BASIC ASSESSMENT REPORT

FOR THE DEVELOPMENT OF A RESIDENTIAL DWELLING:

REM OF ERF 680, LEISURE BAY KZN

EDTEA REFERENCE NO:
DC21/0027/2021 KZN/EIA/0001654/2021

NOVEMBER 2021

REPORT PREPARED FOR:
Mary Chettle
P. O. Box 714
Nottingham Road
3280

REPORT PREPARED BY
Metamorphosis Environmental Consultants
P. O. Box 2116,
Link Hills
3640

EXECUTIVE SUMMARY

An application for an Environmental Authorisation (EA) for the development / construction of a residential dwelling on Rem of ERF 680, Leisure Bay, Ugu District Municipality, in terms of the National Environmental Management Act, 1998 (Act 107 of 1998, as amended) (NEMA) and Environmental Impact Assessment (EIA) Regulations, 2014, as amended, has been lodged with the KwaZulu Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA), Ref No. DC21/0027/2021 KZN/EIA/0001654/2021.

The owner of the property, Mrs Mary Chettle, intends building a residential home on the property, in line with all the building regulations and specifications of the Ugu District Municipality. The dwelling will be constructed on the vacant, cleared piece of land.

In terms of NEMA certain Listed Activities are specified for which either a Basic Assessment (GNR 983 and 985) (as amended 2017) or a Scoping and EIA is required (GNR 984) (as amended 2017) is required.

The applicable Listed Activity, in terms of GNR 983 (requiring a Basic Assessment), is: Part 19A:
"The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—
ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater."

The construction of the home requires that more than 5 m^3 of sand / material will be removed / excavated / infilled from an area located within 100 m of the HWM of the sea. This would be for the construction of the house, the swimming pool, the conservancy tank, the grey water and the rainwater collection tanks. Some of this will take place within 100 m of the HWM of the sea.

A possible trigger identified at the pre-app meeting with EDTEA was Activity Number 12 of Listing Notice 3, GNR 985 (as amended): however, the grass has been identified as Buffalo grass, which is an exotic species, therefore, this trigger is not applicable.

As per the EIA regulations, 2014 (as amended), the applicant must appoint an independent Environmental Assessment Practitioner (EAP) to carry out the BA. The applicant appointed Ms Vicki King, a registered EAP, from Metamorphosis Environmental Consulting, to do this.

The draft EA application, the site layout and the DFFE Screening Report were submitted to the EDTEA on the 4th August 2021. A representative from EDTEA visited the site on the 12th August 2021 for the pre-application meeting. EDTEA confirmed that a specialist Geotechnical Investigation and a Biodiversity Assessment were required. These have both been done, the results are included in this report and the studies are attached as appendices to this report.

The specialist Geotechnical Investigation concludes: "The proposed development of Rem of Lot 680 Leisure Bay is considered feasible provided that the geotechnical recommendations set out are strictly adhered to, these amounting to no more than good engineering practice." Refer section 9.3 below.

The specialist Biodiversity Assessment concludes: "There are no fatal flaws evident for the proposed project and it is the opinion of the specialist that the project should be favourably considered." Refer section 9.6 below.

It is the opinion of the EAP that this project should be allowed to proceed as proposed because of the positive impacts and the low negative impacts (as detailed in sections 11 and 12 below) the proposed project will have on the environment.

Provided that:

- The recommendations made in the specialist reports are implemented / adhered to;
- The management, mitigation and monitoring measures as prescribed above and in the EMPr are adhered to; and
- The building plans obtain the necessary approvals.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Appendix 1	EA Application to EDTEA: a) Final Application: 15th October 2021 b) EDTEA Acknowledgement Letter: 18th October 2021
Appendix 2	DFFE Screening Report
Appendix 3	Minutes of Pre-Application Meeting with EDTEA: 12th August 2021 (signed by M Packree)
Appendix 4	EAP: V King (MEC) Curriculum Vitae
Appendix 5	Infrastructure Services: a) Eskom: Supply of Electricity b) Ugu District Municipality: Supply of potable water
Appendix 6	SPLUMA Application to RNLM: a) Alteration of Restrictive Title Conditions 19th August 2021 b) Approval of Relaxation of Building Lines and Side Spaces: 19th August 2021
Appendix 7	Specialist Reports: a) Geotechnical Investigation b) CV and Geotechnical Specialist Declaration – Mr MJ Hadlow c) Biodiversity Assessment (Includes CV and Specialist Declaration)
Appendix 8	Public Participation Process Report: Including Comments & Responses Report
Appendix 9	SG Diagram - Layout Plan Portion 1 and Rem of ERF 680, Leisure Bay
Appendix 10	Environmental Management Programme

REFERENCES

1. Bundy, S., Goble, B., Parak, O. and Bodasing, M. (2021). *Best practices for coastal development in KwaZulu-Natal.* KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs, Pietermaritzburg

2. Ugu District Municipality: 2018/2019 Integrated Development Plan Review

ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
BA	Basic Assessment
BAR	Basic Assessment Report
BID	Background Information Document
DM	District Municipality
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EDTEA	Department of Economic Development, Tourism and Environmental Affairs (KZN Provincial Department)
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo KZN Wildlife
ELP	Electrical light pollution
EMPr	Environmental Management Programme
GN	Government Notice

HWM	High water mark
I&APs	Interested and Affected Parties
IEM	Integrated Environmental Management
NBA	National Biodiversity Assessment, 2018
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
NEM:ICMA	National Environmental Management: Integrated Coastal Management Act, 24 (Act 24 of 2008)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act 59 of 2008)
NGL	Natural ground level
NWA	National Water Act, 1998 (Act 36 of 1998)
OH&SA	Occupational Health and Safety Act, 85 (Act 85 of 1993)
POPIA	Protection of Personal Information Act, 2013 (Act 14 of 2013)
PPP	Public Participation Process
RNLM	Ray Nkonyeni Local Municipality
Ugu DM	Ugu District Municipality
WUL	Water Use Licence

1. INTRODUCTION AND BACKGROUND

1.1 Background: new residential dwelling at Rem of ERF 680, Leisure Bay:
Mary Chettle, the owner of the property, and the applicant, purchased the property, Rem of ERF 680, Leisure Bay, with the intension of building a home / residential dwelling on the property. This is a vacant, cleared piece of land, within a developed urban area. The neighbouring properties are all developed as residential dwellings; this is the only vacant stand in the road. The area is zoned as Residential Only 3.

The plans for the proposed dwelling will be in line with all the building regulations and specifications of the Ugu District Municipality. The plans will be submitted to Ugu Municipality for approval.

1.2 Environmental Authorisation Requirements & Listed Activities
Part of the property, where construction will take place, lies within the 100 metre high water mark (HWM), and the construction of the residential dwelling requires that more than 5 m^3 of sand / material will be removed / excavated / infilled from an area located within 100 m of the HWM of the sea. This would be for the construction of the house, the swimming pool, the Conservancy tank, the grey water and rainwater collection tanks. Some of this will take place within 100 m of the HWM of the sea. Refer to the proposed Site Layout Plan, figure 9 below.

In terms of NEMA, this is a Listed Activity requiring and environmental Authorisation (EA). This Listed Activity is specified for a Basic Assessment (GNR 983, as amended 2017). [Some Listed Activities are specified for Scoping and EIA (GNR 984, 2014, as amended 2017).]

The applicable listed activity is in terms of GN 983 (as amended) is detailed in Table 1 below.

Table 1: Listed Activity

GN No. R. 983 Activity No(s):	The relevant **Basic Assessment Activity** as per **Listing Notice 1** (GN No. R. 983)	Description of the portion of the development as per the project description that relates to the applicable listed activity.
19A	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing , dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan;	The construction of the dwelling requires that more than 5 m^3 of sand / material will be removed / excavated / infilled from an area located within 100 m of the HWM of the sea. This would be for the construction of the house, the swimming pool, the Conservancy tank, the grey water and rainwater collection tanks. Refer to the Site Layout Plans, figure 9 below.

	(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	

A possible trigger identified at the pre-app meeting with EDTEA was Activity Number 12 of Listing Notice 3, GNR 985 (as amended): the clearance of ≥ 300 m^2 indigenous vegetation. However, the only vegetation that will be removed is the Buffalo grass, which is an exotic species; no indigenous vegetation will be removed, therefore, this trigger is not applicable; refer sections 4.1, 4.2, 4.4 and 9.6 below; figure 6 below and Appendix 7c.

The EDTEA is the competent authority for this EA application. The draft EA application, the draft site layout plan and the DFFE Screening Report were submitted to the EDTEA on the 4th August 2021. The final EA application was submitted to EDTEA on the 15th October 2021; EDTEA acknowledged receipt refer Appendices 1a, b and 2. A representative from EDTEA visited the site on the 12th August 2021 for a pre-application meeting; refer Minutes of the pre-application meeting, Appendix 3.

EDTEA assigned the project the following reference number: Ref No. DC21/0027/2021 KZN/EIA/0001654/2021; refer Appendix 1b.

1.3 Basic Assessment Process

The application for environmental authorisation requires a Basic Assessment to be undertaken in accordance with Regulations 19 and 20 of GN No. 982 (as amended April 2017) as shown below.

Table 2: The Basic Assessment Process and Estimated Timeframes:

Step	**Status as at 15th November 2021 / Completed Date**
1. The proponent appoints an Environmental Assessment Practitioner (EAP) (Ms Vicki King: Metamorphosis Environmental Consultants)	02 June 2021
2. A draft EA Application, the Screening Tool Report and the Site Layout plan submitted to EDTEA	04 August 2021
3. EAP to submit draft Environmental Application (EA) and Screening Report to EDTEA	08 Aug 2021
4. Pre-Application Meeting on-site with EDTEA	12 Aug 2021
5. EDTEA to confirm which Specialist Reports are required & Specialist Studies undertaken: • Geotechnical Investigation • Biodiversity Assessment	12 Aug 2021 Completed: 22 September 2021 21 August 2021
6. BA process to proceed including public participation	In progress
7. Public Participation: • EAP to identify I&APs (neighbours, authorities, organisations) • EAP to draw up and maintain an I&AP database • EAP to draw up flyers, advert, posters and the Background	 14 Nov 2021 14 Nov 2021 Completed

Information Document (BID) • EAP to place the advertisement in the South Coast Herald • EAP to erect Posters • EAP to distribute BID to all identified I&APs • EAP to register any additional I&APs • EAP to record issues / comments received from I&APs	 17 Sept 2021 17 Sept 2021 20 Sept 2021 14 Nov 2021 14 Nov 2021
8. EAP to submit the EA application to EDTEA	15 Oct 2021
8. EAP to compile the draft Basic Assessment Report (BAR) and the draft Environmental Management Programme (EMPr) and to submit both reports to all registered I&APs for comments (for 30-day period)	14 Oct 2021
9. EAP to receive and incorporate all comments received from I&APs	14 Nov 2021
10. EAP to compile the Final BAR and Final EMPr and to submit it to the EDTEA and I&APs for approval	15 Nov 2021
11. Await BA approval and EA from EDTEA	Dec 2021 / Feb 2022
12. Appeal process	Jan / Feb 2022

A BAR must contain the information set out in Appendix 1 of GN No. 982 as amended 2017. Table 3 below indicates where in this BAR these various components are covered.

Table 3: Required Content of BAR according to GNR 982 (as amended April 2017)

	Content of Basic Assessment report according to GNR 982 (as amended)		Reference
1		A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application must include	
a		Details of	
	i	The EAP who prepared the report and	Section 2
	ii	The expertise of the EAP, including a curriculum vitae	Appendix 4a
b		The location of the activity, including	Section 3, Figure 1
	i	The 21-digit Surveyor General code of each cadastral land parcel	Section 3
	ii	Where available, the physical address and farm name	N/A
	iii	Where the required information in items (i) and (ii)is not available, the coordinates of the boundary of the property or properties	N/A
c		A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale, or if it is	Figures 9 and 15
	i	A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken, or	N/A
	ii	On land where the property has not been defined, the coordinates within which the activity is to be undertaken	N/A
d		A description of the scope of the proposed activity, including	Section 4
	i	All listed and specified activities triggered and being applied for, and	Section 1, Table 1
	ii	A description of the activities to be undertaken including associated structures and infrastructure	Section 4
e		A description of the policy and legislative context within which the development is proposed including	Section 5
	i	An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report, and	Section 5
	ii	How the proposed activity complies with and responds to the legislation and policy context, plans guidelines, tools frameworks and instruments	Section 5
f		A motivation for the need and desirability for the proposed development including the need and desirability of the captivity in the context of the preferred location	Section 6
g		A motivation for the preferred site, activity and technology alternative	Section 7
h		A full description of the process followed to reach the proposed preferred alternative within the site including	Section 7
	i	Details of all the alternatives considered	Section 7

	Content of Basic Assessment report according to GNR 982 (as amended)		Reference
	ii	Details of the public participation process undertaken in terms of regulation 411 of the Regulations, including copies of the supporting documents and inputs	Section 8 and Appendix 8
	iii	A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.	Section 8.4. Table 4 and Appendix 8
	iv	The environment attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspect.	Section 9
	v	The impact and risks identified for each alternative, including the nature significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts	Section 10
	aa	Can be reversed	Section 12
	bb	May cause irreplaceable loss of resources, and	Section 12
	cc	Can be avoided, managed or mitigated	Section 12
	iv	The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives,	Section 10
	vii	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section 11
	viii	The possible mitigation measures that could be applied and level of residual risk	Section 12
	ix	The outcome of the site selection matrix	N/A
	x	If no alternative locations for the activity were investigated, the motivation for not considering such, and	Section 7
	xi	A concluding statement indicating the preferred alternatives, including preferred location of the activity	N/A
i		A full description of the process undertaken to identify assess and rank the impacts the activity will impose on the preferred location through the life of the activity including	Section 10
	ii	A description of all environmental issues and risks that were identified during the environmental impact assessment process, and	Section 9
	ii	An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation	Section 10
j		An assessment of each identified potentially significant impact and risk, including	Section 12
	i	Cumulative impacts	Section 12
	ii	The nature, significance and consequences of the impacts and risk	Section 12
	iii	The extent and duration of the impact and risk	Section 12
	iv	The probability of the impact and risk occurring	Section 12
	v	The degree to which the impact and risk can be reversed	Section 12
	vi	The degree to which the impact and risk may cause irreplaceable loss of resources and	Section 12
	vii	The degree which the impact and risk can be avoided, managed or mitigated	Section 12
k		Where applicable, a summary of the findings and impact management measures identified in any specialist's report complying and Appendix 6 to these regulations and an indication as to how these findings and recommendations have been included in the final report	Sections 8.4 and 9
l		An environmental impact statement which contains	
	i	A summary of the key findings of the environmental impact assessment	Section 14
	ii	A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers and	Figure 15 and Appendix 7b
	iii	A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives	Executive Summary, Sections 11 and 12
m		Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed (impact management objectives and the) impact management outcomes for the development for the inclusion in the EMPr	Section 9 Appendix 12
n		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 authorisation	Section 14
o		A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Section 10
p		A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in	Section 14

	Content of Basic Assessment report according to GNR 982 (as amended)		Reference
		respect of that authorisation.	
q		Where the proposed activity does not include operational aspects, period for which the environment al authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised	N/A
r		An undertaking under oath or affirmation by the EAP in relation to	Appendix 4b
	i	The correctness of the information provided in the reports	Appendix 4b
	ii	The inclusion of comments and inputs from stakeholders and I&APs	Appendix 4b
	iii	The inclusion of inputs and recommendations from the specialist reports where relevant, and	Appendix 4b
	iv	Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and	Appendix 4b
s		Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts	N/A
t		Any specific information that may be required by the competent authority, and	N/A
u		Any other matters required in terms of section 24(4)(a) and (b) of the Act.	N/A

Public participation is to be undertaken in accordance with Chapter 6 of GN No. 982 (as amended 2017). A detailed description of the public participation undertaken for this project is provided in Section 8 of this BAR and Appendix 8.

2. PROJECT EAP

As per the requirements of the EIA Regulations, 2014, as amended, the applicant / project proponent must appoint an independent Environmental Assessment Practitioner (EAP) to carry out the EA / BA process.

Mary Chettle appointed Ms Vicki King of Metamorphosis Environmental Consultants as the EAP. Vicki King is a registered EAP, Reg No: 2016-15.

Please refer to Appendix 4a for the CV for Vicki King (EAP). The signed application was included in the EA Application to EDTEA.

3. LOCATION OF THE PROPOSED ACTIVITY

Rem of ERF 680, Leisure Bay is located within the Ray Nkonyeni Municipality, which falls within the Ugu District Municipality, KZN South Coast. The nearest town is Port Edward. The property is located between Dover Crescent and Brighton Avenue (Bexhill Road).
(Note: The Title Deeds and SG diagram refers to Brighton Avenue, however, Google earth refers to Bexhill Ave: it changes at some point).

The SG Diagram - Layout Plan Portion 1 and Rem of ERF 680, Leisure Bay, is attached as Appendix 9, showing numbers and zoning of the boundary properties (within 50m).

Detailed directions to the site:
From Durban: Take the N2 towards Port Shepstone. Stay on the N2 for approximately 145 km. From the N2/ R61, take the second Leisure Bay turn-off signed 'Leisure Bay / Torquay Avenue'. Continue straight along the Torquay Ave; after 1.4 km turn right into Bournemouth Ave (the second last road to the right before the beach road, Brighton Avenue - which becomes Bexhill Rd), after 150 m keep left onto Dover Crescent. It is the first property on left hand side (after Sand Pebbles).

The geographical coordinates for Rem of ERF 680, Leisure Bay are 31°1'31.435 S and 30°14'35.56 E.

The Surveyor-General 21 digit site reference number for Rem of ERF 680, Leisure Bay is:

N	0	D	T	0	1	8	3	0	0	0	0	0	6	8	0	0	0	0	0	0

As per the Ray Nkonyeni Municipal Scheme, the property is zoned: Residential Only 3.

Figure 1: Google Earth Map indicating the location of the site (Dover Crescent)

As this is located within a developed residential area, all bulk infrastructure for the residential dwelling is already in place, this includes:

- Access roads;
- Electricity supply (Eskom);
- Water supply (Ugu District Municipality); and
- Refuse removal.

(But excludes wastewater removal.)

Electricity Supply: Eskom has confirmed the availability of a normal household 16KVA supply of electricity to Rem of ERF 680, Leisure Bay; refer Appendix 5a.

Water Supply: Ugu District Municipality has confirmed the availability of water supply to the development of Rem of ERF 680, Leisure Bay; refer Appendix 5b.

4. PROPOSED SITE AND ACTIVITY

4.4. Description of the Property

Rem of ERF 680, Leisure Bay, is a cleared vacant piece of land zoned as Residential Only 3 (as per the Ray Nkonyeni Municipal Scheme). The site is 1 139 m^2 in size. This cleared property is the only vacant stand in the road; all neighbouring properties are developed as residential homes; refer figure 1 above. The site is currently a vacant piece of land; there are no existing buildings on the property.

It is bounded on the North by Sand Pebbles, which is a residential development comprising six (6) duplex units (see figure 2 below); and is bounded on the South by a residential home (see figure 3 below). The site is bounded on the West by a road and a residential dwelling (see figure 4 below) and on the East by a road, Brighton Avenue and the sea (see figure 5 below).

Figure 2: View North – Sand Pebbles duplexes

Figure 3: View South – Residential Home

Figure 4: View West – Dover Crescent and residential home

Figure 5: View East – Brighton Avenue and sea

The entire property is covered with Buffalo grass, an exotic species that grew naturally after the property was cleared / bulldozed; refer figure 6 below. The grass will only be removed / disturbed where the construction will take place.

As confirmed in the Biodiversity Assessment, the project area has been transformed to a large extent and the ground layer is dominated by Buffalo Grass (Bouteloua dactyloides), which is an exotic grass. Refer section 9.6 below and Appendix 7c. This exotic Buffalo Grass is the only vegetation that will be removed during construction.

Figure 6: Photograph showing the cleared property – ground layer exotic Buffalo Grass

The only remaining indigenous vegetation on site are the few remaining indigenous Milkwood trees on the property; one at the back of the property within the Dover Crescent (Western) boundary and a few within the front (Eastern) boundary of the property; refer figures 7 and 8 below.

Figure 7: Single Milkwood tree within western boundary fence (Dover Crescent)

Figure 8: Milkwood trees and vegetation within Eastern boundary fence (Brighton Avenue)

4.2 Description of the Proposed Activity

The owner of the property, Mrs Mary Chettle, intends building a residential home on the property, in line with all the building regulations and specifications of the Ugu District Municipality. The dwelling will be constructed on the vacant, cleared piece of land.

The proposed development is subject to municipal planning approval; a SPLUMA Application was submitted to RNLM on the 3rd February 2021; refer Appendices 6a and b. The Site Layout Plan submitted for this EA application is the same as the one submitted to and approved by the RNLM; except that a conservancy tank and grey water recycling system / collection tanks have replaced the originally proposed septic tank and French drain (as per the recommendations of the Geotechnical report); refer Site Layout Plan, figure 9 below; the detailed project development plan, figure 10, section 9.3 below and Appendix 7a.

The proposed activity includes the construction of a residential dwelling; the scope of work includes:

- Outbuildings
- Double Garage
- House (double story building)
- Retaining walls
- Conservancy tank and grey water collection tanks
- Rainwater collection tanks
- Swimming pool and deck

Refer Figure 9 below.

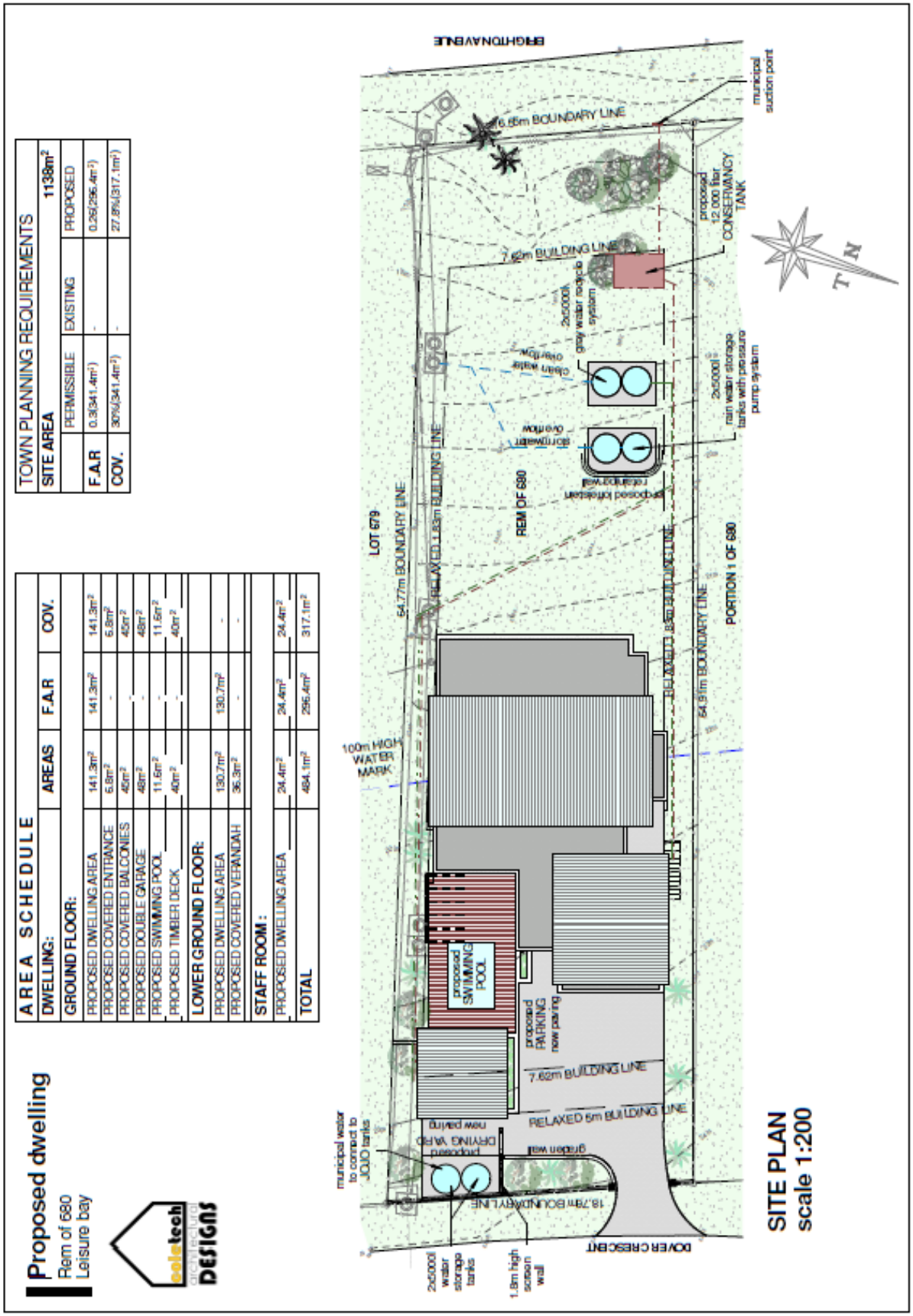

Figure 9: Site Layout Plan (also showing the high water mark (HWM))

As can be seen on the above site layout plan, the development that falls within 100 m of the high water mark (HWM), and triggers the Listed Activity described above, includes part of the house, two of the the stormwater tanks, the two grey water tanks and the conservancy tank. The construction of these requires that 90 m^3 of sand / material will be excavated and 50 m^3 will be infilled (cut and fill).

For the entire site, 200 m^3 of material will be excavated and 90 m^3 will be infilled (cut and fill).This would be for the construction of all buildings, the swimming pool, the conservancy tank, the grey water collection tanks and the rainwater collection tanks.

The construction of the dwelling will take place once all plans have been approved by the relevant authority(ies), i.e. Ray Nkonyeni Local Municipality (RNLM) and the Ugu District Municipality.

During construction, a portable toilet will be provided for the construction workers on site and all refuse will be recycled (as far as possible) or disposed at the local landfill site. Water will be provided by the local authority, Ugu District Municipality (infrastructure in place); refer Appendix 5b.

The development of the land is subject to municipal planning approval; a SPLUMA Application was submitted to RNLM on the 3rd February 2021 to amend the restrictive title conditions and to relax the building lines and side spaces; the approvals were given on the 19th August 2021; refer Appendices 6a and b. The Site Layout Plan submitted for this EA application is basically the same as the one submitted to and approved by the RNLM; refer Appendices 6a and b. The buildings are the same, the only difference is that the septic tank and French drain shown on the original plan has been replaced with a conservancy tank and grey water collection tanks as prescribed by the Geotechnical Investigation; refer section 9.3 below and Appendix 7a.

Impressions of the proposed dwelling: Below are computer generated pictures / impressions of the proposed development, Refer figures 10 – 13. Note: the design will not change, but the finishes may differ, e.g. wall colours, etc.

Figure 10: View from Dover Crescent (access)

Figure 11: View from Brighton Avenue

Figure 12: Side view (southern boundary)

Figure 13: Side view (northern boundary)

4.3 Physical Size of the Activity

The extent of Rem of ERF 680, is 1 138 m^2. The total area of the proposed dwelling is ±489.1 m^2, comprising:

- Proposed ground floor (dwelling, covered entrance, covered balconies, double garage, swimming pool, deck): ±292.7 m^2
- Proposed lower ground floor (dwelling, covered veranda): ±167 m^2
- Proposed staff dwelling: ±24.4 m^2

AREA SCHEDULE			
DWELLING:	**AREAS**	**F.A.R**	**COV.**
GROUND FLOOR:			
PROPOSED DWELLING AREA	141.3m²	141.3m²	141.3m²
PROPOSED COVERED ENTRANCE	6.8m²	-	6.8m²
PROPOSED COVERED BALCONIES	50m²	-	50m²
PROPOSED DOUBLE GARAGE	48m²	-	48m²
PROPOSED SWIMMING POOL	11.6m²	-	11.6m²
PROPOSED TIMBER DECK	40m²	-	40m²
LOWER GROUND FLOOR:			
PROPOSED DWELLING AREA	137.7m²	137.7m²	-
PROPOSED COVERED VERANDAH	29.3m²	-	-
STAFF ROOM :			
PROPOSED DWELLING AREA	24.4m²	24.4m²	24.4m²
TOTAL	489.1m²	303.4m²	322.1m²

As can be seen in figure 14 below the development, including all buildings, driveway and parking area, and the stormwater and grey water tanks and the conservancy tank, covers approximately 56% (< 60%) of the property.

Figure 14 below also shows the cross sections of the proposed dwelling showing the natural ground level (NGL). The staff room, double garage and the lower ground floor (of the dwelling) are basically on NGL. Minor cuts will be required for the foundations of these buildings; and slightly bigger cuts will be required for the swimming pool and the storm water and grey water tanks.

The development which falls within 100 m of the high water mark (HWM) requires that 90 m^3 of sand / material will be excavated and 50 m^3 will be infilled (cut and fill).

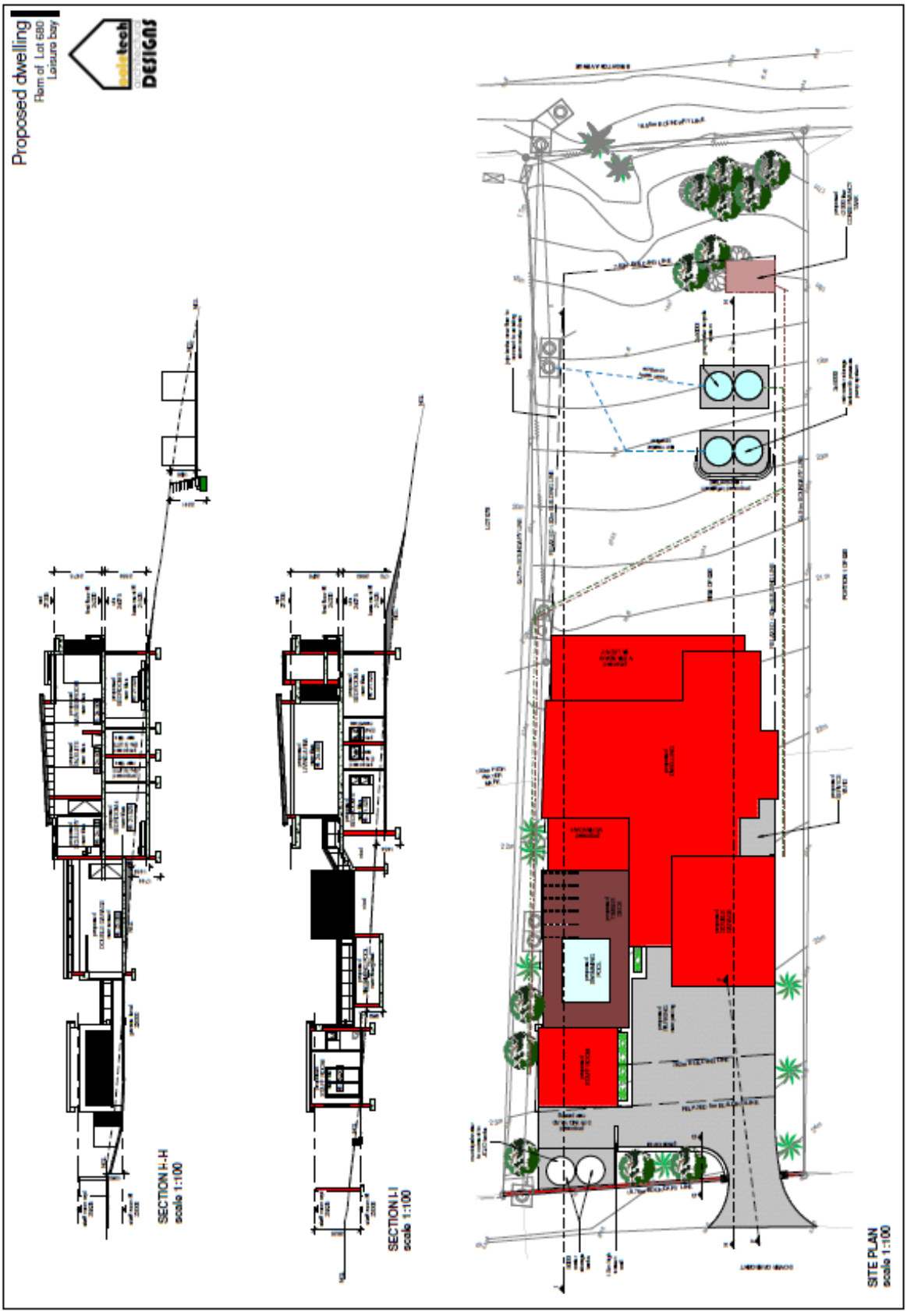

Figure 14: Detailed Project Development Plan

4.4 Location of the Activity on the Property

Figure 10 above shows the access off Dover Crescent and the position / location of the dwelling, the verandahs and balconies, the double garage, the staff room, the parking area, the pool and yard area, the stormwater collection tanks (x4), the grey water recycling system / collection tanks (x2) and the conservancy tank.

As can be seen in the Site Layout Plan (figure 9 above), the buildings will be constructed as far back on the property as possible, i.e. towards the Dover Crescent boundary. This has been done to ensure as much of the construction as possible will take place beyond the 100 m HWM; refer figure 9 above.

The existing Milkwood tree located within the Dover Crescent boundary and the Milkwood trees located within the Brighton Avenue boundary will remain; they will not be cut down or removed (see figures 7 and 8 above). These are shown on the proposed Site Layout Plan; refer figure 9 above.

The Biodiversity Assessment states: "It is understood that the trees will not be harmed, the development plan (Figure 3-12) overlayed with the project area (Figure 3-13), shows that the trees have been considered and will be avoided, and incorporated into the landscape plan." Refer figure 15 below and Appendix 7c.

Figure 15: The proposed development layouts superimposed on the project area

The only vegetation found where the dwelling is to be developed is Buffalo Grass. As confirmed in the Biodiversity Assessment, the project area has been transformed to a large extent and the ground layer is dominated by Buffalo Grass Refer (Bouteloua dactyloides), which is an exotic grass; refer figure 6 above, section 9.6 below and Appendix 7c.

This exotic Buffalo Grass is the only vegetation that will be removed during construction. As the development covers less than 60% of the total area of the site (of 1 138 m^2), the amount of exotic

Buffalo Grass that will be removed is roughly equal to 683 m^2. No indigenous vegetation will be removed.

Plans were initially drafted to establish if it was feasible to develop the entire facility behind the 100 m HWM, however, due to size constraints, it was not possible, feasible or reasonable.

The design has taken into consideration the macro and micro climate, the path of the sun, solar geometry and wind conditions. Attention has been given to site orientation, ventilation, climate, technology and sustainability.

4.5 Site Access

As mentioned, all bulk infrastructure is already in place; including all access roads (Bournemouth Avenue, Dover Crescent, Brighton Avenue / Bexhill Ave). The vehicle access to the property will be off Dover Crescent. There is a pedestrian access gate off Brighton Avenue / Bexhill Ave.

The roads servicing the property, i.e. Dover Crescent and Brighton Avenue / Bexhill Ave are good gravel roads; Bournemouth Avenue is a good tar road; refer figure 1 above. Supply delivery vehicles (for bricks, etc.) will be able to easily access the property.

5. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

All the legislative requirements listed below have been applied and adhered to in this EA application, there are no deviations.

5.1 Legislation

5.1.1 The Constitution of the Republic of South Africa Act (108 of 1996)

The constitution places a general duty on all to protect the environment and to ensure an environment that is not harmful to the health and well-being of people.

This EA application satisfies this requirement.

5.1.2 National Environmental Management Act (No. 107 of 1998) (NEMA) and associated Environmental Impact Assessment (EIA) Regulations, 2014 (as amended)

The Principles of NEMA, including the Duty of Care, the Precautionary Principle, the Polluter Pays Principle, the Waste Hierarchy, the Preventative Principle and the Cradle to Grave Principle will apply to the philosophies applied throughout this investigation and the consideration of the technical aspects of the project.

NEMA places a Duty of Care to protect the environment and requires adequate and appropriate opportunity for public participation on decisions that may affect the environment. It also requires that potential impacts on the environment and socio-economic conditions be investigated and assessed.

The NEMA EIA Regulations, 2014 (as amended) envisage two categories of activities.

- Category A: Those that potentially only require Basic Assessment before authorisation.
- Category B: Those that will require comprehensive assessment i.e. Scoping and EIA.

In other words, those activities requiring only a Basic Assessment are perceived to be lower impact activities than those requiring Scoping and EIA.

The proposed activity requires an application subject to a Basic Assessment as described in the Environmental Impact Assessment (EIA) Regulations 2014 (as amended), sections 19 - 20 (Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998, as amended).

This EA application satisfies the requirements of NEMA and the EIA Regulations.

5.1.3. National Environmental Management Act: Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes When Applying for Environmental Authorisation GN 320, March 2020

This EA application satisfies this requirement; refer section 9.6 below.

5.1.4 National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008), as amended (NEM: ICMA)

This Act aims to establish a system of integrated coastal and estuarine management in the Republic in order to promote the conservation of the coastal environment, and to maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable.

This EA application satisfies this requirement; refer section 9.6 below.

5.1.5 National Environmental Management: Biodiversity Act (10 of 2004) (NEM: BA)

This Act provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA, 1998.

This EA application satisfies this requirement; refer section 9.6 below.

5.1.6 National Environmental Management: Waste Act (Act 59 of 2008) as amended (NEM: WA)

The Act, as amended, regulates waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sound sustainable development.

The Act acknowledges the internationally recognised hierarchy of waste management and places an obligation on both the generators and disposers to ensure the waste is managed and disposed of appropriately.

This EA application satisfies this requirement; refer sections 9.4 and 11.2 below.

5.1.7 National Water Act (Act 36 of 1998)

The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled.

The Geotechnical Investigation satisfies this requirement; refer section 9.3 below. Water management on site is addressed in sections 9.4 and 9.5 below.

5.1.8 National Water Services Act (Act 108 of 1997)

The purpose of this Act is to provide for the rights of access to basic water supply and basic sanitation.

The provision of a conservancy tank and grey water collection tanks ensures the right to basic sanitation; refer sections 7.3 and 9.4 below.

5.1.9 National Heritage Resource Act (Act 25 of 1999) & KwaZulu-Natal Heritage Act (Act 4 of 2008)

The purpose of these acts is to provide for the conservation and protection of heritage resources and the management of activities that may have a significant impact on cultural heritage resources. (Nationally and specifically in KZN)

This EA application satisfies this requirement; refer section 9.8 below.

5.1.10 Promotion of Access to Information Act, 2013 (Act No 4 of 2013)

The purpose of the act is to protect personal information processed by public and private bodies. The Act requires that all requests for access to information held by the state or private bodies are provided for in the Act under Section 11.

This EA application satisfies this requirement; refer section 8 below.

5.1.11 Promotion of Administrative Justice Act, 2000 (Act No 3 of 2000)

The purpose of the act is to give effect to the right to administrative action that is lawful reasonable and procedurally fair. In terms of Section 3, the Government is required to act lawfully and take procedurally fair, reasonable, and rational decisions. Interested and affected parties have a right to be heard.

This EA application satisfies this requirement; refer section 8 below.

5.2 Policies / Guidelines

5.2.1 Integrated Environmental Management (IEM) Information Series (1 – 23)

Relevant document in this series have been referred to.

5.2.2 Best practices for Coastal Development in KwaZulu-Natal

This document has been referred to.

This EA application satisfies this requirement; refer section 9.6 below.

6. NEED AND DESIRABILITY

The approval of this application will not compromise the integrity of the existing approved and credible municipal Integrated Development Plan and Spatial Development Framework of the RNLM or the existing environmental management priorities for the area, as per the Environmental Management Framework (EMF) adopted by the Department. The Municipality is in need of economic development in order to provide jobs and uplift the community.

The necessary services, i.e. water and electricity supply, with adequate capacity are currently available; the development is provided for in the infrastructure planning of the municipality, refer Appendices 5a and b.

The area is developed and zoned for residential purposes: the location of the activity favours this landuse. The proposed activity will not impact on sensitive natural and cultural areas; the development is the best practicable environmental option for this site; refer Appendix 7c.

The impact on people's health is deemed to be negligible: some noise and dust will be generated during construction, but this will not negatively impact people's health. The architectural design has taken cognisance of the surrounding developments and will not visually impact the sense of place.

Stormwater will be collected on the site and used for irrigation. The use of a conservancy tank and grey water collection tanks will also result in no nett loss of water resources in the area.

Very little waste will be generated by the operation and wastes will be recycled wherever possible.

The cumulative impacts (positive and negative) of the proposed land use associated with the activity applied for are:

- Increased rates base and spend in the area (positive)
- Increased traffic (negative)

The benefits to society in general and to the local communities include:

- It will bring additional income into the area (tourism, employment, trade, etc.);
- There will be no risk of vagrants and informal dwelling on the property.

The general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account:

- The Basic Assessment Process has followed the appropriate course of Public Participation in order to identify pertinent concerns raised by Interested & Affected Parties (I&APs); refer Section 8 of this document and Appendix 8.
- An Environmental Management Programme has also been provided with this document to stipulate the environmental management methods that apply to the site; refer Appendix 10.

The principles of environmental management as set out in section 2 of NEMA have been taken into account:

- The Basic Assessment process abides by the State's responsibility to respect and protect the social and economic rights of the communities in the area. The environmental management programme serves to ensure that development of the site will take into consideration the natural environment, maximum aesthetic appeal and land use. The process was initiated to enable decision-making under the guidelines of NEMA so as to safeguard the environment from further degradation and pollution.

- Due care has been taken to ensure that the local people and their needs are kept as primary considerations in terms of physical, psychological and cultural interests. The design of the development serves to enhance the aesthetic visual landscape of the area.

- The socio-economic impact on the area is considered to be beneficial as a result of the development of the site. The impact on community health and safety will be minimal and mitigated in need. Degradation of the site will cease which will result in increased property values and a positive impact on tourism as the site is located within close proximity to the beach.

- Since the site was previously transformed, no heritage impact was noted. Surface water run-off will be managed thus preventing ground water contamination.

- There will be no emissions to atmosphere.

- An Environmental Management Programme is included with this BAR as a measure to ensure that environment is adequately protected; refer Appendix 10.

7. PROJECT ALTERNATIVES

Alternatives in relation to a proposed activity, means different ways of meeting the general purposes and requirements of the activity, and in this instance include alternatives to:

- the location of the property;
- the design or layout of the activity; and
- the technology to be used in the activity;

7.1 Alternate Location

As the property is suitably zoned (for residential), is owned by the applicant and is the only vacant piece of land in the desired vicinity, an alternate location has not been considered.

7.2 Alternate Site Layout

Plans were drafted to establish if it was feasible to develop the site only behind the 100 m HWM, however, due to size constraints, it was not deemed to be possible, feasible or reasonable.

7.3 Alternate Technology

The alternate technology for the sewage / grey water system on site include:

- A septic tank and French drain;
- A conservancy tank (for solids) and grey water collection and recycling system; or
- A small on-site treatment plant (or “package plant”).

Septic tank and French drain: The original plans included a septic tank and French drain. However, as per the Geotechnical Investigation, this was not recommended; refer section 9.3 below and the specialist report attached as Appendix 7a.

Conservancy tank (for solids) and grey water collection and recycling system: As per the recommendations of the Geotechnical Investigation, a two-pipe system has been designed; the grey water will be collected separately and used on site for watering the garden, and the solids will be collected in a conservancy tank, to be pumped out as required. This is to avoid groundwater contamination; refer section 9.3 below and Appendix 7a.

Package plant: A small package plant on site for the treatment of effluent / sewage was considered, however, as the house will not be occupied permanently (initially), and maintenance may be problematic, it was decided that the conservancy tank option, as prescribed in the Geotechnical Investigation would be preferable; refer section 9.3 below and Appendix 7a.

Therefore the conservancy tank (for solids) and grey water collection and recycling system is proposed; refer section 9.3 below.

Water use reduction strategies have been considered, stormwater will be collected off the roofs and grey water will be collected and recycled; refer sections 9.4 and 9.5 below.

Energy saving initiatives and alternative sources of energy are being considered; refer section 11.2.6 below.

7.4 The No-go Alternative

The only reason to decide on the 'no-go' option would be to preserve / conserve the natural environment. As this property falls within a developed urban area, is zoned for residential purposes and has already been transformed and degraded, it is not possible to preserve / conserve the natural environment; the no-go option would not achieve this. This has been confirmed in the Biodiversity Assessment carried out for this property; refer Appendix 7c.

Currently the vacant property poses a security risk to the adjacent landowners. If the property is not developed it will cease to be maintained and will become infested with alien vegetation; there has already been some illegal dumping on the property. If the site is not developed, the situation will deteriorate further; developing the site will reduce these risks.

Obviously, should the development not take place, the additional traffic volumes, noise and dust that will be generated during the construction of the residence will not happen, this would be a positive impact. However, no new jobs would be created and no further income will come into the area, and there is the possibility that a less desirable activity could take place on the site.

8. PUBLIC PARTICIPATION PROCESS

8.1 Objectives

The public participation process undertaken fulfils the requirements outlined in NEMA and the EIA Regulations, 2014, as amended.

The purpose of public participation is to adequately inform all potentially interested and affected parties (I&APs) of the proposed project and to gather all concerns/issues which must be addressed in the Basic Assessment (BA) process. This transparency ensures all issues are identified and adequately addressed. All comments/issues received from registered I&APs throughout the entire process are recorded in the Comments and Responses Register.

It must be noted that with the implementation of the **POPIA**, the following information cannot be shared in the public domain:

- The I&AP database; and
- The name and contact details of I&APs who register and / or submit comments.

This information is therefore not included in the Public Participation Process Report (PPP) attached as Appendix 8.

However, this information will be shared with the EDTEA, who may need this information to facilitate decision making.

8.2 Stakeholder Consultation

A Public Participation Process (PPP) includes consultation with Interested and Affected Parties. Below is a summary of the PPP followed; refer to Appendix 8 for the full PPP report:

- The identification of I&APs (Authorities, neighbours, ratepayers associations, NGOs and other I&APs);
- The ongoing maintenance of an I&AP register;
- An advertisement placed in the local newspaper to invite I&APs to register;
- Notice boards / posters erected around the site (on the two gates and walls), inviting registration;
- A BID submitted to all identified and registered I&APs;
- All comments received from I&APs as a result of the advert, flyers and notice boards recorded and addressed in the Comments and Responses Report; refer Appendix 8;
- The draft BAR and EMPr was submitted to all I&APs on the 15th October 2021 for a 30-day period for comment;
- All comments received from the I&APs have been recorded in the Final Comments and Responses Report included in the final Public Participation Report; refer Appendix 8 and Table 4 below.
- Comments received have been addressed in this final BAR;
- The Final BAR (including the Final Comments and Responses Report) and the EMPr is now submitted to EDTEA (and all I&APs) for approval.

8.3 Stakeholder Identification

Besides the competent authority, EDTEA, the following authorities were notified about the proposed project and included in the I&AP database:

- Ray Nkonyeni Local Municipality (RNLM);
- Ugu District Municipality (UDM);
- Department of Water and Sanitation (DWS) Regional Office;
- Ezemvelo KZN Wildlife (EKZNW); and

Refer to Appendix 8 for the full PPP report and C&R report.

8.4 Summary of Issues Raised by I&APs:

Throughout the PPP I&APs are given the opportunity to comment on the project and raise any issues / concerns they may have about the proposed development. All comments received / issues raised are included in the Comments and Responses report; refer Appendix 8 (redacted version due to POPIA). The table below includes a summary of all issues raised.

Table 4: Summary of issues raised by I&APs

Summary of main issues raised by I&APs	Summary of response from EAP
DWS has highlighted the requirements of the NWA: a WUL may be required.	Applicant to clarify / confirm what is required in terms authorisations / licences, as per the NWA, with the DWS.
DWS highlighted the need for adequate waste and water management on site, including stormwater, sewage, potable water.	All these issues have been addressed in this BAR: • Waste management – sections 3 and 4.1 above and 11.4.1 below. • Water management – refer sections 9.3 and 9.5 below; • Sewage / wastewater – refer section 7.3

Summary of main issues raised by I&APs	Summary of response from EAP
	above and 9.4 and 11.4.2 below; and • Potable water – refer section 11.4.1 below.
EKZNW: Thank you for forwarding the Draft Basic Assessment Report, dated September 2021, for the abovementioned application to Ezemvelo KZN Wildlife (Ezemvelo) for review and comment. Ezemvelo will not be providing comment on this application, but trust that all significant biodiversity related concerns have been clearly identified and made known in this assessment together with appropriate measures (viz. avoid, mitigate and thereafter ameliorate) to safeguard the ecological integrity of the developable area.	Noted. This letter was forwarded to EDTEA on the 2 November 2021.
EDTEA required the following to be addressed: a) Please provide a detailed project description indicating what is proposed and the specifications thereof; b) Please indicate the exact amount of material to be deposited and/or infilled; c) Please indicate the exact amount of vegetation that will be removed, type as well; d) Please provide detailed directions to the site; e) Please provide proof of service provision by Eskom; f) Please note that CV and specialisations of the Geotech specialist must be included in the Final BAR; and g) Type of vegetation found on site must be confirmed by a suitably/ qualified specialist.	All these issues have been addressed in this BAR: a) Provided – refer section 4 above. b) Provided – refer section 4.2 and 4.3 and Figure 14 above. c) Provided - refer section 4.4 and Figure 6 above. d) Provided – refer section 3 above. e) Provided – refer section 3 above and Appendix 5a. f) Provided – refer section 9.3 below and Appendix 7b. g) The type of vegetation has been confirmed by the Biodiversity specialist in the Biodiversity Assessment Report – refer section 9.6 below and Appendix 7c.
EDTEA: Proof of submission of dBAR to all interested and affected parties (including state departments) must be included in the Basic Assessment Report.	Proof of submission Included in the PPP report; refer Appendix 8.
EDTEA: The Department requests that the final BAR address all issues stated above and be submitted to the Department within 90 days from submission of the application to the Department.	All issues have been addressed in this report (as indicated above). This report is now submitted to the EDTEA, 15 Nov 2021, which is well within 90 days of the submission of the EA application (on 15th Oct 2021).
EDTEA: No construction activities may commence without an Environmental Authorisation.	Noted. Construction will only commence once all approvals are received (including the building plans approval from the LA)
EDTEA: It is the developer's responsibility to continually ensure that environmental requirements are met, especially if there are changes in the project description.	Noted.

8.5 EDTEA Correspondence to Authorities

The EDTEA requested comment from EKZNW and DWS on the dBAR; letters were sent on the 28th October 2021:

- DWS: No response or comments on the dBAR was received from DWS (as far as we were informed); and
- EKZNW: We forwarded the letter we had received from EKZNW on the 4th October 2021 indicating that: "Ezemvelo will not be providing comment on this application, but trust that all significant biodiversity related concerns have been clearly identified and made known in this assessment together with appropriate measures (viz. avoid, mitigate and thereafter ameliorate) to safeguard the ecological integrity of the developable area." Refer Table 4 above and Appendix 8. No further response or comments were received from EKZNW (as far as we were informed).

9. DESCRIPTION OF THE RECEIVING ENVIRONMENT

9.1 General Description of the Property

Property Name and Number: Rem of ERF 680, Leisure Bay

Zoning: Residential Only 3.

Owner: Mary Chettle

Size of the site: 1138 m^2

Gradient of the site: The site is relatively flat, approximately 1:9. It has a general planar conformation falling gently to moderately steep in an easterly direction.

Landform: Plain / sea-front

Elevation: The eastern boundary line (Brighton Avenue) lies at 16.5 m AMSL and the western boundary line (Dover Crescent) lies at 24 m AMSL.
Nearest surface water source: The project area is not located within any Estuarine Functional Zone. No major river or wetland systems occur within the 500 m regulated area; refer Appendix 7c.

Location in the landscape: The site is located across a gravel road from the beach (Brighton Avenue). The gravel road is approximately 5 metres wide. Roughly 38% of the property falls within 100 metre high water mark; refer Site Layout Plan figure 9 above.

Landuse and Surrounding Area: The site is located within a developed urban residential area. The site and the neighbouring sites are zoned Residential Only 3. The proposed development is a residential home; the neighbouring properties are all developed as residential homes.

9.2 Environmental Sensitivities Identified

The DFFE Screening Report identified the following environmental sensitivities for the development site:

- Aquatic biodiversity – very high
- Terrestrial biodiversity – very high
- Agriculture – high
- Civil aviation – high
- Animal species – medium

- Archaeological and Cultural, Defence and Plant species – low

Refer Appendix 2.

At the Pre-application Meeting held on site with the representative from EDTEA, it was determined that a geotechnical study and a biodiversity assessment of the site would be required, refer minutes of meeting Appendix 3.

9.3 Groundwater, Soil and Geological Stability of the Site

The applicant appointed Drennan Maud to undertake the Geotechnical Investigation to determine the general subsoil conditions across the site and to make recommendations regarding appropriate founding types, slope stability, on-site storm water disposal, excavatability, groundwater and effluent disposal. The full Geotechnical Investigation report is attached as Appendix 7a to this report. The CV and specialist declaration is attached as Appendix 7b to this report.

The report provides detailed recommendations for the various development requirements for:

- cut and fill embankments;
- founding;
- retaining structures (walls);
- the swimming pool;
- effluent disposal (see below);
- subsoil drainage and damp proofing; and
- stormwater disposal (see below).

The report concludes: “The proposed development of Rem of Lot 680 Leisure Bay is considered feasible provided that the geotechnical recommendations set out above are strictly adhered to, these amounting to no more than good engineering practice.” Refer Appendix 7a for the full report.

9.4 Wastewater

As the bulk infrastructure for the area does not include wastewater removal, wastewater generated on site will have to be handled on site. As per the Geotechnical investigation, a septic tank and French drain is not recommended: it proposes a conservancy tank system; refer Appendix 7a.

Therefore, a two-pipe system has been proposed for the site; grey water will be collected in tanks and recycled / reused on site; the solids will be collected in a conservancy tank which will be emptied by vacuum tanker (honey sucker) as required; refer Site Layout Plan, figure 9. The effluent will be disposed at a municipal sewage treatment facility.

An alternate option is a small onsite wastewater treatment plant commonly referred to as a “package plant”. These are proving to be a cost-effective means of addressing sewerage in rural areas. Package plants are generally utilised where the site is not conducive to the use of a “French drain” or septic tank system, which is a means of percolating sewerage into the ground. Both these small-scale systems (like a larger wastewater treatment works) can affect the state of the immediate coastal environment if not suitably sited and constructed.

Some of the impacts and changes that can be anticipated on coastal ecosystems, arising from sewerage treatment and disposal systems include:

- Disposal into groundwater can lead to contamination of the dune aquifer and water resources used for human consumption;
- Higher nutrient loading in the dune cordon alters soil chemistry and vegetation structure; and

- Impacts on recreational amenity of beaches - this may include increased risk of bacterial infection to beach visitors or foul odours.

However, as per specialist Geotechnical Investigation, a conservancy tank and grey water collection system is recommended; refer Appendix 7a.

9.5 Surface Water / Stormwater Disposal

There are no surface water bodies present on or adjacent to the site. The high water mark of the sea is located ± 38 metres from the eastern boundary of the site; refer Site Layout Plan, figure 9 above.

The HWM as shown on the Site Layout Plan (refer figure 9 above) was determined by HNK Geomatics, Professional Land Surveyors.

The mean annual precipitation along the coast ranges from 776 mm/annum to 899 mm/annum for the coastal towns of Port Shepstone and Port Edward respectively.

"Stormwater disposal is particularly important where percolation is restricted or constrained. Along the coast, percolation is not generally a problem as the soils are sandy and percolation rates are high. However, collating and discharging stormwater on sandy soils can bring about erosion and surface movement, destabilisation of dunes and change both surface and subsurface hydrology, as well as the ecology of dune systems." (Ref 1)

The Geotechnical Investigation states: "All stormwater should be collected from roofs and paved areas and stored in tanks for back-up water supply and/or irrigation. Excess stormwater should be piped down the site and discharged via dissipaters away from the proposed development. After construction the site must be properly graded to facilitate the runoff of storm water and prevent ponding."

The RNLM installed a stormwater drain running along the Northern boundary of the site, which takes stormwater from Dover Crescent to Brighton Avenue; refer Site Layout Plan, figure 9 above. The excess stormwater from Sand Pebbles is also captured in this drain. Excess stormwater on site will also be captured in this drain. However, as per the recommendation in the Geotechnical Investigation report, the intention on site is to collect all stormwater from the roofs in attenuation tanks which will be used for domestic purposes; refer location of the tanks on the Site Layout Plan, figure 9 above. This harvesting system will ensure the retention of the stormwater generated on site.

9.6 Biodiversity

The applicant appointed The Biodiversity Company to carry out the necessary assessment for the development; to address the terrestrial and aquatic themes sensitivities identified in the Screening Report. The specialist declaration is included in the report which is attached as Appendix 7c.

The Biodiversity Assessment for the Rem of Erf 680 Leisure Bay report states:
"The project area was found to be historically modified from its original state, dating back to 2015. Due to the extent of the historic disturbances that have been inflicted, this area hasn't recovered to a more natural state. This area can be regarded as transformed and does not contain more than 300 m^2 of indigenous vegetation of a EN vegetation type. The ecological characteristics of the project area are not representative of ecosystem and vegetation type, hence the project area is classified as transformed."

"Field photos of the current state of the area substantiate the condition reflected by the historical Google Earth images and the project area can be seen to be transformed to a large extent and the ground layer dominated by Buffalo Grass (Bouteloua dactyloides) which is an exotic grass."

Figure 16: A photograph showing the ground layer dominated by Buffalo Grass

The Biodiversity Assessment for the Rem of Erf 680 Leisure Bay report further states:
"It is the opinion of the specialists that due to the nature of the historic modification to area, the project area is at such a point where it wouldn't be able to return to a more natural state without anthropogenic rehabilitation. The proposed development of the area is not envisioned to have any notable negative effect on the immediate area and surrounds. The project area does not represent the very high terrestrial and aquatic theme sensitivity as per the screening report. Based on the findings of this assessment, the terrestrial theme sensitivity is low. Since no freshwater resources are within the 500 m regulated area, the aquatic theme sensitivity is also low."

The Biodiversity Assessment for the Rem of Erf 680 Leisure Bay report concludes:
"The completion of a comprehensive desktop assessment, in conjunction with the photographic records from the project area suggests there is a relatively high level of confidence in the information provided. The majority the desktop information provided in Table 3-1 were irrelevant, except for the project area being in an EN ecosystem."

"Considering the above-mentioned information, **no fatal flaws are evident for the proposed project. It is the opinions of the specialists that the project, may be favourably considered.** It is preferred that the protected trees remain *in situ,* but in the event these are to be destroyed or relocated, a permit will be required."

For the full Biodiversity Assessment Report; refer to Appendix 7c.

The Applicant will communicate with the Department of Water and Sanitation (DWS) to clarify water uses and water use authorisations required for this project.

9.7 Socio-economic Aspects

A healthy coastal zone provides many opportunities for employment, income generation, recreation and a quality living environment, all cherished attributes of human development, especially economic wealth generation. The KZN coastal zone is particularly endowed with economic opportunities. Significantly, two primary macro-contributors to the Province's economy are its ports and its tourism, both intimately linked to the coastal and marine environment.

A major driver of the coastal economy revolves around tourism, domestic and foreign. As a holiday destination the KZN coast is unmatched and draws more than 6 million visitors annually. Besides surfing, swimming and more passive beach activities there are many tourist pursuits that depend on the Province's marine biodiversity including recreational angling, harvesting of shellfish, and non-extractive activities such as scuba diving, whale watching and shark encounters.

As per the Ugu DM Integrated Development Plan: "The Tourism industry is a key contributor to the KZN and Ugu economy which is buoyant with the major activities based on the sea and associated activities. The development and implementation in the Ugu region is driven and headed by the Ugu South Coast Tourism Entity. The reputation of the area's tourism sector is based on some of the following aspects: approximately 115 km of pristine coastline with seven Blue Flag Beaches; the world renown Aliwal Shoal as well as many other diving spots; a variety of opportunities for fishing, both surf and off shore; numerous adventure activities on offer such as the Big Swing at Oribi Gorge; a number of pristine, top class golf courses; excellent scenery, landscapes and nature reserves; an increasing number of events for both sports people and the general public; and accommodation establishments such as the Blue Marlin Hotel." [Ref 2]

The proposed development / residential dwelling will contribute to the tourism industry for the area; the home will initially be used for holiday purposes and will bring in additional holiday-makers / tourists to the area. If in future it is used as a permanent dwelling, additional visitors will be enticed to the area. It will therefore, provide much needed income for the area, supporting local industries such as restaurants, food outlets, tourist attractions, shops, etc.

It will also bring in additional revenue to the local authority by means of payment for the services provided and the increased rates paid on the developed property.

The surrounding community can be described as affluent. The anticipated CAPEX value of the project on completion is R 4 500 000.00.

The **construction phase** of the project will provide employment opportunities for ± 5 un-skilled workers; the expected value is ± R 25 000.00 per month; this will essentially accrue to previously disadvantaged individuals. The project will also provide employment opportunities for and ± 5 semi-skilled workers; the expected value is ± R 50 000.00 per month. And the project will provide employment opportunities for and ± 2 skilled workers; the expected value is ± R 50 000.00 per month.

All materials used for the construction of the dwelling, i.e. building materials, will be sourced locally, resulting in much needed support for the local economy.

The **operational phase** of the project will provide employment opportunities for ± 2 local un-skilled labourers; the expected value is ± R 72 000.00 per annum. This will essentially accrue to previously disadvantaged individuals.

9.8 Historical and Cultural Aspects

The DFFE Screening Report identified Archaeological and Cultural as having low sensitivities; refer Appendix 2

The area is fully developed and this site has previously been cleared / bulldozed; at the time of clearing there were no buildings or structures on the site and no graves were found. There is nothing on site of any historical or cultural importance or significance that may be affected by this development.

Sections 3(2) and 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), are therefore not applicable to the proposed development.

10. ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLYING ASSUMPTIONS AND UNCERTAINTIES

10.1 Assessment Method Used

The assessment method used is deemed to be adequate. Metamorphosis Environmental Consultants has exercised due care in following standard methodologies to assess the impact of the proposed project.

Issues and potential impacts of the project on the environment (and *vice versa*) were identified by way of field investigations, desktop studies and interaction with I&APs. Key issues and impacts requiring further investigation were addressed by specialist studies (Appendices 7a and c) and/or further detailed input from the environmental and technical teams. Specialist studies were guided by Terms of Reference to ensure that issues and associated impacts were correctly identified, understood and addressed, thereby enabling an integrated assessment of the development proposal. Mitigation measures were identified with inputs from I&APs, the specialists, the design engineers and the EAP team. Information was collated, evaluated and integrated. Thereafter, the significance of each impact was assessed using the assessment conventions outlined in Table 5 below (in line with the requirements of the EIA Regulations). It should be noted that the significance of an impact is a function of all the attributes outlined in Table 5, and the relationships between them.

10.2 Assessment Conventions

The assessment conventions are applied qualitatively by the EAP, based on an understanding of the receiving environment, the proposed project components and activities, and the information gathered from different sources, including specialists and the public.

The table below details / describes the qualifiers that were used for assessment purposes.

Table 5: Conventions Applied to the Impact Assessment

Criteria	Rating Scales	Definition
Nature	Positive	This is an evaluation of the overall impact of the construction, operation and management that the proposed developments would have on the affected environment (social, biophysical and economic)
	Negative	
	Neutral	
Spatial extent	Low	Site-specific, affects only the development footprint
	Medium	Local (< 2 km from site)
	High	Regional (within 30 km of site) to national
Duration	Very low	Temporary (less than 1 year, i.e. duration of construction phase)
	Low	Short term (1-4 years)
	Medium	Medium term (5-10 years)
	High	Long term (impact will only cease after the operational life of the activity) to permanent

Criteria	Rating Scales	Definition
Intensity	Low	Negligible alteration of natural systems, patterns or processes
	Medium	Noticeable alteration of natural systems, patterns or processes
	High	Severe alteration of natural systems, patterns or processes
Irreplaceability of resource caused by impacts	Low	No irreplaceable resources will be impacted (the affected resource is easy to replace/rehabilitate)
	Medium	Resources that will be impacted can be replaced, with effort
	High	Project will destroy unique resources that cannot be replaced
Reversibility of impacts	Low	Low reversibility to non-reversible
	Medium	Moderate reversibility of impacts
	High	High reversibility of impacts
Consequence (a combination of spatial extent, duration, intensity and irreplaceability of impact on resources).	Low	A combination of any of the following: - Intensity, duration, extent and impact on irreplaceable resources are all rated low - Intensity is low and up to two of the other criteria are rated medium - Intensity is medium and all three other criteria are rated low
	Medium	Intensity is medium and at least two of the other criteria are rated medium
	High	Intensity and impact on irreplaceable resources are rated high, with any combination of extent and duration Intensity is rated high, with all of the other criteria being rated medium or high
Probability (the likelihood of the impact occurring)	Low	It is highly unlikely or there is a less than 50% chance that an impact will occur
	Medium	It is between 50 and 75% certain that the impact will occur
	High	It is more than 75% certain that the impact will occur or it is definite that the impact will occur
Significance (all impacts including potential cumulative impacts)	Low	Low consequence and low probability Low consequence and medium probability Low consequence and high probability
	Medium	Medium consequence and low probability Medium consequence and medium probability Medium consequence and high probability High consequence and low probability
	High	High consequence and medium probability High consequence and high probability

10.3 Gaps in Knowledge, Underlying Assumptions and Uncertainties

Metamorphosis Environmental Consultants exercised care in covering all aspects as required for the fulfilment of the BAR.

Metamorphosis Environmental Consultants assume that the specialist studies and all information received from the Local Authorities and Interested & Affected Parties (I&APs) was correct and valid at the time of the compilation of the BAR.

There are no uncertainties.

Specialist Studies:

Desktop Biodiversity Assessment: "The following assumptions and limitations are applicable for this assessment:

- The design and layout of the proposed development was provided by the client and any alterations to the design and/or layout may affect the accuracy of the assessment; and

- No fieldwork component was conducted for this assessment.

The completion of a comprehensive desktop assessment, in conjunction with the photographic records from the project area suggests there is a relatively high level of confidence in the information provided." Refer Appendix 7c.

Geotechnical Study: "The ground conditions described in this report refer specifically to those positions where testing was carried out. It is therefore quite possible that ground conditions may vary from those in the above mentioned testing positions. The information in this report is given in good faith, as an indication of the materials and conditions likely to be encountered during construction. However, there is no warranty that the information is totally representative of the entire area and no responsibility will be accepted for any consequences arising from actual conditions being different from those indicated in this report.**"** Refer Appendix 7a.

11. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS IDENTIFIED & MANAGEMENT / MITIGATION

The impacts of the development include:

- Socio-economic impacts;
- Impacts on neighbouring properties;
- Potential health, safety and nuisance impacts;
- Impacts on the biodiversity, other natural habitats (terrestrial and aquatic) and water quality; and
- The impacts of the 'No-Go' option.

Potentially significant impacts associated with each of the above issues (including cumulative impacts) are discussed in the sections below. The assignment of significance ratings to impacts (where applicable), according to the assessment conventions (Table 5), is provided in section 12 below, Tables 6 – 10.

The potential positive and negative impacts / issues identified to date for this project are described below. Included below are recommended measures for management / mitigation of the impacts. The potential impacts are divided into negative and positive impacts.

According to the assessment, the **positive impacts** are considered to be of low significance, without management; with management, some of the impacts are considered to be of medium significance. The **negative impacts** are considered to be of low to medium significance, without management; with management, the impacts are considered to be of low significance; refer Tables 6 – 10, section 12 below.

11.1 Socio-economic Impacts

Refer to Tables 6a and b.

11.1.1 Employment Opportunities

During the planning, design and construction phases, economic and socio-economic benefits will accrue locally through project spend, estimated to be in the region of R 5 Million. There will be increased opportunities for temporary employment and capacity building for individuals, local contractors, SMMEs, service providers and retailers.

During the design and planning phase, a local architect and a local biodiversity specialist were employed.

During construction it is envisaged that ± 5 job opportunities will be created for un-skilled workers, ± 5 job opportunities will be created for semi-skilled workers and ± 2 job opportunities will be created for skilled workers.

During operation it is envisaged that ± 2 job opportunities will be created for un-skilled workers.

Management / mitigation: Ensure that, wherever possible, labour, sub-contractors, SMMEs and service providers are sourced locally.

11.1.2 Tourism and Trade

Tourism is a key contributor to the regional, district and local economy. The development will attract additional holiday-makers into the area, contributing to this industry and supporting local industries such as restaurants, food outlets, tourist attractions, shops, etc.

During construction the materials used for the construction of the dwelling, i.e. building materials, will be sourced locally, resulting in much needed support for the local economy.

During operation it will bring in additional revenue to the local authority by means of payment for the services provided and the increased rates paid on the developed property.

Management / mitigation: Contractors, sub-contractors, SMMEs, service providers, occupants and holiday-makers to be encourage to support and buy local.

11.2 Impacts on Neighbouring Properties

11.2.1 Security

At present the property is a vacant piece of land that could attract vagrants, illegal dumping, etc. and could therefore pose a security risk.

During construction it is possible that the presence of construction workers and job seekers, etc. in the area will increase the crime rate in the neighbouring areas.

Management / mitigation: Contractor to ensure job seekers are discouraged and that staff are not permitted to leave the working areas during working hours.

The site is fully fenced and secure to ensure that criminals are not attracted to the area.

Construction teams should be clearly identified by wearing uniforms and/or wearing identification cards that should be exhibited in a visible place on the body.

Dismiss and prosecute any staff caught in criminal activities of any kind.

Working areas will be kept as small as possible and rehabilitation and landscaping to be undertaken as soon as possible after construction

11.2.2 Effect on Property Values

At present the property is a vacant piece of land that could attract vagrants, illegal dumping, etc. It is likely that, once complete, the development will have a positive effect on surrounding property values due to the development of currently unoccupied land that will become unmanaged land if the development is not approved.

Management / mitigation: The development has been designed to be aesthetically pleasing.

11.2.3 Aesthetics / Visual Impacts

During construction, the site may become unsightly.

During operation there is a concern that the home will seriously obstruct views and not be in keeping with the design of the area.

Management / mitigation: Working areas will be kept as small as possible and rehabilitation and landscaping will be undertaken as soon as possible after construction.

Ensure that 'good housekeeping' is practiced on the construction site at all times.

The Architect has designed the home:

- Within the building height limits (as specified by the building restriction for Residential Only 3;
- The pitch of the roof is as flat as possible to avoid excess height; and
- To be as aesthetically pleasing as possible.

11.3 Potential health, safety and nuisance impacts

11.3.1 Dust & Noise

Dover Crescent is a dust road. It is accessed off Bournemouth Avenue which is a tar road. The section of Dover Crescent to the gate of the property is only ±35 m. Therefore the only neighbouring property that may be affected by dust is the property across the road.

Dust and noise may be generated during construction (building and vehicles on dust access road). The dust access road (off

Dust and noise may be generated during operation; an increase in vehicles using the dust access road.

Management / mitigation: Maintain good communication with the affected landowners throughout the project lifecycle.

The road can be watered in need (to be avoided as far as possible though, due to water scarcity).

Delivery vehicles will be kept to a minimum and only during normal work hours.

The builders on site will be required to contain noise as far as possible on site, by educating the workforce and ensuring that vehicles are in good condition. Avoid undertaking construction activities after daylight hours.

Noise from the residential home will be kept to within the required limits / compliance with all by-laws.

11.4 Impacts on the biodiversity, other natural habitats (terrestrial and aquatic) and water quality

11.4.1 Waste Generation

The following waste will be generated during construction:

- domestic waste;
- building rubble

The following waste will be generated during operation:

- domestic waste; and

Management / mitigation: During construction and operation, the waste generated on site will be separated on site into compostable, recyclable and non-recyclable waste: different bins will be provided and used for the various waste streams. The compostable waste will be composted on site; the recyclable waste will be removed from site and sent to recycling facilities; and the non-recyclable waste will be removed from site by the municipality and sent to the local Licenced Oatlands landfill site for disposal.

11.4.2 Water Quality Impacts: Effluent / Wastewater

Sewage / effluent will be generated during construction and operation, potentially impacting on the water quality.

Management / mitigation: During construction a portable / chemical toilet will be provided on site; this will be serviced as required.

During operation the two-pipe grey water collection and recycling system and the conservancy tank (for solids) will provide the necessary management of the sewage generated on site.

11.4.3 Water Use

During construction and operation, the site will be connected to the local potable water supply: this service will be provided by the Ugu DM. Ugu District Municipality has confirmed the availability of water supply to the development of Rem of ERF 680, Leisure Bay; refer Appendix 5b.

Management / mitigation: During construction, contractors will be required to minimise the use of potable water as far as possible.

During operation, usage of delivered potable water will be limited / restricted as far as possible:

- Stormwater from the roofs will be collected in tanks and used for domestic purposes;
- The recycling of grey water will be considered; and
- Other water saving devices will be fitted and used, such as shower heads, etc.

11.4.4 Power Supply / Use

During construction and operation electricity will be supplied by Eskom, from the national grid. Eskom has confirmed the availability of a normal household 16KVA supply of electricity to Rem of ERF 680, Leisure Bay; refer Appendix 5a.

Management / mitigation: During construction contractors will be required to minimise the use of electricity as far as possible.

During operation the use of electricity from the national grid will be minimised as far as possible. It is intended to:

- Use gas for cooking;
- Install solar PV systems with batteries and inverters to power lights, geysers, etc.;
- Use energy saving appliances and lighting;
- Install timers on geysers; and
- Install sensor lights outside; and
- Turn off geysers and lights when not in use.

The design of the home incorporates the following considerations in order to be as efficient as possible:

- **Orientation**: making the most of the sun's warmth and light;
- **Space planning:** open areas spread warmth and light through the living areas;
- **Insulation:** all insulation materials & methods will be prescribed;
- **Overhangs:** carefully designed overhangs control the ingress of warmth and light in winter and protect the interior from too much heat in summer;
- **Natural light**: reduces use of electricity;
- **Natural ventilation**: reduces use of electricity and promotes good health.

11.4.5 Biodiversity and Degradation of Natural Habitat

A summary of impacts as per the specialist findings is provided below, including recommended measures for management/mitigation of impacts. For further detail, please refer to the Desktop Biodiversity Assessment specialist report, Appendix 7c.

The potential negative impacts on the biodiversity are of low significance, without mitigation / management; refer Table 9 in Section 12 below.

According to the Biodiversity Assessment:

- "The proposed development of the area is not envisioned to have any notable negative effect on the immediate area and surrounds.
- The project area does not represent the very high terrestrial and aquatic theme sensitivity as per the screening report.
- This area can be regarded as transformed and does not contain more than 300 m^2 of indigenous vegetation (of a EN vegetation type).
- Based on the findings of this assessment, the terrestrial theme sensitivity is low.
- Since no freshwater resources are within the 500 m regulated area, the aquatic theme sensitivity is also low.

Considering the above-mentioned information, no fatal flaws are evident for the proposed project. It is the opinions of the specialists that the project may be favourably considered." Refer Appendix 7c.

Management / mitigation: The protected Milkwood trees to remain *in situ,* but in the event these are to be destroyed or relocated, a permit will be required.

Alien invasive plants to be removed from the site; only indigenous plants to be planted.

11.4.6 Geographical and Physical Aspects

A summary of impacts as per the specialist findings is provided below, including recommended measures for management/mitigation of impacts. For further detail, please refer to the Geotechnical Investigation report, Appendix 7a.

The potential negative impacts on the groundwater are of high significance, without mitigation / management; refer Table 9 in Section 12 below.

Management / mitigation: Exposed soils, and cut and filled surfaces are to be adequately safeguarded as recommended in the Geotechnical Investigation report; refer Appendix 7a.

Building and construction recommendations made in the specialist Geotechnical Investigation report must be followed to ensure.

11.4.7 Cultural Heritage

No heritage resources were identified on the sites and therefor there will be no impact as a result of the construction or operation of the development.

Management / mitigation: Should any other cultural heritage resources be encountered during the course of construction, work in the affected area must immediately be halted, the area cordoned off and the heritage authority contacted for advice on further action.

11.5 Cumulative Impacts

A cumulative impact is an incremental impact on the environment that results from the impact of a proposed action when added to existing and reasonably foreseeable future actions. Cumulative effects can be both positive and negative. Also, the nature of cumulative impacts can be both temporary in nature (i.e. impacts that are restricted to the construction phase) and permanent (i.e. impacts that occur in both the construction and operation phases).

To enhance the positive impacts of the proposed development and, thus, enhance positive cumulative effects, the project should be implemented efficiently according to best environmental practise and the infrastructure should be well maintained.

To minimise negative impacts of the proposed development and, thus, its negative contributions towards cumulative effects on the environment, the project should be implemented with the recommended mitigation measures.

Potential cumulative impacts from the proposed development to the environment, as related to the key identified issues and impacts, are described below. Where relevant and applicable, significance ratings are assigned to impacts, according to the assessment conventions (Table 5 above), in the relevant impact tables; refer Tables 6 – 10, section 12 below.

11.5.1 Cumulative socio-economic impacts

This project will increase the rates base in the municipality; will increase employment opportunities; and will increase tourism and trade in the area.

The cumulative contribution of the project to the local economy is considered to be of low positive significance; refer Tables 6a and b, section 12 below.

11.5.2 Cumulative impacts on neighbouring properties

The surrounding residential properties are all already developed; there is very little opportunity for other development in the area. Negative impacts will only occur during construction; all impacts during operation will be positive.

The cumulative contribution of the project on adjacent properties and infrastructure is therefore considered to be of low negative significance during construction and medium positive significance during operation; refer Tables 7a and c, section 12 below.

11.5.3 Cumulative potential health, safety and nuisance impacts

All or most of the health, safety, security and other nuisance impacts discussed in section 11.2 above have the potential to be compounded if other developments in close proximity occur simultaneously in the area. However, as previously mentioned, there is unlikely to be significant additional development occurring in the area, as it is developed.

The cumulative impact of noise, stormwater disposal, sewage disposal and traffic with the other developments around the properties could present a significant cumulative impact, particularly on Municipal infrastructure.

These potential cumulative impacts are considered to be of medium negative significance without mitigation and of low negative significance with mitigation during construction and of low positive significance during operation; refer Tables 8a and b, section 12 below.

11.5.4 Cumulative impacts on the biodiversity, other natural habitats (terrestrial and aquatic) and water quality;

It is not envisaged that the proposed project will contribute cumulatively to the loss of natural habitat in the study area. The site was historically modified and is classified as transformed. The terrestrial and aquatic themes sensitivities are low.

The cumulative impact of the project on natural habitat is considered to be medium negative significance without mitigation and of low negative significance with mitigation; refer Table 9, section 12 below.

11.6 The impacts of the 'No-Go' option.

The No-go Alternative would result in the possible neglect and degradation of the natural environment in the area, with increasing encroachment of alien invasive plants, as well as the possible human interference occurring in the area.

Currently the vacant property poses a security and fire risk to the adjacent landowners and developing the area will reduce these risks. The site is currently secure so is not currently used for illegal dumping or squatting; it is also maintained so is not infested with alien or uncontrolled vegetation and is therefore not a fire risk. If the project is not given the go-ahead, this may change and the situation will deteriorate.

Obviously, should the development not take place, traffic volumes and noise from the area will remain unchanged, this would be a positive impact. However, the socio-economic benefits would not happen, i.e. no new jobs would be created and the trade and tourism would be affected.

According to the assessment, **the predicted impacts of the No Development Alternative are considered to be of medium negative significance.** Mitigation measures are not applicable in this case; refer Table 10, section 12 below.

For the above reasons, the No Development Alternative is not recommended.

11.7 Summary of Impacts:

11.7.1 Positive Impacts:

- Socio-economic;
    - Employment creation and capacity building
    - Opportunities for local contractors and SMMEs
    - Increased trade in the area
    - Increased tourism in the area
- **Impacts on Neighbouring Properties**
    - Reduced potential for crime during operation
    - Improved aesthetics / effect on property values

11.7.2 Negative Impacts

- **Impacts on Neighbouring Properties**
    - Increased potential for crime during construction
    - Degraded aesthetics / effect on property values
- **Potential Health, Safety and Nuisance Impacts**
    - The effect of increased noise on surrounding receivers during construction
    - Health and safety risks to those in close proximity to construction activities
    - Increased dust
- **Impacts on the biodiversity, other natural habitats (terrestrial and aquatic) and water quality**
    - Impacts on topsoil
    - Loss/degradation of terrestrial vegetation and natural habitat
    - Soil erosion
    - Water Quality impacts
    - Stormwater impacts
    - Waste generation
    - Usage of water and power

12. ASSESSMENT OF SIGNIFICANCE OF POTENTIAL IMPACTS

This section of the report deals with the assessment of the significance of the potential impacts identified and detailed above, both with and without management / mitigation measures.

The potential impacts associated with the development of the proposed dwelling have been assessed in terms of the conventions as outlined in Section 10 above, as per Table 5 above. The significance of the potential impacts has been evaluated with consideration of proposed mitigation measures.

Impact tables, **where applicable** to the key issues discussed above, are provided in Tables 6 - 10 below. The tables should be read within the context of the body of the entire document.

List of Impact Assessment Tables Below:

Table 6a: Assessment of the Socio-economic Impacts during Construction

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Employment creation and capacity building	Unmitigated	Positive	Medium	Very low	Low	Low	Low	Low	High	Low
	Mitigated	Positive	Medium	Very low	Low	Low	Low	Low	High	Low
Opportunities for local contractors and SMMEs	Unmitigated	Positive	Medium	Very low	Low	Low	Low	Low	High	Low
	Mitigated	Positive	Medium	Very low	Low	Low	Low	Low	High	Low
Increased trade in the area	Unmitigated	Positive	High	High	Low	Low	Low	Low	High	Low
	Mitigated	Positive	High	High	Low	Low	Low	Low	High	Low
Cumulative socio-economic impacts	Unmitigated	Positive	High	Low	Low	Low	Low	Low	High	Low
	Mitigated	Positive	High	Low	Low	Low	Low	Low	High	Low

Table 6b: Assessment of the Socio-economic Impacts during Operation

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Employment creation and capacity building	Unmitigated	Positive	Medium	High	Low	Low	Low	Low	High	Low
	Mitigated	Positive	Medium	High	Low	Low	Low	Low	High	Low
Increased tourism and trade in the area	Unmitigated	Positive	High	High	Low	Low	Low	Low	High	Low
	Mitigated	Positive	High	High	Low	Low	Low	Low	High	Low

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Cumulative socio-economic impacts	Unmitigated	Positive	High	High	Low	Low	Low	Low	High	Low
	Mitigated	Positive	High	High	Low	Low	Low	Low	High	Low

Table 7a: Assessment of the Impacts on Neighbouring Properties during Construction

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Increased potential for crime	Unmitigated	Negative	Medium	Very Low	Medium	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Low	Low
Degraded aesthetics / effect on property values	Unmanaged	Negative	Medium	Very low	Low	Low	Medium	Low	Low	Low
	Managed	Negative	Medium	Very low	Low	Low	Medium	Low	Low	Low
Cumulative impacts on adjacent properties, services and infrastructure	Unmitigated	Negative	Medium	Very low	Low	Low	Medium	Low	Medium	Low
	Mitigated	Negative	Medium	Very low	Low	Low	Medium	Low	Medium	Low

Table 7b: Assessment of the Impacts on Neighbouring Properties during Operation

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts**(Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Reduced potential for crime	Unmitigated	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium
	Mitigated	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium
Improved aesthetics / effect on property values	Unmanaged	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium
	Managed	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium
Cumulative impacts on adjacent properties, services and infrastructure	Unmitigated	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium
	Mitigated	Positive	Medium	High	Medium	Low	Low	Medium	Medium	Medium

Table 8a: Assessment of Potential Health, Safety and Nuisance Impacts during Construction

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
The effect of increased noise on surrounding receivers during construction	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
Health and safety risks to those in close proximity to construction activities	Unmitigated	Negative	Low	Very Low	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Low	Very Low	Low	Low	High	Low	Medium	Low
Increased dust	Unmitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	Medium	Low
Cumulative health, safety, security and other nuisance impacts	Unmitigated	Negative	Medium	Very Low	Medium	Low	High	Medium	Medium	Medium
	Mitigated	Negative	Medium	Very Low	Medium	Low	High	Low	Medium	Low

Table 8b: Assessment of Potential Health, Safety and Nuisance Impacts during Operation

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Increased dust	Unmitigated	Negative	Medium	High	Low	Low	High	Low	Medium	Low
	Mitigated	Negative	Medium	High	Low	Low	High	Low	Medium	Low
Cumulative health, safety, security and other nuisance impacts	Unmitigated	Positive	Medium	High	Medium	Low	Low	Low	Medium	Low
	Mitigated	Positive	Medium	High	Medium	Low	Low	Low	Medium	Low

Table 9: Assessment of the Impacts on the biodiversity, other natural habitats (terrestrial and aquatic) and water quality

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Irreplaceable Loss of Resources** (Low, Medium, High)	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)
Impacts on topsoil	Unmitigated	Negative	Low	Very Low	Low	Medium	Low	Low	Medium	Low
	Mitigated	Negative	Low	Very Low	Low	Medium	Low	Low	Low	Low
Loss/degradation of terrestrial vegetation and natural habitat	Unmitigated	Negative	Low	Very Low	Low	Low	Low	Low	Low	Low
	Mitigated	Negative	Low	Very Low	Low	Low	Low	Low	Low	Low
Soil erosion	Unmitigated	Negative	Low	Very Low	Low	Low	Low	Low	Medium	Low
	Mitigated	Negative	Low	Very Low	Low	Low	Low	Low	Low	Low
Water Quality impacts	Unmitigated	Negative	Medium	High	Medium	Medium	High	Medium	High	Medium
	Mitigated	Negative	Medium	High	Medium	Medium	High	Medium	Low	Medium
Stormwater impacts	Unmitigated	Negative	Medium	High	Low	Medium	High	Low	Medium	Low
	Mitigated	Negative	Medium	High	Low	Medium	High	Low	Low	Low
Waste generation	Unmitigated	Negative	Low	High	Low	Low	High	Low	High	Low
	Mitigated	Negative	Low	High	Low	Low	High	Low	Low	Low
Usage of water and power	Unmitigated	Negative								
	Mitigated	Negative								
Cumulative impacts on natural habitat	Unmitigated	Negative	Medium	Very Low	Medium	Medium	Medium	Medium	High	Medium
	Mitigated	Negative	Medium	Very Low	Low	Low	High	Low	High	Low

Table 10: Assessment of No-Go' option

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative,	**Spatial Extent** (Low, Medium, High)	**Duration** (Very Low, Low, Medium, High)	**Intensity** (Low, Medium,	**Irreplaceable Loss of Resources**	**Reversibility of Impacts** (Low, Medium, High)	**Consequence** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)

		Neutral)			High)	(Low, Medium, High)				
Deferment/avoidance of the negative impacts of construction (social disruption, noise and nuisance, and destruction/disturbance of natural habitat)	Unmitigated	Positive	Medium	Very Low	Low	N/a	N/a	Medium	High	Medium
	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Disadvantages to the local, regional and national economy	Unmitigated	Negative	High	High	Low	Low	Low	Medium	High	Medium
	Mitigated	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

13. OTHER MANAGEMENT, MITIGATION AND MONITORING MEASURES

Over and above the mitigation measures described in Section 11 above, the additional management, mitigation and monitoring measures as prescribed in the EMPr will be adhered to; refer Appendix 10.

The applicant has the ability and commitment to implement the management, mitigation and monitoring measures as prescribed above and in the EMPr.

14. RECOMMENDATIONS OF THE EAP AND CONCLUDING REMARKS

In my view (EAP), the information contained in this application form and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for.

In my opinion (EAP), the activity should be authorised because of the positive impacts and the low negative impacts (as detailed in sections 11 and 12 above) the proposed project will have on the environment.

Provided that:

- The recommendations made in the specialist reports are implemented / adhered to;
- The management, mitigation and monitoring measures as prescribed above and in the EMPr are adhered to; and
- The building plans obtain the necessary approvals.

This final report is now submitted to EDTEA and to all I&APS. Registered I&APs will be kept informed of all further submissions and EDTEA's decision making with respect to the issuing of an Environmental Authorisation (EA), as well as the appeal procedure which should be followed should a member of the public wish to appeal the EA.

VC King

_____

NAME OF EAP:

_____ _____

SIGNATURE OF EAP DATE