



38 Jacaranda Street, Arboretum, Richards Bay
P.O. Box 101672, Meerensee, 3901
Telephone: 035 789 0632 / 078 284 9332 Fax: 086 535 8846
Website: www.emveloconsultants.co.za E-mail: info@emveloconsultants.co.za

Integrity | Honesty | Excellence



DRAFT SCOPING REPORT

REF: DC25/0007/2021: KZN/EIA/0001652/2021

The Proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, Kwazulu-Natal.

OCTOBER 2021

Prepared by:

**Emvelo Quality and Environmental Consultant
(PTY) Ltd.**

Prepared for:

Phumaf Consulting Engineers



On Behalf of:

Newcastle Local Municipality



Applicant Details:

Name of Applicant	New Castle Local Municipality
Contact Person	Themba Nkomzwayo
Address	37 Murchison Street, Newcastle
Contact Number	(034) 328 7851
Email Address	Themba.nkomzwayo@newcastle.gov.za

Environmental Assessment Practitioner (EAP) Details

Name of Consultancy	Emvelo Quality and Environmental Consultant (PTY)Ltd
Professional affiliation body	Pr. Sci. Nat (SACNASP) EAPASA IAIAsa Affiliate Member
Name of EAP's	Phumzile Lembede (B.Sc. Honours in Environmental Management) Dumisani Myeni (B.Sc. Honours in Environmental Management)
Postal Address	P.O. Box 101672, Meerensee, 3901
Physical Address	38 Jacaranda Street, Arboretum, Richards Bay 3900.
Telephone Number	035 789 0632
Fax Number	086 577 5220
Email Address	info@emveloconsultants.co.za

PROJECT TEAM	CLIENT CONTACT PERSON
Phumzile Lembede	Themba Nkomzwayo
Dumisani Myeni	

Overview: Assessment of impacts related to the proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, in order to ensure the Client's compliance with all relevant environmental legislations.

Project Team Details	
Principal EAP	<p>Phumzile Lembede (BSc. Honours in Environmental Management)</p> <p>Registered: Pr.Sci.Nat (Environmental Science) & EAPASA</p> <p>Field: Environmental Management & Water Resource</p> <p>10 Years' Experience</p> <p>phumzile@emveloconsultants.co.za</p>
Study Lead	<p>Dumisani Myeni (BSc. Honours in Environmental Management)</p> <p>Registered: Cand.Sci.Nat (Environmental Science)</p> <p>Field: Environmental Management, Water Resource & Waste Management.</p> <p>9 Years' Experience</p> <p>dumisani@emveloconsultants.co.za</p>

QMS - INFORMATION

REPORT AUTHOR

DUMISANI MYENI
ENV. CONSULTANT

REVIEWED BY

PHUMZILELEMBEDE
ENV.CONSULTANT

QMS-REVISION HISTORY

Revision	Revision Date	Details	Authorized	Name	Position
1	10-09-2021	FINAL Scoping Report	Y	Dumisani Myeni	Study Lead Env. Scientist
2	08-10-2021	FINAL Scoping Report	Y	Phumzile Lembede	Principal EAP Env. Scientist

Table of Contents

LIST OF ACRONYMS.....	1
GLOSSARY OF ITEMS	2
PURPOSE OF THIS DOCUMENT	5
LIMITATIONS AND ASSUMPTIONS.....	6
EXECUTIVE SUMMARY	7
1 INTRODUCTION	10
2 PROJECT TITTLE	10
3 PROJECT DESCRIPTION	10
4 BACKGROUND AND PURPOSE OF THE SCOPING REPORT	11
5 DETAILS OF ROLE PLAYERS	11
5.1 Environmental Assessment Practitioner.....	11
5.2 Expertise required.....	12
6 EIA PROCESS AND METHODOLOGY.....	13
6.1 Scoping Process.....	14
6.2 Landowner.....	15
6.3 Consultation with Authorities	15
6.4 Consultation with other relevant authorities.....	15
6.5 Overview of the Public Participation Process.....	16
6.6 Scoping Phase Public Participation	16
6.6.1 Notification of the Interested and Affected Parties (I&APs)	17
6.6.2 Review of Draft Scoping Report.....	18
6.6.3 Comments from the registered Interested and Affected Parties (I&APs).	18
6.7 Screening of Alternatives	19
6.8 Prediction of Impact.....	19
7 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES	20
7.1 Environmental Assessment Triggers	25
8 PROJECT LOCALITY.....	25
8.1 Geographic locational context.....	25
8.2 Site Context.....	26
9 SITE ACCESS	27

10 ACTIVITY MOTIVATION.....	27
10.1 The need	28
10.2 Desirability.....	28
11 HOUSING DEVELOPMENT AND BULK INFRASTRUCTURE UPGRADES.....	29
11.1 Soul City/Majorisa Settlement Patterns	29
11.1.1 Proposed Housing development and formalisation of erven	30
11.2 Municipal/Local Roads	30
11.2.1 The proposed development of local roads	30
11.3 Water and sanitation.....	30
11.3.1 Proposed upgrades of bulk water and sewer pipeline	31
11.4 Proposed Stormwater	32
11.5 Electricity Supply	32
12 SITE ALTERNATIVE	32
12.1 Alternative A (Site Layout and Routing Alternative).....	33
12.2 Alternative B (Design Alternative)	34
12.2.1 The Design for community upgrades	35
12.2.2 Mixed use design development.....	36
12.3 Alternative C (Technology Alternative)	37
12.4 Alternative D (No-Go Alternative)	38
12.5 Screening of alternatives and methodology	38
12.5.1 Environmental sensitivity for potential alternatives	39
12.6 Preferred Alternative.....	44
13 DESCRIPTION OF BASELINE ENVIRONMENT.....	45
13.1 Climate.....	45
13.1.1 Potential impact	46
13.2 Hydrology	46
13.2.1 Rivers and dams.....	47
13.2.2 Wetlands	47
13.2.3 Potential impacts of the project hydrological features	48
13.2.4 Proposed Wetland/Flood line Delineation and Impact Assessment.....	49
13.3 Topography	49
13.3.1 Potential impacts	50
13.4 Geology	50

13.4.1 Potential impacts	51
13.4.2 Proposed Geotechnical Assessment	51
13.5 Biomes.....	52
13.6 Flora	53
13.6.1 Potential Impacts	54
13.7 Protected Areas	54
13.7.1 Potential Impacts	56
13.7.2 Proposed Terrestrial Biodiversity Impact Assessment	56
13.8 Fauna	57
13.8.1 Potential Impacts	57
13.8.2 Proposed Terrestrial Biodiversity Impact Assessment	57
13.9 Visual environment and land use character.....	58
13.9.1 Potential Impacts	59
13.10 Heritage and cultural aspects.....	59
13.10.1 Potential Impacts	60
13.10.2 Paleontological, Archaeological and Cultural Heritage Impact Assessment	61
13.11 Social and economic aspects.....	61
13.11.1 Potential Impacts	61
13.11.2 Socio-economic Impact Assessment	62
14 WASTE AND AMBIENT AIR POLLUTION.....	62
14.1 Waste management: construction phase.....	62
14.2 Waste management: operational phase	62
14.3 Effluent	63
14.4 Ambient air pollution and atmospheric emissions	63
14.5 Noise management	63
15 WATER USE	64
16 IDENTIFICATION OF POTENTIAL IMPACTS	65
16.1 Approach	65
16.2 Potential Biophysical and Social Impacts	66
16.3 Mitigation Measures.....	72
17 CUMULATIVE IMPACTS.....	72
18 PLAN OF STUDY.....	73
18.1 Details of Applicant.....	74

18.2 Details of Environmental Assessment Practitioner	74
18.3 Summary of Project Description	75
18.4 Summary Description of the Baseline Environment	75
18.5 Summary of Alternatives	76
18.6 Summary of Public Participation to date.....	77
18.7 Description of Environmental Issues Identified During Scoping.....	77
18.8 Impact Assessment Methodology	78
18.9 Specialist studies identified	80
18.9.1 Wetland/Flood line Delineation and Impact Assessment.....	81
18.9.2 Terrestrial Biodiversity Impact Assessment.....	82
18.9.3 Social Impact Assessment.....	83
18.9.4 Paleontological/ Archaeological and Cultural Heritage Impact Assessment	83
18.10 General Terms of Reference	84
19 EIA REPORT	86
20 TIME FRAMES.....	88
21 CONCLUSION	88
22 REFERENCES	90
23 BIBLIOGRAPHY	92
APPENDICES	94
Appendix A. DECLARATION OF INFORMATION.....	95
Appendix B. MAPS, LAYOUTS & MUNICIPAL SERVICE LETTER.....	96
B1- Locality Map.....	97
B2-Layout Designs.....	98
B3-Municipal Service Letter	99
Appendix C. SITE PHOTOGRAPHS.....	100
Appendix D. PUBLIC PARTICIPATION PROCESS	101
D-1: News Paper Advert.....	102
D-2: Onsite Notices	103
D-3: Public Participation Plan and Register of I&APs	104
D-4: Background Information Document.....	105
D-5: Proof of Circulation to I&APs	106
D-6: Comments and Responses	107

APPENDIX E. EA PRE-APPLICATION MINUTES	108
Appendix F. EAP'S CV(S)	109
APPENDIX G. SCREENING REPORT	110

List of Figures

Figure 1: Scoping and EIA Process Flow Diagram	14
Figure 2: Geographic locational context of Soul City/Stafford Hill Housing Development	25
Figure 3: Locality map (Proposed Soul City/Stafford Hill Housing Development).....	27
Figure 4: Site Layout and Routing Alternative	34
Figure 5: Alternative B (Layout Design Alternative)	35
Figure 6: Soul city/Stafford Hill Housing Development Phase approach	37
Figure 7: Newcastle climate graph [Source: Climate-Data.Org].....	46
Figure 8: Map showing 32 wetland buffer and 500 buffer the hydrological features	48
Figure 9: Contour Map showing elevations of the locality for the project area.....	50
Figure 10: Map showing a dominance geological formation within the project site	51
Figure 11: Map Showing the biome within a study area.....	52
Figure 12: Map showing the vegetation types	53
Figure 13: Map showing CBAs outside the project reach	56
Figure 14: Case images for site locality current visual aspect	58
Figure 15: Palaeontological Sensitivity [https://sahris.sahra.org.za/node/add/heritage-cases]	60
Figure 16: Overflown communal waste skips	63
Figure 17: Communal standpipes.....	65

List of Tables

Table 1: Scoping Phase Public Participation	8
Table 2: EIA Phase Public Participation	8
Table 3: Project Team	12
Table 4: Team of Specialists	12
Table 5: Notification of I&APs	17
Table 6: Scoping Phase Public Participation.....	17
Table 7: Environmental Legislative Context	20
Table 8: Co-ordinates (Proposed Soul City/Stafford Hill Housing Development)	26
Table 9: 21-digits Surveyor General Code	26
Table 10: Description of the various sensitivity categories.....	40
Table 11: Subcategories of CBA and ESAs [Source: Ezemvelo KZN Wildlife,2016].....	55
Table 12: Potential Biophysical Impacts.....	67

Table 13: Potential Social Impacts70

Table 14: Cumulative Impacts73

LIST OF ACRONYMS

BAR	Basic Assessment Report
CFP	Chance Finds Procedure
DWS	Department of Water and Sanitation
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs
DOT	Department of Transport
EMPr.	Environmental Management Programme
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
HGM	Hydrogeomorphic
MSDS	Material Safety Data Sheet
NEMA	National Environmental Management Act 107 (Act 107 of 1998)
NEMPAA	National Environmental Management: Protected Areas, 2003 (Act 57 of 2003)
I&AP	Interested and Affected Parties
EAP	Environmental Assessment Practitioner
GA	General Authorisation
SCADA	Supervisory Control and Data Acquisition
SCC	Species of Conservation Concern

GLOSSARY OF ITEMS

DEVELOPMENT: the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.

BIODIVERSITY: The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.

BASIC ASSESSMENT: The process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of the application, in terms of Listing Notice 1 (GNR 327 and 324 of 2017) of NEMA (as amended).

DEVELOPMENT FOOTPRINT: any evidence of physical alteration because of the undertaking of an activity.

CONTRACTOR: companies and or individual persons appointed on behalf of the client to undertake activities, as well as their sub-contractors and suppliers.

ENVIRONMENTAL CONTROL OFFICER (ECO): an individual nominated through the client to be present on-site to act on behalf of the client in matters concerning the implementation and day to day monitoring of the EMPr and conditions stipulated by the authorities as prescribed in NEMA.

ENVIRONMENT: in terms of the NEMA (as amended), the “environment” means the surroundings within which humans exist and that are made up of:

- the land, water, and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) of (ii) and the interrelationships among and between them;
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

ENVIRONMENTAL IMPACT: the change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization’s activities, products or services.

HYDROLOGICAL SYSTEM: water bodies and their connectivity to the welfare of an ecosystem.

MITIGATION: the measures designed to avoid reduce or remedy adverse impacts.

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr): a detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the lifecycle of the project. This EMPr focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

POLLUTION: NEMA defines pollution to mean any change in the environment caused by the substances; radioactive or other waves; or noise, odours, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people or will have such an effect in the future.

WATER POLLUTION: the National Water Act, 1998 (Act 36 of 1998) defines water pollution to be the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful (a) to the welfare, health or safety of human beings; (b) to any aquatic or non-aquatic organisms; (c) to the resource quality, or (d) to property.

REHABILITATION: rehabilitation is defined as the return of a disturbed area to a state which approximates the state (wherever possible) which it was before the disruption.

WATERCOURSE: can be a) a river or spring; b) a natural channel or depression in which water flows regularly or intermittently; c) a wetland, lake or dam into which, or from which, water flows; and/or d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

WETLAND: the 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 land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

INDIGENOUS VEGETATION: refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

GENERAL WASTE: waste that does not pose an immediate hazard or threat to health or the environment, and includes domestic waste; building and demolition waste; business waste; and inert waste.

HAZARDOUS WASTE: hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

GENERAL WASTE LANDFILL SITE: a waste disposal site that is designed, managed, permitted and registered to allow for the disposal of general waste.

INTERESTED AND AFFECTED PARTY (I&AP): for the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, an interested and affected party contemplated in Section 24(4) (a) (v), and which includes (a) any person, group of persons or organization interested in or affected by such operation or activity; and (b) any organ of state that may have jurisdiction over any aspect of the operation or activity.

PURPOSE OF THIS DOCUMENT

Assessment of impacts related to the proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, in order to ensure the Client's compliance with all relevant environmental legislations. These activities are carried out in terms of Section 24(5) and Section 44 of the National Environmental Management Act, 1998 (Act No.107 of 1998) as read with the Environmental Impact Assessment (EIA) Regulations of 04 December 2014, amended in 2017.

The purpose of the Scoping Process, as the first phase of the Environmental Impact Assessment (EIA) process includes but not limited to the following;

- ✚ Identify the relevant policies and legislation relevant to the activity.
- ✚ Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location.
- ✚ Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process.
- ✚ Identify and confirm the preferred site, through a detailed site selection process, which includes all the identified alternatives focusing on the geographical, physical, biological, social, economic and cultural aspects of the environment.
- ✚ Identify the key issues to be addressed in the assessment phase.
- ✚ Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration, and probability of the impact to inform the location of the development footprint within the preferred site; and
- ✚ Identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

LIMITATIONS AND ASSUMPTIONS

The following assumptions and limitations accompany the scoping exercise:

- ✚ In accordance with the purpose of Scoping, the report does not include specialist investigations on the receiving environment, which will only form part of the Environmental Impact Report (EIR). The environment in the project area was primarily assessed in the Scoping phase through site visits and appraisals, desktop screening, incorporating existing information from previous studies, and input received from authorities and IAPs.

EXECUTIVE SUMMARY

The Newcastle Local Municipality (NLM) proposes to develop Soul City/Stafford Hill Houses for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, Kwazulu-Natal. Soul City is part of the broader Majorisa settlement within Osizweni/Madadeni. This project aims for formalization and densification of Soul City, through formalization of erven to fit approximately 3500 housing units with inclusive of the *In-Situ* Upgrades/Formalizations of 1800 existing erven over an extent of more than 217 hectares, and bulk infrastructure such as: roads, water, stormwater and sewer. Addressing of the housing demand will require, formalisation, densification, and integration of housing development. This will: Facilitate restructuring of spatially inefficient settlements; Promote the sustainable use of the land; Channel resources to areas of greatest need and development potential; And redress the inequitable historical treatment of marginalized areas.

As a result, Emvelo Quality and Environmental Consultant (PTY) Ltd has been appointed by Phumaf Consulting Engineers (the Project Principal Agent) on behalf of Newcastle Local Municipality (the Applicant), as the independent Environmental Assessment Practitioner (EAP), to facilitate the Scoping and Environmental Impact Assessment Process required in terms of the National Environmental Management Act ,1998 (Act. No. 107 of 1998) for this application.

The NEMA, and the Environmental Impact Assessment (EIA) Regulations (2014) as amended in 2017, govern the process of applying for environmental authorization for certain developments. A provision in the EIA Regulations is made for two forms of assessment: Basic Assessment and Scoping & EIA, depending on the scope of the activity. The EIA regulations specify that: Activities identified in Listing Notice 1 and 3 (GNR 327 and 324 of 2017) requires a Basic Assessment while activities identified in Listing Notice 2 (GNR 325 of 2017) are subject to a Scoping and EIA. The listed activity associated with the proposed development is: Listing Notice 1, Activity 9, 10,12 and 19; Listing Notice 2 Activity 15. Therefore, this application will follow a Scoping/EIA process.

The Public Participation Process (PPP) for both the Scoping and Environmental Impact Assessment will be undertaken in accordance with chapter 6 of GN No. 326 (7 April 2017). As well as the EIA regulations and the Disaster Management Act, 2002 (Act No. 57 of 2002) as published on 29 April 2020.

The following section outlines steps to be followed during the Scoping and EIA phase.

Table 1: Scoping Phase Public Participation

Scoping Phase
Interested and Affected Parties (I&APs) have been identified throughout the process. Initial identification of I&APs includes immediate landowners, ward Councillors, local and district municipalities, and relevant state departments and organs of state (Refer to PP Plan)
Notification BIDs have been circulated to all identified I&APs informing them of the proposed development and the opportunity to comment.
The A3 onsite notices have been placed at boundaries and intersections as well as strategic points (Refer to PP Plan)
An advertisement was placed on the Newcastle advertiser, published on (30/07/2021).
Due to the COVID-19 regulations, where the gathering of large mass is prohibited, several approaches will be implemented to facilitate an inclusive public participation. The Emvelo Consultants (EAPs) had a meeting with the Ward Councillor to discuss about the project, and communication strategy. The ward councillor and focus group (Ward committee) to play an important role for facilitation of information dissemination in the same approach of the snowball communication effect methodology. (Refer to PP Plan). Draft Scoping Report, and Draft EIR will be forwarded to ward councillor and focus group as an electronic (CD & email), as well as hardcopy documents based on their request. The EAPs will then set up the online meeting with the ward councillor and focus group to discuss the contents of the Draft EIR empower the group toward effective information dissemination.
Copies of the report will be delivered or sent via an email to relevant State Departments and Organs of State. Their comment will be requested in terms of 24O of NEMA.
All comments received during the commenting period will be included in the Final Scoping Report.

Table 2: EIA Phase Public Participation

EIR PHASE
Receive approval for the Scoping Report and the Plan of Study for EIA.
Compile Draft Environmental Impact Report (EIR) for public comment based on specialist information.
Submit copies of the Draft EIR to EDTEA and relevant State Departments and Organs of State and notify them of the commenting period (in terms of Section 24O of NEMA).
Notify Registered I&APs of the opportunity to comment on the EIR.
Make the EIR available for a 30-day commenting period.
Receive comments on the EIR.
Preparation of an EIR for submission to EDTEA including proof of the Public Participation Process comments received and our responses to these comments.

The information contained in this Scoping Report and the documentation attached hereto is suffice for I&APs to apply their minds to the potential negative and/or positive impacts associated with the development, in respect of the activities applied for.

The description of the environment that may be affected by the activity is outlined as follows: The climate is warm and temperate, with average temperature of (16.0 °C) also, with the annual mean precipitation of 895mm mostly received during summer; The project site is located within V31K and V32B Quaternary Catchments under Pongola-Mtamvuma Water Management Area, boarded by the Buffalo (Buffels) River and its tributary (iNgangane River) along the drainage lines/flood plains traversing at approximately 2km and 1km north of the proposed development site, respectively, and it flood line emptying across the north-western boundary of the project forming a pan of wetlands; The topography of the project locality is relatively flat, ranging between 1180m to 1220m above mean sea-level; The study area falls within Savanna biome dominated by the Income Sandy Grassland “Vulnerable” of a 24% conservation target, with an intrusion of: Temperate Alluvial Vegetation, and Midland Floodplain Grasslands; There are no CBAs and ESA within the reach of the development site; The geological composition of the project locality is largely dominated by Arenite geological; A preliminary desktop study for palaeontological fossils sensitivity of the proposed site, reveals that the site falls within high sensitivity.

Direct and Indirect Impacts as a result of the proposed development, can be emphasis as Bio-Physical Impacts and Socio-Economic Impact. These will be outlined by the EIR.

1 INTRODUCTION

Envelo Quality and Environmental Consultant (PTY) Ltd. has been appointed by Phumaf Consulting Engineers (PTY) Ltd, on behalf of New Castle Local Municipality, to undertake an Environmental Impact Assessment (EIA) for the Proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, Kwazulu-Natal.

This report has been prepared in compliance with the requirements of the following legislation:

- ✚ The National Environmental Management Act, 1998 (Act No. 107 of 1998) [“NEMA”];
- ✚ The Environmental Impact Assessment (“EIA”) Regulations contained in Government Notice (GN) No. R982 of 2014 as promulgated in terms of the NEMA [“EIA Regulations”] as amended up to and including GN 326 in GG 40772 of 07 April 2017.

This will include the facilitation of the Scoping/Environmental Impact Assessment processes required in terms of the NEMA for this application.

2 PROJECT TITTLE

The Proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, Kwazulu-Natal.

3 PROJECT DESCRIPTION

The proposed development will comprise of the following components:

- ✚ Development for the formalization of erven to fit approximately 3500 housing units with inclusive of the *In-Situ* Upgrades/ Formalizations of 1800 existing erven over an extent of more than 217 hectares;
- ✚ Development of approximately 35 153m road networks within the settlement;
- ✚ Development of bulk sewer infrastructure and reticulation of approximately 18 420 m with diameter ranging from 150mm ø – 370mm ø, for a Full Waterborne Sanitation System with estimated Average Daily Wet Weather Flow of 390 kℓ/day;

- ✚ Development of approximately 11 300 m of new stormwater infrastructure, comprises the concrete lined channel and 5 700 m Pipe Culvert;
- ✚ Development of bulk water and connector infrastructure of 315mm ø uPVC pipe of approximately 6 250 m of pipeline with a peak flow rate of 112.22ℓ/s and approximately 12 300m reticulation network.

The proposed Soul City/Stafford Hill housing development project aim for formalization and densification of Soul City in Majorisa settlement. The construction period is estimated to be 5years with its commissioning period estimated to be by end of 2027.

4 BACKGROUND AND PURPOSE OF THE SCOPING REPORT

This report fulfils the requirement of the EIA Regulations for the documentation in the scoping phase. The structure of this report is based on part 3 of GN R.326, of the EIA Regulations as amended, which clearly specifies the required content of a scoping report.

The purpose of these Regulations is to regulate procedures and set criteria as contemplated in Chapter 5 of the Act to enable the submission, processing, consideration, and decision-making regarding applications for environmental authorization of activities and matters pertaining thereto.

5 DETAILS OF ROLE PLAYERS

5.1 Environmental Assessment Practitioner

In accordance with Appendix 2, Section 2(1)(a) of GN No. 326 (7 April 2017), this section provides an overview of Emvelo Consultant and the company's experience with EIAs, as well as the details and experience of the EAPs that form part of the project, as well of team of specialists, as detailed by (**Table 3 &4**) below:

Table 3: Project Team

Name	Qualification	Experience (Years)	Duties
Phumzile Lembede	BSc Honours in Environmental Management. (EAPAS, IAIA & Pr.Sci.Nat. environmental science)	10	Principal EAP (Project Manager & Environmental Scientist)
Dumisani Myeni	BSc Honours in Environmental Management. (Cand.Sci.Nat. environmental science)	9	Study Lead (Environmental Scientist)

5.2 Expertise required

The following team of specialists will provide an expertise knowledge through assessment of identified impacts:

Table 4: Team of Specialists

Name	Qualification	Experience (Years)	Duties
Dr. Sindiso Nkuna	PhD in Grassland Science BSc Honours in Biological Sciences (Pr.Sci.Nat. Ecological Science)	12 years	Terrestrial Biodiversity Impact Assessment
Nhlakanipho Zondi	BSc (Honours) in Hydrology (Pr.Sci.Nat Water Resource)	11 years	Wetland/Flood line Delineation and Impact Assessment

Roy Muroy	Masters Archaeology Cultural Heritage and Museum Studies (Professional Member of Association of Professional Heritage Practitioners; Professional Member of Association of Southern African Professional Archaeologists).	7 years	Paleontological, Archaeological and Cultural Heritage Impact Assessment
-----------	---	---------	--

6 EIA PROCESS AND METHODOLOGY

The Environmental Impact Assessment (EIA) for the proposed Soul City/Stafford Hill Housing Development for Formalization of Semi-formal Settlement in Majorisa project, comprises two main phases, namely the Scoping phase and Impact Assessment phase.

The Scoping Phase of an EIA serves to define the scope of the detailed assessment of the potential impacts of a proposed project. The Environmental Scoping phase has been undertaken in accordance with the requirements of sections 24 and 24D of the National Environmental Management Act (NEMA) (Act 107 of 1998), as read with Government Notices R 543 (Regulations 26-30), 544, 545 and 546 of the NEMA. The objectives of the Scoping Phase are to:

- ✚ Ensure that the process is open and transparent and involves the Authorities, proponent, and stakeholders (**Refer to Section 6.3 & 6.4**);
- ✚ Ensure compliance with the relevant legislation (**Refer to Section 7**);
- ✚ Ensure that feasible and reasonable alternatives are identified and selected for further assessment (**Refer to Section 12**);
- ✚ Identify the important characteristics of the affected environment (**Refer to Section 13**);
- ✚ Assess and determine possible impacts of the proposed project on the biophysical and socio-economic environment and associated mitigation measures (**Refer to Section 16**).

6.1 Scoping Process

The process for seeking Environmental Authorization under NEMA is being undertaken in terms of the prevailing EIA Regulations of 2014 as amended in 2017. An outline of the process flow for Scoping and EIA process for the proposed development is presented by (**Figure 1**) below.

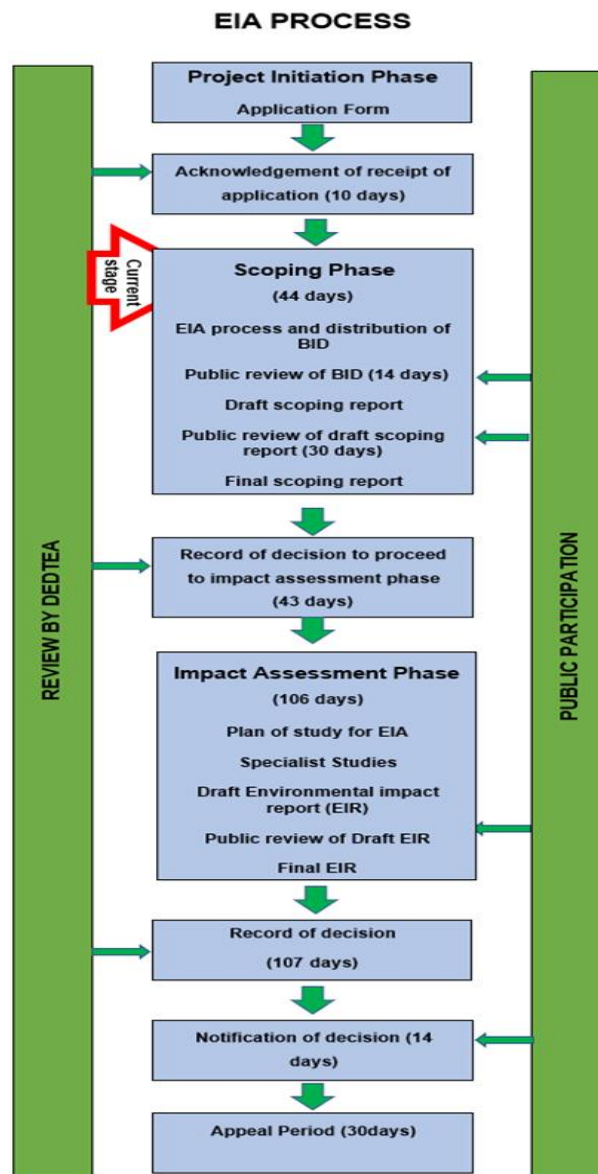


Figure 1: Scoping and EIA Process Flow Diagram

6.2 Landowner

According to Regulation 39(1) of GN No. 326 (7 April 2017), if the applicant is not the owner or person in control of the land on which the activity is to be undertaken, the applicant must, before applying for an Environmental Authorization in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. Therefore, in this application the Newcastle Municipality is the owner of the land for the proposed project.

6.3 Consultation with Authorities

The relevant authorities required to review the proposed project and provide an Environmental Authorisation were consulted from the outset of this study and have been engaged throughout the project process. In terms of NEMA Section 24 (C), the lead decision-making authority for this application for Environmental Authorisation is the EDTEA within the jurisdiction of Amajuba District.

However, other authorities with jurisdiction over elements of the receiving environment or project activities will also be consulted and listed as I&As. Therefore, DWS is also noted as key commenting authority.

Authority consultation included the following activities:

- ✚ Submission of EA Enquiry to EDTEA (Amajuba District);
- ✚ The A Pre-Application Meeting was convened with EDTEA on 21 September 2021 (**Refer to Appendix E**) for a copy of the minutes.
- ✚ Submission of an application for authorisation in terms of NEMA (Act 107 of 1998) on 8 October 2021 (**Included in Appendix D**). The EIA application has been registered and given the following reference number: (DC25/0007/2021: KZN/EIA/0001652/2021).

6.4 Consultation with other relevant authorities

Background information regarding the proposed project was provided to all relevant Authorities and agencies, together with a registration and comment form formally requesting their input into the EIA process. The authorities include *inter alia* as attached in (**Appendix D**):

- ✚ Department of Water and Sanitation (DWS);
- ✚ KZN Department of Housing, Amajuba District;
- ✚ Ezemvelo KZN Wildlife;
- ✚ Amafa /KZN Heritage;
- ✚ Department of Rural Development and Land Reform;
- ✚ KwaZulu-Natal Department of Transport;
- ✚ Amajuba District Municipality; and
- ✚ Newcastle Local Municipality: Technical Department.

6.5 Overview of the Public Participation Process

The purpose of Public Participation Process (PPP) as implemented as part of the Scoping Phase of the EIA, is to:

- ✚ Ensure all relevant stakeholders and I&APs have been identified and invited to engage in the Scoping process;
- ✚ Raise awareness, educate, and increase understanding of stakeholders and I&APs about the proposed project, the affected environment and the environmental process being undertaken;
- ✚ Create open channels of communication between stakeholders and the project team;
- ✚ Provide opportunities for stakeholders to identify issues or concerns and suggestions for enhancing potential benefits and to prevent or mitigate impacts;
- ✚ Accurately document all opinions, concerns and queries raised regarding the Project;
- ✚ Ensure the identification of the significant alternatives and issues related to the project.
- ✚ To protect the environmental rights of the local community.
- ✚ To optimise on local and indigenous knowledge of the area.

6.6 Scoping Phase Public Participation

Section 24 (4) (a) (v) of NEMA, provides that the procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment, must ensure, with respect to every application for an Environmental Authorisation, the public

information and participation procedures which provide all interested and affected parties, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures.

6.6.1 Notification of the Interested and Affected Parties (I&APs)

Section 41 of Chapter 6 of the EIA regulations have listed the different options, to be used when notifying the I&APs. The PP process for this project was conducted, as detailed in (**Table 5**) and indicated by the green blocks.

Table 5: Notification of I&APs

<i>All the Interested and Affected parties were notified of the application by-</i>		
Fixing a notice board at the place conspicuous to and accessible by the public at the boundary, on the fence, or along the corridor of any alternative sites.	YES	NO/NA
Any alternative site also mentioned in the application	YES	NO/NA
<i>Has a written notice been given to-</i>		
Landowner or person in control if the applicant is not in control of the land	YES	NO/NA
The municipal councillor of the Ward in which the site and alternative site of the proposed activity.	YES	NO/NA
The municipality which has jurisdiction in the area and other organs of state	YES	NO/NA
<i>Placing an advertisement in-</i>		
Local newspaper (Newcastle Advertiser)	YES	NO/NA
Any official Gazette that is published specifically for providing public notice of applications	YES	NO/NA
One provincial newspaper, any official Gazette that is published with the purpose of providing public notice of applications.	YES	NO/NA

Table 6: Scoping Phase Public Participation

Scoping Phase
Interested and Affected Parties (I&APs) have been identified throughout the process. Initial identification of I&APs includes immediate landowners, ward Councillors, local and district municipalities, and relevant state departments and organs of state (Refer to PP Plan)

Notification BIDs have been circulated to all identified I&APs informing them of the proposed development and the opportunity to comment.
The A3 onsite notices have been placed at boundaries and intersections as well as strategic points (Refer to PP Plan)
An advertisement was placed on the Newcastle advertiser, published on (30/07/2021), attached on (Appendix D)
Due to the COVID-19 regulations, where the gathering of large mass is prohibited, several approaches will be implemented to facilitate an inclusive public participation process for the proposed project, in, accordance with the EIA regulations and the Disaster Management Act, 2002 (Act No. 57 of 2002) and published on 29 April 2020. The focus group for community representative was formed. This focus group made of Ward Councillor, ward committee representatives, and other community members who requested to be registered as I&APs. The meeting with the focus group, tabling the content of the Draft Scoping Report. The focus group to play an important role for facilitation of information dissemination to the broader community (Refer to PP Plan). Draft Scoping Report, and Draft EIR was/will be forwarded to ward councillor and focus group as an electronic (CD & email), as well as hardcopy documents based on their request. The EAPs will then set up another meeting with the ward councillor and focus group to discuss the contents of the Draft EIR empower the group toward effective information dissemination.
Copies of the report were delivered or sent via an email to relevant State Departments and Organs of State. Also, requesting their inputs or comments in terms of 24O of NEMA.
All comments received during the commenting period will be included in the Final Scoping Report & Final EIR.

6.6.2 Review of Draft Scoping Report

The draft scoping report was circulated for 30 days, and copies of the final document will be lodged for public review using the aforementioned public participation methods on (**Table 6**) above. (**Note:** This could change subjected to Covid-19 Regulation. Also, refer to PP Plan):

The Public Participation Plan and register of all I&APs is Attached as appendix D-3.

6.6.3 Comments from the registered Interested and Affected Parties (I&APs).

Section 43 of Chapter 6 of NEMA (EIA Regulations 2017) indicates that all I&APs are entitled to comment in writing on all reports produced by the applicant during the EIA process. This will bring the concerns raised to the attention of the applicant.

The proof of document circulation to I&APs is attached as appendix D-5.

6.7 Screening of Alternatives

Consideration of alternatives is one of the most critical elements of the environmental assessment process. Also, the key criteria for consideration when identifying alternatives are that they should be “practicable”, “feasible”, “relevant”, “reasonable” and “viable” (DEAT,2004). As a result, after weighing the following alternatives: The Technology Alternative, Site Layout and Routing Alternative; Design Alternative; and No-Go Alternative, the Technology, and Design Alternatives were considered viable for this development (**Refer to Section 12**).

6.8 Prediction of Impact

The Scoping exercise is aimed at identifying and qualitatively predicting significant environmental issues for further consideration and prioritization during the EIR stage. It is important to note that the impact “significance” relates to whether the effect (i.e., change to the environmental feature/attribute) is of sufficient importance that it ought to be considered and have an influence on decision-making.

The potential environmental impacts associated with the proposed project were identified during this Scoping phase (**Refer to Section 16**) through consideration of the following:

- ✚ Proposed locations and the extent of the proposed development, which included site investigations as well as a desktop evaluation with a Geographical Information System (GIS), inputs from various data sources, and aerial photography;
- ✚ Activities associated with the project life cycle (i.e., Planning, Construction, and Operational).
- ✚ Profile of the receiving environment and the potential sensitive environmental features and attributes;
- ✚ Input received during public participation from authorities and I&APs; and
- ✚ Legislation framework, and policy context.

The Environmental Impact Report (EIR) will therefore provide a qualitative and quantified impact assessment methodology as outlined by (**Section 18**), which will be conducted through

the contributions of the project team and requisite specialist studies. Subsequently, the suitable mitigation measures will be identified to manage (i.e., prevent, reduce, rehabilitate and/or compensate) the environmental impacts, and will be included in the Environmental Management Programme (EMPr).

The Environmental Scoping Phase has been undertaken in accordance with the requirements of sections 24 and 24D of the National Environmental Management Act (Act 108 of 1998), as read with Government Notices R 543 of the NEMA.

7 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

NEMA is the primary South African legislation governing the requirements for environmental impact assessment. In the context of the Soul City/Stafford Hill Housing Development, the provisions of NEMA, and the associated EIA Regulations (regarding scoping and EIA) are of fundamental relevance.

In terms of the Environmental Regulations promulgated under the NEMA, an EIA must be conducted for any development or activity that requires an Environmental Authorisation.

The listed activities in the NEMA, relevant to this project, that triggers the need for an Environmental Authorisation are listed below:

Table 7: Environmental Legislative Context

Legislation	Relevance
Constitution of the Republic of South Africa, (No. 108 of 1996)	<ul style="list-style-type: none"> ➤ Chapter 2 – Bill of Rights. ➤ Section 24 – Environmental Rights.

National Environmental Management Act (NEMA) (No. 107 of 1998)	<ul style="list-style-type: none"> ➤ Section 24 – Environmental Authorisation (control of activities which may have a detrimental effect on the environment). ➤ Section 28 – Duty of care and remediation of environmental damage. ➤ Environmental management principles. ➤ Authorities – Department of Environmental Affairs (DEA) (national) and Department of Economic Development Tourism and Environmental Affairs (provincial). 		
GN No. 326 (7 April 2017)	<ul style="list-style-type: none"> ➤ Purpose - regulate the procedure and criteria as contemplated in Chapter 5 of NEMA relating to the preparation, evaluation, submission, processing, and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to EIA, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto. 		
<ul style="list-style-type: none"> ➤ Purpose – to identify activities that would require environmental authorizations prior to commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24C of NEMA. ➤ The investigation, assessment, and communication of the potential impact of activities must follow the procedure as prescribed in regulations 19 and 20 of the EIA Regulations published in terms of section 24(5) of the Act. However, according to Regulation 15(3) of GN No. 327, Scoping and an Environmental Impact Report (S&EIR) must be applied to an application, if the application is for two or more activities as part of the same development for which S&EIR must already be applied in respect of any of the activities. ➤ Activities under Listing Notice 1 and Listing Notice 2 that are relevant to this project. 			
GNR No. 327 (7 April 2017) Listing Notice 1.	<p>Activities under Listing Notice 1 that are relevant to this project are as follows;</p> <table border="1" data-bbox="477 1640 1432 1896"> <tr> <td data-bbox="477 1640 987 1896">Listed Activity 9: The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of</td><td data-bbox="987 1640 1432 1896">It is estimated that approximately 11 300 m of new concrete lined channel and 5 700 m Pipe Culvert for storm</td></tr> </table>	Listed Activity 9: The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of	It is estimated that approximately 11 300 m of new concrete lined channel and 5 700 m Pipe Culvert for storm
Listed Activity 9: The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of	It is estimated that approximately 11 300 m of new concrete lined channel and 5 700 m Pipe Culvert for storm		

	0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more;	water will be required for the Soul City development.
	<p>Listed Activity 10: The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes –</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p>	For the development of bulk sewer infrastructure and reticulation of approximately 18 420 m with diameter ranging from 150mm ø – 370mm ø, for a Full Waterborne Sanitation System with estimated Average Daily Wet Weather Flow of 390 kl/day.
	<p>Listed Activity 12: The development of- Infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—</p> <p>a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p>	There is a National Freshwater Ecosystem (NFEPA) Wetland within portion 4 of the proposed development site. Therefore, it is anticipated that the development of the bulk infrastructure will involve excavation works which will result in more than 20m ³ of spoils from excavation and infilling for instillation of bulk infrastructure within the wetland coverage. Also, other parts with the north-western boundary falls within the flood line.

	<p>Listed Activity 19: The infilling of depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from – (i) a watercourse;</p>	<p>There is a National Freshwater Ecosystem (NFEPA) Wetland within portion 4 of the proposed development site, and portion at the north-western boundary comprises flood line. Therefore, it is anticipated that the development of the bulk infrastructure will involve excavation works which will result in more than 20m³ of spoils from excavation and infilling for instillation of bulk infrastructure within the wetland coverage.</p>
GNR No. 325 (7 April 2017) Listing Notice 2	<p>Activities under Listing Notice 2 that are relevant to this project are as follows;</p> <p>Listed 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-</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan'</p>	<p>The development will involve: The clearance for the formalisation of erven to fit approximately 3500 housing units with inclusive of the In-Situ Upgrades/ Formalizations of 1800 existing erven; The clearance for construction of 17.153km municipal roads, and bulk infrastructure. The clearance will take place over an extent of more than 217ha.</p>
National Water Act (Act No. 36 of 1998)	<ul style="list-style-type: none"> ➤ Chapter 3 – Protection of water resources. ➤ Section 19 – Prevention and remedying effects of pollution. ➤ Section 20 – Control of emergency incidents. ➤ Chapter 4 – Water use. 	

	<ul style="list-style-type: none"> ➤ Authority – Department of Water and Sanitation (DWS).
National Environmental Management Air Quality Act (Act No. 39 of 2004)	<ul style="list-style-type: none"> ➤ Air quality management ➤ Section 32 – Dust control. ➤ Section 34 – Noise control. ➤ Authority – EDTEA.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	<ul style="list-style-type: none"> ➤ Management and conservation of the country's biodiversity. ➤ Protection of species and ecosystems. ➤ Authority – EDTEA.
Occupational Health & Safety Act (Act No. 85 of 1993)	<ul style="list-style-type: none"> ➤ Provisions for Occupational Health & Safety ➤ Authority – Department of Labour.
National Heritage Resources Act (Act No. 25 of 1999)	<ul style="list-style-type: none"> ➤ Section 34 – protection of structure older than 60 years. ➤ Section 35 – protection of heritage resources. ➤ Section 36 – protection of graves and burial grounds. ➤ Authority – KwaZulu-Natal Amafa and Research Institute
National Road Traffic Act 1996 (Act No. 96 of 1996)	<ul style="list-style-type: none"> ➤ Authority – KwaZulu-Natal Department of Public Works, Roads and Infrastructure.

7.1 Environmental Assessment Triggers

Based on the type of activity involved, the extent and the biophysical environment within which it is set to occur as reflected in (**Table 7**) above, the required environmental assessment for the project is a Scoping and EIR process.

8 PROJECT LOCALITY

The project locality is described in terms of geographic locational context and site context.

8.1 Geographic locational context

The study area falls within the Newcastle Local Municipality (NLM) situated in the Amajuba District Municipality (ADM), KwaZulu-Natal. The site is situated at (27°45'16.87"S, 30°4'53.04"E) approximately 12km East of Newcastle town (**Figure 2**).

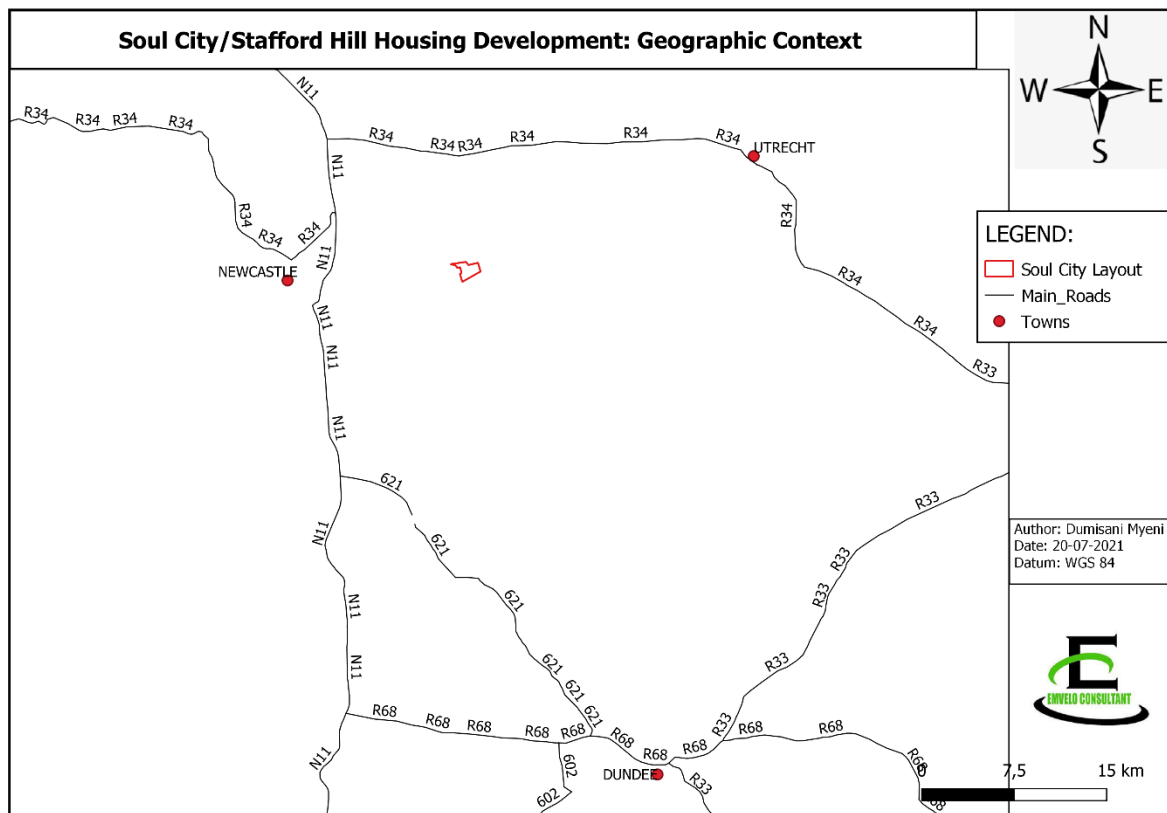


Figure 2: Geographic locational context of Soul City/Stafford Hill Housing Development

8.2 Site Context

The proposed development will take place within Ward 31 of New Castle Local Municipality, at Osizweni, Soul City/Majorisa settlement, and bordered by the P483 route.

The portions to be developed include: Portion 3 Farm Stafford 8951 HT; Portion 4 Farm Stafford 8951; Portion 5 Farm Stafford 8951; Portion 6 Farm Stafford 8951; Portion 7 Farm Stafford 8951; Portion 8 Farm Stafford 8951; Portion 9 Farm Stafford 8951; Portion 11 Farm Stafford 8951; Portion 12 Farm Stafford 8951.

The (**Table 8**) below, provides the Global Positioning System (GPS) co-ordinates for the proposed development site.

Table 8: Co-ordinates (Proposed Soul City/Stafford Hill Housing Development)

Latitude /Longitude	Degrees	Minutes	Seconds
Wetland Intrusion (Portion 4)			
South	27°	45'	40.46''
East	30°	04'	41.01''
Undeveloped Portion for Vegetation Clearance (Eastern Portion: Portion 6&8)			
South	27°	45'	16.87''
East	30°	04'	57.95''
Undeveloped Portion for Vegetation Clearance (Centre Portion: Portion 4)			
South	27°	45'	23.65''
East	30°	04'	35.55''
Undeveloped Portion for Vegetation Clearance (Western Portion: Portion 3& 11)			
South	27°	45'	35.20''
East	30°	04'	19.88''

The (**Table 9**) below provides the 21-digits Surveyor General Code (SGC).

Table 9: 21-digits Surveyor General Code

N	0	H	T	0	0	0	0	0	0	0	0	8	9	5	1	0	0	0	0	0
N	0	H	T	0	0	0	0	0	0	0	1	5	9	6	1	0	0	0	0	0

The (**Figure 3**) below, depict the proximity locality map for development. The map also depicts the Buffels and iNgangane River at the northern boundary.

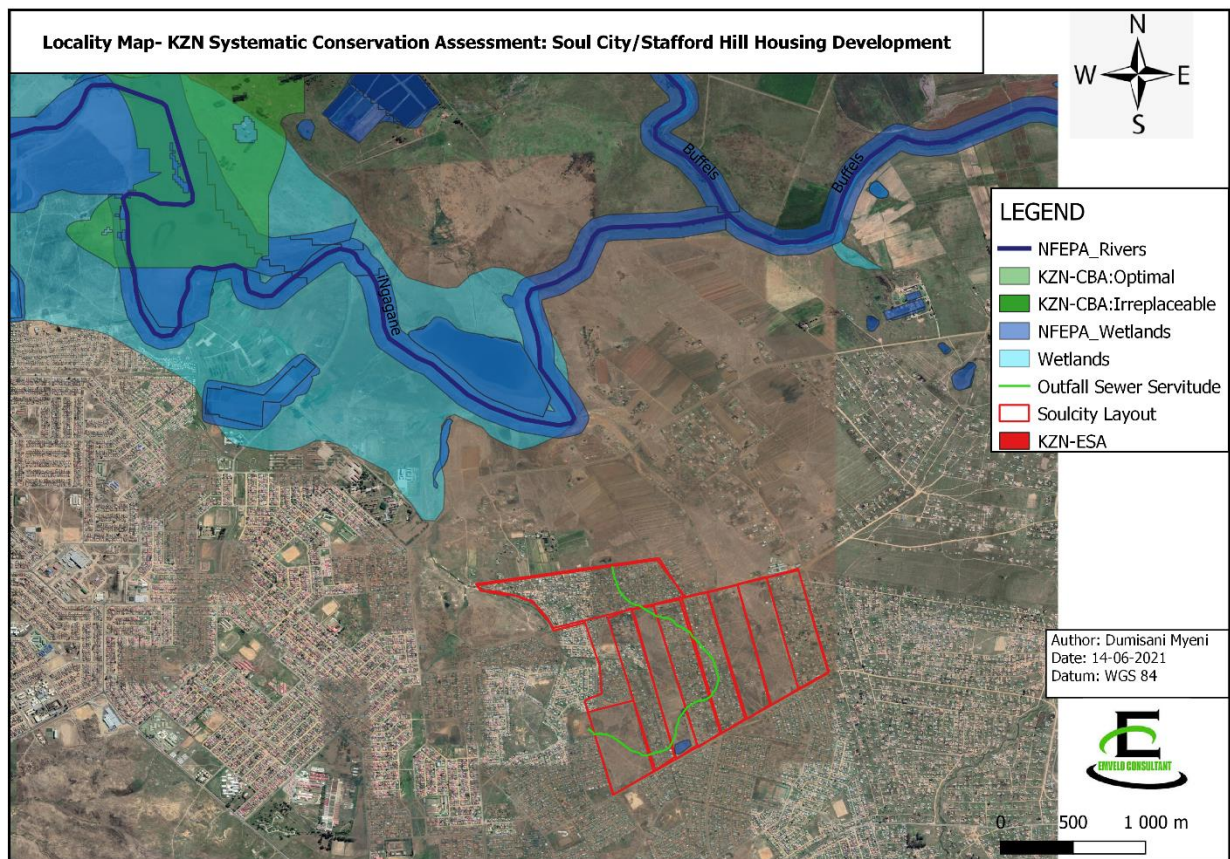


Figure 3: Locality map (Proposed Soul City/Stafford Hill Housing Development)

9 SITE ACCESS

The site can be accessed via R34 (Allen Street from New Castle Town take, continue street towards New Castle golf course and head towards N11, cross N11 and continue straight by R34 (Allen Street) pass Madadeni on your right and continue straight to Soul City/Majorisa Settlement (Project Area). Alternatively, can be access though the P483 towards Osizweni, from N11 at Newcastle.

10 ACTIVITY MOTIVATION

The Soul City/Stafford Hill Housing Development is one of the housing components for the Newcastle Mega Catalytic Housing Project. The current settlement comprises of semi-formal character. Like other adjacent area such as Johnstown, Blaauwboch and Cavan (JBC), the Soul City/Majorisa settlement is characterised by poor condition of services and general lack of amenity and pleasant appearance.

10.1 The need

The Newcastle Local Municipality (NLM) is experiencing an exponential housing need. This has also been exacerbated by the current low-cost housing backlogs, to cater for the 74 991 units of housing demand (low-cost housing eligibility) within the region as estimated by the Human Settlements Plan. The majority of housing need is in the Madadeni/Osizweni (MBO) and JBC complex, which is currently expanding outwards to Majorisa Settlement. This is evident in the quality of the existing structure, poor access to basic services and unsecured land tenure. It also relates to the consequences and impact of urbanization and the inflow of people into the urban areas of Newcastle (NLM IDP, 2020-2021).

Furthermore, the housing sector plan explained the exponential growth for housing needs which has resulted on an estimate of housing backlog at between 19 000 and 30 000 units and a housing waiting list of 35 000 people within NLM. Apart from growing housing needs, there is a need for formalisation and densification of the settlements, as many settlement areas located within the peri-urban area are rapidly degenerating into urban slums. In some cases, an organized land invasion in some areas has sparked a need to create settlement opportunities close to areas with higher concentration of employment opportunities such as: Madadeni light industrial area; JBC Complex – a primary; CBD node; and Newcastle industrial area (NLM IDP, 2020-2021).

10.2 Desirability

Addressing of the housing demand will require, formalisation, densification, and integration of housing development. This will see the unlocking of the quadrant between P483 and the N11 to cater for formal settlement and housing development (NLM IDP, 2020-2021).

Therefore, the proposed Soul City/Stafford Hill Housing Development has become one of the components of the Newcastle Mega Catalytic Housing Project which will link Soul City with MBO with a range of housing typologies and eradication of informal settlements. As a result, a number of planning exercise has been undertaken in the area to inform the need of formalizing it as a township, namely the Soul City. This will: Facilitate restructuring of spatially inefficient settlements; Promote the sustainable use of the land; Channel resources to areas of greatest need and development potential; And redress the inequitable historical treatment of marginalized areas (NLM IDP, 2020-2021).

Moreover, it is also expected that the Soul City housing Development will result in a booming of residential market, local economy and improve the quality of life as a result of associated bulk infrastructure associated with this housing development. Also, the local community will benefit through jobs during the construction and maintenance phase, which will enable the transfer of skills and boost to local economy.

11 HOUSING DEVELOPMENT AND BULK INFRASTRUCTURE UPGRADES

The design criteria for the bulk services proposed development was calculated in accordance with the following Civil Engineering Guidelines:

- ✚ Guidelines for Human Settlement Planning and Design, CSIR (Redbook).
- ✚ Guidelines and Standards for the Design and Maintenance of Civil Engineering Services (City of Tshwane).
- ✚ The National Building Regulations, SANS 0400 – 1990.
- ✚ DoT Local Roads Standards
- ✚ Construction will be specified to be in accordance with SABC/SANS 1200.
- ✚ The UTG7 publication, the “Geometric Design of Urban Local Residential Streets”.
- ✚ Technical Guidelines for Human Settlement, Planning and Design – Revision August 2003.
- ✚ Waterborne Sanitation Design Guide, WRC Report No. TT 481/11 March 2011.

11.1 Soul City/Majorisa Settlement Patterns

The housing dynamics and trends which take place in Soul City Majorisa settlement are more like its counterpart settlements of MBO and JBC complex. This includes: the formal residential, traditional residential (huts and informal buildings). Whereby the informal buildings are the majority in the ward 31 taking a 62% share (NLM IDP, 2020-2021).

Currently, the Soul City/ Majorisa settlement comprise: 4 269 formals residential; 7 107 traditional residential; 2 farm portions; and 1 vacant portion.

11.1.1 Proposed Housing development and formalisation of erven

Part of the reason for the Soul City Housing Development is to advocate for more effective development models beyond the dense and traditional informal patterns which characterize this ward, through formalisation of erven and densification of Soul City settlement. Therefore, the proposed development involves: The development for the formalization of erven to fit approximately 3500 housing units with inclusive of the *In-Situ* Upgrades/ Formalizations of 1800 existing erven over an extent of more than 217 hectares. This will ensure the provision of housing to cater for the housing demand within NLM as it is estimated that 89% of the population within ward 31 falls under low-cost housing eligibility.

11.2 Municipal/Local Roads

The status quo for the existing 20 km primary roads and 5.7km secondary roads within Soul City/Majorisa Settlement are characterised by being:

- ✚ Surfaced roads that have been formally constructed and provided with an all-weather surface.
- ✚ Gravel roads that had formally been shaped and provided with a gravel surface.
- ✚ Dirt roads that were merely formed through blading.
- ✚ The majority of the municipal roads in Soul City are tracks, which have merely been formed through frequent use of vehicles and not necessarily bladed.

11.2.1 The proposed development of local roads

The existing primary gravel roads will be upgraded to Class 3 (High level paved bitumen). It is therefore estimated that approximately 17.153km of primary road networks will be developed.

11.3 Water and sanitation

Soul City falls within the supply zone for the Ingagane Water Purification Plant which receives its raw water from Ntshingwayo Dam, Ingagane River and Buffalo River.

The Soul City consists of communal standpipes supplied from the bulk pipeline in Madadeni Section 7. This was a small interim extension to cater for the people of Soul City. The main

water source for the scheme at Madadeni is the Ingagane Water Treatment Works (WTW). The water is pumped from the WTW to Braakfontein Reservoirs from where water is gravity fed all the way to Section 7.

The current sanitation is mainly Ventilated Improved Pit (VIP) latrines/toilets to individual households. However, the backlogs that exist with regards to sanitation are mainly due to homesteads that were established after completion of the sanitation project. Apart from existing VIP toilets, there is an existing outfall sewer adjacent to Soul City which conveys sewage flows from Madadeni to the Madadeni Wastewater Treatment Works.

11.3.1 Proposed upgrades of bulk water and sewer pipeline

The community of Soul City is set to have house connections as one of the components for the proposed Soul City/ Stafford Hill Housing Development. These connections will provide a metered supply to the plot with a connection to the house and several taps in the house.

The current bulk water supply pipeline is a uPVC 160mm which will not be sufficient to convey the volume of water required for the Soul City development in future. It is therefore recommended that the bulk water supply pipeline be upgraded to a min 315mm uPVC pipe for future supply. Therefore, to cater for this proposed housing development, a construction of bulk water and connector infrastructure of 315mmØ uPVC pipe of approximately 6 250m of pipeline with a peak flow rate of 112.22ℓ/s and approximately 12 300m reticulation network, will be required.

Also, in order to cater for housing development and formalisation of the Soul City/Stafford Hill, the construction of bulk sewer infrastructure and reticulation of approximately 18 420m with diameter ranging from 150mmØ – 370mmØ, for a Full Waterborne Sanitation System with estimated Average Daily Wet Weather Flow of 390 kℓ/day, will be required. This bulk sewer pipeline will be joined to an existing outfall sewer traversing through Soul City which conveys sewage flows from Madadeni to the Madadeni Wastewater Treatment Works. Therefore, the proposed Soul City/Stafford Hill housing development will use the Madadeni Wastewater Treatment Works. The municipal service letter is attached in (**Appendix B**).

11.4 Proposed Stormwater

The purpose of providing stormwater infrastructure is to manage the volume, flow velocity and direction of flow of the accumulated stormwater. The stormwater systems required in urban areas in a combination of open channels and underground pipes. Therefore, the volume of stormwater infrastructure required at Soul City is dependent on the amount on rainfall in the area. To cater for the Soul City Housing Development and formalisation, the constriction of approximately 11 300m of new stormwater infrastructure comprises the concrete lined channel and 5 700m Pipe Culvert, will be required.

11.5 Electricity Supply

Electricity Supply is widely spread over the Soul City/Majorisa settlement, with only a small percentage of households not connected, mostly along the fringes and those households being the ones that have been recently established after the electrification project implementation phase. The bulk of Soul City is thus covered with Medium Voltage⁴ while a few households only have access to low voltage power.

The provision of electricity falls under the mandate of Eskom. Therefore, will not from part of this assessment.

12 SITE ALTERNATIVE

In terms of the EIA Regulations published in Government Notice R543 of 2 August 2010 in terms of Section 24 of the National Environmental Management Act (Act No. 107 of 1998), feasible and reasonable alternatives have to be considered within the Environmental Scoping Study, including the 'No Go' option. Regulations indicate that alternatives that are considered in an assessment process be reasonable and feasible. I&APs must be provided with an opportunity of providing inputs into the process of formulating alternatives. Once a full range of potential alternatives has been identified, the alternatives that could be reasonable and feasible should be formulated as activity alternatives for further consideration during the basic assessment or scoping and EIA process (DEAT, 2004a; DEAT, 2006). These alternatives are: Technology, location (site), activity (project), site layout, design, scale, routing, scheduling, process, demand, input, technology, and no-go alternatives.

It is, however, important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the applicant and the appointed Environmental Assessment Practitioner (EAP), which in some instances culminates in a single preferred project proposal.

Therefore, after weighing all project alternatives for this project (Discrete Alternative Approach), the preferred "Alternative A: Technology, and Alternative B: Design Alternative" were adopted to consider the major development alternatives that would meet the stated need for and purpose of the project, by providing proper mitigation measures.

12.1 Alternative A (Site Layout and Routing Alternative)

The "Site Layout and Routing alternative" for this project, involve looking at the impact likelihood as the result of 32m buffer wetland intrusion thereby providing design and routes to mitigate those impacts.

The "Site Layout and Routing Alternatives" permit consideration of different spatial configurations of an activity on a particular site (DEAT, 2004). As, the result the proposed "Site Layout Alternative) seek to avoid the interception of development activities (housing and bulk infrastructure) with the 32m buffer or the 500m buffer wetland regulated area, This "Site Layout Alternative" proposed the reducing the development footprint to align the boundary from intercepting with the 32-wetland buffer at this area of development, within portion 4 along co-ordinates (27°45'40.46"S, 30°04'41.01"E). According to DEAT (2004), the "Routing Alternatives" are considered to weigh and compare the impact of a development along the corridors. Therefore, for this development, it has been observed that there is a wetland intrusion at portion 4 of the proposed development, where outfall sewer servitude traverses the wetland. Therefore, it is anticipated that other bulk infrastructure and housing development are bound to intrude the 32m wetland buffer and 500m regulated buffer within portion 4.

However, reducing the scale will only affect the housing development, but there could still be bulk infrastructure which may intercept with the wetland regulated area. Also, the onus of relocating the bulk infrastructure lies with the engineering designs, feasibility, and functionality.

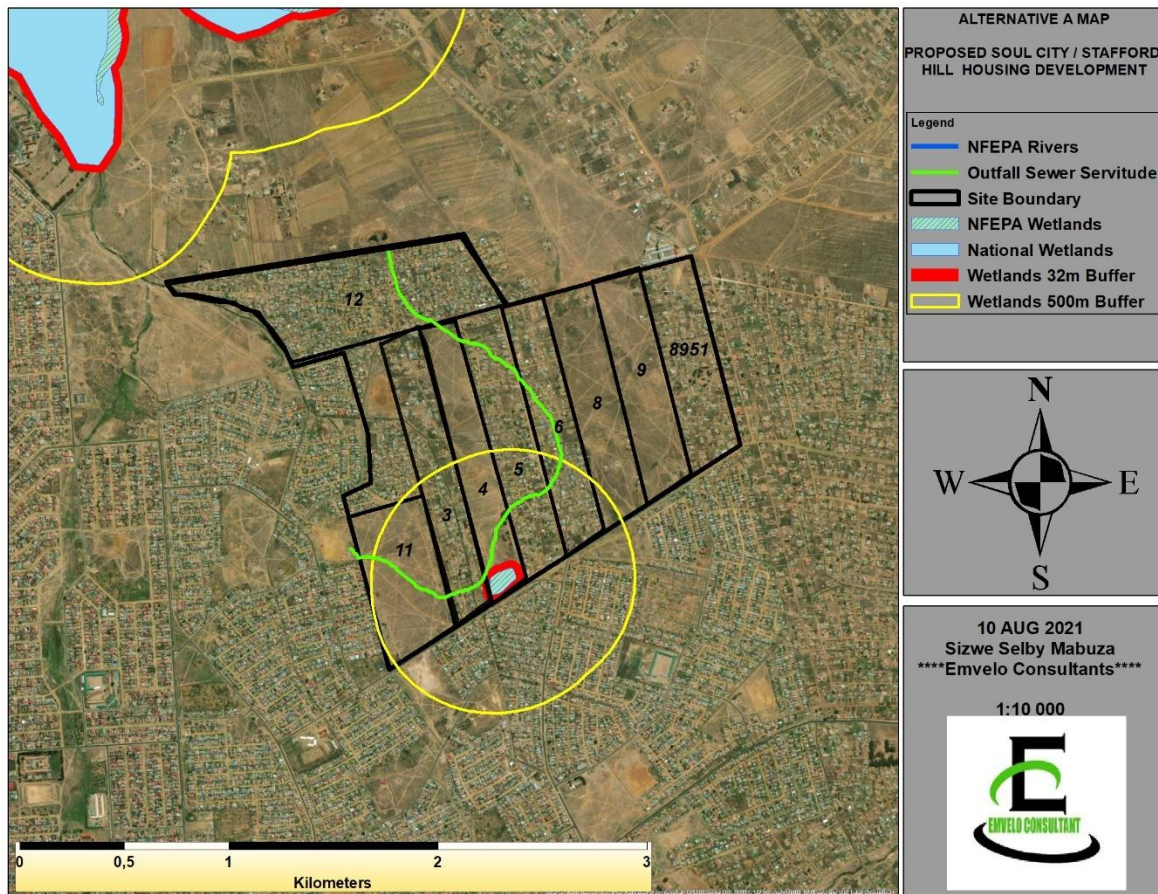


Figure 4: Site Layout and Routing Alternative

12.2 Alternative B (Design Alternative)

The design alternatives form an integral part of the project proposal and so be part of the project description and need not be evaluated as separate alternatives (DEAT, 2004). Therefore, for this project, the ‘Design Alternative’ cannot be separated with the ‘Technology Alternative’ as the design provides for the development for the formalization of erven to fit approximately 3500 housing units with inclusive of the *In-Situ* Upgrades/ Formalizations of 1800 existing erven, and construction of associated bulk infrastructure over an extent of more than 217 hectares. Through the process of formalization and densification of Soul City/Majorisa settlement, the choice of the design lies on upgrading the existing settlement patterns. Ultimately, the consideration for this design looks at a “Location (Site)” where the upgrade and development are required.

The Design considerations has been put in place to support the “Layout Design Alternative” as illustrated by (**Figure 5 & 6**) below.

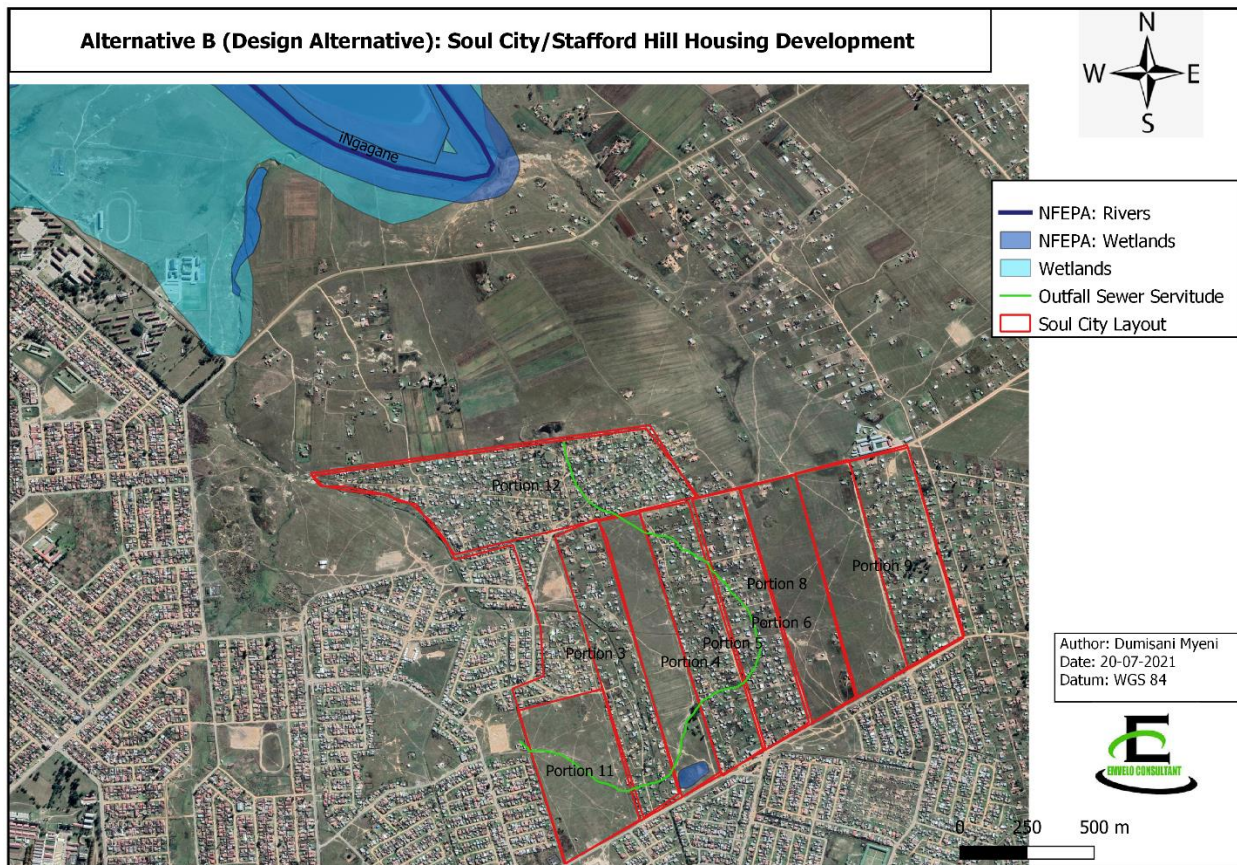


Figure 5: Alternative B (Layout Design Alternative)

12.2.1 The Design for community upgrades

The community upgrades design layout includes: Designing the development plans, all services and infrastructure in a manner which formalise the existing Majorisa settlement as well as the new proposed development. The community design caters for approximately 3500 housing units, including the formally existing ones.

Approximately, 300 households who are within the flood line which traverse the western boundary and central of portion 4 of development, as well as households within outfall sewer servitude will be relocated (**Figure 5**). It is important to note that design for community

upgrades mainly caters for the formalisation of approximately 1800 existing erven, construction of low-cost houses, roads, transport hub, early childhood development centres, and zoning for community facilities such as; schools, public open space/parks. The public open space will be zoned at the flood line which traverse the western boundary and central of portion 4 of development, these public open spaces will serve as recreational areas. This development will take a phased approach to cater for relocation of certain households.

12.2.2 Mixed use design development

The mixed-use design development is mainly focusing on formalisation and densification of settlement and will also result relocation of households within the flood line zones and sewer outfall servitude, as explained above. This will also be undertaken in phase approach. It is anticipated that the mixed-use development approach would yield approximately 6000 units including existing households, walk up units as well as freestanding/semi-detached houses. This development will be zoning for community amenities such as: Open Park/play space, business, and retail development with transport hub (**Figure 6**). However, it is important to note that this development approach could result in massive urbanisation and rental housing, coupled with relocation of approximately 300 households from flood line areas within the western boundary of development. The design layout is attached in (**Appendix F**).

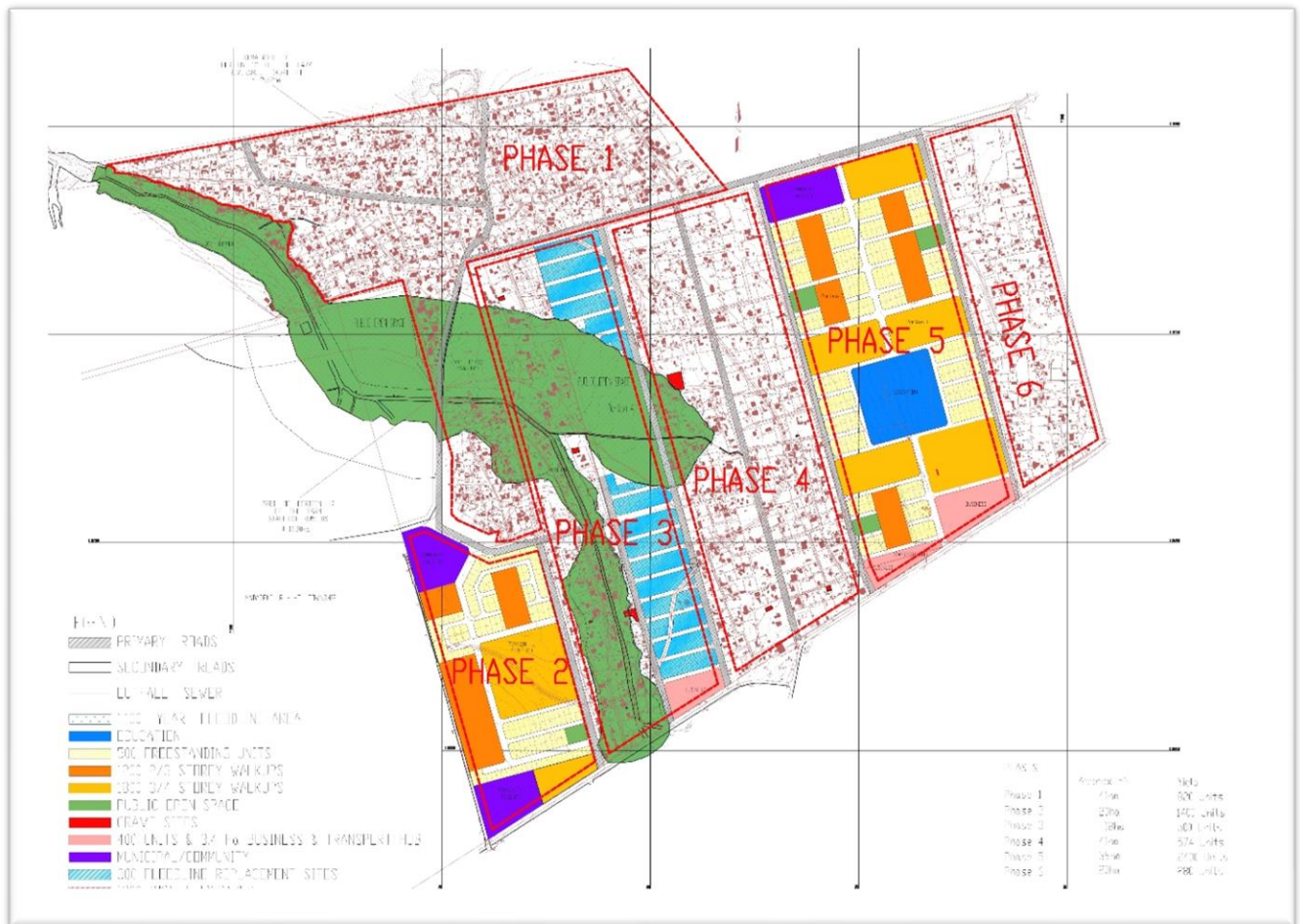


Figure 6: Soul city/Stafford Hill Housing Development Phase approach

12.3 Alternative C (Technology Alternative)

The technology to be used in the activity, refers to a consideration of method of operation, such that an alternative includes the option of achieving the same goal by using a different method or process (DEA&DP, 2007). Therefore, the bulk infrastructure project, such as housing development require the use of earthwork movement machinery to clear and level the construction site. It is anticipated as a result of the Soul City/Stafford Hill housing development project; the bulk earthworks are eminent. The bulk earthworks for site levelling, construction of storm water system will require the use of construction machinery. The manual labour will be considered in construction of houses and laying of underground infrastructure such as sewer and water reticulation.

The impacts identified for this proposed development, are largely attributed to site clearance and bulk earthworks.

12.4 Alternative D (No-Go Alternative)

In the absence of the proposed development, the NLM will continue experiencing housing backlog and the housing needs within the community of Soul City/Majorisa settlement will continue be left unattended. This will result in mushrooming of informal settlement and disruption of services, such as water and sanitation, as well as inadequate access to transport services (*refer to section 6.1& 6.2*). It is also important to note that this infrastructure project serves to provide public good to the affected community of Ward 31 of NLM. Therefore, projects that are proposed on public land and/or for the public good should consider the major development alternatives that would meet the stated need for and purpose of the project (DEAT, 2004a).

Creation of safe communities, as well as provision of decent housing, adequate access to basic amenities and services is a national priority and one of the key elements of a decent standard of living for all South Africans (NPC, 2012).

The EAP is therefore of the view that the NO-GO option is undesirable in the face of social and economic needs of this community and South Africa's National Development Plan 2030 objectives.

12.5 Screening of alternatives and methodology





A screening study was initiated in order to assess where identified potential alternatives would be suitable for use for the proposed Soul City/Stafford Hill housing development.

In order to ensure that the potential identified alternatives are assessed in the most objective manner possible, an environmental sensitivity exercise, and preliminary desktop studies were undertaken for the study area, against the proposed development (*Also refer to Section 13*).





12.5.1 Environmental sensitivity for potential alternatives

The qualitative sensitivity exercise for the proposed alternatives involves the use of preliminary desktop studies and GIS Environmental Desktop studies under the following themes:

1) *Biophysical Environment:*

-  Biodiversity (flora & fauna);
-  Watercourses (wetlands and rivers);
-  Geological formation; and
-  Topography.

2) *Social:*

-  Social (including visual and noise);
-  Palaeontological, archaeological, cultural and heritage;
-  Social disruptions (includes relocations and immigration);
-  Pollution and Waste.

The (**Table 10**) provides a description of the various categories used in the environmental sensitivity exercise. This table should be read in conjunction with (Section 13) below. The five (5) categories of sensitivities are outlined by the legend below.

LEGEND:

Sensitivity Significance	Colour Code
Low	L
Low-Medium	L
Medium	M
Medium-High	MH
High	H

Table 10: Description of the various sensitivity categories

Study Component	Category	Description
Biophysical Components		
Biodiversity (flora & fauna);	Medium-High Sensitivity	<p>Indigenous natural vegetation that comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> Income Sandy Grassland, classified as 'Vulnerable'. These are characterised by three (3) distinct habitat, namely: transformed land (settlements and roads), waste lands (lay field), and virgin portions (portion 6&8). <p>The preliminary desktop studies for fauna availability identify the following attributes within the region:</p> <ul style="list-style-type: none"> Confirms the availability of the wide range of frog species, reptiles and insect's species classified as "Least Concern". The <i>Otomys auratus</i> (Southern African Vlei Rat), <i>Dasymys incommutus</i> (Common Dasymys), and <i>Aonyx capensis</i> (African Clawless Otter) mammal species classified as "Near Threatened", and the <i>Mystromys albicaudatus</i> (African White-tailed Rat) is classified as "Vulnerable". <p>The environmental screening tool has picked up the Terrestrial Biodiversity Theme, as very high. However, there were no CBAs within the project reach, and 500m buffer coverage.</p> <p>It is estimated that approximately 217ha of land will be developed.</p>
Watercourses (wetlands and rivers)	High Sensitivity	<p>The hydrological features comprehend for a combination of the following attributes:</p> <ul style="list-style-type: none"> Noticeable, that an entire site is not sitting on the hydrological systems except the western development boundary which is

Study Component	Category	Description
		<p>prescribed to be the flood line and the wetland within portion 4.</p> <ul style="list-style-type: none"> ○ However, there are two rivers traversing at approximately 1km north of the project area, and numerous wetland and pans dispersed across the western region, but ousted the project buffer coverage.
Geological formation	Medium-High Sensitivity	<p>The geological features comprehend for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ The geological composition of the project locality is largely dominated by Arenite geological formation, with Dolerite intrusion. ○ The geological characteristics can be classified as “ Low-Medium” erodibility. <p>It must be noted that the proposed development, will result in bulk earthworks for setting up of road infrastructure, pipelines, and housing development</p>
Topography	Medium-High Sensitivity	<p>The terrain comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ Relatively flat, ranging between 1180m to 1220m above mean sea-level, with its lowest altitudes situated along the wetland pans at the northern boundary and highest attitudes situated along the southern boundary, whereas the entire project locality lies on a flat terrain with altitude of 1200m above mean sea-level across; <p>It must be noted that for infrastructure project that involves bulk earthworks and vegetation clearance the terrain determines the erosion propensity.</p> <ul style="list-style-type: none"> ○ Relatively flat terrain pose an engineering challenge in aspect of sewer reticulation and storm water system. Therefore, sometimes require deep excavations.

Study Component	Category	Description
		It has been established that the terrain for this site will result in low erosion propensity. However, could also results in water ponding during high rainfall.
Social		
Social (including visual and noise)	Low Sensitivity	<p>The social on aspects of visual and noise comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ The proposed development will streamline with current environment. ○ The viewshed area and zone of visual influence for the proposed Soul City housing development and related bulk infrastructure is considered "low visibility" as it can be visible from a small area around the project site (<1km radius) during the construction period. ○ The project sites will emit different levels of noise due the various construction activities, movement of heavy construction vehicles, use of machinery as well as from large number of workers on site. ○ However, noise impacts are expected to be of short duration and only during certain times of the construction phase, which is likely to only have impacts to the immediate environment
Palaeontological, archaeological, cultural and heritage;	High Sensitivity	<p>The social on aspects comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ It was observed that the Soul City/Majorisa settlement make use of isolated households' gravesite and public cemetery. Therefore, there is a possibility for the individual grave sites from homesteads.

Study Component	Category	Description
		<ul style="list-style-type: none"> ○ The isolated gravesite pose threat to any development, especially the development involving the bulk earthworks. ○ A preliminary desktop study for paleontological fossils sensitivity of the proposed site, reveals that the site falls within high sensitivity <p>The environmental screening tool has picked the paleontological sensitivity theme as very high.</p>
Social disruptions	High-Sensitivity	<p>The Social disruption includes: Relocation of households, and immigration of new people. The social on aspects comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ Alleyed fear as a result of previous South African repulsion law and policies. ○ Loss sense of belonging and heritage ○ Affected households start experiencing adverse impacts on their livelihood assets in the pre-relocation stage. ○ The owners of multi-houses for rent are more vulnerable to financial instability in the pre-relocation stage. ○ Immigration/Influx of people to looking for housing opportunities.
Pollution and Waste	Medium-High	<p>The social on aspects comprehends for a combination of the following attributes:</p> <ul style="list-style-type: none"> ○ Some of the possible solid and liquid waste during the construction ○ Certain activities during construction could have a minor impact on the ambient air as a result dust from construction areas. ○ Influx of people for housing opportunities will need more waste management services

12.6 Preferred Alternative

The role of alternatives is to find the most effective way of meeting the need and purpose of the proposal, either through enhancing the environmental benefits of the proposed activity, and or through reducing or avoiding potentially significant negative impacts (DEAT, 2004).

The “Alternative A: Layout and Routing Alternative” will have minimal environmental degradation that might be expected during the course of the project, as there will be a minimum disturbance of water courses (wetlands) clearance of vegetation. This alternative will ensure that the environmental risks associated with 32m wetland buffer intrusion will not be incurred. However, it must be noted that “Alternative A” will require redesigning of site layout to ensure that services and housing development falls outside the 32-wetland buffer coverage. However, this will not be practical as there is an existing outfall sewer within 32 wetland coverage traversing portion 4, the existing bulk sewer line will be connected by sewer reticulation, also where possible maintenance will fall within the regulated area. Furthermore, down scaling of the development footprint will not yield positive results, as the surrounding of the project will remain semi-formal and in the long-term will result in mushrooming of slums within the periphery of the Soul City/Stafford Housing Development.

Therefore, after consideration of bio-physical and social environmental aspects, the most preferable alternative, is the ‘**Alternative B: Design Alternative**’. With this alternative, it is safer to say that the ‘**Community Upgrades Design**’ will yield desirable outcome of Soul City/Stafford Hill Development, because it caters the following development attributes: Plans for 3500 units with inclusion of formalisation of 1800 erven; It prioritise designing for wetland and its 32m buffer coverage within portion 4 and provide zoning for park and play area to enhance the development and discourage informal development from the open spaces; Will have less densification of settlement, as it only focuses on formalising the existing settlement. The housing will be developed in phase approach to address the relocation challenges, first development will take place in portions not affected by flood line to later relocate households within the flood line on new developed houses.

In conclusion, the option for densification and mixed used development will not yield a social favourable outcome, as it has more emphasis on rental housing demand, which in lighter note will not address the current low-cost housing needs, as stipulated in (**Section 6**).

13 DESCRIPTION OF BASELINE ENVIRONMENT

This section provides a general description of the status quo of the receiving environment in the project area. This serves to provide the context within which the environmental aspects within the project region and site are accrued. It is most important to note that the description of a receiving environment form an integral environmental assessment tool that guides the identification of sensitive environmental features and possible receptors of the effects of the proposed project.

13.1 Climate

The Southern African region is divided into three climatic regions; Wet, dry, and moderate, and the region of the KwaZulu Natal encompasses both, with categories such as humid subtropical (*Cfa*), oceanic climate (*Cfb*), hot semi-arid climates (*BSh*) tropical savanna climate (*Aw*), subtropical highland oceanic climate (*Cwb*), but the most prevalent ones are *Cfa*, *Cfb*, *BSh* and *Aw* (Climate-Data.org).

The study region of Amajuba District, in particular the Newcastle Local Municipality lies between 1140 and 2290 above mean sea-level, its climate falls under the (*Cwb*), as the area is transitional KZN and Gauteng climatic highland region, which is being classified as warm and temperate, with average temperature of (16.0 °C) also, with the annual mean precipitation of 895mm mostly received during summer (Climate-Data.Org; Ezemvelo KZN Wildlife, 2014).

However, it must be noted that Amajuba District has a significant variation of temperature between seasons. The district is characterised by warm to hot, to extremely hot summers, and mild to cold, to extremely cold winters. The lowest temperature hits 0°C during coldest winter months, and highest of 30°C during hottest summer months. The temperature in Newcastle is at highest on average in January, at around 19.9 °C, the lowest on average in the year occur in July, when it is around 10.1 °C. As a result, the Newcastle area has a highest mean temperature of 17.0 °C, and lowest mean temperature of 12.0 °C. This climatic variation is also accompanied by mean annual precipitation which ranges from 504mm to 1149mm. Moreover, this annual mean precipitation has been consistent throughout the Amajuba District with no major difference between the local municipal within the district (Climate-Data.Org; Ezemvelo KZN Wildlife, 2014).

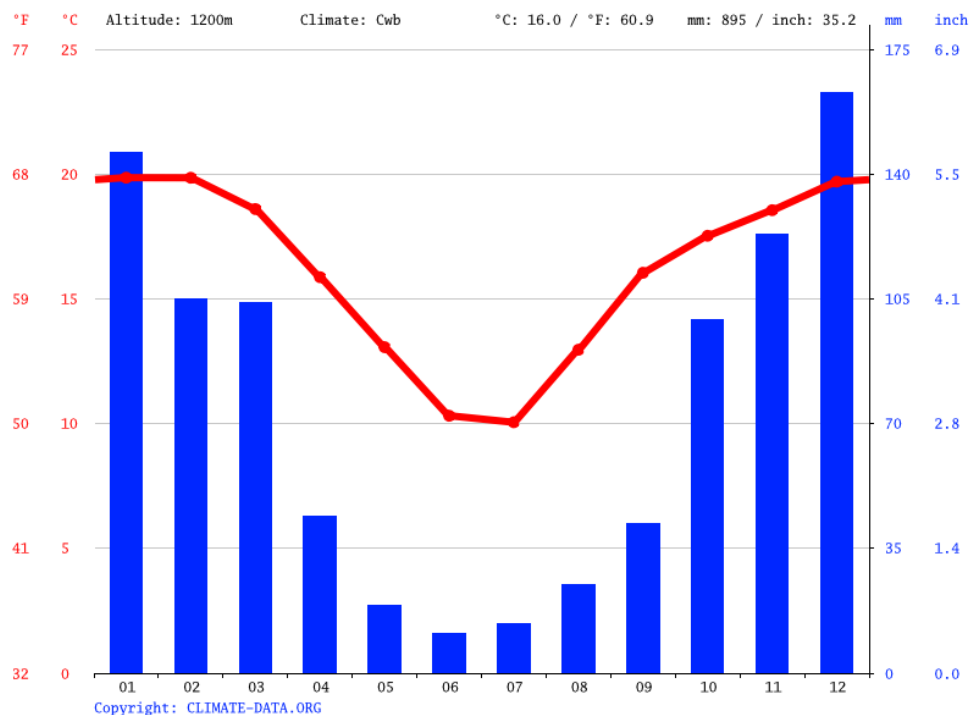


Figure 7: Newcastle climate graph [Source: Climate-Data.Org]

13.1.1 Potential impact

There are no direct adverse impacts foreseen in terms of the project to the climate. The measures to reduce the project's carbon footprint will be considered further in the EIR. However, due to site terrain and flood plains situated within the proposed site (*refer to section 13.2.1& 13.3*), the wet climatic conditions especial the torrential rainfall events and increased impervious surfaces as a result of housing development are likely to exacerbate flooding, which could pose risk to human life, results to damage to buildings and infrastructure. Therefore, the stormwater management systems must be constructed to all priority area prone to water stagnation and flooding.

13.2 Hydrology

The hydrological system for Amajuba District comprises of rivers and tributaries emanating from the two catchments, namely; uThukela and uPhongolo. The uThukela forms an interior catchment, which drains in a southerly direction by the Buffalo River and several tributaries including the Ngogo Ncandu, and Ngagane Rivers to the south and the Slangspruit, Dorpspruit, Doringspruit and Wasbank Rivers to the north. While, the uPhongolo forms an exterior boundary catchment stretching towards Zululand District, but also includes the high

lying area along the north-western border of Amajuba. This section of this catchment is drained by the Bivane River and forms the headwaters of the uPhongolo River (Ezemvelo KZN Wildlife, 2014; NLM IDP, 2020-2021).

The rivers, dams and wetlands at the project area are discussed in the following sub-sections.

13.2.1 Rivers and dams

The project site is located within V31K and V32B Quaternary Catchments under Pongola-Mtamvuma Water Management Area, boarded by the Buffalo (Buffels) River and its tributary (iNgangane River) along the drainage lines/flood plains traversing at approximately 2km and 1km north of the proposed development site, respectively, and its flood line emptying across the north-western boundary of the project forming a pan of wetlands (**Figure 8**). Both the Buffalo (Buffels) River and iNgangane River are classified as a National Freshwater Ecosystem Priority Area (NFEPA) River.

In addition, the Newcastle host two significant dams, namely Chelmsford Dam, also known as the Ntshingwayo Dam, located to the South of Newcastle within the Ngagane River catchment, and the Zaaihoek Dam located to the North-East of Newcastle within the Buffalo River catchment (NLM IDP, 2020-2021). However, there are all not within a reach of the study area.

13.2.2 Wetlands

Within the regional context, the Amajuba District comprises four important and sensitive wetlands, namely Blood River Vlei, Boschoffsvlei, Groenvlei and Padavlei. The wetland area around the Zaaihoek Dam is an important linkage to the Wakkerstroom wetland, which species such as the white wing fluff tail inhabits. Whereas the extensive wetlands associated with the Ngagane, and Ncandu Rivers also supports a wide range of hygrophilous vegetation types. It also, important to note that other important and pristine wetlands such as headwaters of the Slang River are under threat from afforestation (Ezemvelo KZN Wildlife, 2014).

Noticeable, at the project area there are numerous wetland and pans dispersed across the extent of the project area, and extensively lined at the north-western boundary of the project

locality, as well as diagonal across the western portion of the site forming a flood line, and one wetland within portion 4 of the development site (**Figure 8**). These wetlands characterised of national wetlands and NFEPA Wetlands.

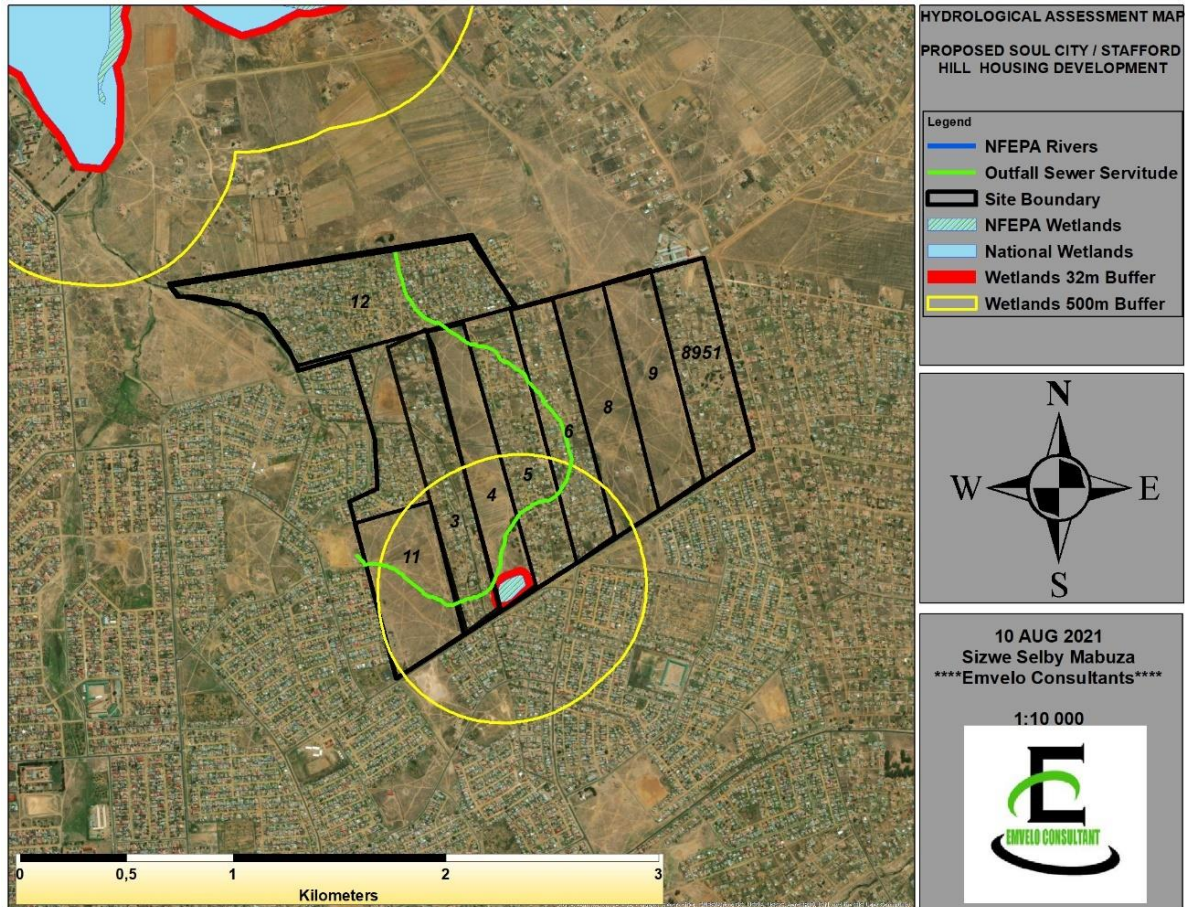


Figure 8: Map showing 32 wetland buffer and 500 buffer the hydrological features

13.2.3 Potential impacts of the project hydrological features

The impacts on wetlands systems are expected to be minimal, this is partly because almost the entire site is not sitting on these systems except the western development boundary which is prescribed to be the flood line and the wetland within portion 4. The wetland impact as a result of the proposed development will be further be investigated through the wetland delineation assessment, and mitigation and recommendation will be addressed during the EIR phase.

13.2.4 Proposed Wetland/Flood line Delineation and Impact Assessment

A Wetland/Flood line Delineation and Impact Assessment will be undertaken in the EIA phase. The status of wetlands (including delineation) and impacts on these systems will be assessed as part of this study. A wetland specialist will also provide recommendations or mitigation measures. The mitigation measures will also form part of the environmental management programme.

13.3 Topography

The central regions of Amajuba District comprise of a relatively flat terrain, whilst its boundary comprises the undulating to steep terrain across the escarpment along the northern, western, and north-western regions of the district. The topography of the district ranges from 1042m to 2290m above mean sea-level. As a result, the Newcastle Local Municipality lies within a relatively flat terrain between 1140m and 2247m above mean sea-level (Ezemvelo KZN Wildlife, 2014).

The topography of the project locality is relatively flat, ranging between 1180m to 1220m above mean sea-level, with its lowest altitudes situated along the wetland pans at the northern boundary and highest attitudes situated along the southern boundary, whereas the entire project locality lies on a flat terrain with altitude of 1200m above mean sea-level across (**Figure 9**).

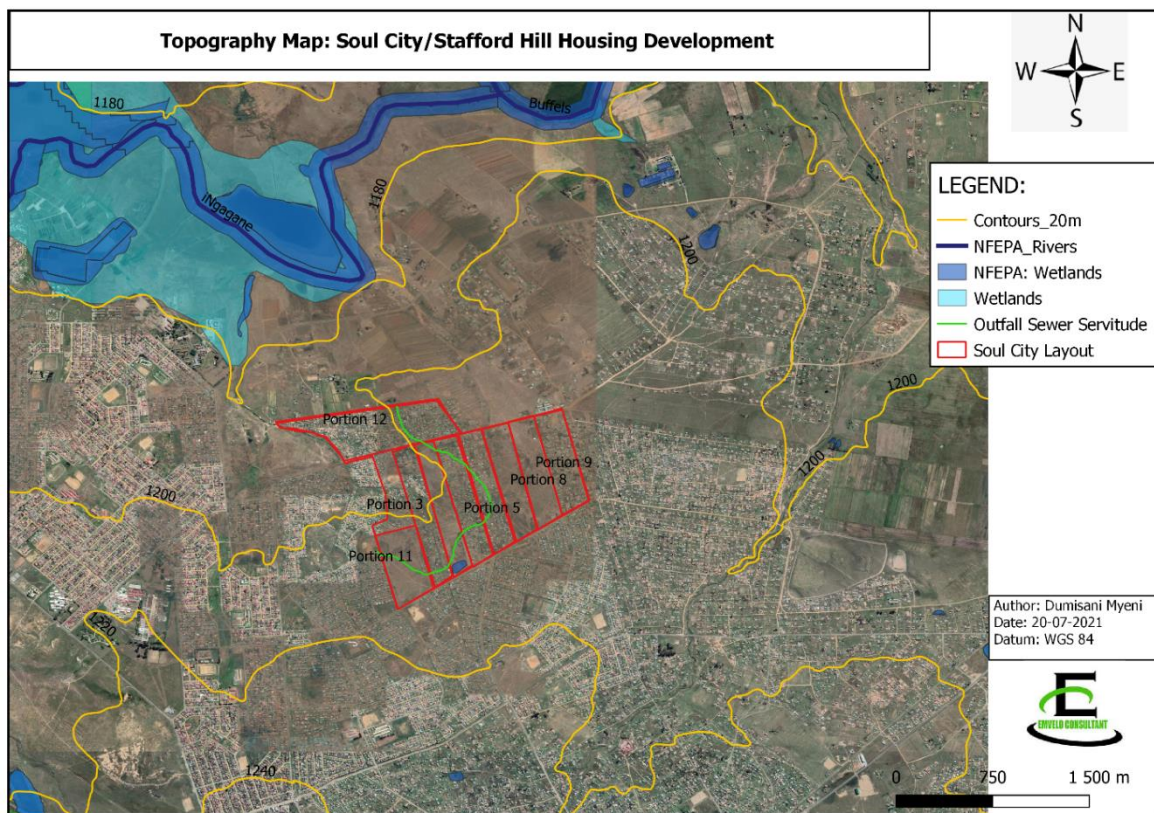


Figure 9: Contour Map showing elevations of the locality for the project area

13.3.1 Potential impacts

The topography characteristic of the proposed site is relatively flat. Therefore, coupled with the flood line areas and wetland pans across and impervious surface renders the development site prone flooding in the event of torrential rain. However, proposed development will have minimal impacts on the overall topography of the development area, in respect to soil erosion.

13.4 Geology

The geological features along the central area of the Amajuba District is underlain by Karoo Sequence sediment, whereas the higher-lying areas on the northern boundary, western boundary and north-eastern boundary of the district are underlain by a combination of geological formations. The solid pans and rocky dolerite outcrops and soils within these areas are subjected to wind and soil erosion. These types of soils are classified to be; transported soils, colluvial and residual of *Pleistocene* and Recent origin, which are of clayey and expansive, with shrink and swell properties according to their water content, mostly of these types of soils often associated with wetlands (Ezemvelo KZN Wildlife, 2014). Moreover, the

geological composition of the project locality is largely dominated by Arenite geological formation, with Dolerite intrusion (**Figure 10**).

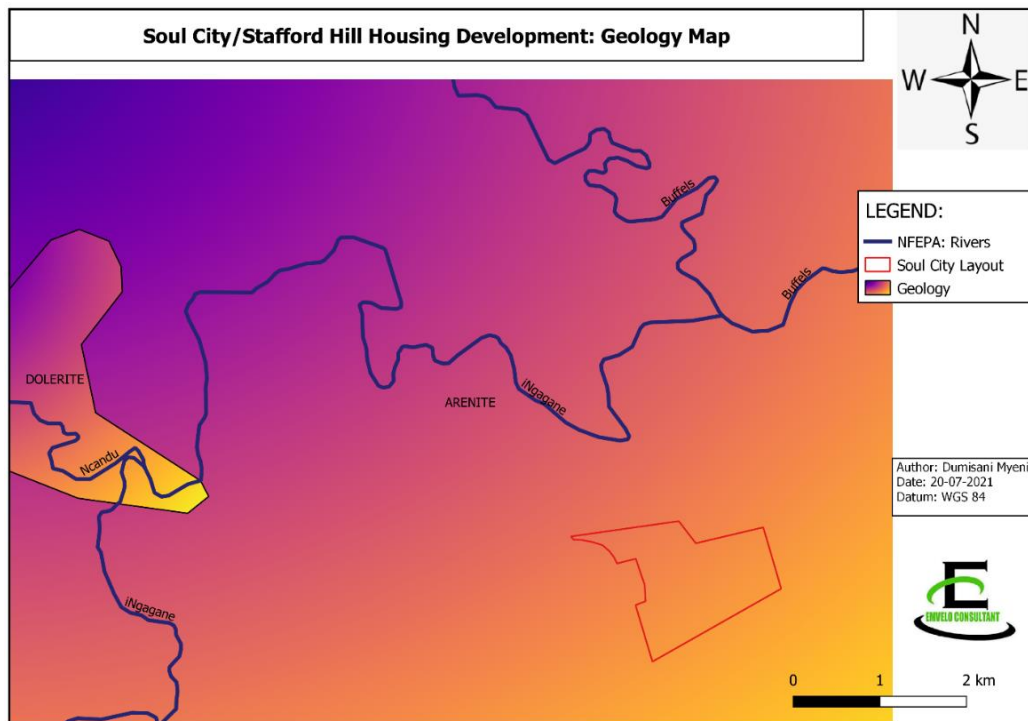


Figure 10: Map showing a dominance geological formation within the project site

13.4.1 Potential impacts

The housing development and associated bulk infrastructure for this project is anticipated to have excavations. The geological impacts will be elaborated in EIR pending the outcome of Geotechnical Assessment.

13.4.2 Proposed Geotechnical Assessment

A Geotechnical Assessment will be undertaken in the EIA phase. The status of site geology, such as erodibility, slits and scars and Existing Ground Water Level (EGL) and impacts will and impacts on these components will be assessed as part of this study. A Geotechnical Assessment will also provide recommendations or mitigation measures. The mitigation measures will also form part of the environmental management programme.

13.5 Biomes

The Amajuba District traverse four types of biomes, namely: forest, wetland, grassland, and savanna biome. The forest biome consists of Eastern Mistbelt Forests and are classified as “**endangered**”. The wetland biome consists of Alluvial Wetlands (Temperate Alluvial Vegetation), and Eastern Temperate Wetlands, and are classified as “**vulnerable**”. While the Midland Floodplain Grasslands are “**Least threatened**”. Grassland biomes consist of Income Sandy Grassland, Northern KwaZulu-Natal Moist Grassland, Paulpietersburg Moist Grassland, and Northern Zululand Mistbelt Grassland, and are classified as “**vulnerable**”. Whereas the Wakkerstroom Montane Grassland, Amersfoort Highveld Clay Grassland, Eastern Free State Sandy Grassland, and Low Escarpment Moist Grassland are “**Least threatened**”. The Savanna biome comprise of KwaZulu-Natal Highland Thornveld and Thukela Thornveld and are “**Least threatened**”. (Ezemvelo KZN Wildlife, 2014). Moreover, the study area falls under the Savanna Biome, with predominantly Income Sandy Grassland, Northern KwaZulu-Natal Moist Grassland, Temperate Alluvial Vegetation, and Midland Floodplain Grasslands (**Figure 11**).

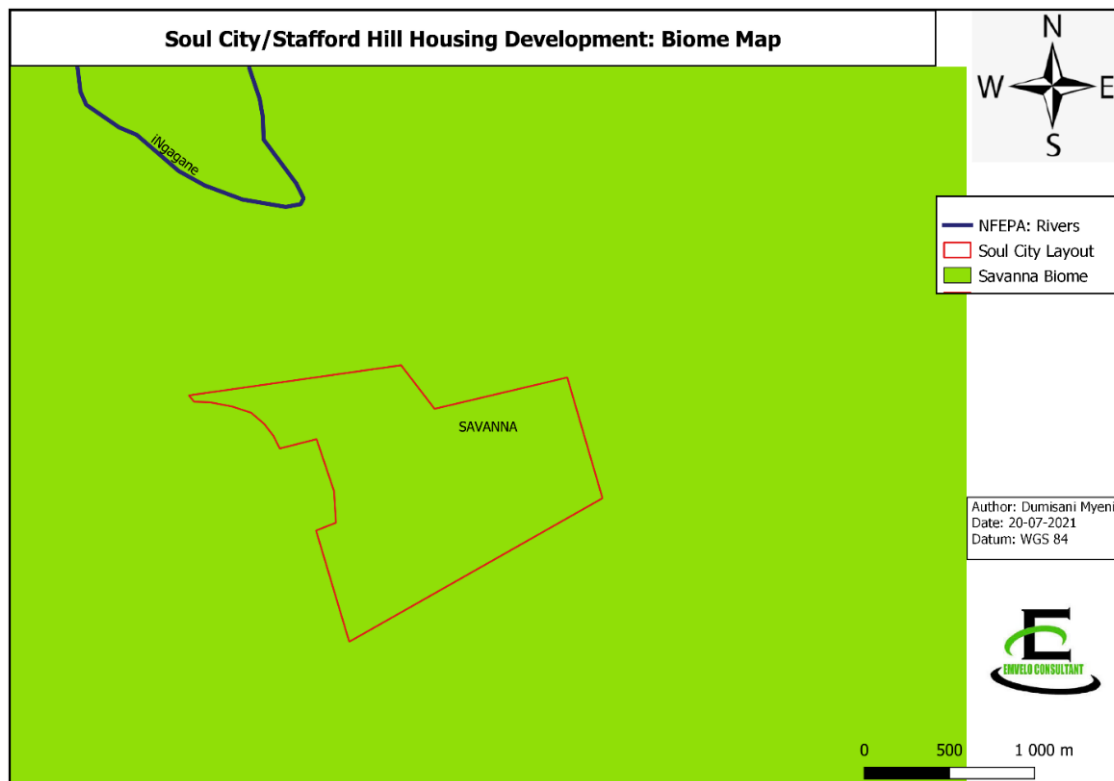


Figure 11: Map Showing the biome within a study area

13.6 Flora

The Amajuba District has an exceptional heterogeneity habitat, which translates into rich vegetation diversity that are most threatened due to land use transformation. However, there are pockets of protected ecosystems within the district (**Refer to Section 11.7**). In addition, the district comprises of four biomes and 14 vegetation types and majority of Red list plant species occurring in mostly threatened ecosystems predominantly in highly protected and higher altitudinal areas along the northern, north eastern and western boundaries of the district (**Refer to Section 11.3**). This include five “**Vulnerable**” species, one “**Near Threatened**” and one “**Rare**” species, amongst which is the *Nerine Platypetala* (Groenvlei Lily) mostly found mostly in grassland, on the margins of permanently moist vleis and levees of riverbanks (Ezemvelo KZN Wildlife, 2014).

The study area falls within the Income Sandy Grassland “**Vulnerable**” of a 24% conservation target, with an intrusion of: Temperate Alluvial Vegetation, and Midland Floodplain Grasslands (**Figure 12**). This vegetation cover renders the erosion potential to between low and moderate.

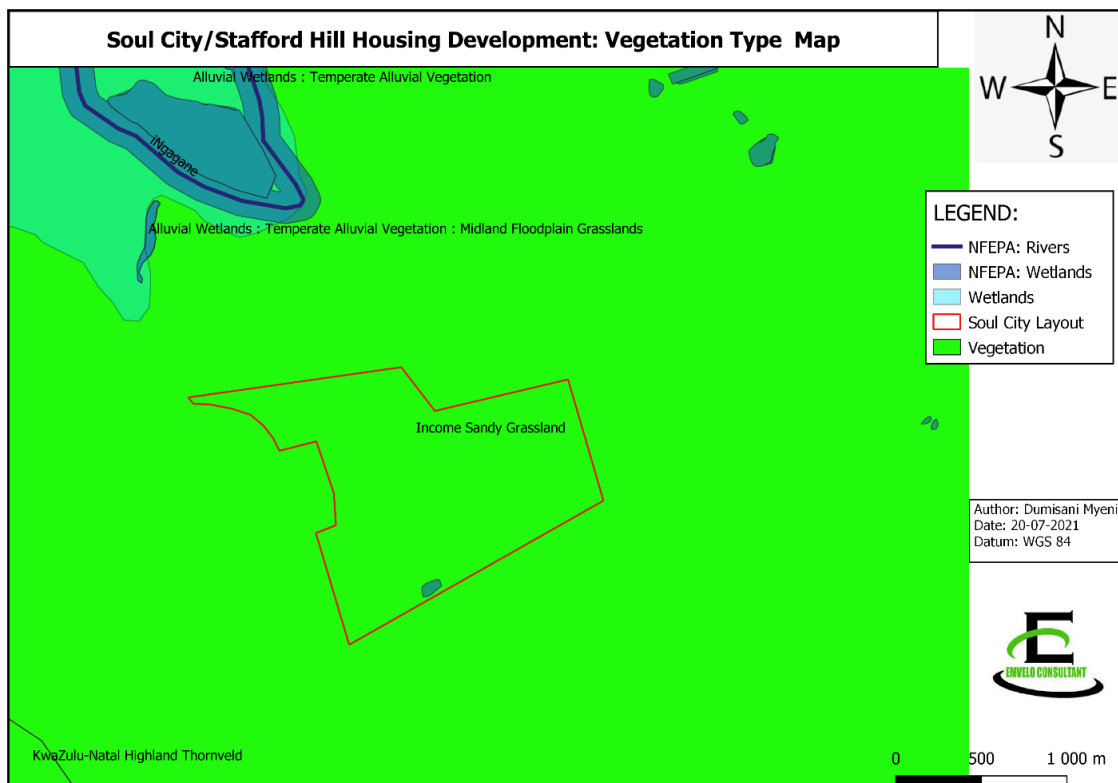


Figure 12: Map showing the vegetation types

Moreover, the vegetation within the study area will be examined through the Terrestrial Ecological Assessment and explained in EIR.

13.6.1 Potential Impacts

Potential impacts to vegetation resulting from the construction of the proposed housing units include the clearance of vegetation within the proposed footprint. Once the housing units have been allocated to people, the adjacent vegetation is also at risk of being degraded by community members.

13.7 Protected Areas

The Amajuba District Municipality has two provincial nature reserves, namely Chelmsford Nature Reserve and Ncandu Forest Nature Reserve. The Ncandu forest complex is situated within the Low Berg escarpment incised by numerous kloofs and gorges which borders the KwaZulu-Natal and Free State and KwaZulu-Natal, within the western part of the district. This forest complex hoists a significant number of bird life such as the Wattle Crane, Grey Crowned Crane, Blue Crane and the Denham's Bustard. While the Chelmsford Nature Reserve has a high population of Oribi (Ezemvelo KZN Wildlife, 2015). The Chelmsford Nature Reserve and Ncandu Forest Nature Reserve are situated at approximately 24km south-west and 34km south-west of the project site, respectively. While the Balele/Enlanzeni Valley, Utrecht Park and Emlwane Game Park are situated approximately 24km north-east of the project site.

The KwaZulu-Natal Biodiversity Plan outline two main categories of areas that are required to meet conservation targets for the province. These two main categories include Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs). The CBAs represent the crucial for supporting biodiversity features and ecosystem functioning and are required to meet biodiversity and/or process targets including corridors. While the ESAs represent the Functionality but not necessarily entirely natural areas that are required to ensure the persistence and maintenance of biodiversity patterns and ecological processes within Critical Biodiversity Areas (Ezemvelo KZN Wildlife, 2016).

Table 11: Subcategories of CBA and ESAs [Source: Ezemvelo KZN Wildlife,2016]

Critical Biodiversity Areas (CBAs) – Crucial for supporting biodiversity features and ecosystem functioning and are required to meet biodiversity and/or process targets			
Critical Biodiversity Areas:	Irreplaceable		Areas considered critical for meeting biodiversity targets and thresholds, and which are required to ensure the persistence of viable populations of species and the functionality of ecosystems.
Critical Biodiversity Areas:	Optimal		Areas that represent an optimised solution to meet the required biodiversity conservation targets while avoiding high-cost areas as much as possible (Category driven primarily by process, but is informed by expert input).
Ecological Support Areas (ESAs) – Functional but not necessarily entirely natural areas that are required to ensure the persistence and maintenance of biodiversity patterns and ecological processes within Critical Biodiversity Areas.			
Ecological Support Areas			Functional but not necessarily entirely natural terrestrial or aquatic areas that are required to ensure the persistence and maintenance of biodiversity patterns and ecological processes within the Critical Biodiversity Areas. The area also contributes significantly to the maintenance of Ecosystem Services.
Ecological Support Areas:	Species Specific		Terrestrial modified areas that provide a critical support function to a threatened or protected species, for example agricultural land or dams associated with nesting/roosting sites.
Ecological Support Areas:	Buffers		Terrestrial areas identified as requiring land-use management guidance not necessarily due to biodiversity prioritisation, but in order to address other legislation/ agreements which the biodiversity sector is mandated to address, e.g. WHS Convention, Triggers Listing Notice criteria, etc.

Upon interrogation of the KZN Biodiversity Conservation Plan (KZNBCP) for terrestrial areas KZN Biodiversity Plan, it was determined that no CBAs or ESAs are located within proximity to the proposed Soul City Housing development. However, **CBA: Optimal** areas were located at approximately 3km north-west of the project site, which therefore outside the reach of 500m buffer. (**Figure 13**). The **CBA: Optimal** sites reflect the negotiable sites with a low Irreplaceability Score. There are no **CBA: Irreplaceable** within the locality of the study area.

The identification of Species of Conservation Concern (SCC) will be covered by the IER through the Terrestrial Ecological Assessment.

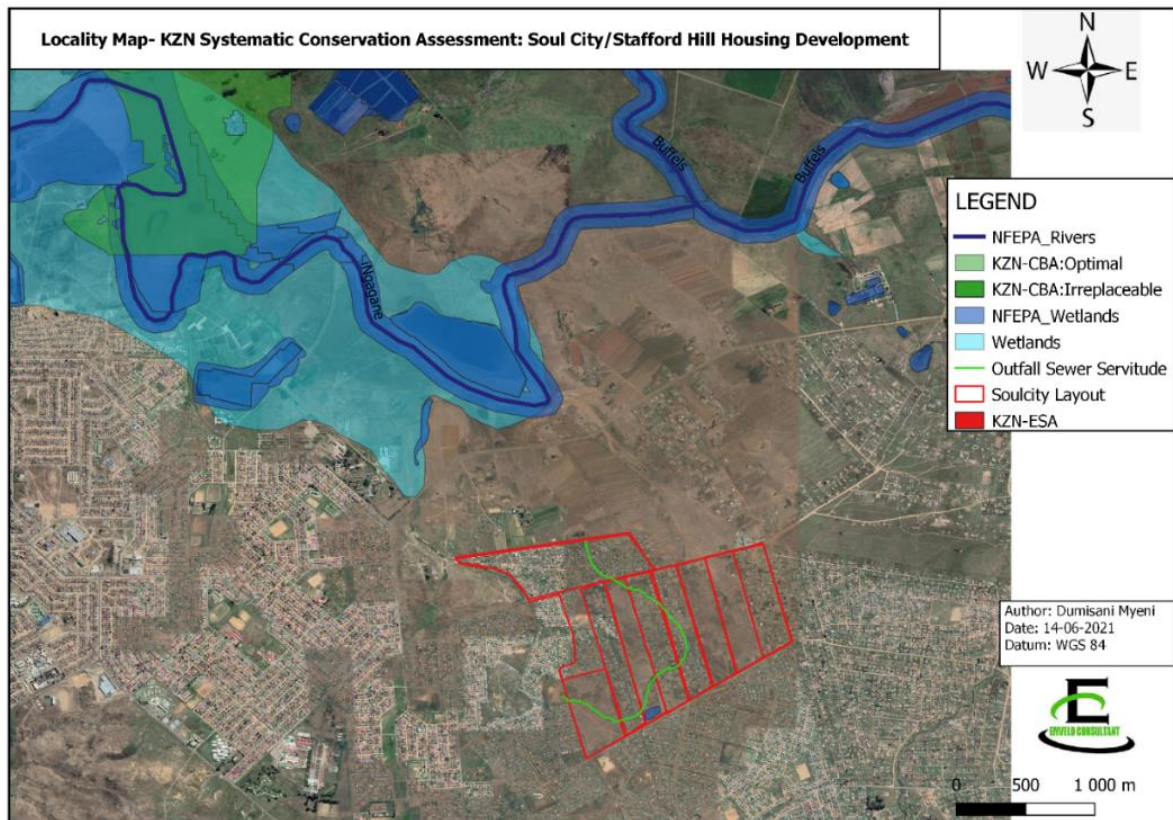


Figure 13: Map showing CBAs outside the project reach

13.7.1 Potential Impacts

Vegetation clearance can lead to fragmentation, reduction, and loss of habitat. Although, there are no CBAs and ESA within the reach of the development site. The Terrestrial Ecological Assessment will be conducted during EIR phase, a result of large-scale vegetation clearance, required for the proposed project.

13.7.2 Proposed Terrestrial Biodiversity Impact Assessment

A terrestrial Ecological Assessment will be undertaken in the EIA phase and the aim of the study will be to identify habitats of critical importance and significant flora species to be affected by the development. Recommendations and mitigations measures will be provided, and they will form part of the EMP.

13.8 Fauna

The Amajuba District has a recorded data of at least three (3) “**Critically Endangered**” species, four (4) “**Endangered species**”, and five (5) “**Vulnerable**” species variety of threatened species, namely *Bugeranus carunculatus* (Wattle crane), *Heteromiraфра ruddi* (Rudd’s Lark) and *Hirundo atrocaerulea* (Blue Swallow). The driving force behind the declining in their populations emanates from rapidly disappearing grassland and wetland habitat (Ezemvelo KZN Wildlife, 2014).

Furthermore, when the Newcastle region is interrogated against Quarter Degree Square (2730CA) obtained from Fitzpatrick Institute of African Ornithology Virtual Museum (2019, the region also confirms the availability of *Threskiornithidae* (Southern Bald Ibis) bird species classified as “**Vulnerable**”, with the wide range of frog species, reptiles and insect’s species classified as “**Least Concern**”. This region has *Otomys auratus* (Southern African Vlei Rat), *Dasymys incommutus* (Common Dasymys), and *Aonyx capensis* (African Clawless Otter) mammal species classified as “**Near Threatened**”, and the *Mystromys albicaudatus* (African White-tailed Rat) is classified as “**Vulnerable**”.

13.8.1 Potential Impacts

Vegetation clearance can lead to fragmentation, reduction, and loss of habitat. Although, there are no CBAs and ESA within the reach of the development site. The Terrestrial Ecological Assessment will be conducted during EIR phase, a result of large-scale vegetation clearance, required for the proposed project.

13.8.2 Proposed Terrestrial Biodiversity Impact Assessment

A Terrestrial Ecological Assessment will be undertaken in the EIA phase and the aim of the study will be to identify habitats of critical importance and significant fauna species to be affected by the development. Recommendations and mitigation measures will be provided, and they will form part of the EMP.

13.9 Visual environment and land use character

Subject to the direct visual influence of the proposed project, the zone of visual influence can be experienced at different scales by receptors located at various distances from the site. The viewshed area and zone of visual influence for new developments is classified as follows:

- High visibility - Visible from a large area (several square kilometres, >5km radius)
- Moderate visibility - Visible from an intermediate area (several hectares, 2.5 – 5 km radius).
- Low visibility - Visible from a small area around the project site (<1km radius).

Therefore, the viewshed area and zone of visual influence for the proposed Soul City housing development and related bulk infrastructure is considered “**low visibility**” as it can be visible from a small area around the project site (<1km radius) during the construction period. Also, it must be noted that the proposed project site is within the semi-formal (**Figure 14**), hence the project aim at formalisation and densification of semi-formal settlement, and will be streamlined with the local environment.



Figure 14: Case images for site locality current visual aspect

13.9.1 Potential Impacts

After the construction the development will bring an aesthetic value to the settlement. Also, during the construction this project is not anticipated to be highly visible from great distances and will be perceived by receptors in close proximity in the category of “**low visibility**”.

13.10 Heritage and cultural aspects

The intrinsic heritage of Amajuba District cannot be isolated from pre-colonial and colonial frontier wars. The region has a rich history emanating from King Shaka’s territorial, as he named the place “Kwamajuba” which means a place of doves. The district is also the host to historical battle sites, memorials and graveyards which are scattered across the land as testimony to the Transvaal War of Independence and the Anglo-Boer War. In addition, the Newcastle was the fourth town founded in ‘Natal’ and featured prominently in the Transvaal’s First War of Independence, and is where the penultimate battle was fought, at Schuinshoogte in 1881. Newcastle also featured prominently in the Anglo-Boer War and featured in both the Boer and English defences (Amajuba District IDP, 2020-2021).

A preliminary desktop study for palaeontological fossils sensitivity of the proposed site, reveals that the site falls within high sensitivity, as result a field assessment and protocol for finds is required (**Figure 15**). Further, investigation will be conducted through the Palaeontological, Cultural and Heritage assessment, and will be discussed in the EIR.

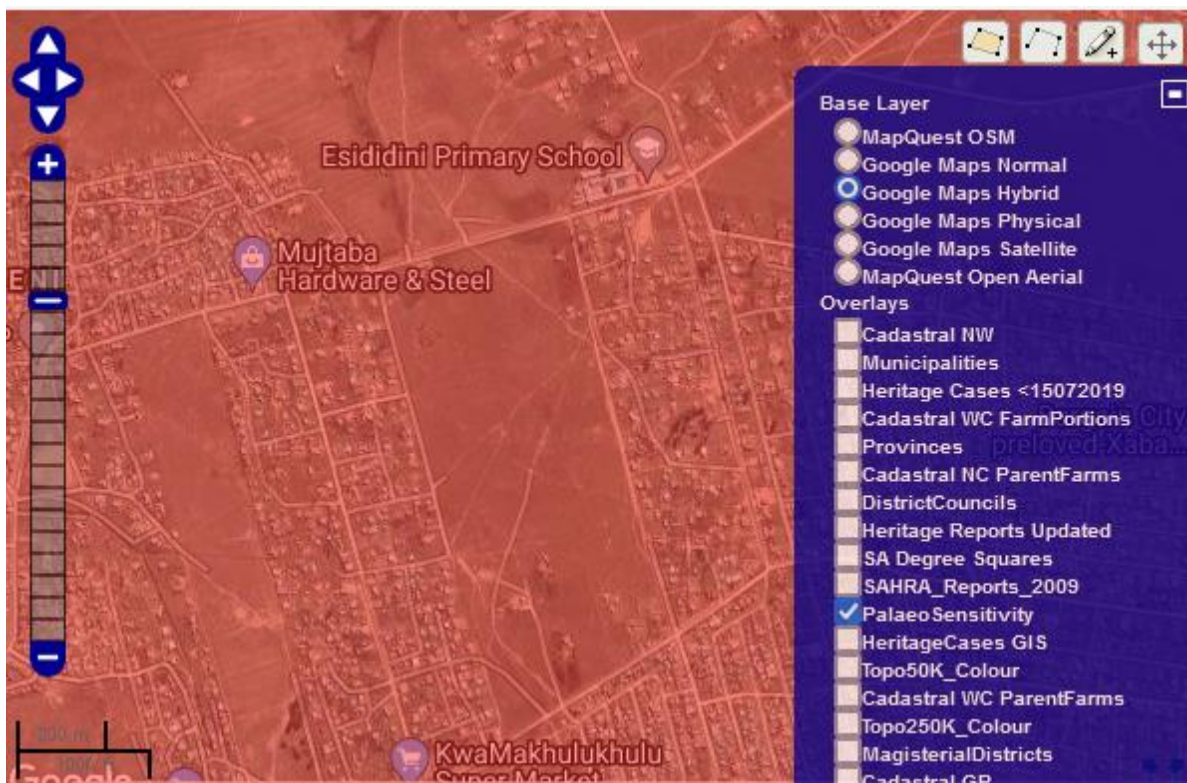


Figure 15: Palaeontological Sensitivity [<https://sahris.sahra.org.za/node/add/heritage-cases>]

It is also, observed that the Soul City/Majorisa settlement make use of isolated households' gravesite and public cemetery. Therefore, there is a possibility for the individual grave sites from homesteads. This will be investigated further by the Paleontological, Archaeological Heritage Assessment and documented in EIR.

13.10.1 Potential Impacts

During the clearing of vegetation and excavation activities, heritage resources/places that might be buried underground may be affected. Moreover, excavations (pre-construction and construction phase) could uncover the following: stone foundations, ash middens associated with the farmsteads and homesteads that can contain bone, glass and clay ceramics, ash, metal objects such as spoons, knives, and knives and possible adult and infant burials (especially unmarked).

13.10.2 Paleontological, Archaeological and Cultural Heritage Impact Assessment

The identification of features of historical, cultural and heritage importance including the location of ancestral graves would be undertaken by the Paleontological, Archaeological, and Cultural Heritage Assessment during the EIR phase. EMPr will also include recommendations from a specialist.

13.11 Social and economic aspects

The NLM like other urban municipalities has the growing demand for low-cost housing, as a result of influx population close to employment opportunities in urban area, in a process this results in mushrooming of urban slums. The socio-economic status of the population within the NLM is best illustrated having (57%) of households who are indigent, with 29% earning less than R800 per month, and 28% of households earning no income. Therefore, these income profile has significant implications for housing eligibility, with the number of households in each income bracket (NLM IDP, 2020-2021).

In addition, the Soul City/Stafford Hill Housing Development will take place within ward 31 which is said to have the highest population of (11379) provided by the 2011 Census Data, which is more than any other ward within the boundaries of Newcastle. The ward 32 comprise of 2634 and the average household size is 4 people per household, which is below the NLM household structure of 4.2 people per household. Furthermore, out of the population of (11379) only 1481 people are employed, 1564 unemployed, 300 discouraged work-seeker, and other not economical active. Also, the ages 0 – 29 years makes up the majority of the population in the ward which is 7659 people (64% of the total population). Overall, this implies that there is a high dependency ratio, and a need for development efforts to be concentrated towards youth empowerment through the provision of skills and training. Not surprisingly, the ward experience social ills as a has high crime rate is underpinned by aforementioned socioeconomic status (NLM, 2021).

13.11.1 Potential Impacts

The relocation of households within the flood line and existing sewer servitude will have negative social impacts, but this could be temporary during the relocation period.

The project will have positive impact in terms of improving livelihoods. It is also expected that the local community will benefit through jobs during the construction, operation, and maintenance phase, which will enable the transfer of skills and boost the local economy. This will contribute to alleviating poverty and decrease the dependency ratio. Most importantly, the housing development will address the issue of low-cost housing demand within NLM, in particular in Soul City/Majorisa settlement.

13.11.2 Socio-economic Impact Assessment

The socio-economic impact assessment will be conducted and the recommendation from the study will be included in the EIR, and EMP.

14 WASTE AND AMBIENT AIR POLLUTION

Construction activities, like other operations, also leads to pollution of air, land and water bodies, due to the general and hazardous waste emanating from the activities.

14.1 Waste management: construction phase

Some of the possible solid and liquid waste during the construction (housing construction and bulk services) include general waste (rubble, plastic, paper, food scraps, etc.), hazardous waste (chemicals, oil, diesel, resins, drilling fluids, sewage, etc.), medical waste from onsite injuries (bandages, swabs, medication, needles, etc.). The waste generated during the construction phase operation will be disposed of at Newcastle Waste Disposal Site. The waybills will be required to ensure the constructors used the approved waste disposal site. Medicinal wastes will be collected by a certified service provider.

14.2 Waste management: operational phase

Although there is refuse removal within ward 31, the majority still have no access and use own dumps, other make use of communal waste skips (**Figure 16**), while a small fraction has access to weekly waste collection (NLM, 2021). It is therefore, proposed that the housing development will enhance the adequate access to weekly waste disposal within the Soul City/Majorisa settlement coverage weekly. The waste generated during the operation will be collected by NLM and disposed of at Newcastle Waste Disposal Site.



Figure 16: Overflown communal waste skips

14.3 Effluent

No effluent will be generated during the construction phase of the project. However, these will be investigated further in EIR for both construction and operational phase.

14.4 Ambient air pollution and atmospheric emissions

The proposed development itself will not have direct impact on air pollution and atmospheric emission. However, certain activities during construction could have a minor impact on the ambient air as a result of emissions from the onsite equipment, machinery and vehicles. These include dust emanating from construction activities and fumes (carbon monoxide) released by construction vehicles and machinery. These will be investigated further in EIR.

14.5 Noise management

The project sites will emit different levels of noise due the various construction activities, movement of heavy construction vehicles, use of machinery as well as from large number of workers on site. However, noise impacts are expected to be of short duration and only during

certain times of the construction phase, which is likely to only have impacts to the immediate environment. The potential noise pollution impacts will be mitigated provided that the EMP is adhered to.

15 WATER USE

The water use for construction phase will be supplied by the NLM, with the provision of existing water within the project locality. This includes the metered water from the existing water supply. The water use will include water for construction, consumption, cleaning, and hygiene as well as dust suppression where required.

The water use for operational phase will be provided by NLM as a water service provider. Currently, the majority of the households in ward 31 have access to adequate potable water which can be obtained anywhere within a radius of 200 metres from the main dwelling. This is inclusive of water obtained inside the dwelling, water obtained inside the yard, and water obtained inside a community stand (**Figure 17**). The total number of households with access to adequate potable water within a reasonable distance to the main dwelling unit makes up 87% of the total number of households within ward 31 (NLM, 2021). It is therefore, proposed that the housing development will enhance the adequate access to piped water within the household dwellings.



Figure 17: Communal standpipes

16 IDENTIFICATION OF POTENTIAL IMPACTS

The Scoping is a critical step in the Environmental Impact Assessment (EIA) process, as it identifies significant issues that require further investigation as well as identifying the preferred site/s that will go through for further investigation. These issues will be carried forward into the EIA phase and subsequently the Environmental Management Plan.

This section seeks to provide an overview of environmental issues to be further investigated or prioritized during an EIA phase and methodology to be used when assessing those impacts. This allows for a more efficient and focused impact assessment in the EIA phase, where the analysis is largely limited to significant issues and reasonable alternatives.

16.1 Approach

The environmental issues associated with the proposed development were identified by referring to the following;

- ✚ Activities associated with the project life cycle.
- ✚ Activities relating to the construction phase.
- ✚ Nature and profile of the receiving environment and potential sensitive environmental features and attributes (see Section 12), which included a desktop evaluation (via literature review, specialist input, GIS, topographical maps and aerial photography) and site investigations.
- ✚ Direct and Indirect impact related to the proposed development
- ✚ Input from Public Participation
- ✚ Legal framework and Policy Context

This section does not only provide a detailed description of the receiving environment, but the section also outlines the possible impact associated with the proposed activity.

16.2 Potential Biophysical and Social Impacts

The potential Biophysical and Social Impacts were distilled from this information and are summarised in (**Table 11**) below. There Cumulative Impacts are also explained briefly in (**Section 17**).

Table 12: Potential Biophysical Impacts

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Construction and Operational Phase		
Potential Biophysical Impacts		
Biodiversity	<ul style="list-style-type: none"> • No major impacts were identified that could lead to a beneficial impact involving, alteration of natural habitat on the biodiversity environment since the proposed development area is largely destructive and there are no CBAs and ESA within the reach of the development site. However, impact associated with large scale clearance are: <ul style="list-style-type: none"> ○ Direct impacts on threatened flora species; ○ Direct impacts on protected flora species; ○ Direct impacts on threatened faunal taxa; ○ Direct impacts on common fauna species/ faunal assemblages (including migration patterns, corridors, etc); ○ Loss/ degradation of surrounding habitat; ○ Increase in local and regional fragmentation/ isolation of habitat. • During the construction of Soul City Housing Development Project, a habitat destruction and alteration inevitably take place. This happens with the project footprint where infrastructure will be laid. • Red Data species are particularly sensitive to changes in their environment, having adapted to a narrow range of specific habitat requirements. • Clearing of wetland habitat will result in a complete, but localised, loss of wetland habitat 	<ul style="list-style-type: none"> • Terrestrial Biodiversity Impact Assessment • Wetland/Flood line Delineation and Impact Assessment • EIR and EMP.

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Construction and Operational Phase		
Potential Biophysical Impacts		
Indigenous Vegetation	<ul style="list-style-type: none"> Several hectares of indigenous grass will be removed. Threatened plant species might be removed. Threatened plant species, in most cases, do not contribute significantly to the species richness of an area in terms of sheer numbers, as there are generally few of them, but a high ecological value is placed on the presence of such species in an area as they represent an indication of pristine habitat conditions. 	<ul style="list-style-type: none"> Terrestrial Biodiversity Impact Assessment EIR and EMPr.
Fauna	<ul style="list-style-type: none"> Although the region confirms the availability of <i>Threskiornithidae</i> (Southern Bald Ibis) bird species classified as "Vulnerable", with the wide range of frog species, reptiles and insect's species classified as "Least Concern". The <i>Otomys auratus</i> (Southern African Vlei Rat), <i>Dasymys incommutus</i> (Common Dasymys), and <i>Aonyx capensis</i> (African Clawless Otter) mammal species classified as "Near Threatened", and the <i>Mystromys albicaudatus</i> (African White-tailed Rat) is classified as "Vulnerable". However, considering that the proposed development area is largely destructive and there are CBAs and ESA within the reach of the development site. It is highly unlikely that these animal species may forage the proposed development area. Noise generated by construction vehicles will affect birdlife and other fauna species. 	<ul style="list-style-type: none"> Terrestrial Biodiversity Impact Assessment EIR and EMPr.
Impacts on Aquatic Ecosystem Functions and Services	<ul style="list-style-type: none"> Soul City Housing Development may result in the alteration or destruction of aquatic habitat and subsequent loss of associated functions, which include flood attenuation. Wetland habitat transformation or any other activity that will inhibit the ability of the watercourse to retain and slowly release flood water. Due to construction and laying of bulk infrastructure within wetland regulated areas. 	<ul style="list-style-type: none"> Wetland/Flood line Delineation and Impact Assessment EIR and EMPr.
Geology and Soil	<ul style="list-style-type: none"> Impacts related to the construction-related earthworks 	<ul style="list-style-type: none"> Geotechnical Assessment

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Construction and Operational Phase		
Potential Biophysical Impacts		
	<ul style="list-style-type: none"> Impacts related to the soil contamination in case of spillage/leakage of hydrocarbon and other hazardous material from storage facilities The loss of available top soil, due to site clearance 	<ul style="list-style-type: none"> EIR and EMPr.
Ground Water	<ul style="list-style-type: none"> Contamination of ground water due to hydrocarbon spillage and seepage into groundwater reserves, affecting groundwater quality. Increased impervious surfaces due construction compaction, and infrastructure within the area will further contribute to reduced water infiltration rates. 	<ul style="list-style-type: none"> Geotechnical Assessment EIR and EMPr.
Pollution and Waste	<ul style="list-style-type: none"> General waste will be generated from domestic activities and Mismanagement of waste could lead to negative visual and environmental impacts. 	<ul style="list-style-type: none">
Invasive species	<ul style="list-style-type: none"> Increase in weeds and pest due to cleared vegetation In places where wetland and riparian habitats may be removed, opportunistic alien pioneers might encroach. 	<ul style="list-style-type: none"> Terrestrial Biodiversity Impact Assessment EIR and EMPr.

Table 13: Potential Social Impacts

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Construction and Operational Phase		
Potential Social Impacts		
Visual	<ul style="list-style-type: none"> No Impact on the current visual landscape. Impact on sensitive receptors 	<ul style="list-style-type: none"> EIR and EMPr.
Ambient Air Quality	<ul style="list-style-type: none"> Certain activities during construction could have a minor impact on the ambient air as a result dust from construction areas. 	<ul style="list-style-type: none"> EIR and EMPr.
Heritage	<ul style="list-style-type: none"> There may be grave on the site and other important heritage resources. Identify the potential heritage sites within the study area Identify any impacts (if any) that may occur on these sites as a result of the Soul City Housing Development project 	<ul style="list-style-type: none"> Palaeontological, Archaeological, Heritage and Cultural Impact Assessment. EIR and EMPr.
Paleontological and Archaeological	<ul style="list-style-type: none"> Removal or destruction of archaeological and/or paleontological sites. Removal or destruction of buildings, structures, places, and equipment of cultural importance. 	<ul style="list-style-type: none"> Palaeontological, Archaeological, Heritage and Cultural Impact Assessment. EIR and EMPr.
Socio-economic	NEGATIVE IMPACTS: <ul style="list-style-type: none"> Development perceptions and fears associated with relocation of households within the flood line and outfall sewer servitude, and other bulk infrastructure servitude; Local, site-specific issues. Loss sense of belonging and heritage Affected households start experiencing adverse impacts on their livelihood assets in the pre-relocation stage. 	<ul style="list-style-type: none"> Social Impact Assessment. EIR and EMPr.

	<ul style="list-style-type: none"> • The owners of multi-houses for rent are more vulnerable to financial instability in the pre-relocation stage. • Immigration/Influx of people to looking for housing opportunities. • Influx of outside people for employment during construction <p>POSITIVE IMPACTS:</p> <ul style="list-style-type: none"> • Formalisation of settlement and housing units for the local people. • Local communities will receive employment opportunities. • Skills development. 	
Noise	<ul style="list-style-type: none"> • Noise during construction 	<ul style="list-style-type: none"> • EIR and EMPr.
Waste	<ul style="list-style-type: none"> • Some of the possible solid and liquid waste during the construction • Influx of people for housing opportunities will need more waste management services 	<ul style="list-style-type: none"> • EIR and EMPr.

16.3 Mitigation Measures

The EIA report will provide a detailed analysis of the impact and their significance to the receiving environment, using the above methodology as well as the input from the project team specialists' studies, comments from Interested and Affected Parties.

A suitable and practical mitigation measure will be developed to minimize the impact of the proposed activity on the receiving environment. The mitigation measures will seek to achieve the following;

- ✚ Initial efforts will strive to prevent the occurrence of the impact
- ✚ If the above is not achievable, mitigation will include measures that reduce or minimize the significance of the impact to an acceptable level;
- ✚ Remediation and rehabilitation will take place if measures cannot suitably prevent or reduce the impacts, or to address the residual impacts; and
- ✚ As a last measure, compensation will be employed as a form of mitigating the impacts associated with a project.

The mitigation measure will be included in the EMPr, which will form part of the EIA report. Together with the Environmental Authorization, the EMPr is binding on the Applicant, all contractors and sub-contractors and visitors to the site.

17 CUMULATIVE IMPACTS

In terms of the EIA Regulations, the cumulative impact is considered from the holistic point of view. It means that the impacts of an activity are considered from the past, present and foreseeable future together with the impact of activities associated with that activity. The activity itself may not be significant, but when combined with the existing and reasonably foreseeable impacts eventuating from similar or diverse activities may result in a significant change. "Cumulative impacts can be: Additive, synergistic, time crowding, neutralizing and space crowding" (DEA, 2017;14), as outlined on (**Table 13**) below.

Table 14: Cumulative Impacts

Impact	Description Mitigation
Habitat Fragmentation	Continuous clearance of vegetation in the local area will have a significant cumulative impact on populations of different flora and fauna species
Social Transformation	The construction of more housing units within the community will transform the settlement into a compact settlement with a high population density, will have long term effect on culture change etc. The relocation of certain households within the flood line will have repulsive effect to the proposed development. However, this will improve the community living standard, avert adverse impact of weather extreme events wet period, such as flooding, and fires during dry and windy period.
Economic Development	Employment opportunities would subsequently improve the economic development within the region.

18 PLAN OF STUDY

This section provides a summary of the key findings of the Scoping Phase of the EIA and to describe the activities to be undertaken in the Impact Assessment Phase of the EIA. Legislatively, the document is required to provide the following:

- ✚ A description of the environmental issues identified during scoping phase that may require further investigation and assessment;
- ✚ A description of the feasible Design, Layout and Routing Alternatives identified during scoping that may be further investigated;
- ✚ An indication of additional information required to determine the potential impacts of the proposed activity on the environment;
- ✚ A description of the proposed method of identifying these impacts; and
- ✚ A description of the proposed criteria for assessing the significance of these impacts.

The requirements of Regulation 28 of Government Notice R.543 promulgated in terms of section 24 of the National Environmental Management Act, 1998 (Act 107 of 1998) have

been reviewed in order to ensure compliance therewith. These requirements are as follows:

- ✚ A description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;
- ✚ An indication of the stages at which the competent authority will be consulted;
- ✚ A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity;
- ✚ Particulars of the public participation process that will be conducted during the environmental impact assessment process; and
- ✚ Any specific information required by the competent authority.

18.1 Details of Applicant

Name of the Developer	New Castle Local Municipality
Contact Person	Themba Nkomzwayo
Address	37 Murchison Street, Newcastle
Contact Number	(034) 328 7851
Email Address	Themba.nkomzwayo@newcastle.gov.za

18.2 Details of Environmental Assessment Practitioner

Name of Consultancy	Emvelo Quality and Environmental Consultant (PTY)Ltd
Professional affiliation body	Pr. Sci. Nat (SACNASP) EAPASA IAIAsa Affiliate Member

Name of EAP's	Phumzile Lembede (B.Sc. Honours in Environmental Management) Dumisani Myeni (B.Sc. Honours in Environmental Management)
Postal Address	P.O. Box 101672, Meerensee, 3901
Physical Address	38 Jacaranda Street, Arboretum, Richards Bay 3900.
Telephone Number	035 789 0632
Fax Number	086 577 5220
Email Address	info@emveloconsultants.co.za

18.3 Summary of Project Description

The Newcastle Local Municipality (NLM) proposes to develop Soul City/Stafford Hill Houses for Formalization of Semi-formal Settlement in Majorisa, within Ward 31 of Newcastle Local Municipality, Kwazulu-Natal. Soul City is part of the broader Majorisa settlement within Osizweni/Madadeni. This project aims for formalization and densification of Soul City, through formalization of erven to fit approximately 3500 housing units with inclusive of the *In-Situ* Upgrades/ Formalizations of 1800 existing erven over an extent of more than 217 hectares, and bulk infrastructure such as: roads, water, stormwater, and sewer. Addressing of the housing demand will require, formalisation, densification, and integration of housing development. This will: Facilitate restructuring of spatially inefficient settlements; Promote the sustainable use of the land; Channel resources to areas of greatest need and development potential; And redress the inequitable historical treatment of marginalized areas.

18.4 Summary Description of the Baseline Environment

There are wetlands and pans dispersed across the extent of the project area, and extensively lined at the north-western boundary of the project locality, as well as diagonal across the western portion of the site forming a flood line, and one wetland within portion 4 of the development site. The entire project locality lies on a flat terrain with altitude of 1200m above mean sea-level across. The geological composition of the project locality is largely dominated by Arenite geological formation, with Dolerite intrusion, with a moderate erodibility. The study area falls under the Savanna Biome, with predominantly Income Sandy Grassland, Northern

KwaZulu-Natal Moist Grassland, Temperate Alluvial Vegetation, and Midland Floodplain Grasslands. The CBA: Optimal areas were located at approximately 3km north-west of the project site, which therefore outside the reach of 500m buffer. A preliminary desktop study for palaeontological fossils sensitivity of the proposed site, reveals that the site falls within high sensitivity, also there is a possibility for the individual grave sites from homesteads.

The temperature in Newcastle is at highest on average in January, at around 19.9 °C, the lowest on average in the year occur in July, when it is around 10.1 °C. As a result, the Newcastle area has a highest mean temperature of 17.0 °C, and lowest mean temperature of 12.0 °C. This climatic variation is also accompanied by mean annual precipitation which ranges from 504mm to 1149mm.

18.5 Summary of Alternatives

The role of alternatives is to find the most effective way of meeting the need and purpose of the proposal, either through enhancing the environmental benefits of the proposed activity, and or through reducing or avoiding potentially significant negative impacts (DEAT, 2004).

The “Alternative A: Layout and Routing Alternative” will have minimal environmental degradation that might be expected during the course of the project, as there will be a minimum disturbance of water courses (wetlands) clearance of vegetation. This alternative will ensure that the environmental risks associated with 32m wetland buffer intrusion will not be incurred. However, it must be noted that “Alternative A” will require redesigning of site layout to ensure that services and housing development falls outside the 32-wetland buffer coverage. This will not be practical as there is an existing outfall sewer within 32 wetland coverage traversing portion 4, as a result the construction of sewer reticulation and where possible maintenance might fall within the regulated area. Also, the down scaling of the development footprint will not yield positive results, as the surrounding of the project will remain semi-formal and in the long result in mushrooming of slums within the periphery of the Soul City/Stafford Housing Development.

Therefore, after consideration of bio-physical and social environmental aspects, the most preferable alternative, is the “Alternative B: Design Alternative”. With this alternative, it is safer to say that the choice of the Community Upgrades design will yield desirable outcome of Soul

City/Stafford Hill Development of 3500 units with inclusion of formalisation of 1800 erven. However, it is important to prioritise designing for wetland and its 32m buffer coverage within portion 4 and provide zoning for park and play area to enhance the development and discourage informal development from the open spaces.

In conclusion, the option for densification and mixed used development will not yield a social favourable outcome, as it has more emphasis on rental housing demand, which in lighter note will not address the current low-cost housing needs.

18.6 Summary of Public Participation to date

The Environmental Impact Assessment (EIA) process for the proposed Soul City Housing Development project is comprised of two main phases, namely the Scoping phase and Impact Assessment phase. This report documents the tasks which have been undertaken as part of the Scoping phase of the EIA. These tasks include the public participation process and the documentation of the issues which have been identified as a result of these activities.

To date, tasks that have commenced include the:

- ✚ Identification of stakeholders or I&APs;
- ✚ Notification and advertisements;
- ✚ Background Information Documents; and
- ✚ Ongoing consultation and engagement.

More detail on the above is available in (**Section 3**).

18.7 Description of Environmental Issues Identified During Scoping

The description of environmental impacts outlined in (**Section 16**) have been identified for additional study during the EIA phase and are deemed to be issues of potentially medium to high significance or those anticipated to require specific mitigation measures.

18.8 Impact Assessment Methodology

Each impact identified is assessed in terms of probability (likelihood of occurring), scale (spatial scale), magnitude (severity) and duration (temporal scale). To effectively implement the adopted scientific approach in determining the significance of the environmental impact, a numerical value was linked to each rating scale.

The following criteria will be applied to the impact assessment for the proposed development:

Occurrence

- ✚ Probability - the probability of the impact describes the likelihood of the impact actually occurring.
- ✚ Impact duration - the duration of the impact describes the period of time during which an environmental system or component is changed by the impact.

Severity

- ✚ Magnitude – refers to the ‘degree of disturbance’ to biophysical systems and components which expresses the change in the health, functioning and/or role of the system or component as a result of an activity.
- ✚ Scale/extent - the extent of the impact generally expresses the spatial influence of the effects produced by a disturbance to an environmental system or component.

The following ranking scales were used:

<i>Probability = P</i>	<i>Duration = D</i>
5 – Definite (More than 80 % chance of occurrence)	5 – Permanent - The only class of impact that will be non-transitory (indefinite)
4 – Probable (Between 60-80% chance of occurrence)	4 - Long-term - The impact and its effects will continue or last for the entire operational life of the development (15 - 50years)
3 – Possible (Between 40-60% chance of occurrence)	3 - Medium-term - The impact and its effects will continue or last for some time after the construction phase (5 - 15 years)
2 – Fairly Unlikely (Between 20-40% chance of occurrence)	

1 – Unlikely (Less than 20% chance of occurrence)	2 – Medium-short - The impact and its effects will continue or last for the period of a relatively long construction period and/or limited recovery time after this construction period (2 - 5 years) 1 – Short Term - Likely to disappear with mitigation measures or through natural processes which span shorter than the construction phase (0-2 years)
<i>Scale = S</i> 5 – International (beyond 200km) 4 – Regional (50-200km radius) 3 – Local (2-50km radius) 2 – Surrounding area (within 2km) 1 – Site (within 100m)	<i>Magnitude = M</i> 5 - High 4 – Medium High 3 – Medium 2 – Medium Low 1 – Low

Status of Impact

+ Positive / -Negative or 0-Neutral

The overall impact significance score/points (SP) for each identified impact is calculated by multiplying magnitude, duration, and scale by the probability of all this happening.

The range of possible significance scores is classified into seven rating classes.

$$SP = (Magnitude + Duration + Scale) \times Probability$$

The impacts status can either be positive, negative or neutral as depicted in table below.

Significance	Environmental Significance Points	Colour Code
Negligible	0-10	N
Very low	11-20	VL
Low	21-30	L
Medium	31-40	M
Medium-High	41-50	MH

High	51-60	H
Very high	61-75	VH

18.9 Specialist studies identified

The required specialist studies triggered by the findings of the Scoping process, aimed at addressing the key issues and compliance with legal obligations, include:

- ✚ Terrestrial Biodiversity Impact Assessment;
- ✚ Wetland/Flood line Delineation and Impact Assessment;
- ✚ Paleontological/ Archaeological and Cultural Heritage Impact Assessment.

Prior to any work, both general and specific, the Terms of reference were determined for each specialist study. In determining general Terms of reference for specialist studies, the following guideline was used:

- ✚ Guideline for determining the scope of specialist involvement in EIA processes (Münster, 2005).





The subsequent guidelines were also employed in determining the specific terms of reference for respective specialist studies (where appropriate);

- ✚ Guideline for involving biodiversity specialists in EIA processes (Brownlie, 2005);
- ✚ Guideline for involving heritage specialists in EIA processes (Winter & Baumann, 2005);

In addition to the above guidelines, the relevant specialists need to satisfy specific requirements stipulated by the following key environmental authorities:



- ✚ Economic Development Tourism and Environmental Affairs;
- ✚ Department of Water and Sanitation;
- ✚ Amafa;
- ✚ DAFF;
- ✚ Ezemvelo KZN Wildlife; and

For the incorporation of the findings of the specialist studies into the EIA report, the following guideline will be used:

-  Guideline for the review of specialist input in EIA processes (Keatimilwe & Ashton, 2005). Key considerations will include:
-  Ensuring that the specialists have adequately addressed IAPs' issues and specific requirements prescribed by environmental authorities.
-  Ensuring that the specialists' input is relevant, appropriate, and unambiguous; and
-  Verifying that information regarding the receiving ecological, social, and economic environment has been accurately reflected and considered.



18.9.1 Wetland/Flood line Delineation and Impact Assessment

This section provides for:



-  A summary of hydrological aspects & triggers Identified during by scoping;
-  Approach to Wetland delineation assessment

18.9.1.1 Summary of project activities on hydrological aspects

Impacts posed by the project development to surface water, are in terms of:

-  Excavations;
-  Construction on or near wetlands.

18.9.1.2 Approach to Wetland delineation assessment

-  Undertake desktop study (literature review, topographical maps, and aerial photographs) and baseline aquatic survey and describe affected aquatic environments/watercourses within the project footprint.
-  Determine the ecological status of the receiving aquatic environment, including the identification of endangered or protected species.

- ✚ Delineate riparian habitat and all wetlands in accordance with the guideline: A practical field procedure for identification and delineation of wetlands and riparian areas (DWAF, 2005) (or any prevailing guidelines prescribed by DWS). This includes assessing terrain, soil form, soil wetness, and vegetation unit indicators to delineate permanent, seasonal and temporary zones of the wetlands. Allocate conservation buffers from the outer edge of the temporary zones of the wetlands (provincial-specific).
- ✚ Provide a concise description of the importance of the affected aquatic environments/watercourses in terms of pattern and process, ecosystem goods and services, as appropriate.
- ✚ Assess the impacts of the proposed project on aquatic environments/watercourses.
- ✚ Provide suitable mitigation measures to protect the aquatic ecosystems during project life cycle.

18.9.2 Terrestrial Biodiversity Impact Assessment

This section provides for:

- A summary of biodiversity aspects & triggers Identified during by scoping;
- Approach to Terrestrial Ecological Impact Assessment

18.9.2.1 Summary of project activities on biodiversity aspects

Impacts posed by the project development with regard to biodiversity aspects are:

- ✚ The potential loss of significant flora and fauna species.
- ✚ Impacts to sensitive terrestrial ecological features.
- ✚ Management actions for controlling exotic vegetation.

18.9.2.2 Approach to Terrestrial Ecological Assessment

- ✚ Undertake baseline survey and describe the affected environment within the project footprint from a biodiversity perspective.
- ✚ Take into consideration the provincial conservation goals and targets.
- ✚ Assess the current ecological status and the conservation priority within the project footprint and adjacent area (as deemed necessary). Provide a concise description of

the importance of the affected area to biodiversity in terms of pattern and process, ecosystem goods and services, as appropriate.

- ✚ Undertake sensitivity study to identify protected and conservation-worthy species. Prepare a biodiversity sensitivity map with the use of GIS, based on the findings of the study.
- ✚ Assess impacts on fauna and flora, associated with the project. Consider cause-effect impact pathways for assessing impacts on biodiversity-related to the project.
- ✚ Identify potential fatal flaws associated with the project and its alternatives from a biodiversity perspective.
- ✚ Comply with specific requirements and guidelines of EDTEA
- ✚ Consider the Amajuba District Biodiversity Plan (2014) and other relevant policies, strategies, plans, and programmes.

18.9.3 Social Impact Assessment

This section provides for:

- ✚ The possibility of relocation of households within the flood line and bulk infrastructure servitudes.

18.9.3.1 Possible relocation of households within the flood line and bulk servitudes

The processes of analysing, monitoring, and managing the intended and unintended social consequences, both positive and negative, of planned interventions.

18.9.4 Paleontological/ Archaeological and Cultural Heritage Impact Assessment

This section provides for:

- ✚ A summary of the potential occurrence of heritage resources & triggers Identified during by scoping;
- ✚ Approach to Heritage and Cultural Impact Assessment

18.9.4.1 Potential occurrence of Paleontological/ Archaeological heritage resources

The potential occurrence of heritage resources, graves, and structures older than 60 years within the project footprint.

18.9.4.2 Approach to Paleontological/ Archaeological, Heritage and Cultural Impact Assessment

- ✚ Undertake a Heritage Impact Assessment in accordance with the South African Heritage Resources Act (No. 25 of 1999).
- ✚ The identification and mapping of all heritage resources in the area affected, as defined in Section 2 of the National Heritage Resources Act, 1999, including archaeological and palaeontological sites on or close (within 100 m) of the proposed developments.
- ✚ Undertake a desktop palaeontological assessment (evaluate a site in terms of SAHRIS).
- ✚ The assessment of the significance of such resources in terms of the heritage assessment criteria as set out in the regulations.
- ✚ An assessment of the impact of development on such heritage resources.
- ✚ An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.
- ✚ Prepare a heritage sensitivity map (GIS-based), based on the findings of the study.
- ✚ Identify heritage resources to be monitored.
- ✚ Comply with specific requirements and guidelines of KZNHRA.

18.10 General Terms of Reference

The following general Terms of Reference apply to all the EIA specialist studies to be undertaken for the proposed project:

- ✚ Address all triggers for the specialist studies contained in the subsequent specific Terms of Reference.
- ✚ Address issues raised by IAPs, as contained in the Comments and Response Report, and assess all potentially significant impacts. Additional issues that have not been identified during Scoping should also be highlighted to the EAP for further investigations.

- ✚ Ensure that the requirements of the environmental authorities that have specific jurisdiction over the various disciplines and environmental features are satisfied.
- ✚ Approach to include desktop study and site visits, as deemed necessary, to understand the affected environment and to adequately investigate and evaluate salient issues. Indigenous knowledge (i.e., targeted consultation) should also be regarded as a potential information resource.
- ✚ Assess the impacts (direct, indirect, and cumulative) in terms of their significance (using suitable evaluation criteria) and suggest suitable mitigation measures. In accordance with the mitigation hierarchy, negative impacts should be avoided, minimized, rehabilitated (or reinstated) or compensated for (i.e., offsets), whereas positive impacts should be enhanced. A risk-averse and cautious approach should be adopted under conditions of uncertainty.
- ✚ Consider time boundaries, including short to long-term implications of impacts for the project lifecycle (i.e., pre-construction, construction, operation, and decommissioning).
- ✚ Consider spatial boundaries, including:
 - The broad context of the proposed project (i.e., beyond the boundaries of the specific site);
 - Off-site impacts; and
 - Local, regional, national, or global context.
- ✚ The provision of a statement of impact significance for each issue, which specifies whether or not a pre-determined threshold of significance (i.e., changes in effects to the environment which would change a significance rating) has been exceeded, and whether or not the impact presents a potentially fatal flaw or not. This statement of significance should be provided for anticipated project impacts both before and after the application of impact management actions.
- ✚ Recommend a monitoring programme to implement mitigation measures and measure performance. List indicators to be used during monitoring.
- ✚ Appraisal of alternatives (including the No-Go option) by identifying the BPEO with suitable justification.
- ✚ Advise on the need for additional specialists to investigate specific components and the scope and extent of the information required from such studies.

- ✚ Engage with other specialists whose studies may have bearing on your specific investigation.
- ✚ Present findings and participate in public meetings, as necessary.
- ✚ Information provided to the EAP needs to be signed off.
- ✚ Review and sign off on the EIA report prior to submission to DEA to ensure that specialist information has been interpreted and integrated correctly into the report.
- ✚ Sign a declaration stating independence.
- ✚ The appointed specialists must take into account the policy framework and legislation relevant to their particular studies.
- ✚ All specialist reports must adhere to Appendix 6 of GN No. 326 (7 April 2017).

19 EIA REPORT

The Environmental Impact Report (EIR) will provide enough evidence or information for EDTEA to make a final decision. At a minimum, the report will contain the following information which is in accordance with Appendix 3 of GN No. 326 (7 April 2017).

The following critical components of the EIA Report are highlighted;

- ✚ A description of the policy and legislative context.
- ✚ A detailed description of the proposed development (full scope of activities).
- ✚ A detailed description of the proposed development site, which will include a plan that locates the proposed activities applied for as well as the associated structures and infrastructure.
- ✚ A description of the environment that may be affected by the activity and the way physical, biological, social, economic, and cultural aspects of the environment may be affected by the proposed development.
- ✚ The methodology of the stakeholder engagement process.
- ✚ The Comments and Responses Report and IAPs Database will be provided as an appendix to the EIA Report.

- ✚ A description of the need and desirability of the proposed development and the identified potential alternatives to the proposed activity.
- ✚ A summary of the methodology used in determining the significance of potential impacts.
- ✚ A description and comparative assessment of the project alternatives.
- ✚ A summary of the findings of the specialist studies.
- ✚ A detailed assessment of all identified potential impacts.
- ✚ A list of the assumptions, uncertainties, and gaps in knowledge.
- ✚ An environmental impact statements.
- ✚ Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorization.
- ✚ A reasoned opinion as to whether the proposed activity should or should not be authorized, and if the opinion is that it should be authorized, any conditions that should be made in respect of that authorization.
- ✚ An opinion by the consultant as to whether the development is suitable for approval within the proposed site.
- ✚ An EMPr that complies with Appendix 4 of GN No. 326 (7 April 2017).
- ✚ Copies of all specialist reports appended to the EIA report; and
- ✚ Any further information that will assist in decision making by the authorities.

For the remainder of the Scoping process and EIA the interaction with EDTEA will be as follows:

- ✚ Submit Draft Scoping Report
- ✚ Address comments on Scoping Report.
- ✚ Submission of the Final Scoping Report.
- ✚ Submit the Draft EIR
- ✚ Address comments on Draft EIR
- ✚ Submit Final EIR; and
- ✚ Obtain a decision.

20 TIME FRAMES.

The table to follow presents the proposed timeframes for the EIA process. Note that these dates are subject to change.

Scoping Phase	Start	Finish
Review of the Draft Scoping Report by authorities & IAPs (30 days)	18/10/2021	20/11/2021
Submit Final Scoping Report	20/11/2021	22/11/2021
EDTEA Review and Decision (43 days review period) on scoping report	23/11/2021	31/01/2022
Review of Draft EIR by authorities & IAPs (30 days)	21/03/2022	25/04/2022
Submit Final EIA Report & EMPr to EDTEA	13/05/2022	13/05/2022
EDTEA Review and Decision (107 days)	16/05/2022	23/09/2022
IAP Notification Period	27/09/2022	06/10/2022

21 CONCLUSION

The scope of an environmental assessment is defined by the range of issues and alternatives it considers, the nature of the receiving environment, and the approach towards the assessment. Key outcomes of the Scoping phase for the proposed development of the Soul City/ Stafford Hill Housing Development project are as follows:

- ✚ Stakeholders were effectively identified and were afforded adequate opportunity to participate in the scoping process.
- ✚ Alternatives for achieving the objectives of the proposed activity were duly considered.
- ✚ Significant issues pertaining specifically to the pre-construction, construction and operational phases of the project were identified.
- ✚ Sensitive elements of the environment to be affected by the project were identified.

- ✚ A Plan of Study was developed to explain the approach to executing the EIA phase, which also includes the Terms of Reference for the identified specialist studies; and
- ✚ The scoping exercise set the priorities for the ensuing EIA phase.
- ✚ No fatal flaws were identified in terms of the proposed activities and the receiving environment that would prevent the environmental assessment from proceeding beyond the Scoping phase. It is the opinion of the EIA team that Scoping was executed in an objective manner and that the process and report conform to the requirements of Regulation 21 and Appendix 2 of GN No. 326 (7 April 2017), respectively. It is also believed that the Plan of Study for EIA is comprehensive and will be adequate to address the significant issues identified during Scoping and to ultimately allow for informed decision-making.

This Draft Scoping Report is available for a review and comment period of 30 days, extending from 18th October 2021 to the 20th November 2021. Comments and submissions received in response to this report will be submitted to the competent authority.

Written submissions must be addressed to:

Emvelo Quality and Environmental Consultant (Pty) Ltd

Attention: **Ms Phumzile Lembede**

PO Box 101672, Meerensee, 3901

Tel: 035 789 0632 Fax: 086 577 5220

Email: admin@emveloconsultants.co.za / dumisani@emveloconsultants.co.za

22 REFERENCES

Amajuba District Municipality IDP (2020-2021). [Accessed at: <https://www.amajuba.gov.za/media/epdnklzn/final-idp-20-21.pdf> . Dated 22 July 2021].

Climate-Data.Org. Newcastle Climate. [Access at <https://en.climate-data.org/africa/south-africa/kwazulu-natal/newcastle-652/> . Dated 16 July 2021].

DEAT (2002) Stakeholder Engagement, Integrated Environmental Management, Information Series 3, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2002) Specialist Studies, Information Series 4, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2004a) Criteria for determining Alternatives in EIA, Integrated Environmental Management, Information Series 11, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2004b) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2006) Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEA&DP (2007), NEMA EIA Regulations Guideline & Information Document Series Guideline on Alternatives (September 2007).

Ezemvelo KZN Wildlife (2014), Amajuba Biodiversity Sector Plan, V1.0, Unpublished Report of Ezemvelo KZN Wildlife, Biodiversity Conservation Planning Division, Ezemvelo KZN Wildlife, P. O. Box 13053, Cascades, Pietermaritzburg.

FitzPatrick Institute of African Ornithology (2019). LepiMAP Virtual Museum. Summary information for locus 2730CA. [Accessed at: <http://vmus.adu.org.za/?vm=FrogMAP> . Dated 06 August 2021].

FitzPatrick Institute of African Ornithology (2019). MammalMAP Virtual Museum. Summary information for locus 2730CA. [Accessed at: <http://vmus.adu.org.za/?vm=MammalMAP> . Dated 06 August 2021].

FitzPatrick Institute of African Ornithology (2019). ReptileMAP Virtual Museum. Summary information for locus 2730CA. [Accessed at: <http://vmus.adu.org.za/?vm=ReptileMAP> . Dated 06 August 2021].

FitzPatrick Institute of African Ornithology (2019). BirdPix Virtual Museum. Summary information for locus 2730CA. [Accessed at: <http://vmus.adu.org.za/?vm=BirdPixMAP> Dated 06 August 2021].

Mucina, L. and Rutherford, M.C. 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute. Pretoria. pp 349-436.

National Planning Commission (NPC). 2012. Our Future – make it work. National Development Plan 2030. Pretoria, South Africa.

Newcastle Local Municipality IDP (2017/18 – 2021/22) [Access at: https://iudf.co.za/wp-content/uploads/2020/09/NLM_Final_IDP_Review_2020-21_Version1.6.pdf . Dated 22 July 2021]

Newcastle Local Municipality (2021) Ward 31 Community Based Plan 2021-22 [Accessed at : <https://newcastle.gov.za/council/idp/?cp=2> . Dated 22 July 2021].

23 BIBLIOGRAPHY

BROWNLIE, S., 2005. Guideline for involving biodiversity specialists in EIA processes: Edition 1. CSIR Report No ENV-S-C 2005 053 C. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

CSIR, 2011. Wetland Freshwater Priority Areas (FEPAs). Council for Scientific and Industrial Research (CSIR), Pretoria.

DEAT (2002) Stakeholder Engagement, Integrated Environmental Management, Information Series 3, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2002) Specialist Studies, Information Series 4, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEAT (2010a). Companion to the EIA Regulations 2010. Integrated Environmental Management Guideline Series 5. Department of Environmental Affairs (DEA), Pretoria.

DEAT (2010b). Public Participation 2010. Integrated Environmental Management Guideline Series 7. Department of Environmental Affairs (DEA), Pretoria.

Driver, M. (2005). South Africa's first National Spatial Biodiversity Assessment: conservation news. *Veld & Flora* 91, 11.

Mucina, L. and Rutherford, M.C. (2006). The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute. Pretoria. pp 349-436.

National Environmental Management Act (107 of 1998): EIA Regulation 2017, as Amended . Department of Environmental Affairs. Pretoria.

Richardson, D.M., Bond, W.J., Dean, W.R.J., Higgins, S.I., Midgley, G., Milton, S.J., Powrie, L.W., Rutherford, M.C., Samways, M., Schulze, R., 2000. Invasive alien species and global change: a South African perspective. *Invasive species in a changing world*, 303-349.

SANBI, 2017. Red List of South African Plants version 2017.1.

Todd S. 2013. Drennan solar energy facility: fauna and flora specialist report for impact assessment. (Accessed from: <https://www.erm.com/> . Dated 14 August 2018)

APPENDICES

APPENDIX A. DECLARATION OF INFORMATION

I, the undersigned **Phumzile Lembede**, on behalf of **Emvelo Quality and Environmental Consultant**, hereby declare that the information provided in this application is correct and true.

18th October 2021

Signature

Date

PRINCIPAL EAP

Emvelo Quality and Environmental

Position

Company

APPENDIX B. MAPS, LAYOUTS & MUNICIPAL SERVICE LETTER

B1-Locality Map

B2-Layout Designs

B3-Municipal Service Letter

APPENDIX C. SITE PHOTOGRAPHS

APPENDIX D. PUBLIC PARTICIPATION PROCESS

D-1: News Paper Advert

D-2: Onsite Notices

D-3: Public Participation Plan and Register of I&APs

D-4: Background Information Document

D-5: Proof of Circulation to I&APs

D-6: Comments and Responses

APPENDIX E. EA PRE-APPLICATION MINUTES

APPENDIX F. EAP'S CV(S)

APPENDIX G. SCREENING REPORT