significance ratings.

The following recommendations (taking into account traffic from development of erf 1948 as well as increases in background traffic levels to accommodate other proposed developments in the area) are provided by the specialists to mitigate the impacts identified:

#### **Access Control, Spacing and Sight Distances**

- Stop control be introduced at the Beethoven Avenue / Erf 11305 Access Road intersection (on the Access Road approach) to improve the safety of road users at this intersection.
- Stop control be introduced at the Victoria Drive / Erf 11305 Access Road and Victoria Drive / Erf 1948 Access Road intersections to improve the safety of road users at these intersections.
- A minimum shoulder sight distance of 175m be maintained at the site accesses points during the construction stage of the developments, by ensuring there are no objects (dirt bins, temporary road signs, etc.) present that can obstruct the sight distances of construction vehicles.
- The 100km/h speed limit on the western part of Victoria Drive should be reduced to 60km/h (eastbound direction) at a point approximately 100m west of the new access intersection for Erf 11305, and that new speed limit signage be introduced accordingly.

#### **2017 Background Traffic Scenario (Base Year)**

- Signal timing optimisation should be carried out at the Buffelsfontein Road / 17th Avenue intersection.

#### **2022 Background Traffic Scenario (Excluding Development Traffic)**

- The Buffelsfontein Road / 17th Avenue intersection should be upgraded in order to operate at an acceptable LOS.

#### **2022 Future Traffic Scenario – Erf 1948 (Including 50% Development Traffic)**

- The Buffelsfontein Road / Victoria Drive intersection should be upgraded in order to operate at an acceptable LOS.
- The Victoria Drive / Access 1 (Erf 1948) Road intersection should be constructed.

#### **2022 Future Traffic Scenario – Erf 11305 (Including 50% of Erf 1948 and 50% Development Traffic)**

- No intersection upgrades are required at existing intersections.
- The Victoria Drive / Access 2 (Erf 11305) Road intersection should be constructed.

#### **2027 Background Traffic Scenario (Excluding Development Traffic)**

- No intersection upgrades are required at existing intersections.

#### **2027 Future Traffic Scenario – Erf 1948 (Including 100% Development Traffic)**

- No intersection upgrades are required at existing intersections.

#### **2027 Future Traffic Scenario – Erf 11305 (Including 100% of Erf 1948 and 100% Development Traffic)**

- The Buffelsfontein Road / Victoria Drive intersection would require upgrading in order to operate at an acceptable LOS. However, given that this traffic scenario is 10 years into the future, and numerous influencing factors may change by then, the need for geometric intersection upgrades should best be reviewed at that point in time.

#### **Parking Requirements**

- Parking provision should be in accordance with the *South African Parking Standards Manual (DOT, 1985)*. Parking bays should also be provided for mobility impaired persons wherever possible and considered necessary.

### Public Transport and Non-Motorised Transport

- Upon completion of the developments, consideration should be given to the extension of a Public Transport feeder service into each development, or alternatively the introduction of new feeder services that can serve the residents of these developments.
- Any new public transport stops that will be created as part of these developments should consist of embayments, loading platforms, shelters and street lighting. Adjacent pedestrian crossing facilities should also be provided.
- Minimum 2m wide sidewalks should be provided along the primary access roads to the Erf 11305 and Erf 1948 developments from Victoria Drive.
- Pedestrian crossing should be implemented at the Erf 11305 and Erf 1948 access intersections to provide safe crossing points for pedestrians across Victoria Drive in these locations.
- Minimum 1.5m wide sidewalks should be provided along the predominant pedestrian route through the Walmer Heights area, between Erf 11305 and Miramar, to improve the safety of pedestrians along this route. The proposed sidewalks should be located along Beethoven Avenue, Schubert Road, Sibelius Street and Newcombe Avenue towards Buffelsfontein Road.
- Adequate provision should be made to accommodate pedestrians in the design of the developments' new access roads and intersections. Surfaced sidewalks of minimum 1.5m width should be provided along at least the main link roads and collector streets within the developments.
- Consideration should be given to the installation of dropped kerbs with tactile paving on pedestrian ramps at all intersections within the developments, to assist mobility impaired persons when making use of pedestrian crossings at intersections.
- The proposed roads, sidewalks and walkways should be planned such that they can function as shared use facilities able of accommodating cyclists as well, should the use of bicycles as a mode of transport increase in this area in future.
- For unsegregated shared use sidewalks and walkways that are expected to be well use, a minimum width of 3m is recommended. Where sidewalks and walkways are expected to be lightly used, a minimum width of 2m would be sufficient.
- Consideration should be given to the provision of adequate road shoulders on the section of Victoria Drive, between the developments' new access intersections and Buffelsfontein Road, to improve the safety of cyclists along this route.
- Street lighting should be provided along all new roads and walkways within the developments, to provide increased security to NMT and other road users at night.

#### 5.8.1 Potential Impact T1: Increased construction traffic on existing roads during construction

Construction vehicles will primarily travel along Victoria Drive to the sites and will interact with existing general traffic on the surrounding roads.

**Table 5-34: Significance rating of impact T1 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	-	Confidence
Before Management	Local	Medium	Medium term	Low	Definite	Low	-		High
<b>Management Measures</b>									
<ul style="list-style-type: none"> <li>• Ensure construction vehicles are visible and make use of Victoria Drive to gain access to site(s).</li> </ul>									
After Management	Local	Low	Medium term	Very low	Definite	Very low	-		High

#### 5.8.2 Potential Impact T2: Increased traffic and pedestrian volumes on existing roads during operation

During operation additional weekday peak hour vehicle trips will make use of the roads within the study area, namely: Buffelsfontein Road, 17th Avenue, Titian Road, Sibelius Street, Schubert Road, Beethoven

Avenue, Glendore Road and Victoria Drive. Additional pedestrian movement along Victoria Drive, Beethoven Avenue, Schubert Road, Sibelius Street, Titian Road and Buffelsfontein Road

**Table 5-35: Significance rating of impact T2 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Long term	Medium	Definite	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Upgrade intersections; provide additional facilities for public transport and vulnerable road users (pedestrians and cyclists), as detailed above and in the TIA.</li> </ul>								
After Management	Local	Low	Long term	Low	Definite	Low	-	High
No-go option	Local	Low	Long term	Low	Definite	Low	-	High

### 5.8.3 Potential Impact T3: Impacts on road condition during construction

The condition of the approach roads, especially Victoria Drive, may be negatively impacted upon by heavy construction vehicles during construction.

**Table 5-36: Significance rating of impact T3 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Medium term	Low	Definite	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Ensure construction vehicles travel along Victoria Drive only.</li> </ul>								
After Management	Local	Low	Medium term	Very low	Definite	Very low	-	High

### 5.8.4 Potential Impact T4: Impacts on road condition during operation

Additional vehicle trips during operation will make use of Victoria Drive, Beethoven Avenue, Schubert Road, Sibelius Street, Titian Road and Buffelsfontein Road, contributing to deterioration of these roads should no maintenance be effected.

**Table 5-37: Significance rating of impact T4 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	High	Long term	High	Definite	High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Upgrade road network as specified above and in the TIA due to increased traffic volumes by 2022 and 2027.</li> </ul>								
After Management	Local	Low	Long term	Low	Definite	Low	-	High
No-go option	Local	Low	Long term	Low	Definite	Low	-	High

### 5.8.5 Potential Impact T5: Impacts on traffic safety during construction

The safety of road users (vehicular traffic and vulnerable road users, e.g. pedestrians and cyclists) along Victoria Drive and the surrounding roads may be compromised due to the higher than normal presence of construction vehicles on these roads.

The following safety issues may arise during construction:

- Possible collisions between faster moving passing traffic and slow moving construction vehicles at the entrances to the settlement areas;
- Possible collisions due to construction vehicles travelling through established residential areas;
- The drivers of construction vehicles may experience sight distance obstructions at the site access intersections typically caused by the presence of construction related equipment, e.g. dirt bins, temporary road signs, etc.; and
- Impact of construction traffic on residents in the existing informal settlements.

**Table 5-38: Significance rating of impact T5 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Medium term	Low	Definite	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>• Install warning signage and ensure adequate sight distance as specified above and in the TIA along affected routes.</li> </ul>								
After Management	Local	Low	Medium term	Very low	Definite	Very low	-	High

### 5.8.6 Potential Impact T6: Impacts on traffic safety during operation

The following safety issues may arise during operation:

- Possible collisions with current pedestrian and vehicle traffic as a result of additional vehicle movements on the affected road network;
- Possible collisions with public transport vehicles and pedestrians at multiple intersections and access points to community facilities, should no pedestrian and public transport facilities be provided; and
- Possible collisions with entering and exiting vehicles at the access intersections to Erf 11305 and Erf 1948, as well as all new intersections (internal) associated with these developments, should inadequate sight distances not be provided or maintained.

**Table 5-39: Significance rating of impact T6 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	High	Long term	High	Probable	High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>• Implement public transport and NMT facilities and services, e.g. sidewalks, street lighting, public transport feeder services.</li> </ul>								
After Management	Local	Low	Medium term	Very low	Probable	Very low	-	High
No-go option	Local	Low	Long term	Low	Definite	Low	-	High

### 5.8.7 Potential Impact T7: Impacts on operational capacity

Additional vehicle trips will necessitate the implementation of intersection upgrades to improve traffic flow on the affected road network.

**Table 5-40: Significance rating of impact T7 and mitigation measures**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	High	Long term	High	Probable	High	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Improvement (as specified above and in the TIA) of two intersections by 2022 and one intersection by 2027.</li> </ul>								
After Management	Local	Low	Medium term	Very low	Definite	Very low	-	High
No-go option	Local	Low	Long term	Low	Definite	Low	-	High

## 5.9 Impacts on aquatic environments

Due to the topography and extent of the site, the potential for wetlands and aquatic environments in or around the study site was assessed by Dr Brian Colloty of Schermann, Colloty and associates (Refer to Appendix K5 of Volume 2 for study report). No aquatic environments - man-made or natural - were observed on or within 500 m of the site (which would trigger the need for a Water Use License Application) by specialist, and therefore further assessment of impacts on aquatic environments is not proposed. Standard mitigation measures to manage minor impacts resulting from pollution of water resources (through contaminated stormwater) during construction are provided in the EMPr (Chapter 7 of this report).

## 5.10 Stormwater and erosion impacts

Vegetation clearing and disturbance of soils during construction will leave the area vulnerable to erosion by water and wind. This could lead to increased sediment load in stormwater runoff, potentially clogging the receiving stormwater infrastructure. Loss of topsoil and erosion will also limit the potential for vegetation growth in these areas, leading to further erosion. Spills or leaks during construction (such as oils, fuels, cement wastewater, paints, solvents, etc) may result in contamination of stormwater and via this pathway, spread of pollution to soil, surface or groundwater. Standard mitigation measures are included in the EMPr to manage this impact, and are not repeated in the impact rating table below.

Concern has been raised about stormwater management in the general area, which is subject to large volumes of stormwater from the surrounding developed areas. The increase in hardened surfaces associated with the operation of development will result in less infiltration of stormwater into the soil and increased runoff, potentially exacerbating stormwater impacts. Stormwater management planning by the design engineers has been included in the project design to limit erosion and damage to infrastructure (see Stormwater Management Plan in Appendix I for detail).

Three on-site attenuation ponds have been provided for the three major catchment areas identified on site to manage large floods of 1:50 year recurrence interval. A storm water pond has also been provided as part of the master plan in the north-eastern side to attenuate major storm from the site and is currently under construction.

### 5.10.1 Potential Impact S1: Spread of pollution and erosion during construction

**Table 5-41: Significance rating of impact S1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Low	Short term	Low	Possible	Insignificant	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Implement standard mitigation measures as listed in the EMP to control spills and leaks;</li> <li>Minimise disturbance and clearing of vegetation;</li> <li>Clear vegetation in a phased manner;</li> <li>If an activity will mechanically disturb below the surface in any way, then any available topsoil should first be stripped from the entire surface to be disturbed and stockpiled for re-spreading during rehabilitation; and</li> <li>Dust suppression by wetting and / or covering of stockpiles etc.</li> </ul>								
After Management	Local	Low	Short term	Low	Improbable	Insignificant	-	High

### 5.10.2 Potential Impact S2: Spread of pollution, flooding and erosion during operation

**Table 5-42: Significance rating of impact S2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Medium	Long term	Medium	Probable	Medium	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Stormwater from the final outlets should be managed using suitable structures such as swales, gabions and rock rip-wrap so that any run-off from sites is attenuated prior to discharge. Silt and sedimentation should be kept to a minimum, through the use of the above mentioned structures by also ensuring that all structures do not create any form of erosion.</li> <li>Include periodical site inspection that inspects the effectiveness of the run-off control system and specifically records occurrence or not of any erosion on site or downstream;</li> <li>Outlet structures at road culverts to be designed in a manner that dissipates flow energy</li> <li>Vegetation to be maintained in public open space such that flood water levels are not increased;</li> <li>Ponds frequently monitored and obstructions (debris) to inlet and outlet works, removed; and</li> <li>Channels to be regularly monitored to identify any erosion gullies or silt deposition.</li> </ul>								
After Management	Local	Low	Long term	Low	Possible	Very Low	-	High
No-go option	Local	Low	Long term	Low	Improbable	Very Low	-	High

## 5.11 Waste Management Impacts

Lack of adequate waste management during construction could result in spread of litter, illegal dumping, contamination of soil and water resources, and increased prevalence of scavengers at the site.

During operation, waste generated by the residences/businesses and facilities proposed on the site could result in similar impacts as those mentioned above for construction if not adequately managed. Waste

entering the stormwater system may also result in blockages and downstream contamination. The area will be included in the NMBM’s standard weekly waste collection routine.

The area is currently used for dumping of waste etc. and it can therefore be expected that under the no-go option these impacts would continue and possibly increase and development increases in the surrounding area.

**5.11.1 Potential Impact W1: Spread of litter and waste during construction**

**Table 5-43: Significance rating of impact W1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Low	Short-term	Very Low	Probable	Very low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>All waste generated on site shall be collected and appropriately disposed of at a registered municipal landfill site (or hazardous waste site if required);</li> <li>Bins with lids shall be provided in sufficient quantity and regularly emptied;</li> <li>The site shall be kept clean and free of litter, and no litter from the site shall be allowed to disperse to surrounding areas;</li> <li>No on-site burning, burying or dumping of any waste materials, litter or refuse shall occur;</li> <li>The Contractor shall identify and separate materials that can be re-used or recycled to minimise waste e.g. metals, packaging and plastics, and provide separate marked bins for these items;</li> <li>Skips are to be provided for the temporary storage of construction waste;</li> <li>All staff shall be trained on correct waste management;</li> <li>Records of disposal of all waste generated on site shall be maintained for auditing purposes;</li> <li>No wastewater shall be disposed of to the surrounding soil or natural water resources;</li> <li>All effluent water from the camp/ office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources;</li> <li>All cement wastewater shall be collected in a container, allowed to evaporate, and the sludge disposed of as waste. Under no circumstances shall it be allowed to enter soil, groundwater resources or stormwater;</li> <li>Wastewater that is contaminated with soaps, detergents, grease, oils, paints and other undesirable materials shall be collected in conservancy tanks and disposed of safely into a wastewater treatment facility; and</li> <li>Accidental spills shall be cleared and the area rehabilitated as soon as possible.</li> </ul>								
After Management	Local	Low	Short term	Very Low	Possible	Insignificant	-	High

**5.11.2 Potential Impact W2: Spread of litter and waste during operation**

**Table 5-44: Significance rating of impact W2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	Confidence
Before Management	Local	Low	Long term	Medium	Probable	Low	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>Regular (weekly) waste collection service to be provided; and</li> </ul>								

<ul style="list-style-type: none"> <li>Regular inspections of the surrounding areas for signs of dumping and educating community members to inform the NMBM of such activities.</li> </ul>								
After Management	Local	Low	Long term	Low	Improbable	Very low	-	High
No-go option	Local	Medium	Long term	Medium	Definite	Medium	-	High

## 5.12 Visual impacts

The site is currently undeveloped, and clearing and development of the site, as well as lighting at night, will change its visual character, which may be perceived negatively particularly by residents of Walmer Heights and users of Victoria Drive. The forest clump to the south of the site will shield views of the development from Victoria Drive during construction and operation to a large degree.

During operation, the development could present a negative visual impact if waste is not properly managed and housing and facilities are not suitably maintained. The housing design will however conform with architectural and design standards.

### 5.12.1 Potential Impact V1: Visual impact during construction

During construction, dust resulting from vegetation clearing and earthworks may also be visible from a distance if phased clearing and dust control measures are not implemented.

**Table 5-45: Significance rating of impact V1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	-	Confidence
Before Management	Local	Low	Medium term	Low	Probable	Low	-		High
<b>Management Measures</b>									
<ul style="list-style-type: none"> <li>No littering or dumping to take place on site and waste to be managed in accordance with the EMP;</li> <li>Dust control measures to be in place; and</li> <li>Vegetation to be cleared in a phased manner.</li> </ul>									
After Management	Local	Low	Medium term	Low	Possible	Very Low	-		High

### 5.12.2 Potential Impact V2: Visual impact during operation

During operation, the development could present a negative visual impact if waste is not properly managed and housing and facilities are not suitably maintained. The housing design will however conform with architectural and design standards.

**Table 5-46: Significance rating of impact V2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+	-	Confidence
Before Management	Local	Medium	Long term	Medium	Possible	Low	-		Medium
<b>Management Measures</b>									
<ul style="list-style-type: none"> <li>The NMBM must maintain infrastructure and services in the new settlement;</li> <li>Forest patches and buffers (if applicable) to be effectively conserved; and</li> </ul>									



<ul style="list-style-type: none"> <li>The NMBM must monitor and prevent the spread of additional informal housing in surrounding areas.</li> </ul>								
After Management	Local	Low	Long term	Low	Possible	Very low	-	Medium
No-go option	Local	Low	Long term	Low	Possible	Very Low	-	Medium

## 5.13 Fire safety risks

The proposed development site contains and is surrounded by fynbos and alien invasive vegetation, both of which are prone to burning. The risk of veld fires starting within the site may be increased due to increased human activity on and around the site, with the potential of these fires spreading to surrounding areas. Indigenous forest vegetation however acts as a fire retardant and could provide natural mitigation of this risk. As the development proposal entails clearing of alien invasive vegetation and preservation of forest patches on the site, the risk of fires may decrease with development of the site.

### 5.13.1 Potential Impact F1: Risk of fires during construction

During construction, fires may be caused by construction workers if proper fire management measures are not in place and are not communicated to those on site.

**Table 5-47: Significance rating of impact F1 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Medium	Short term	Very low	Possible	Insignificant	-	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>No open cooking or heating fires should be allowed;</li> <li>Fire officer shall be appointed and shall be responsible for co-ordinating rapid, appropriate responses in the event of a fire;</li> <li>No burning of vegetation, whether to clear the vegetation, or of cleared vegetation, shall be permitted;</li> <li>Designated smoking areas should be decided upon in conjunction with the ECO. These will not be located near areas where vegetation is such that a fire may spread rapidly e.g. vegetation stockpiles;</li> <li>Smoking shall not be permitted outside of designated smoking areas; and</li> <li>Sufficient fire-fighting equipment shall be maintained and be accessible on sites at all times. In particular, such fire fighting equipment shall be readily on hand in areas where hot work may be required.</li> </ul>								
After Management	Local	Low	Short term	Very low	Improbable	Insignificant	-	High

### 5.13.2 Potential Impact F1: Risk of fires during operation

As the development will entail the clearing and development of areas currently overrun with invasive alien trees (which are prone to burning), the risk of veld fires in the area is anticipated to decrease, relative to the current situation. This is further supported by the fact that the proposed houses will be electrified and wood or paraffin will therefore not be the main energy source.

**Table 5-48: Significance rating of impact F2 and mitigation measures – Development Option A & B**

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local	Low	Long term	Low	Possible	Very Low	+	High
<b>Management Measures</b>								
<ul style="list-style-type: none"> <li>• Educate residents about the danger of open fires</li> <li>• Effectively conserve forest patches and buffers; and</li> <li>• Maintain a programme for removal of alien invasive plants during operation</li> </ul>								
After Management	Local	Low	Long term	Low	Probable	Low	+	High
No-go option	Local	Low	Long term	Low	Probable	Low	-	High

## 5.14 Cumulative impacts

In terms of the NMBM's LSDF (see Appendix F), much of the vacant land between Walmer Heights and Victoria Drive is designated for medium and high density residential use. In accordance with this, it is understood that a number of mixed use developments are proposed for this area, and are at various stages of planning (some of which are still in the conceptual stage), and it is unclear whether environmental authorisations are in place. Apart from remainder of erf 1953, on which development of 1345 walk-up apartment housing units is proposed, details of these proposed developments, including proposed timeframes, are not available, and it is assumed that any implementation thereof would primarily be after development of erf 11305.

Cumulative impacts on traffic have taken into account development of erf 1948 for low income housing, environmental authorisation for which has been obtained, as well as provision of an allowance for growth in surrounding areas resulting from other planned (latent) developments. Numerous factors (e.g. implementation timelines, development rate on available land, income levels, vehicle ownership levels, availability of public transport, etc.) would influence the amount of traffic that may be generated by latent developments in future. This information was however not available at the time of compilation of this TIA. It is understood that the NMBM has recently commissioned the development of a traffic masterplan for the area, and it is assumed that this masterplan will take into account the other development plans for the area.

Cumulative ecological impacts are anticipated to be of limited significance, mainly due to the fact that most of these properties have already been transformed, and do not fall within identified sensitive habitats (refer to planning level sensitivity map in Appendix F). Similarly to erf 11305, the proposed layout for erf 1953 has accommodated forest patches where possible, and cumulative impacts on forest are therefore not anticipated to be significant.

Development of these areas would result in a substantial change in visual character of the area, especially when viewed from Victoria Drive, Glendore road and Walmer Heights, given that these properties are currently largely undeveloped or vacant, and vegetated. The resultant visual impact will depend on the proposed layouts for these developments and to what extent vegetation (especially trees, which provide a degree of shielding, from a visual as well as noise and air quality perspective), is preserved or re-established.

## 5.15 Assessment of Alternatives

The impact assessment provided above has where relevant provided relative significance ratings for the two development site alternatives (option A and B) assessed, and specialists were asked to provide comment as to their preferred option. These are summarised in Table 5-49 below in order to make recommendations regarding the environmentally and socially preferred alternative.

**Table 5-49: Overall comparison of alternatives assessed based on key impact categories**

Impact Category	Development Option A	Development Option B
Archaeological		Preferred due to heritage structure falling within forest buffer
Palaeontological	No preference	
Ecological		Preferred due to buffers around forest patches, resulting in greater connectivity and preservation of habitats
Socio-economic		Preferred due to layout more aligned with socio-economic recommendations for the site
Traffic		Marginally preferred due to reduced traffic numbers

From an archaeological and traffic point of view Option B is marginally preferred as one of the historical resources identified fall within the forest buffer area, effectively meaning that this resource would not require destruction. The buffers around the forested areas also make Option B a significantly more favourable option from an ecological perspective, as it provides for greater connectivity between forest patches and allows preservation of some of the fynbos habitat within the buffers.

From a socio-economic perspective, Option B is also preferred, though the specialists do not explicitly state the reasons for this as opposed to Option A (stating simply that it closely aligns with the recommendations provided). It is assumed that this is due to the reduced housing yield, especially in the northern section of the site adjacent to Walmer Heights. As a result of this there would also be less traffic accessing the development through Walmer Heights, positively influencing both traffic and security impacts in this area. The most significant difference however is predicted to be a reduction in negative impacts on the NMBM's rates and tax income, and linked to this, property values in Walmer Heights specifically, predicted to result from Option B as opposed to Option A.

None of the specialist studies indicated a preference for Development Option A, however this is the preferred option by the developers as it allows for a higher housing yield (and therefore would be economically more feasible from a development perspective). While the impact significance ratings do not indicate any fatal flaws<sup>5</sup> associated with Option A, the clear preference for Option B from both a socio-economic and ecological perspective in terms of impact significance ratings cannot be ignored, especially given the socio-economic sensitivity of the site in the context of the development proposal.

<sup>5</sup> In this instance, fatal flaws are considered to be negative impacts where the significance rating cannot be reduced to medium or lower with the implementation of the mitigation measures listed

## 6 Findings, Evaluations and Recommendations

This chapter evaluates the impact of the proposed Walmer housing development based on the findings of the Environmental Impact Assessment. The principal findings are presented in this chapter, followed by a discussion of the key factors DEDEAT will have to consider in order to make a decision in the interests of sustainable development.

### 6.1 Environmental Impact Statement

#### 6.1.1 Evaluation

The evaluation has been undertaken in the context of:

- The information provided during the EIA;
- The assumptions made for this EIR;
- The recommended mitigation measures, which it is assumed will be effectively implemented;
- The assessments provided by the specialists; and
- The practicality of the recommendations for mitigation.

The evaluation and the basis for the subsequent discussion is represented concisely in Table 6-1 below, which summarises the potentially significant impacts and their significance ratings before and after application of mitigation and/or management measures.

**Table 6-1: Summary of impact significance ratings for the proposed Walmer housing development**

Impact group	Impact Description	+/-	Significance without management		Significance with management		
			Option A	Option B	Option A	Option B	
	<b>CONSTRUCTION</b>						
Archaeological	A1: Destruction of archaeological resources	-	Low		Very low		
	A2: Impact on heritage structures	QBE 1 – Dipping tank	-	Low		N/A	
		QBE 2 - Ruin	-	Medium		N/A	
		QBE 3 - Ruin	-	Medium	Low	N/A	
		The historical Association of the Site	-	Medium		N/A	
		Commonages, Garden Planting and Tree Groves	-	Medium		N/A	
Paleontological	P1: Destruction of palaeontological resources	-	Very low		N/A		
Terrestrial Ecology	E1: Loss of habitat and removal of vegetation	-	Medium		Low	Very low	
	E3: Loss of CBAs and habitat fragmentation	-	Medium		Medium	Low	
	E4: Loss of Species of Special Concern	-	Medium	Low	Low	Very low	
	E5: Spread of alien invasive species	-	Low		Very low		
Air Quality	AQ1: Dust generation	-	Very low		Insignificant		
Noise	N1: Noise disturbance	-	Very Low		Insignificant		
Socio-economic	SE1: Employment opportunities	+	Medium		Medium		
	SE3: Local economic growth	+	Medium		Medium		
	SE5: Infrastructure investment and development	+	Low		N/A		
Traffic	T1: Increased Traffic on existing roads	-	Low		Very low		
	T3: Deterioration of Road Condition	-	Low		Very low		
	T5: Increased traffic safety risks	-	Low		Very low		

Impact group	Impact Description	+/-	Significance without management		Significance with management	
			Option A	Option B	Option A	Option B
<b>CONSTRUCTION</b>						
Stormwater	SW1: Spread of pollution and erosion	-	Insignificant		Insignificant	
Waste	W1: Spread of litter and waste	-	Very low		Insignificant	
Visual	V1: Visual impact	-	Low		Very Low	
Fire	F1: Fire risk	-	Insignificant		Insignificant	
<b>OPERATION</b>						
Ecology	E2: Loss of habitat & Removal of Vegetation	-	Medium		Very low	
	E3: Loss of CBAs and habitat fragmentation	-	Medium		Medium	Low
	E4: Loss of Species of Special Concern	-	Medium	Low	Low	Very low
	E5: Spread of alien invasive species	-	Low		Very low	
Noise	N2: Noise disturbance	-	Low		Very low	
Socio-economic	SE2: Employment opportunities	+	Medium		N/A	
	SE4: Local economic growth	+	Medium		N/A	
	SE6: Rates and tax base	-/+	Very high (-)	High (-)	Low (+)	Low (+)
	SE7: Decrease in property values	-	High	Medium	Medium	Low
	SE8: Contribution to housing need	+	Medium		N/A	
	SE9: Security issues	-	Medium		Medium	Low
	SE10: Reduced risk of illegal invasion	+	Medium		High	
Traffic	T2: Increased pedestrian and traffic volumes on existing roads	-	Medium		Low	
	T4: Deterioration of road condition	-	High		Low	
	T6: Increased traffic safety risks	-	High		Very low	
	T7: Impacts on operational capacity	-	High		Very low	
Stormwater	SW2: Spread of pollution, flooding and erosion	-	Medium		Very low	
Waste	W2: Spread of litter and waste	-	Low		Very low	
Visual	V2: Visual impact during operation	-	Low		Very low	
Fire	F2: Fire risk	+	Very Low		Low	
<b>NO-GO OPTION</b>						
Ecology	E2: Loss of habitat & Removal of Vegetation	-	High		N/A	
	E3: Loss of CBAs and habitat fragmentation	-	High		N/A	
	E4: Loss of Species of Special Concern	-	High		N/A	
	E5: Spread of alien invasive species	-	High		N/A	
Socio-economic	SE6: Rates and tax base	+	Low		N/A	
	SE8: Contribution to housing need	-	High		N/A	
	SE9: Security issues	-	Medium		N/A	
	SE10: Reduced risk of illegal invasion	-	Medium		N/A	
Traffic	T3: Increased pedestrian and traffic volumes on existing roads	-	Low		N/A	
	T4: Deterioration of road condition	-	Low		N/A	
	T6: Impacts on traffic safety	-	Low		N/A	
	T7: Impacts on operational capacity	-	Low		N/A	
Waste	W2: Spread of litter and waste	-	Medium		N/A	
Visual	V2: Visual impact	-	Very Low		N/A	
Stormwater	SW2: Spread of pollution, flooding and erosion	-	Very Low		N/A	
Fire	F2: Fire risk	-	Low		N/A	

## 6.1.2 Principal findings and key decision making factors

Key observations with regard to the overall impact ratings, assuming that the recommended mitigation measures will be effectively implemented, are as follows:

- The significance of the destruction of heritage resources including existing **historical structures** older than 60 years within the development footprint was rated to be between LOW (-ve) and MEDIUM (-ve) significance. No mitigation measures are possible, however recommendations for management are provided;
- Clearing of vegetation during construction will result in the associated habitat and species it supports being lost and fragmented. This may include species of special concern, and will also result in increased opportunities for proliferation of invasive alien vegetation. The significance of these **ecological** impacts ranges from MEDIUM to VERY LOW (-ve);
- **Positive socio-economic** impacts of LOW to MEDIUM (+ve) significance are anticipated to result from job creation, local economic growth, and development of infrastructure during construction. The impacts of employment and local economic growth would remain of MEDIUM (+ve) significance during operation of the development. The impact of reduced risk of land invasion resulting from development of the site is anticipated to be HIGH (+ve), and a MEDIUM (+ve) impact resulting from the contribution to meeting the housing need, unlocking the potential for continuation of redevelopment of Gqebera, is expected;
- **Negative socio-economic** impacts on the municipal rates and tax base from surrounding high property value areas (which could potentially become a LOW (+ve) impact should the development become a positive rateable asset), are predicted. A MEDIUM to LOW (-ve) impact on property values in Walmer Heights is predicted (depending on the development option and mitigation measures implemented). Safety and security impacts of MEDIUM to LOW (-ve) significance on surrounding areas are also predicted. These negative impacts are predicted to be higher for Option A than for Option B, as the layout for this option is more closely aligned with the recommendations of the socio-economic report;
- It is anticipated that both development options will increase the **traffic** on nearby roads and intersections, both during construction and operation. This could lead to traffic congestion, and deterioration of road condition and traffic safety. During construction these impacts are anticipated to be of VERY LOW (-ve) significance, and LOW to VERY LOW (-ve) significance during operation. Recommendations are provided by the specialists regarding design, road upgrades traffic and management measures;
- Vegetation clearing and disturbance of soils during construction will leave them vulnerable to **erosion** by water and wind. There is also a risk of contamination of soils and stormwater as a result of spills or leaks of hazardous materials. This impact was rated as INSIGNIFICANT (-ve);
- The project area is subject to large volumes of **stormwater** from the surrounding developed areas. The increase in hardened surfaces associated with the development will result in increased runoff. The impact was rated as VERY LOW (-ve) assuming proper planning and management;
- During construction, predicted impacts on **air quality** (due to dust generation), **waste management** (due to litter, dumping etc.), **noise, and visual character** are expected to be VERY LOW to INSIGNIFICANT (-ve). During operation, impacts due to lack of waste management, noise disturbance, and changes to visual character (due to lighting, and development of a site that is currently undeveloped), are expected to be of VERY LOW (-ve) significance;

- **Fire risks** currently affecting the site due to the large component of alien invasive vegetation, are anticipated to reduce and result in a LOW (+ve) impact during operation due to clearing and management of alien invasive vegetation;
- The **no-go option** would see the site not being developed as proposed, and remaining unmanaged. Impacts associated with this scenario include HIGH (-ve) ecological impacts (due to ongoing invasion by alien invasive species, resulting in loss of habitat and species of special concern). From a socio-economic perspective, the housing need would remain (HIGH –ve impact), increasing pressure on other areas to meet the housing need, and limiting the potential for redevelopment of Gqebera until alternative land parcels have been authorised for development. Security and land invasion risks would remain a MEDIUM (-ve) impact as the undeveloped site continues to provide refuge to criminals and frustration regarding slow housing delivery escalates. A LOW (+ve) impact on the rates and tax base would however result from increasing property rates and taxes due to the lack of negative impact on adjacent property values. Traffic impacts of a LOW to MEDIUM (-ve) significance would continue; and
- In terms of the two **layout alternatives** assessed, overall, the significance of negative impacts associated with Option B is equal to, or in the case of terrestrial ecology, socio-economic and archaeological impacts, lower than that for Option A. For both options, all impacts could be reduced to MEDIUM (-ve) significance or lower, with effective mitigation.

### 6.1.3 Authorisation opinion

The proposed housing development on erf 11305, Walmer is in accordance with planning objectives for the area (as demonstrated by the NMBM's Local Spatial Development Framework), and is not in conflict with conservation planning objectives for the area. Socio-economic gradients between the proposed development and surrounding area however present a key challenge to the project, requiring sensitivity in terms of layout and management to address these gradients.

From a layout design perspective, the challenge has therefore been to satisfy DAFF's requirements for protection of indigenous forest, as well as the recommendations of the socio-economic specialists to limit negative impacts on surrounding high income areas, while optimising the development potential of the site and meeting the project objectives in terms of housing delivery and policy. This EIA process has facilitated the process of moving towards meeting these objectives and requirements, as evidenced by the various iterations of the layout proposed.

While both of the layout options proposed have attempted to meet these requirements, and neither has been shown to be fatally flawed, Option B is more favoured from a socio-economic and ecological perspective in particular. This is primarily due to the inclusion of buffers around forest areas, resulting in reduced housing yield, especially in the northern section of the site (closer to Walmer Heights), as well as allowing for greater preservation of ecological integrity of the site.

The findings of the impact assessment indicate that, with effective implementation of the mitigation measures proposed, the significance of all negative impacts can potentially be reduced to medium or lower, and significant positive impacts may result for some impacts.

The no-go option (i.e. not developing the site as proposed) in contrast, is predicted to result in ongoing medium to high negative impacts, including security issues, the risk of land invasion, and further degradation of the site due to alien invasive vegetation and dumping. This option would also indirectly limit or delay the redevelopment of Gqebera as the need for additional land to accommodate the overflow of residents from overcrowded areas would remain.

## 6.2 Key Recommendations

The specific recommended mitigation measures are presented in the impact assessment (Section 5) and are recorded in the Draft Environmental Management Programme (Section 7) of this report.

Key recommendations, which are considered essential, are:

- Damage or destruction of any forest trees must be avoided, and where this is not possible, the necessary destruction permits must be obtained in advance from DAFF;
- Protected forest clumps to be conserved (as per the site layout approved) must be demarcated prior to site clearing and all personnel on site must be educated on the importance of the protection of forest on site;
- The necessary destruction / relocation permits for protected species must be obtained from DEDEAT prior to commencement of vegetation clearing;
- Plant Species of Special Concern that require removal are to be marked by a botanist and removed (search and rescue) prior to construction;
- The necessary Heritage destruction permits, for destruction of historical structures, must be obtained from the ECPHRA prior to commencement of construction in these areas;
- A search and rescue operation for fauna (including reptiles) must be initiated prior to the commencement of any construction;
- Monitor areas surrounding the development for signs of encroachment, dumping and wood cutting, and prevent these activities;
- Clearing must take place in a phased manner (i.e. the entire area to be developed should not be cleared all at once);
- Alien invasive vegetation must be cleared from the site and be managed during both construction and operation of the development;
- Disturbed areas must be revegetated with appropriate indigenous vegetation where possible;
- Stormwater from the final outlets should be managed using suitable structures such as swales, gabions and rock rip-wrap so that any run-off from sites is attenuated prior to discharge.
- Periodical site inspections that inspect the effectiveness of the stormwater ponds and control system and specifically records occurrence or not of any erosion on site or downstream;
- Regular municipal waste collection to be provided;
- Strict implementation of the NMBM noise control bylaws;
- Ensure construction vehicles are visible and make use of Victoria Drive to gain access to site;
- Install traffic warning signage and ensure adequate sight distance along affected routes;
- Implement public transport and NMT facilities and services, e.g. sidewalks, street lighting, public transport feeder services;
- Upgrades to key intersections and other traffic management measures to accommodate the additional flow, as per the recommendations in the traffic impact assessment;
- The area directly adjacent Walmer Heights must be reserved for higher income households, with lower priced housing along Victoria Drive;



- The layout should respond to pricing contours and permeability of the development should be limited. This would include relocating the business site from the northern section of the site closer to Victoria Drive;
- Dual access to the development with lower density, higher priced units making use of a Walmer heights link and higher density, lower priced units making use of a Victoria Drive link; and
- The use of defensible space through design features that repel criminal activity such as fences, gates, and locks.

### 6.3 Programme of Activities

The key activities and the provisional timetable required to achieve the objectives of the Environmental Impact Assessment study are summarised in Table 6-2 below, indicating periods for public comment (note comment periods on the final reports are as stipulated by DEDEAT specifically for this project).

**Table 6-2: Provisional timeframes for EIA milestones to be completed**

Stage / Activity	Target Dates	
	Start	End
Submission of Draft EIR for Public Comment (40 days)	11 October 2017	20 November 2017
Distribute Final EIR for 30 day comment period	5 January 2018	5 February 2018
DEDEAT decision making on Final EIR (105 days)	6 February 2018	28 May 2018

### 6.4 Public Participation Process

The registered Interested and Affected Parties (IAPs) will be kept up to date on the progress by being notified of the availability of reports for comment. Further detail on the way forward with regard to public participation is provided in Chapter 8.



## 7 Draft Environmental Management Programme

This chapter presents a Draft Environmental Management Programme (EMPr) that describes how the environmental aspects identified in the Environmental Impact Report (EIR) should be managed in the event of environmental authorisation being granted. Although the EMPr is written as if the project has been authorised, this approach in no way presupposes that the project will be approved. Rather, the style of writing is aimed at providing a clear picture to the Department of Economic Development, Environmental Affairs & Tourism (DEDEAT), other organs of state, and IAPs, regarding the management of environmental aspects associated with the design, construction and operational activities of the proposed development.

The preceding chapters in this EIR form an integral part of the EMPr as they provide details of the Environmental Assessment Practitioner(s) (EAP) who compiled the EMPr, details regarding the sensitivity of the affected environment, the issues and concerns raised by Interested and Affected Parties (IAPs), the findings of the impact assessment, and mitigation measures proposed by the EAP and/ or relevant specialist(s). As such, while the EMPr provides a list of environmental specifications aimed at mitigation of the identified impacts, and in a more general sense compliance with environmental legislation, the preceding Chapters are particularly useful for understanding the importance of the measures proposed here.

In the event that the application is authorised by DEDEAT, then this EMPr will be finalised according to the conditions specified in the Environmental Authorisation.

The EMPr stipulates the environmental standards to be adhered to by the parties involved in the various phases of the project life cycle of the project. As such the Draft EMPr comprises of a section for each of the following project life cycle phases:

- Pre-construction (Section 7.3);
- Construction activities (including rehabilitation) (Section 7.4);
- Operation (Section 7.5); and
- Decommissioning (Section 7.6).

Where appropriate each section provides a description of the environmental aspects associated with that phase, the roles & responsibilities for implementation of the EMPr, timeframes, and monitoring requirements.

### 7.1 Roles and Responsibilities

The general roles and responsibilities of various parties associated with the proposed development are outlined below.

#### 7.1.1 The Developer: NMBM

The NMBM shall ultimately be responsible for the implementation of the EMPr. They shall appoint a representative, the Responsible Person (RP), who shall:

- a. Ensure that the contractor is duly informed of the EMPr and associated responsibilities and implications of this EMPr;
- b. Monitor the contractor's activities with regard to the requirements outlined in the EMPr;
- c. Act as a point of contact for local residents and community members;
- d. Ensure that the contractor remedies problems in a timely manner and to the satisfaction of the authorities; and

- e. Notify the authorities and the Environmental Control Officer (ECO) should problems arise that are not remedied effectively, or of any change in the development or changes in project specification that could significantly impact negatively on the environment.

### **7.1.2 The Contractor**

The contractor(s) must ensure that all aspects of the contract comply with both this EMPr and other relevant environmental legislation. In addition to any other responsibilities, the contractor(s) shall be responsible for the following:

- a. Appointing an Environmental Representative (on site), who irrespective of other duties, will also be responsible to oversee all activities associated with the contract;
- b. Ensuring that the Environmental Representative has the means with which to carry out his/ her tasks;
- c. Ensuring all activities on the site are undertaken in accordance with the EMPr;
- d. Informing all employees and sub-contractors of their roles and responsibilities in terms of the EMPr;
- e. Ensuring that all employees and sub-contractors comply with this EMPr; and
- f. The contractor has a duty to demonstrate respect and care for the environment in which they are operating. They will be responsible for the cost of rehabilitation, to the satisfaction of the ECO, of any environmental damage that may result from non-compliance with the EMPr, environmental regulations and relevant legislation.

### **7.1.3 The Contractor's Environmental Representative**

The Contractor's Environmental Representative (ER) shall be responsible for implementation of this EMPr and any other environmental requirements that may be identified by the ECO, and agreed to by the NMBM, during the course of the contract. The ER shall have received basic environmental awareness training, either as part of this contract, or previously. In addition to any other responsibilities, the general duties of the ER are as follows:

- a. Ensuring that all personnel (including sub-contractors) are duly informed of the requirements contained in this EMPr, and the associated responsibilities and implications of this EMPr;
- b. Ensuring that all records needed to demonstrate compliance with the EMPr requirements are obtained, safely stored, and are readily available for inspection by the ECO and/ or NMBM. These records are detailed in this EMPr;
- c. Consulting with the ECO regarding interpretation of the EMPr and any other aspects of the contract that may impact significantly on the environment;
- d. Ensuring that all personnel (including sub-contracted personnel) demonstrate respect and care for the environment in which they are operating;
- e. Acting as a point of contact for local residents and community members; and
- f. Ensuring that a reporting system is in place and that community representatives can be informed of the correct procedures to lodge complaints.
- g. It is anticipated that these ER duties would be assigned to a member of the on-site personnel that would ordinarily be appointed for the duration of construction related activities by the Contractor, and that these ER duties would be in addition to the other (possibly primary) responsibilities of that person.

### 7.1.4 The Environmental Control Officer

An Environmental Control Officer (ECO), who is a qualified environmental professional with the relevant environmental expertise, and independent of the developer, shall be appointed for the duration of the construction activities. The ECO's duties are as follows:

- a. Being familiar with the environmental management requirements contained in this EMPr as well as the Environmental Authorisation;
- b. Undertaking the pre-construction and post-construction site inspections, which may result in recommendations for additional clean-up and rehabilitation measures;
- c. Monitoring the contractor's activities with regard to compliance with the requirements outlined in the EMPr, by way of monthly audits, and reporting on the findings of these audits to the developer and relevant authorities (if required in terms of the Environmental Authorisation);
- d. Providing ad-hoc environmental advice, including environmental legal requirements, to the NMBM and the Contractor(s) regarding issues that may arise during the Contract; and
- e. Submit a post-construction Audit Report to the contractor for comment prior to submission to the relevant authorities' archives. Comments from the relevant parties will be included in the Final Audit Report.

## 7.2 Environmental Procedures and Specifications

The contractor(s) is deemed to have familiarised themselves with all legislation pertaining to the environment, including any provincial or local government ordinances applicable to the contract.

It should be kept in mind that good housekeeping goes beyond the employment of sensible construction methods to ensure safety on site, but includes care for and preservation of the environment.

### 7.2.1 Compliance Auditing

- a. The appointed ECO and Contractor's ER shall conduct a pre-construction site inspection to identify sensitive environments (and protected vegetation, which should be avoided, or if this is not possible, permits obtained from the relevant authorities for its disturbance or removal), no-go areas, locations of site camps, etc.;
- b. The ECO shall prepare a pre-construction audit report, which will include photographs of the general condition of the key features of the site. These photographs shall be used for comparison purposes on completion of the contract, i.e. after rehabilitation of construction areas;
- c. The ECO shall conduct monthly site audits of all construction related activities;
- d. On completion of construction activities, the ECO shall conduct a site inspection, together with the Contractor's ER. Any items requiring attention shall be included in an Post-Construction Audit Report; and
- e. On completion of the defects liability period, the ECO shall accompany a NMBM representative and the Contractor with a view to determining whether outstanding matters from the Post-Construction Audit Report have been adequately addressed.

### 7.2.2 Community Liaison

- a. The ER shall act as community liaison officer and his/ her contact details shall be displayed on the contractors board;
- b. A complaints register (including the action taken in response to the complaint) shall be kept on site by the ER; and

- c. All complaints received shall be forwarded to the ECO and the NMBM. All issues raised should be appropriately addressed and recorded.

### 7.2.3 Environmental Incidents

- a. The ER shall maintain a register of all environmental incidents occurring as a result of the activities associated with the contract. Environmental incidents that shall be recorded include (but are not limited to):
  - a. Fires;
  - b. Accidents;
  - c. Spills of hazardous materials, contaminating soil or water resources;
  - d. Non-compliances with applicable legislation; and
  - e. Non-compliances with this EMPr
- b. Each environmental incident shall be investigated by the ECO and an environmental incident report shall be forwarded to the Contractor(s) and the NMBM. Such incident report shall be presented within five working days of the incident occurring;
- c. Environmental incident reports shall include (as a minimum) a description of the incident, the actions taken to contain any damage to the environment, personnel, or the public, and the actions taken to repair/ remediate any such damage; and
- d. Prescribe additional measures that may be required to remediate damage resulting from the incident and/ or to prevent similar incidents occurring in the future.

### 7.2.4 Training

The Contractor(s) is responsible for ensuring that the sentiments of the EMPr are conveyed to all personnel (including sub-contracted personnel). It is recommended that regular training sessions/toolbox talks (including basic environmental awareness training at induction) be conducted to fulfil this purpose. Training registers shall be kept as proof for auditing purposes. The environmental training should, as a minimum, include (but not be limited to) the following:

- a. The importance of conformance with all environmental policies;
- b. The environmental impacts, actual or potential, of the proposed activities;
- c. The environmental benefits of improved personal performance;
- d. Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with this EMPr, including associated procedures and emergency preparedness and response requirements;
- e. The potential consequences of departure from specified operating procedures; and
- f. The mitigation measures required to be implemented when carrying out their work activities.

### 7.2.5 Record Keeping

- a. The engineer and the contractor shall continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The contractor must document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the

actions. The non-compliance shall be documented and reported to the engineer in the monthly audit reports and to the relevant authority; and

- b. Copies of the Environmental Authorisation and EMPr for the proposed development shall be kept on site and made available for inspection by visiting officials from the relevant environmental departments.

## **7.2.6 Compliance and Penalties**

- a. The contractor shall act immediately when a notice of non-compliance is received and correct the cause of the non-compliance. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and an oral report given at the monthly site meetings;
- b. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Therefore any avoidable non-compliance, dependant on severity, shall be considered sufficient grounds for contact to be made with relevant provincial or national authorities; and
- c. The engineer's decision with regard to what is considered a violation, its seriousness and the action to be taken against the contractor shall be final. Failure to redress the cause shall be reported to the relevant authority. The responsible provincial or national authorities shall ensure compliance and impose penalties relevant to the transgression as allowed for within their statutory powers.

## **7.3 Pre-construction Phase**

### **7.3.1 Indigenous Plant protection**

- a. A plant "search and rescue" to be conducted prior to commencement of any site preparation or construction activities for all indigenous species which can be relocated, but particularly protected species and species of special concern that will be affected by construction;
- b. Those species protected in terms of the Cape Nature and Environmental Ordinance {Ordinance 19 of 1974} which need to be removed or relocated require the necessary permits to be obtained from DEDEAT. Any species protected under the National Forest Act {Act 84 of 1998} require the relevant permits to be obtained from the Department of Agriculture, Forestry and Fisheries; and
- c. Protected forest areas to be conserved (as per the approved development layout plan) must be demarcated prior to site clearing and all personnel on site must be educated on the importance of the protection of forest on site. Note that damage or destruction to these areas may incur penalties from DAFF.

### **7.3.2 Fauna**

A search and rescue operation for fauna (including reptiles) must be initiated prior to the commencement of any construction

### **7.3.3 Socio-economic**

- a. Engage communities with respect to their possible involvement during construction in providing supporting services such as catering, temporary housing of workers, transportation, etc.;
- b. Recruit local labour as far as feasible, with a minimum of 20% of employment created for local communities;

- c. Sub-contract to local construction companies where possible;
- d. Inclusion of definite pricing contours in the layout;
- e. Include design features that repel criminal activity such as fences, gates, and locks; and
- f. Design to ensure dual access to the development with lower density, higher priced units making use of a Walmer heights link and higher density, lower priced units making use of a Victoria Drive link.

#### **7.3.4 Heritage**

- a. Submission of a NID to the EC PHRA. This is to include an interest party comment from the Mandela Bay Heritage Trust; and
- b. Submission for demolition of existing structures to the ECPHRA; and
- c. A small information panel (similar to the traditional 'blue plaques' typically used in heritage areas) to be installed at site QBE3 with a short heritage description.

#### **7.3.5 General**

- a. The materials used for the proposed structures should not give rise to glare. All lights must be kept below airport's obstacle surfaces.

### **7.4 Construction Phase**

#### **7.4.1 Scope of construction EMPr**

The Construction EMPr is intended for use by the appointed Contractor(s), the developer, and the ECO, during the construction phase of the project. Construction related activities include the following:

#### **7.4.2 Site Demarcation and Vegetation Clearing**

- a. The location and layout of the construction camp is to be determined in consultation with the ECO;
- a. Construction activities should be limited to the area to be developed, which should be clearly demarcated.
- b. Any remaining undisturbed patches of indigenous vegetation/forest must be identified as No-Go areas;
- c. Vehicles and/ or plant and personnel shall only be permitted within the demarcated construction areas, or on existing roads and/ or access tracks between demarcated areas;
- d. No clearing of vegetation, storage, disposal or mixing of any substance (e.g. water, cement, petroleum etc.) may take place outside the demarcated construction area without prior approval of the ECO;
- e. Clearing of vegetation should be kept to a minimum, keeping the width and length of the earth works to a minimum;
- f. Clearing must take place in a phased manner (i.e. the entire area to be developed should not be cleared all at once);
- g. Where feasible, the clearing of indigenous vegetation shall be avoided and site construction areas shall be located where the natural habitat has been previously transformed;
- h. Indigenous and rescued flora should be preserved for use during rehabilitation; and

- i. Harvesting or removal of any plant material, other than for rescue purposes and for the clearing of vegetation for construction, is strictly prohibited. Staff shall only assist with the (necessary) removal of important plant species if requested to do so, under supervision.

### **7.4.3 Access**

- a. Construction workers shall be prohibited from entering areas of the site that fall outside the work area; and
- b. No indiscriminate driving shall occur around access roads and construction areas or areas outside the boundary of the site;

### **7.4.4 Ablution Facilities**

- a. The use of natural areas as toilets is prohibited. Adequate ablution facilities must be provided;
- b. The RP shall designate an area on the site for the placement of portable chemical toilets;
- c. Toilets are to be provided by the contractor for workers at a ratio of at least 1 toilet per 20 workers or as per specifications of the supplier, and must be situated in close proximity to all work areas;
- d. Toilets shall be maintained and properly equipped and shall be serviced regularly by a reputable contractor and the contents shall be removed to a licensed disposal facility; and
- e. Service certificates (confirming proper disposal of chemical toilet waste/emptying of conservancy tanks) must be filed by the contractor for inclusion in the audit reports.

### **7.4.5 Eating/Break Areas**

- a. Designated areas should be identified for workers to assemble during breaks where conditions are safe and waste facilities and drinking water are available;
- b. No cooking of food shall be permitted on or around the site;
- c. Sufficient weather and vermin proof portable bins (with lids) shall be provided. The contractor shall be responsible for the disposal of domestic waste generated as a result of work activities; and
- d. Littering is strictly prohibited. Litter shall be disposed of in the on-site bins.

### **7.4.6 Materials Handling**

#### **Delivery**

- a. The contractor shall inform sub-contractors and delivery drivers (e.g. of concrete, sand etc.) of procedures and restrictions in terms of the EMP, and shall only use designated access roads and material storage areas;
- b. All loads shall be secured/ enclosed to prevent spillage during transport;
- c. All manufactures and/or imported material shall be stored within the Contractors camp, all lay down areas outside of the construction camp shall be subject to the Engineer's approval; and
- d. The contractor shall be responsible for clean-up resulting from failure of sub-contractors to properly contain materials.

#### **Stockpiling**

- a. Any excess subsoil (i.e. spoil material) shall be spoiled in a pre-identified location in collaboration with the ECO. Failing that, excess material should be removed to a registered waste disposal facility;



- b. The Contractor shall ensure that the material does not blow or wash away; and
- c. All stockpiles shall be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bund.

#### **7.4.7 Fuel Storage and Dispensing**

- a. The contractor shall take all reasonable steps to prevent the pollution of soil and/ or water resources by fuels and oils as a result of his activities;
- b. Hydraulic oil and temporary fuel supply shall be dispensed over drip-trays which rest on sand in order to prevent spills from making direct contact with the soil;
- c. In the event of spillage, the contaminated soil shall be removed and disposed of, timeously, at a registered waste landfill site at the contractor's cost. Proof of disposal shall be kept for auditing purposes;
- d. In the event that storage of fuels or oils in quantities greater than 1,000 L be required, then these storage areas shall be surfaced with impermeable material and include secondary containment (bunding) capable of holding 110% of the maximum storage capacity;
- e. The bunded areas will drain to a water tight sump and/or oil trap from where it can be removed off-site for disposal;
- f. All hydrocarbon storage facilities will not be permanent and will be removed on completion of the construction phase;
- g. Always shut down the engine of the machine / construction plant being fuelled;
- h. Drip trays shall be in place under all fuel bowsers and leaking equipment/vehicles;
- i. Driptrays shall be regularly cleaned of any spills and contaminated rain water collecting in them (if required) and the spill material collected and disposed of as hazardous waste; and
- j. Storage drums should be clearly marked for the correct fuel types and should properly secure to an elevated structure.

#### **7.4.8 Control of Environmentally Hazardous Materials**

- a. All hazardous materials shall be stored away from watercourses and drains, and be handled over an impermeable surface at all times;
- b. Hazardous liquids (such as paints and fuels) shall be stored over a bunded area to contain any leaks, and drip trays shall be in place under all fuel bowsers and stationary plant/ vehicles;
- c. Solvents and chemicals should be stored in accordance with regulations/ guidelines;
- d. Appropriate spill kits should be available in areas in the proximity of drains;
- e. Should any spills of hazardous materials (including petrochemicals) occur, all contaminated soil shall be removed (at the contractor's expense) and disposed of as hazardous waste and the area suitably rehabilitated. Proof of disposal shall be retained for auditing purposes;
- f. Any material that is used to soak up spills (and is therefore contaminated) must be disposed of at a registered waste disposal facility, and the proof of disposal be retained for auditing purposes;
- g. Transport and disposal of hazardous waste shall be comply with the relevant legislation, including (but not limited to) the use of authorised waste transporters;
- h. All personnel shall be trained and educated during induction on the handling of hazardous substances on site, and dealing with spills or leaks; and

- i. A dry chemical or CO2 fire extinguisher should be present / hung on the outside of the building or near the pump of the fuel tanks.

#### **7.4.9 Concrete and Cement Batching**

- a. Where possible, ready-mix cement shall be used;
- b. Where necessary, the ECO shall designate an area where concrete batching is to take place (on an impermeable surface). Concrete and cement batching shall not be permitted outside these designated areas;
- c. Stormwater must be diverted away from cement batching areas by the means of temporary earth berms in order to prevent contamination should high rainfall be experienced;
- d. No spillage of cement or cement-contaminated water into soil will be permitted. Any contaminated soil will be removed and disposed of at a registered waste disposal site; and
- e. Cement mixers shall be placed on trays and no cement mixing will take place on the soil surface or permeable surfaces.

#### **7.4.10 Equipment Maintenance**

- a. The optimum functioning of all vehicles, equipment, tanks and machinery shall be ensured through the implementation of a programme of scheduled maintenance;
- b. No routine maintenance of earth moving equipment and vehicles shall occur on site;
- c. Should on-site emergency repair work be required to remove immovable equipment or vehicles, this should be conducted over an impermeable surface to collect any liquid spillage;
- d. Leakage from equipment shall be prevented by regular inspection and repair; and
- e. Should a leak or equipment malfunction be detected, the appropriate personnel shall immediately be informed and every effort made to prevent further leakage.

#### **7.4.11 Waste Management**

- a. Integrated waste management must be dealt with in accordance with the NEMA: Waste Act;
- b. Excess excavated material that cannot be used for backfill should not be allowed to accumulate on site and should be disposed of at a formal landfill site or suitable spoil site identified in conjunction with the ECO;
- c. Sufficient weather and scavenger-proof bins (with lids, to prevent the escape of litter) shall be provided, and be easily accessible at all points where wastes are generated;
- d. The site shall be kept clean and free of litter, and no litter from the site shall be allowed to disperse to surrounding areas;
- e. All personnel shall be instructed to dispose of all waste in the proper manner;
- f. No on-site burning, burying or dumping of any waste materials, litter or refuse shall occur;
- g. The Contractor shall identify and separate materials that can be re-used or recycled to minimise waste e.g. metals, packaging and plastics, and provide separate marked bins for these items;
- h. A dedicated waste management area must be established for the segregation of waste during the construction phase;
- i. All construction materials (e.g. bags of cement) must be suitably stored and protected, so that they do not become damaged and unusable;

- j. The Contractor shall be responsible for the regular disposal (at suitable and licensed municipal waste disposal facilities) of all waste generated as a result of the construction. Waste disposal slips shall be kept for auditing purposes;
- k. No dumping within the surrounding area shall be permitted, and no waste may be buried or burned on site;
- l. Where potentially hazardous substances are to be disposed of, a safe disposal slip shall be kept on record as proof of final disposal;
- m. General waste is to be collected either by the Municipality or via a municipal approved waste transporting contractor. The frequency of collections will be such that waste containment receptacles do not unduly accumulate or overflow;
- n. Waste should not be allowed to accumulate on site. The frequency of collections will be such that waste containment receptacles do not unduly accumulate or overflow; and
- o. Waste material should be removed entirely from the development area and disposed of at a formal disposal facility.

#### **7.4.12 Wastewater**

- a. No wastewater shall be disposed of to the surrounding soil or stormwater structures;
- b. All effluent water from the camp/ office sites shall be disposed of in a properly designed and constructed system;
- c. All wastewater that is contaminated with hazardous substances shall be collected in a container and disposed of as hazardous waste. Under no circumstances shall it be allowed to enter surface or groundwater resources, including stormwater;
- d. All cement wastewater shall be collected in a container, allowed to evaporate, and the sludge disposed of as hazardous waste. Under no circumstances shall it be allowed to enter soil, surface or groundwater resources, including stormwater;
- e. Wastewater that is contaminated with soaps, detergents, grease, oils, paints and other undesirable materials shall be collected in conservancy tanks and disposed of safely into a wastewater treatment facility; and
- f. Accidental spills shall be cleared and rehabilitated as soon as possible.

#### **7.4.13 Fire Control**

- a. A fire officer shall be appointed and shall be responsible for co-ordinating rapid, appropriate responses in the event of a fire;
- b. No burning of vegetation, whether to clear the vegetation, or of cleared vegetation, shall be permitted;
- c. Smoking shall not be permitted in those areas that pose a fire hazard. Such areas include areas where vegetation is such that a fire may spread rapidly e.g. vegetation stockpiles;
- d. Smoking shall only be permitted in designated smoking areas in the site camp;
- e. No cooking or heating fires shall be permitted, except in designated areas within the construction camp. No fires, or designated fire areas, shall be permitted outside of the construction camp;
- f. Sufficient fire-fighting equipment shall be maintained and be accessible on sites at all times. In particular, such fire fighting equipment shall be readily on hand in areas where hot work may be required; and

- g. In the event that the fire is too large for the on-site personnel to control, the Fire Brigade shall be called to extinguish it.

#### **7.4.14 Dust Control**

- a. To minimise dust impacts, areas to be cleared of vegetation or topsoil shall be cleared only when required, and shall be rehabilitated immediately on completion of the construction activity in that area;
- b. Access roads should be kept to a minimum and their length and width should be minimised to reduce the surface area from which dust can be generated;
- c. When necessary, appropriate dust control measures (such as wetting of soil) shall be implemented;
- d. Store aggregates 5 mm or less in size in enclosed structures;
- e. When transporting fine materials, dust tarps should be installed on vehicles;
- f. Limit speeds on access and internal roads to 40kmph; and
- g. Maintain a complaints register to monitor levels of nuisance experienced by neighbours and respond to complaints by increasing the frequency and/or intensity of the dust suppression.

#### **7.4.15 Noise Control**

- a. No construction to take place before 06:00 and after 18:00 from Monday to Saturday and before 08:00 and after 14:00 on a Sunday in line with NMBM noise by-law (2010);
- b. Should after-hours work be required, residents will be informed before-hand
- c. Exceedances of the noise limits must be investigated and corrective actions implemented; and
- d. A complaints record must be kept to record any complaints lodged resulting from noise disturbance.

#### **7.4.16 Heritage Considerations**

- a. If concentrations archaeological or palaeontological material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the Albany Museum and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA). Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue;
- b. All workers on site must be informed before construction starts on the possible types of heritage sites and cultural material that could be encountered and the procedures to follow in the event that such material is uncovered;
- c. All demolitions and unearthing's are to be recorded by means of photographs; and
- d. A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

### **Guidelines for the identification of archaeological and historical material**

#### **1. Human Skeletal material**

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping and developers are requested to be on the alert for this.

#### **2. Freshwater mussel middens**

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m<sup>2</sup> in extent, should be reported to an archaeologist.

#### **3. Stone artefacts**

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified

#### **4. Fossil bone**

Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

#### **5. Large stone features**

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as isisivane. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value. 6.

#### **6. Historical artefacts or features**

These are easy to identify and include foundations of buildings or other construction features and items from domestic and military activities.

### **7.4.17 Socio-Economic Considerations**

- a. The Contractor should ensure that the affected and surrounding community, Ward Councillors and other community representatives are familiar with the procedures to raise complaints, should they emerge;
- b. Employ labour intensive methods in construction where feasible;
- c. Sub-contract to local construction companies where possible; and
- d. Access to the construction site is to be restricted and the services of a security company commissioned if necessary to guard against unlawful occupation of residential units, vandalism, reinvasion of open land and any other criminal activities at and around the construction site.

### **7.4.18 Invasive Plant Management**

All alien invasive species and declared weeds must be identified and systematically removed (manually if possible), prior to attaining the seed formation phase in accordance with the National Environmental Biodiversity Act 10 of 2004. The implementation of a monitoring programme in this regard is recommended.

### 7.4.19 Fauna on Site

- a. Under no circumstance may any fauna, including snakes or other reptiles, be harmed or killed if found during clearing or construction. Every effort should be taken to herd fauna into the undeveloped areas or safely relocate any animal found to construction areas. This might include, for example, the presence of a specialist with expertise in handling reptiles on site during the removal of dead vegetation;
- b. No wildlife may be removed from the site or surrounding areas unless approved by the ECO in conjunction with the appropriate permits from DEDEAT. Any snakes found on site shall be left unhindered or, if necessary, captured and relocated by a reptile expert;
- c. No hunting, killing, capturing or snaring of wildlife to occur on the site or the surroundings. The contractor shall assume responsibility in this regard for all his employees and sub-contractors; and
- d. Vegetation clearing must occur in a phased manner in order to allow any fauna to migrate to adjacent areas safely.

### 7.4.20 Soils, Stormwater & erosion

- a. If an activity will mechanically disturb below the surface in any way, then any available topsoil should first be stripped from the entire surface to be disturbed and stockpiled for re-spreading during rehabilitation;
- b. Topsoil shall be stockpiled (to a height not exceeding 2 m) in demarcated areas;
- c. Topsoil shall be placed such that it will not be washed away by storm water or rainfall or blown away by wind. If necessary, it will be covered with suitable material (e.g. woodchips) to prevent it from eroding;
- d. Erosion measures shall be included in the design, particularly in sloped areas; and
- e. Implement an effective system of run-off control, where it is required (for example on roads and hard standing areas), that collects and safely disseminates run-off water from all hardened surfaces.

### 7.4.21 Existing Infrastructure and services

- a. Existing services infrastructure should not be damaged in any way;
- b. Care should be taken when construction activities approach any services; and
- c. If for any reason services do need to be interrupted, the relevant landowners/ affected parties should be notified in advance.

### 7.4.22 Traffic

- a. Install warning signage and ensure adequate sight distance along affected routes;
- b. Ensure construction vehicles are visible and make use of Victoria Drive (only) to gain access to site(s);
- c. Stop control be introduced at the Beethoven Avenue / Erf 11305 Access Road intersection (on the Access Road approach) to improve the safety of road users at this intersection;
- d. Stop control be introduced at the Victoria Drive / Erf 11305 Access Road and Victoria Drive / Erf 1948 Access Road intersections to improve the safety of road users at these intersections;

- e. A minimum shoulder sight distance of 175 m to be maintained at the site access points during the construction stage of the developments, by ensuring there are no objects (dirt bins, temporary road signs, etc.) present that can obstruct the sight distances of construction vehicles;
- f. The 100km/h speed limit on the western part of Victoria Drive should be reduced to 60km/h (eastbound direction) at a point approximately 100 m west of the new access intersection for Erf 11305, and that new speed limit signage be introduced accordingly;
- g. Signal timing optimisation should be carried out at the Buffelsfontein Road / 17th Avenue intersection;
- h. Any new public transport stops should consist of embayments, loading platforms, shelters and street lighting. Adjacent pedestrian crossing facilities should also be provided;
- i. Minimum 2 m wide sidewalks must be provided along the primary access roads to Erf 11305;
- j. Pedestrian crossing should be implemented at the access intersections to provide safe crossing points for pedestrians across Victoria Drive in these locations;
- k. Minimum 1.5m wide sidewalks should be provided along the predominant pedestrian route through the Walmer Heights area, between Erf 11305 and Miramar, to improve the safety of pedestrians along this route. The proposed sidewalks should be located along Beethoven Avenue, Schubert Road, Sibelius Street and Newcombe Avenue towards Buffelsfontein Road;
- l. Surfaced sidewalks of minimum 1.5 m width should be provided along at least the main link roads and collector streets within the development;
- m. Consideration should be given to the installation of dropped kerbs with tactile paving on pedestrian ramps at all intersections within the development, to assist mobility impaired persons when making use of pedestrian crossings at intersections;
- n. The proposed roads, sidewalks and walkways should be planned such that they can function as shared use facilities able of accommodating cyclists as well, should the use of bicycles as a mode of transport increase in this area in future;
- o. For unsegregated shared use sidewalks and walkways that are expected to be well used, a minimum width of 3 m is recommended. Where sidewalks and walkways are expected to be lightly used, a minimum width of 2 m would be sufficient.
- p. Consideration should be given to the provision of adequate road shoulders on the section of Victoria Drive, between the developments' new access intersections and Buffelsfontein Road, to improve the safety of cyclists along this route;
- q. Street lighting should be provided along all new roads and walkways within the developments, to provide increased security to NMT and other road users at night; and
- r. Parking provision should be in accordance with the South African Parking Standards Manual (DOT, 1985). Parking bays should also be provided for mobility impaired persons wherever possible and considered necessary.

### 7.4.23 Rehabilitation

- a. The contractor shall be responsible for the re-establishment of vegetation on all areas disturbed during construction. This includes the site camp and stockpile areas. This responsibility shall extend until expiry of the defects notification period;

- b. No exotic plants may be used for rehabilitation purposes. Only indigenous plants of the area may be used. Rehabilitation should be based on the original plant species composition of the plant community affected by the development;
- c. All alien invasive species and declared weeds must be identified and systematically removed (manually if possible), prior to attaining the seed formation phase in accordance with the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). The implementation of a monitoring programme in this regard is recommended, being the responsibility of the ECO;
- d. Rehabilitation of the disturbed areas must be implemented as soon as construction in that particular area is complete to stabilise top soils and to maximize viability of the natural seed bank and reduce loss of top soil during storage;
- e. Disturbed soils around construction areas should be suitably prepared (e.g. removal of alien vegetation, loosening of the soil if required, and spreading of topsoil);
- f. Stockpiled topsoil from the cleared areas shall be spread over the disturbed areas (approximately 100 mm thick) after construction in each area has been completed and shall be left to re-vegetate naturally unless the process does not occur unaided or if significant topsoil erosion occurs. The prepared surfaces shall be watered/ irrigated regularly for the initial 30 day period and monitored for natural re-growth;
- g. No seeding of replaced topsoil should be required, unless topsoil has been stored for a period longer than 12 months. Stockpiles should ideally be stored for no longer than six months;
- h. If sufficient plant growth has not established after a two month period, the still exposed areas (particularly on slopes) should be watered again or hydroseeded with an indigenous grass seed mix (specialist guidance shall be sought to determine the exact requirements) to prevent erosion of those areas. This should be guided and monitored by the ECO;
- i. Rehabilitation of areas where infrastructure is proposed in CBA's or CBA trade-off receiving areas is critical and rehabilitation success and alien plant growth must be monitored for at least six months after construction;
- j. Rehabilitation of disturbed instream and riparian habitats must occur during and after completion of construction. Any material removed from the instream or riparian zone must be returned and bedded in the original position as far as practically possible;
- k. Rehabilitation of slopes must be carried out so as to ensure the recovery of established drainage patterns;
- l. Spoil sites must be appropriately profiled and re-vegetated by the Contractor; and
- m. Compacted areas, e.g. due to movement of vehicles, shall be scarified to loosen soil and enable regrowth of vegetation.

## 7.5 Operational Phase

### 7.5.1 Vegetation

- a. Any areas where vegetation may become disturbed should be rehabilitated as soon as possible;
- b. Forest areas shall be maintained free of invasive alien vegetation; and
- c. Monitor the surrounding area for signs of dumping of waste, destruction of natural forest, and invasion of additional informal residences.



## 7.5.2 Invasive Plant Management

- a. Alien plants should also be removed during the operational phase as part of the NMBM Open Space Management Plan; and
- b. Educate residents so as to identify alien vegetation for firewood collection and indigenous forest for conservation.

## 7.5.3 Stormwater Management

- a. Monitor culverts and stormwater management features to see if erosion issues arise and if any additional erosion control is required; and
- b. Regular clearing and maintenance of the stormwater system to clear blockages.

## 7.5.4 Traffic

- a. The Buffelsfontein Road / 17th Avenue intersection should be upgraded in 2022 in order to operate at an acceptable LOS;
- b. The Victoria Drive / Access 2 (Erf 11305) Road intersection should be constructed in 2022;
- c. The Buffelsfontein Road / Victoria Drive intersection will require upgrading in 2027 in order to operate at an acceptable LOS. However, given that this traffic scenario is 10 years into the future, and numerous influencing factors may change by then, the need for geometric intersection upgrades should best be reviewed at that point in time; and
- d. Upon completion of the development, consideration should be given to the extension of a Public Transport feeder service into the development, or alternatively the introduction of new feeder services that can serve the residents of this development.

## 7.5.5 Wildlife

No hunting, killing, capturing or snaring of wildlife will occur on the site or the surroundings.

## 7.5.6 Fire Control

- a. No fires in forest areas shall be allowed

## 7.5.7 Visual

- a. The NMBM must maintain infrastructure and services in the new settlement; and
- b. The NMBM must monitor and prevent the spread of additional informal housing in surrounding areas.

## 7.5.8 Noise

Strict implementation of the NMBM noise control bylaws

## 7.5.9 Waste Management

- a. Appropriate municipal refuse collection services must collect domestic refuse on a regular weekly basis in accordance with the municipal waste management specifications;
- b. Sufficient and appropriately placed weather and vermin proof litter bins with lids shall be provided at relevant community facilities as well as in strategic areas around the site for disposal of solid waste; and


- c. Regular inspections of the surrounding areas for signs of dumping and educating community members to inform the NMBM of such activities.

## 7.6 Decommissioning

The lifespan of the proposed development is indefinite and no closure/ decommissioning phase is therefore proposed. Consequently no management control measures are required and/ or proposed.

## 7.7 Health & Safety

It is noted here that this EMPr is not a Health and Safety Plan. It is the contractor's responsibility to ensure that a Health and Safety Plan, as per the requirements of the Occupational Health and Safety Act, is prepared prior to any physical work occurring on site. The contractor shall at all times observe proper and adequate safety precautions on site and shall be deemed responsible for security of the site. The proper health and safety regulations will be applied to all sub-contractors and staff.



## 8 Way Forward

The public participation programme has given IAPs an opportunity to assist with the identification of issues and potential impacts, and further opportunity will be provided during the Impact Assessment phase.

The Executive Summary of this Draft Environmental Impact Report has been distributed to all registered IAPs. A printed copy of this report is available for public review at the Walmer Public Library (Main Road, Walmer, Port Elizabeth). The report can also be accessed as an electronic copy on SRK Consulting's webpage via the 'Public Documents' link: <http://www.srk.co.za/en/page/za-public-documents>

Written comment on this Draft EIR should be sent by **17h00 on 20 November 2017** to:

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The Draft Environmental Impact Report (this report) has been submitted to DEDEAT and the other relevant authorities, for comment before compilation of the Final Environmental Impact Report.

Once IAPs have commented on the information presented in the DEIR, the Final Environmental Impact Report (FEIR) will be produced and submitted to DEDEAT to use in order to take a decision about the proposed development. The public is therefore urged to submit comments, as the comments will affect the FEIR and the decision taken by DEDEAT.

**Prepared by:**

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Principal Environmental Scientist

**Reviewed by**

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

## 9 References

- ALMOND, J.E. 2010. *Palaeontological heritage assessment of the Coega IDZ, Eastern Cape Province*, 112 pp. plus appendix. Natura Viva cc, Cape Town
- ALMOND, J.E. 2014. *Recommended exemption from further palaeontological studies: proposed low-cost housing development on erf 1305, Walmer, Nelson Mandela Bay Municipality, Eastern Cape*, 5 pp. Natura Viva cc, Cape Town
- BOOTH, C. 2014. *A Phase 1 Archaeological Impact Assessment for the proposed Walmer Gqebera Low-Cost Housing Development on erf 11305, Walmer, Port Elizabeth, Nelson Mandel Bay Municipality, Eastern Cape Province*, 40 pp. Booth heritage Consulting. Grahamstown
- CLARK, B, KRUGER, S. and LOUW, M. 2014. *Forest Survey on Erf 11305, Walmer, Port Elizabeth*, 19 pp. CEN:IEM, Port Elizabeth
- COLLOTY, B. 2014. *Erf 11305 Walmer Housing development: Aquatic Assessment*, 17 pp. Sherman Colloty and Associates, Grahamstown
- FERNRIDGE CONSULTING 2008. *Coega Mixed Land Use Development, Port Elizabeth*. Full Market Research.
- INTERNATIONAL LABOUR ORGANISATION 2010. 'Community Level Research on the potential for Social Enterprise Development in Three Targeted Communities in the Nelson Mandela Metropole'.
- LE ROUX, F.G. 1992. *Lithostratigraphy of the Nanaga Formation (Algoa Group)*. Lithostratigraphic Series, South African Committee for Stratigraphy, 15, 9 pp. Council for Geoscience, Pretoria.
- LE ROUX, F.G. 2000. *The geology of the Port Elizabeth – Uitenhage area. Explanation of 1: 50 000 geology Sheets 3325 DC and DD, 3425 BA Port Elizabeth, 3325 CD and 3425 AB Uitenhage, 3325 CB Uitenhage Noord and 3325 DA Addo*, 55pp. Council for Geoscience, Pretoria.
- MANDELA BAY DEVELOPMENT AGENCY 2013. *Annual Report 2012/13*
- MAUD, R.R. & BOTHA, G.A. 2000. Deposits of the South Eastern and Southern Coasts. Pp. 19-32 in Partridge, T.C. & Maud, R.R. (Eds.) *The Cenozoic of Southern Africa. Oxford Monographs on Geology and Geophysics No 40*. Oxford University Press. Oxford, New York.
- METROPLAN. 2014 *Walmer Local Spatial Development Framework (Draft)*
- NELSON MANDELA BAY MUNICIPALITY 2006. *Integrated Development Plan 2006/7 – 2010/11 8th ed (2009/10 Financial Year)*.
- NELSON MANDELA BAY MUNICIPALITY 2015. *Draft Metropolitan Strategic Development Framework*.
- NEL, J.L., MURRAY, K.M., MAHERRY, A.M., PETERSEN, C.P., ROUX, D.J., DRIVER, A., HILL, L., VAN DEVENTER, H., FUNKE, N., SWARTZ, E.R., SMITH-ADAO, L.B., MBONA, N., DOWNSBOROUGH, L. and NIENABER, S. (2011). *Technical Report for the National Freshwater Ecosystem Priority Areas project*. WRC Report No. K5/1801.
- NELSON MANDELA BAY MUNICIPALITY 2013. *Integrated Development Plan 2011-2016 12th ed (2013/14 Financial Year)*.
- NELSON MANDELA BAY MUNICIPALITY 2014. *Integrated Development Plan 2011-2016 13th ed (2014/15 Financial Year)*.
- NELSON MANDELA BAY MUNICIPALITY 2014. *Nelson Mandela bay Municipality Final Bioregional Plan*, 53 pp plus appendices. SRK Consulting, Port Elizabeth.
- ROBERTS, D.L., BOTHA, G.A., MAUD, R.R. & PETHER, J. 2006. *Coastal Cenozoic deposits*. Pp. 605 – 628 in Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) *The geology of South Africa*. Geological Society of South Africa, Johannesburg & Council for Geoscience, Pretoria.
- [www.investinnelsonmandelabay.co.za](http://www.investinnelsonmandelabay.co.za)
- [www.izizweprojects.co.za](http://www.izizweprojects.co.za)
- [www.statssa.gov.za](http://www.statssa.gov.za)

# Appendices

## **Appendix A: EIA Application Form and EAP Declaration of Interest**

## **Appendix B: Newspaper Notices and on-site posters**





## PROPOSED WALMER GQEBERA HOUSING DEVELOPMENT – ERF 11305 NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESS

Notice of an Environmental Impact Assessment (EIA) and associated Public Participation Process is given in terms of regulation 54(3) of the regulations published in Government Gazette No. R543 under Section 24(5) of the National Environmental Management Act (Act No.107 of 1998), that an application has been submitted to the competent authority, the Department of Economic Development, Environmental Affairs & Tourism (DEDEAT) to carry out the proposed activity :GN R.545 Item 15: Physical alteration of undeveloped , vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more.

### Description and Locality of the Proposed Activity:

An EIA has commenced to assist the applicant, Nelson Mandela Metropolitan Municipality(NMBM), in determining the extent and significance of the environmental consequences associated with the proposed construction of low cost housing and associated facilities and infrastructure on erf 11305 Walmer, within the Nelson Mandela Bay Metropolitan Municipality, to cater for the overflow of residents currently living in informal settlements in the Walmer Gqebera area. Approximately 1400 residences are proposed, but this number will depend on the environmental and other constraints of the site and layout agreed to by the beneficiaries. The development will connect onto existing bulk services infrastructure in the area.

### Public Participation:

Public participation is the cornerstone of the EIA process, and your comments have an important role in determining the environmental, social and economic issues to be assessed, and the decision to be taken by the Competent Authority. Please note that only registered Interested & Affected Parties (IAPs) will be notified of the future availability of reports and be invited to provide comments on their content. You are therefore encouraged to register your interest by contacting SRK Consulting using the contact details listed below.

#### Environmental Impact Assessment:

An EIA is a planning and decision-making tool that is used to identify the environmental consequences of a proposed project, before the development takes place.

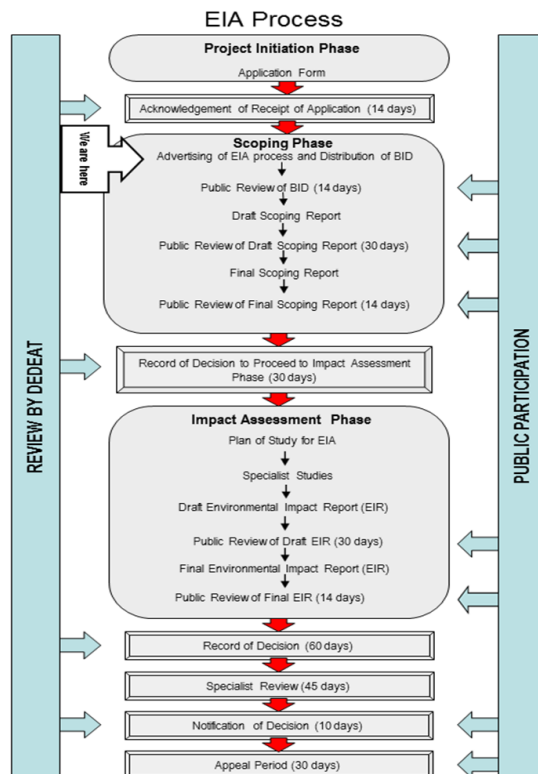
The purpose of the EIA is to demonstrate to the authorities and the proponent what the potential consequences of their choices will be in environmental, economic and social terms. Public issues and concerns must therefore be identified timeously so that these can be evaluated and incorporated into the final design if necessary. The EIA consists of two phases. The first phase is a Scoping Study, which identifies potential issues requiring more detailed investigation via specialist studies. A complete list of specialist studies and the issues they should address will be provided for comment in the Draft Scoping Report. The second phase is the Impact Assessment phase, during which detailed investigations of the issues identified during scoping, will be undertaken.

To register your interest in the proposed activity please contact

**Wanda Marais** of SRK Consulting at:

Post: **PO Box 21842, P.E, 6000**; Fax: **(041) 509 4850**;

Email: **wmarais@srk.co.za**

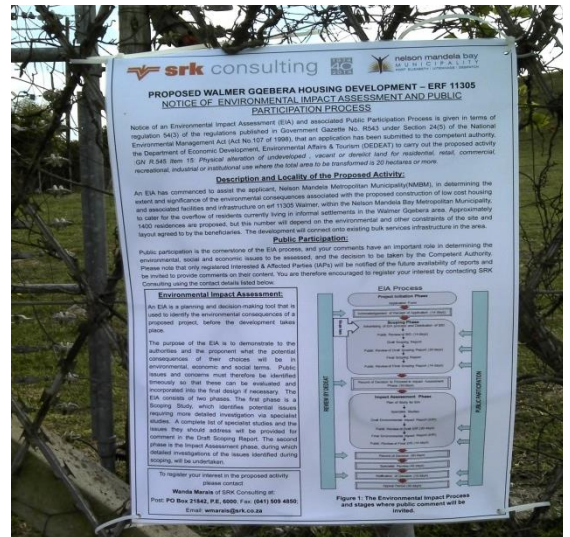


**Figure 1: The Environmental Impact Process and stages where public comment will be invited.**

### Content of Onsite Poster



Poster placed on fence at the Beethoven Ave access to erf 11305



Poster along Victoria Drive opposite the airport reservoir

## **Appendix C: Background Information Document**

## **Appendix D: IAP Register & Correspondence**

## **Appendix D1: IAP Register**

## **Appendix D2: Proof of Amended FSR Distribution**

Due to the protection of personal information, proof of distribution will only be made available to the  
Competent Authority

## **Appendix D3: IAP Correspondence on Amended FSR**

For all earlier IAP correspondence please refer to the Amended FSR

## **Appendix E: Meetings**



## **Appendix E1: Attendance Registers**

## **Appendix E2: Minutes**

## **Appendix F: Site maps & Design Drawings**

## **Appendix G: Title Deeds**

## **Appendix H: Site Photographs**

## **Appendix I: Engineering Services Report**

## **Appendix J: Previous Record of Decision**

## SRK Report Distribution Record

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