

First Draft Basic Assessment Report



**First Draft Basic Assessment Report (DBAR) for the Proposed Ballito
Beach Club, KwaDukuza Local Municipality, iLembe District Municipality,
KZN.**

A Project of Balwin Projects Ltd

March 2023



KWAZULU-NATAL PROVINCE

**ECONOMIC DEVELOPMENT, TOURISM
AND ENVIRONMENTAL AFFAIRS**
REPUBLIC OF SOUTH AFRICA

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**THIS REPORT WAS COMPILED BY WALLACE AND GREEN (PTY) LTD. IN TERMS OF
APPENDIX 1 TO GNR 326 (AS AMENDED)**

2014 NEMA EIA Regulations (As amended 2017), Appendix 1- 3(a) a basic assessment report must contain the information that is necessary for the competent authority; (i) EAP who prepared the report and (ii) the expertise of the EAP, including curriculum vitae. 3 (1) (a) details of (i) the EAP who prepared the report; and (ii) the expertise of the EAP. Please see Appendix H for EAP Declaration and full Curriculum Vitae.

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONERS

Table 1: Details of the Environmental Assessment Practitioner

Contact Person	Mrs Simitha Koobair
Postal Address	10 Cherron Avenue, La Lucia, 4051
Telephone	031 563 4466
Facsimile	086 613 8535
E-mail	simitha@wallaceandgreen.co.za
Qualification	Bachelor of Science (Honours) in Geography
Professional Registrations	Reg. EAP (EAPASA)
Voluntary Memberships	IAIASa
Experience	10 years

Table 2: Details of the Project Applicant

DETAILS OF THE PROJECT APPLICANT

Applicant	Balwin Properties Ltd
Representative	Mr Ivan van Zyl
Physical Address	Suite 5, Corporate Park, 11 Sinembe Crescent, La Lucia Ridge
Postal Address	Suite 5, Corporate Park, 11 Sinembe Crescent, La Lucia Ridge
Telephone	087 049 0121
E-mail	ivanv@balwin.co.za

Disclaimer: By providing comments to this project, you voluntary consent to your personal information being processed, collected, used and disclosed in compliance with the Protection of Personal Information Act, 4 of 2013. You furthermore agree that your personal information may be disclosed to a third party, used for the lawful and reasonable purposes in as far as Wallace & Green (Pty) Ltd (responsible party) must use your information in the performance of its contractual duties.

EXECUTIVE SUMMARY

Wallace and Green (Pty) Ltd. were appointed by Balwin Properties Ltd to provide independent environmental consulting services for the Proposed Ballito Beach Club, by conducting a Basic Assessment (BA) study in terms of the Environmental Impact Assessment (EIA) Regulations of 2014 (GNR 326 of December 2014 as amended), as promulgated under the National Environmental Management Act (NEMA) (Act No. 107 of 1998).

The applicant, Balwin Properties intends on establishing the Ballito Beach Club which will comprise of a:

- Basement level with parking;
- Ground floor with entertainment facilities, including a restaurant, pool, timber deck, dining area, kitchen and buffet bar;
- First floor with entrance facilities, including a reception, meeting rooms, offices and terrace bar; and
- Second floor with four residential units.

This BA follows the legislative process prescribed in the Environmental Impact Assessment (EIA) Regulations (2014). This report constitutes the Draft Basic Assessment Report (DBAR) which details the environmental outcomes, impacts and residual risks of the proposed activity. The report aims to assess the key environmental issues and impacts associated with the development and to document Interested and Affected Parties' (I&APs) issues and concerns. Furthermore, it provides background information of the proposed project, a motivation, and details of the proposed project, and describes the public participation undertaken to date.

The objective of this report is to provide the project's I&APs, stakeholders, commenting authorities, and competent authority (CA), with a thorough project description and BA process description. The outcome being to receive productive comments/input, based on all information generated to date and presented herein.

To protect the environment and ensure that the development is undertaken in an environmentally responsible manner, there are several significant portions of environmental legislation and specialists' studies that were taken into consideration during this study and are elaborated on in this report.

The KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA) is the competent authority for this Basic Assessment process, and the development needs to be authorised by this Department.

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**APPENDIX 1: NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998):
ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS 2014 (AS AMENDED)**

SECTION OF APPENDIX 1 OF THE EIA REGULATIONS	DESCRIPTION OF THE SECTION	ASSOCIATED SECTION WITHIN THE BAR
3a	Details of the EAP and CV	Page 3
3b	Location of the activity	Section 1.5
3c	A layout plan	Section 1.6
3d	Description of the scope of the proposed activity including the triggered and specified activities, associated structures and infrastructure and the way the proposed development relates to the triggered activities	Section 1.2 and 1.3
3e	Description of the policy and legislative context within which the development is proposed and how is each one applicable to the proposed activity	Section 3
3f	The motivation for the need and desirability (including the development at that specific location)	Section 4
3g	The motivation for the preferred site, activity, and technology alternative	Section 1.4
3h (i)	Details of all the alternatives considered	Section 1.4
3h (ii)	Details of the Public Participation Process (PPP) undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs	Section 5
3h (iii)	A summary of the issues raised by interested and affected parties, and an indication of the way the issues were incorporated, or the reasons for not including them	Section 5
3h (iv)	The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section 2
3h (v)	The impacts 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- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed, or mitigated;	Section 6.2
3h (vi)	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 6.1
3h (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 6.2
3h(viii)	The possible mitigation measures that could be applied and the level of residual risk	Section 6.2
3h(ix)	The outcome of the site selection matrix	Section 6.2

3h(x)	If no alternatives, including alternative locations for the activity, were investigated, the motivation for not considering such	Section 1.4
3h(xi)	A concluding statement indicating the preferred alternatives, including the preferred location of the activity	Sections 4.2 and 6.3
3i	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- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) an assessment of the significance of each issue, risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures	Section 6.2
3j	An assessment of each identified potentially significant impact and risk	Section 6.2
3k	Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report	Section 2
3l	An environmental impact statement containing a map and a summary of the positive and negative impacts of the proposed development and alternatives	Section 6.3
3m	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 inclusion in the EMPr	Section 6.4
3n	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 the authorisation	Section 6.8
3o	A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed	Section 6.5.
3p	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 respect of that authorisation	Section 6.8
3q	Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post-construction monitoring requirements finalised	Section 6.6
3r	An undertaking under oath or affirmation by the EAP	Refer to Appendix H
3s	Where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of adverse environmental impacts	Not Applicable

SECTION 1: DESCRIPTION OF THE PROPOSED ACTIVITY & LOCALITY

1.1 Project Title

Proposed Ballito Beach Club, KwaDukuza Local Municipality, iLembe District Municipality, KZN.

1.2 Description of the Activities to be Undertaken Including Associated Structure and Infrastructure as per Section 3(d) (ii)

2014 EIA Regulations (As amended), Appendix 1- 3(d) a description of the scope of the proposed activity, including (ii) a description of the activities to be undertaken including associated structures and infrastructure.

Erf 14 located in Ballito within Ward 6 of the KwaDukuza Local Municipality, has been earmarked for a mixed-use development, which is to be referred as the Ballito Beach Club. The property in question encompasses an area of around 1 013,53m², with a planned basement coverage of the structure approximating 650m². The proposed Ballito Beach Club will include a three-storey structure, which will comprise of a:

- Basement level with parking;
- Ground floor with entertainment facilities, including a restaurant, pool, timber deck, dining area, kitchen and buffet bar;
- First floor with entrance facilities, including a reception, meeting rooms, Offices and terrace bar; and
- Second floor with four residential units.

It must be noted that the beach club will solely service the residents of the Ballito Hills Estate (development of Balwin Properties) and will be available via a booking system only.



Figure 1: Aerial Image of the Site with Cadastral



Figure 2: Aerial Image of the Site

SITE LOCALITY



- Key**
- Ballito Hills Lifestyle Estate
 - Ballito Creek
 - 03 Ballito Lifestyle Centre
 - 04 Ballito Junction Regional Mall
 - 05 Netcare Alberlito Hospital



Figure 3: Locality Map

Please refer to Appendix A1 and A2: Site Plan - Google Image and Locality Map.

Civil Infrastructure Approach:

The Civil Infrastructure Requirements & Approach was undertaken by Arup in January 2023. The main findings of the report are as follows:

- Water: The AADD water demand for the proposed development is 1,677 l/day and the total water demand (including losses and peak factors) is 5,959 l/day. It is anticipated that a new 110mm diameter HDPE pipe connects into the existing water main at the site boundary along Compensation Beach Road. It is envisaged that the proposed development will employ an internal water reticulation system and make provisions for Moderate Risk 2 fire flow.
- Sewer: The sewer discharge has been assumed as 80% of the total water demand. The total sewer demand is 4,767 l/day. At this stage, existing municipal sewer tie-in points have not been identified, however, should a connection exist close to the site, the necessary engagements with the municipality to discuss available capacity will be carried out. Should the existing infrastructure have insufficient capacity, alternative solutions such as conservancy tanks shall be considered.
- Stormwater: The current condition of the property is mainly vegetated with very little hardened areas. The proposed Ballito Beach Club will increase the hardened areas, therefore the runoff from the site will need to be managed in a responsible manner to mitigate any impacts on surrounding areas, especially the coastal dune. As per the topographical survey, there is a possible stormwater connection point to the east of the proposed development, however the capacity of this system has not been determined.

It must be noted that the findings and recommendations provided by the engineers are preliminary and will be confirmed once the engineers have engaged with the KwaDukuza Local municipality. **Please refer to Appendix D1: Specialist Reports, Civil Infrastructure Approach dated January 2023.**

Electrical Engineering Report:

The Electrical Engineering Report was undertaken by Elliott, Breytenbach & Gray in February 2023. The proposed Ballito Beach Club Development will require a new KDM low voltage 3-phase electrical supply of approximately 121 Amps @ 420 Volts, or 88kVA. EBG performed an onsite investigation of the existing KDM electrical supply in the immediate area of the Ballito Beach Club Development, on 8th of February 2023 and the findings were as follows:

- There is an existing 315kVA KDM minisub labeled "Promenade Minisub" in Compensation Beach Road located approximately 95m away from the proposed development.
- Upon investigation, the Minisub's main low voltage CT maximum demand load readings show an approximate load of 300A per phase. The Minisub's main low voltage circuit breaker is rated at 450A 3-phase. There therefore appears to be a sufficient low voltage capacity within the Minisub to supply the new development with its required new 121A 3-phase at 420 Volts. This would load the minisub to approximately 421 Amps 3-phase at 420 Volts.
- The developer would need to install a new 150A 3-phase low voltage circuit breaker into the existing Minisub. Install approximately 95m of new 35mm² 4-core PVC ECC Copper underground cable from the Minisub to the boundary of the Development's Erf 14. This would involve cutting the existing Compensation Beach tar road, installing new PVC sleeving, pulling through the new low voltage cable and reinstating the tar. Install a new KDM 150A low voltage bulk metering kiosk on the boundary of the Development's Erf 14.
- The new 150A low voltage bulk metering kiosk on the boundary of the Development's Erf 14 would contain a new KDM 150A 3-phase low voltage meter, and KDM 150A 3-phase low voltage circuit breaker. The Development would be metered from this point.

It must be noted that this report was compiled based upon broad high-level investigation and serves to give a general indication of the required electrical availability and required new electrical infrastructure for the proposed Balwin Ballito Beach Club development. Formal engagement with KDM is required to verify and confirm the above information before any formal KDM approval will be made. **Please refer to Appendix D2: Specialist Reports, Electrical Engineering Report dated February 2023.**

Geotechnical Assessment:

A Geotechnical Assessment was undertaken by Geosure in December 2022. According to the regional geological map sheet titled "2930 Durban" to scale 1:250 000 published by Council of Geoscience (1998), the site is regionally underlain by Jurassic age dolerite, with aeolian (windblown) deposits of Quaternary age in the immediate vicinity. The windblown soils occurring on the site are considered highly susceptible to rapid erosion by uncontrolled / channelled stormwater and it is therefore important that adequate erosion controls to engineers detail are put in place during and after construction. Based on the results of the fieldwork undertaken during the investigation, it is considered that this site is generally stable and suitable for the proposed development provided the recommendations provided in the Geotechnical Report are strictly adhered to. **Please refer to Appendix D3: Specialist Reports, Geotechnical Assessment dated December 2022.**

Site Traffic Assessment:

The Site Traffic Assessment was undertaken by Zutari in February 2023 and the main findings of the report are as follows:

- In the 2027 Design Scenario without the addition of the development generated traffic indicate that the Compensation Beach Road / Balwin Beach Club Access intersection currently operates at acceptable levels of service during the peak hour.
- The COTO Manual for Traffic Impact Assessments and Site Traffic Assessments gives the following peak hour trip generation rates and directional splits for the proposed uses at the proposed development.
 - Restaurant (Quality Sit Down)
 - o Weekday AM Peak Hour – 0.75 veh/h two-way per 100m² GLA with a 70:30 directional split
 - o Weekday PM Peak Hour – 11.8 veh/h two-way per 100m² GLA with a 40:60 directional split
 - Offices:
 - o Weekday AM Peak Hour – 2.1 veh/h two-way per unit with a 85:15 directional split
 - o Weekday PM Peak Hour – 2.1 veh/h two-way per unit with a 20:80 directional split
 - Apartments:
 - o Weekday AM Peak Hour – 0.65 veh/h two-way per unit with a 25:75 directional split
 - o Weekday PM Peak Hour – 0.65 veh/h two-way per unit with a 70:30 directional split
- Based on the above trip generation rate, a total of 14 veh/h two-way trips and 49 veh/h two-way trips are expected during the AM and PM peak hours respectively. These trip generation rates are considered to be low in traffic terms.
- The distribution of the traffic generated by the proposed Beach Club is expected to be in similar ratios to the distribution of the existing Weekday AM and PM peak hour traffic travelling along Compensation Beach Road.
- The 2027 Design Scenario with development generated traffic volumes indicate that the Compensation Beach Road / Balwin Beach Club Access intersection will continue to operate at acceptable levels of service for the AM and PM peak hours and no upgrades are required. The shoulder sight distance requirement for a passenger vehicle is 80m at a 40km/h design speed and this can be achieved at the location of the proposed site access, provided there are no obstructions within the sight triangle.
- It is recommended that a sidewalk be provided in Compensation Beach Road along the full length of the site from the site boundary to the edge of road in Compensation Beach Road.
- No adverse road safety conditions are therefore expected to occur due to the increase in traffic by the proposed Beach Club. Traffic generally travels at acceptable speeds on the surrounding road network in the vicinity of the proposed development.
- The internal tracking of a light vehicle movement onto the site, within the internal parking and leaving the site showed that all movements can be achieved. The internal movements can also be achieved, however, it is recommended that a yield road marking and sign are provided for traffic leaving the basement and a convex mirror is installed to improve visibility and safety.
- The proposed Balwin Beach Club development on a site described as Erf 14 Ballitoville can therefore be supported from a traffic and transportation perspective. **Please refer to Appendix D7: Specialist Reports, Site Traffic Impact Assessment dated February 2023.**

Terrestrial and Coastal Dynamics Impact Assessment:

A Terrestrial and Coastal Dynamics Impact Assessment was undertaken by SDP Ecological and Environmental Services in September 2022. Broad spatial planning tools suggest that the site is subject to a 'high' level of coastal vulnerability and within a moderate-term risk (50 years) line. Notably, this portion of the coastline was significantly impacted by the 2007 storm event. Site reconnaissance revealed that the property is largely transformed by encompassing development and previously built structures within the site. Both soil and vegetation indicate that there are two dune forms present: a landward, stable dune form with imported materials, and a shoreward, mobile aeolian dune form. The vegetation on site is primarily early seral dune species, with the exception of few listed *M. caffra*, *A. thraskii* and *A. arborescens* specimens.

The initially proposed extent and location of the Ballito Beach Club would have resulted in the placement of structures within the sand sharing system that would have been at high risk of erosion and undermining from marine storm or tidal inundations. As a consequence of the risk associated with development of the site too close to the seashore, a calculated 8m (11 amsl) set back from the south-eastern boundary was recommended. However, this set back was not achievable from a design perspective and so a 6m set back has been incorporated. Such a setback is considered sufficient given the variable factors that are inherent in the setback calculation and the uncertainty surrounding the rates of erosion and other variables affecting the coastline. This set back and associated engineering intervention should allow for the positioning of structures outside of the sand sharing system and has also taken into account sea level rise and the establishment of a suitable angle of repose using the present dune profile. Additional mitigation measures, as proposed in this report, should be incorporated into the EMPr associated with this development. Subject to adoption of the development setback, it is recommended that the development be sanctioned by the competent authorities along with any applicable caveats to mitigate impacts. **Please refer to Appendix D8: Specialist Reports, Terrestrial and Coastal Dynamics Impact Assessment dated September 2022.**

Heritage Survey:

A Heritage Survey was undertaken by Umlando: Archaeological Surveys and Heritage Management in September 2022. As per the Heritage Survey, an archaeological site, 2931CA 044, was originally recorded in 1958, and revisited in the 1960s on Erf 14. The site is a shell midden presumed to date to the Historical Period. The shell midden has not been disturbed since its recording and is the last intact shell midden for at least 2km to the north and south. Continual development between Zimbali Coastal Estate and Sheffield Beach has resulted in the loss of most of the coastal shell middens. 2931CA 044 is considered to have medium significance. This midden requires test-pit excavations prior to construction and possibly on site monitoring during construction. **Please refer to Appendix D4: Specialist Reports, Heritage Survey dated September 2022.**

Shadow Impact Review:

A Shadow Impact Review was undertaken by SDP Ecological and Environmental Services in February 2023. As per the specialists investigation it is clear that the influence of shadow arising from the development of the Ballito Beach Club is of little significance. The conceptual modelled shadow extent is purely a construct and does not reflect the actual state of shading arising on the beachfront at Salmon Bay during the austral winter period. During the winter, it is apparent that shadows cast from other natural and man-made features landward of the site have far greater significance than anticipated through the modelled evaluation. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the shade impact of negligible significance. **Please refer to Appendix D6: Specialist Reports, Shadow Impact Review dated February 2023.**

The table below makes reference to specialist studies identified in the Screening Tool (**Appendix J2**). As per the Screening Tool, it is the responsibility of the EAP to confirm the list and to motivate in the assessment report, the reason for not including any of the identified specialist study.

Table 3: Specialist Studies from Screening Tool

Specialist Study	Motivation
Landscape/Visual Impact Assessment	This assessment was not undertaken as the proposed development is located within an urban area and the surrounding areas have been developed.
Archaeological and Cultural Heritage Impact Assessment	Please refer to Appendix D4 – Heritage Survey.
Palaeontology Impact Assessment	Please refer to Appendix D4 – Heritage Survey.
Terrestrial Biodiversity Impact Assessment	Please refer to Appendix D8 - Terrestrial and Coastal Dynamics Impact Assessment.
Aquatic Biodiversity Impact Assessment	This assessment was not undertaken as there is no watercourse on site or in close proximity.
Hydrology Assessment	This assessment was not undertaken as there is no watercourse on site or in close proximity.
Socio-Economic Assessment	This assessment was not undertaken as the proposed development will solely service the residents of the Ballito Hills Estate (development of Balwin Properties) and will be available via a booking system only.
Plant Species Assessment	Please refer to Appendix D8 - Terrestrial and Coastal Dynamics Impact Assessment.
Animal Species Assessment	Please refer to Appendix D8 - Terrestrial and Coastal Dynamics Impact Assessment.

1.3 All Listed and Specific Activities Triggered and Applied for as per Section 3(d) (i) 2014 NEMA EIA Regulations (as amended), Appendix 1- 3(i) all listed and specified activities triggered and being applied for:

Table 4: Listed and specified activities triggered and being applied for

Activity Number	Activity as per legislation	Activity applicability
<p>Activity 17 of Listing Notice 1</p> <p>(Government Notice Regulation No. 327 of the EIA Regulation (2014))</p>	<p>Development—</p> <ul style="list-style-type: none"> (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; <p>in respect of—</p> <ul style="list-style-type: none"> (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or 	<p>The development will entail the construction of “Ballito Beach Club”, a three-storey development with a restaurant, offices and residential uses with a footprint of approximately 650m².</p> <p>The proposed development will fall within 100 metres of the High-Water Mark.</p>

	<p>(e) infrastructure or structures with a development footprint of 50 square metres or more —</p> <p>but excluding—</p> <p>(aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) 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;</p> <p>(cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or</p> <p>(dd) where such development occurs within an urban area.</p>	
<p>Activity 18 of Listing Notice 1</p> <p>(Government Notice Regulation No. 327 of the EIA Regulation (2014))</p>	<p>The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where —</p> <p>(i) the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or</p> <p>(ii) such planting of vegetation or placing of material will occur behind a development setback.</p>	<p>Landscaping of the dune, seaward of the development will be undertaken as per the recommendations by the specialist. Further details will be provided in the Final BAR.</p>
<p>Activity 19A of Listing Notice 1</p> <p>(Government Notice Regulation No. 327 of the EIA Regulation (2014))</p>	<p>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—</p> <p>(i) the seashore;</p> <p>(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</p> <p>(iii) the sea;</p>	<p>The development will entail the construction of “Ballito Beach Club”, a three-storey development with a restaurant, offices and residential uses with a footprint of approximately 650m² which falls within 100 metres of the High-Water Mark. Based on a high-level estimate of the current building layout, an estimate volume of around 4000 cubic metres of material</p>

	<p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <p>(f) will occur behind a development setback;</p> <p>(g) is for maintenance purposes undertaken in accordance with a maintenance management plan;</p> <p>(h) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</p> <p>(i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (Publisher's note – Numbering as published in Gazette No. 40772) 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.</p>	<p>will be excavated for the development.</p>
<p>Activity 12 of Listing Notice 3</p> <p>(Government Notice Regulation No. 327 of the EIA Regulation (2014))</p>	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>d. KwaZulu-Natal</p> <p>vi. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas.</p>	<p>The development will entail the construction of “Ballito Beach Club”, a three-storey development with a restaurant, offices and residential uses with a footprint of approximately 650m² which falls within the 100 metres of the High-Water Mark.</p> <p>The site been altered and transformed previously, therefore this activity will be confirmed in the Final Draft BAR.</p>

1.4 Description of Feasible Alternatives as per Section 3(h) (i)

2014 NEMA EIA Regulations (as amended), Appendix 1- 3(H) a full description of the process followed to reach the proposed preferred alternative within the site, including (i), (iv).

“Alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to —

- (a) **The property on which or location where it is proposed to undertake the activity;**
Alternative S1 (Only Site Alternative): Proposed Ballito Beach Club, KwaDukuza Local Municipality, iLembe District Municipality, KZN

The proposed development will take place on Erf 14 located in Ballito within Ward 6 of the KwaDukuza Local Municipality. No site alternatives were considered as the applicant purchased the property to establish the Ballito Beach Club, which will solely service the residents of the Ballito Hills Estate, which is approximately 3km apart.

(b) The type of activity to be undertaken;

The applicant, Balwin Properties, intends on establishing the proposed Ballito Beach Club which is a mixed use development comprising of a:

- Basement level with parking;
- Ground floor with entertainment facilities, including a restaurant, pool, timber deck, dining area, kitchen and buffet bar;
- First floor with entrance facilities, including a reception, meeting rooms, Offices and terrace bar; and
- Second floor with four residential units.

The property has been rezoned from Residential Only Detached 6 (RODE 6) to Multipurpose Retail and Office (MPRO2) on the 14th of April 2021. No alternative types of activities were considered feasible as it's the applicants intention to establish the Ballito Beach Club which will solely service the residents of the Ballito Hills Estate, which is approximately 3km apart.

(c) The design or layout of the activity;

Two layout alternatives were considered for the proposed development layout: i.e. A1 (Preferred) and A2 (Not supported). Considering that this is a mixed use development which is 3 storeys, a layout for each level has been included to provide a clear understanding of what is proposed.

Alternative A1 (Preferred Layout) – Minimal development within 6m set back: 650m²

Basement Plan: As illustrated in Figure 4 below, 20 parking bays have been provided in the basement together with a storage area, fire escape, lift lobby and parking ramp. It's important to note that the parking area does not extend into the 6m development setback.

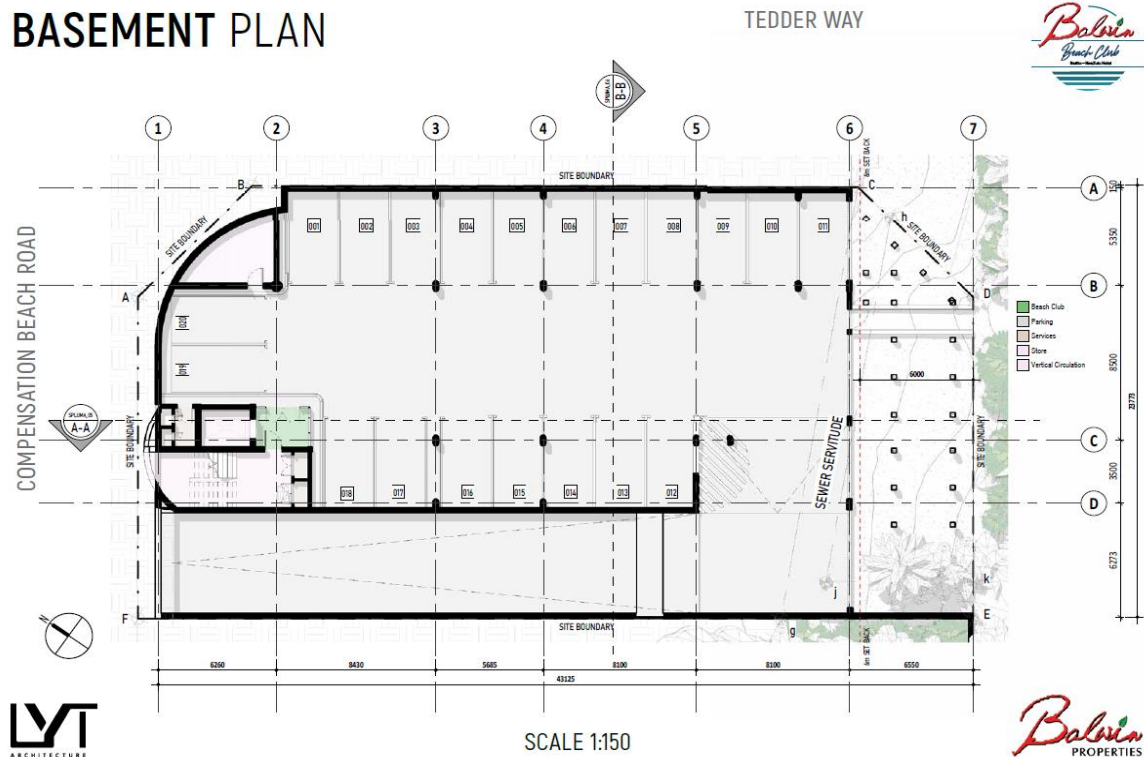


Figure 4: Basement Plan

Ground Floor - Club: As illustrated in Figure 5 below, the ground floor is set aside for the Beach Club and includes entertainment facilities such as a restaurant, pool, timber deck, dining area, kitchen and buffet bar. The timber deck is approximately 80m² and will be supported by timber columns. The timber columns will also be supported on reusables piles (screw piles) which will be located within the 6m development setback. Refer to Figure 6 for an illustration of the timber deck design.

GROUND FLOOR - CLUB

TEDDER WAY

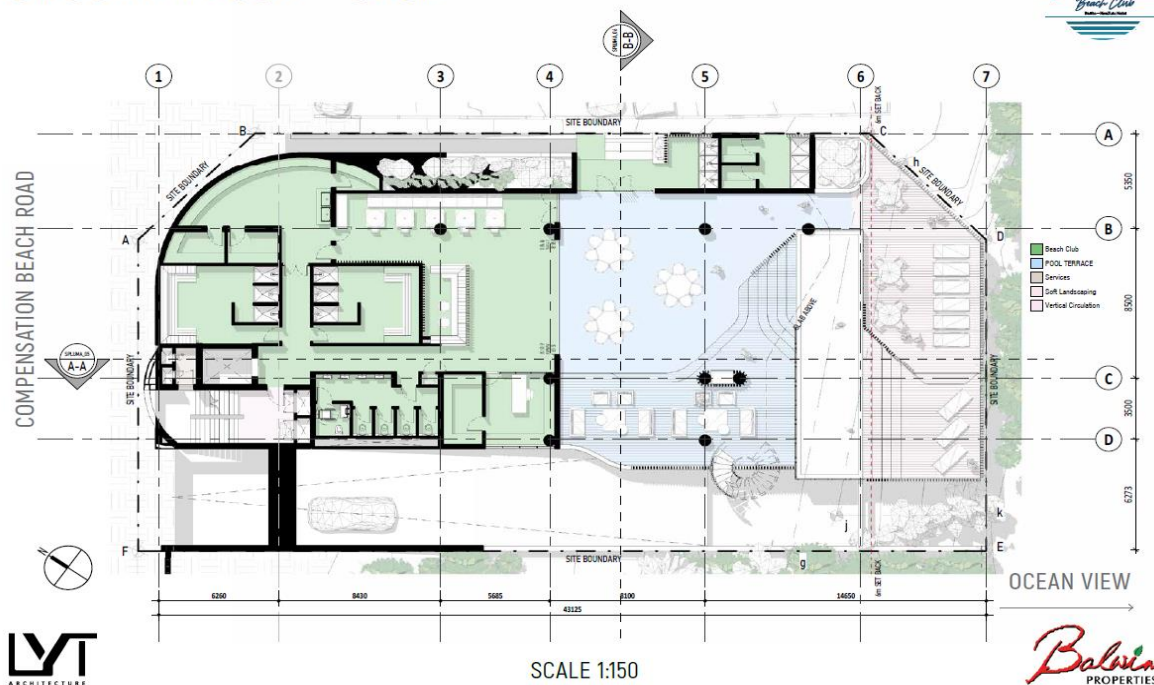
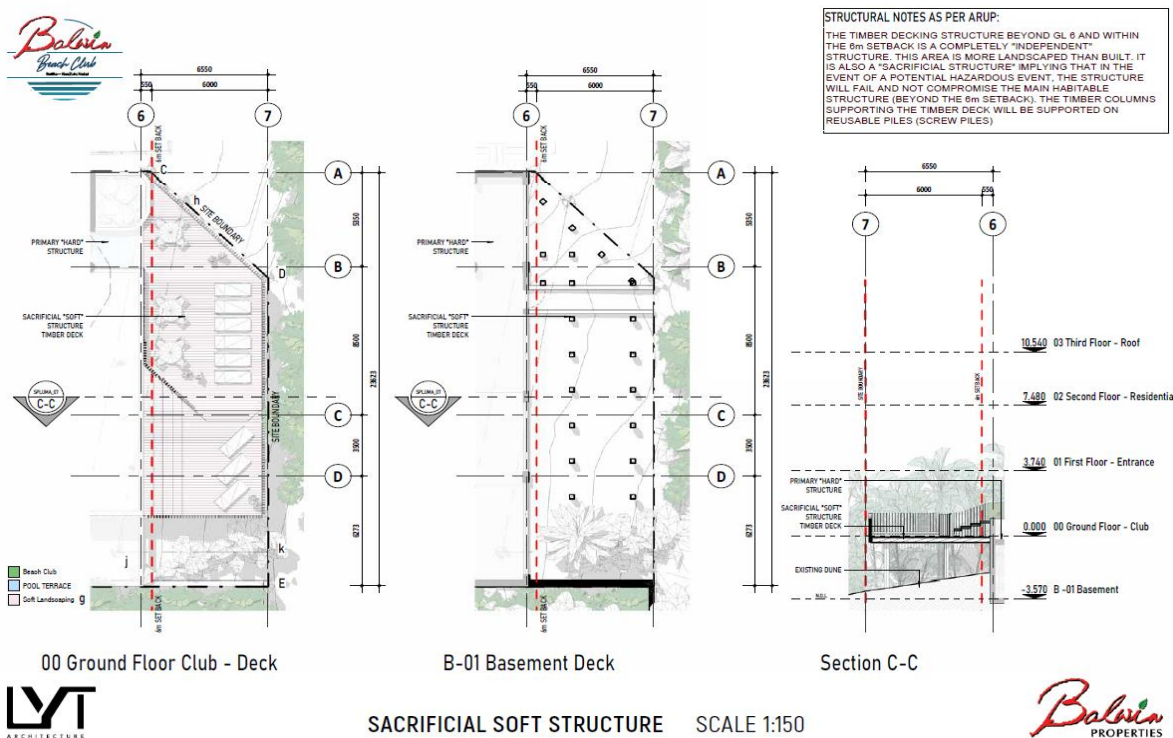


Figure 5: Ground Floor - Club



SACRIFICIAL SOFT STRUCTURE SCALE 1:150



Figure 6: Ground Floor – Timber Deck

First Floor - Offices: Figure 7 below provides an illustration of the entrance facilities, including a reception, meeting rooms, Offices and terrace bar. There will be no extension into the 6m development setback.

FIRST FLOOR - OFFICES

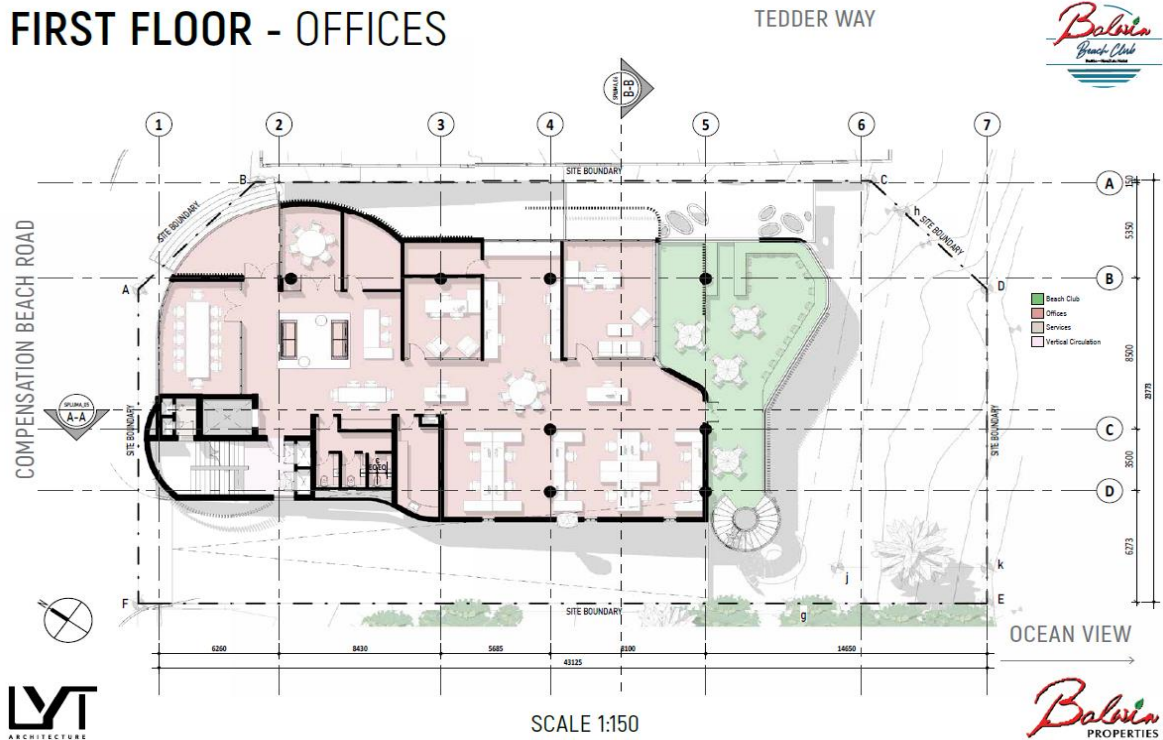


Figure 7: First Floor - Offices

Second Floor - Residential: Four residential units are proposed on the second floor as illustrated in Figure 8 below.

SECOND FLOOR - RESIDENTIAL

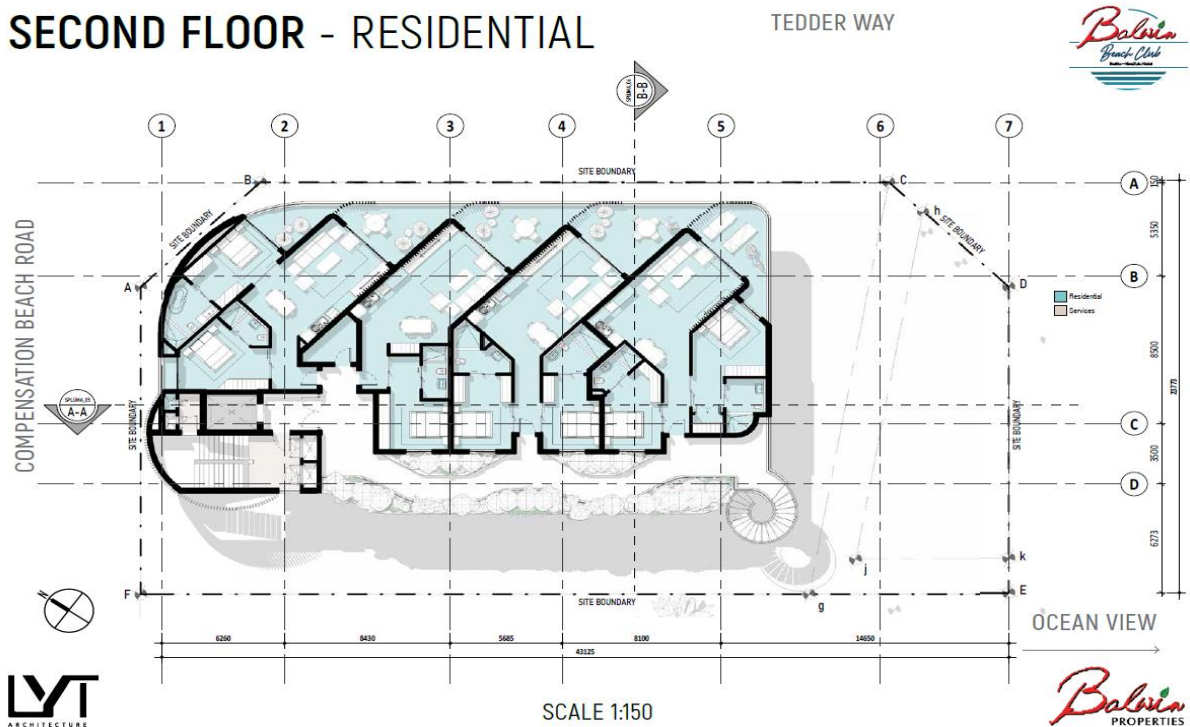


Figure 8: Second Floor - Residential



Figure 9: North West View of Proposed Development



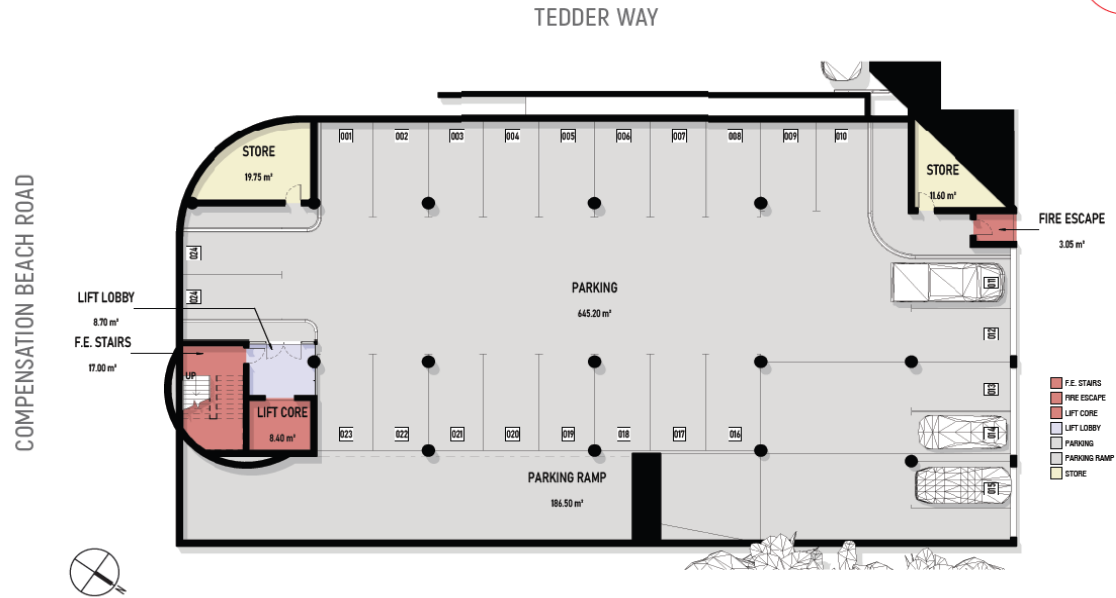
Figure 10: South East View of Proposed Development

Overall, Alternative A1 is the preferred layout as its basement coverage (parking area) is 650m² which is much less as compared to Alternative A2 which is approximately 900m². Furthermore, the parking area for Alternative A1 does not extend into the 6m development setback, whereas the parking and storage area extends completely into the 6m development setback for Alternative A2. The timber deck which is approximately 80m² will be supported by timber columns. The timber columns will also be supported on reusable piles (screw piles) and will be located within the 6m development setback as indicated in Figure 9 and Figure 10. Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals as compared to a concrete structure such as the parking and storage areas as illustrated in Alternative A2. Lastly, the existing access to the beach will be utilised and no new access will be created and no fencing of the site is proposed.

Alternative A2 (Alternative Layout) – Development within 6m set back: 900m²

Basement Plan: As illustrated in Figure 11 below, 25 parking bays have been provided in the basement together with storage areas, a fire escape, lift lobby and parking ramp. As illustrated, the parking and storage area extends completely into the 6m development setback.

BASEMENT PLAN



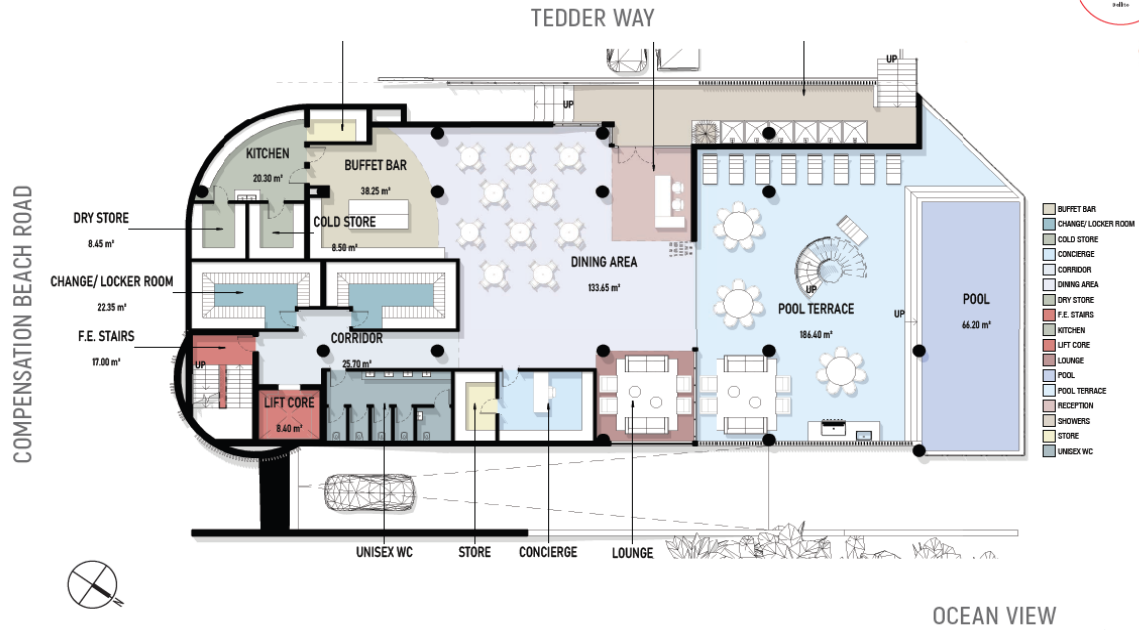
SCALE 1:150



Figure 11: Basement Plan of Alternative Layout

Ground Floor - Club: As illustrated in Figure 12 below, the ground floor is set aside for the Beach Club and includes entertainment facilities such as a pool, pool terrace, dining area, kitchen, change rooms, showers, buffet bar etc. With this particular layout, the pool is located within the 6m development setback, above the basement level.

GROUND FLOOR - CLUB



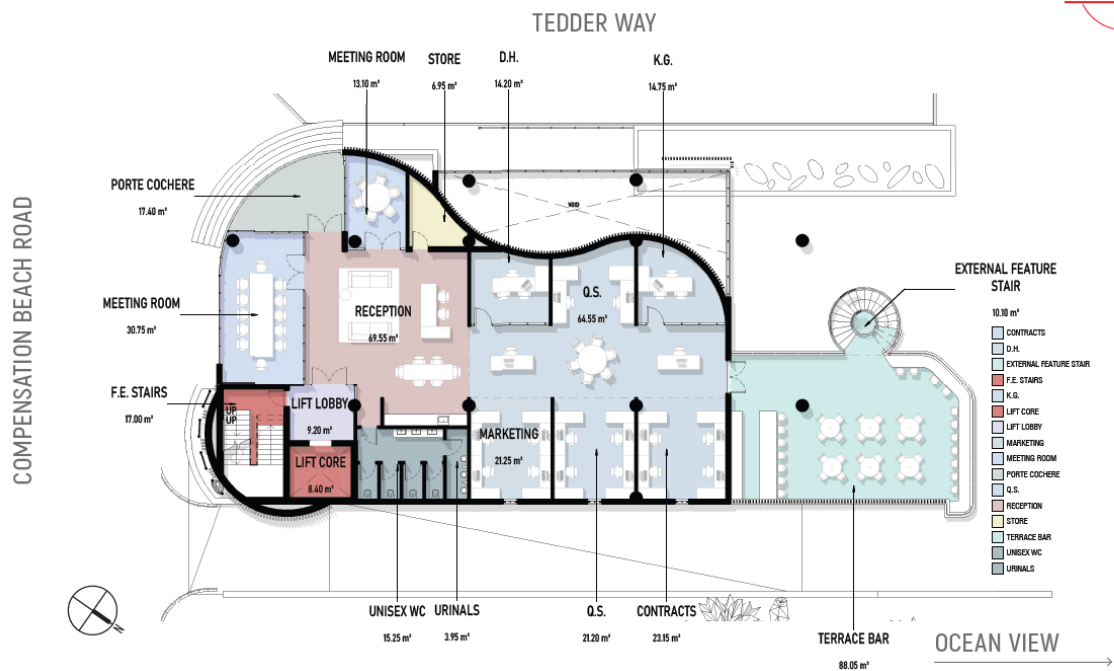
SCALE 1:150



Figure 12: Ground Floor – Club of Alternative Layout

First Floor - Offices: Figure 13 below provides an illustration of the entrance facilities, including a reception, meeting rooms, Offices and terrace bar.

FIRST FLOOR - ENTRANCE



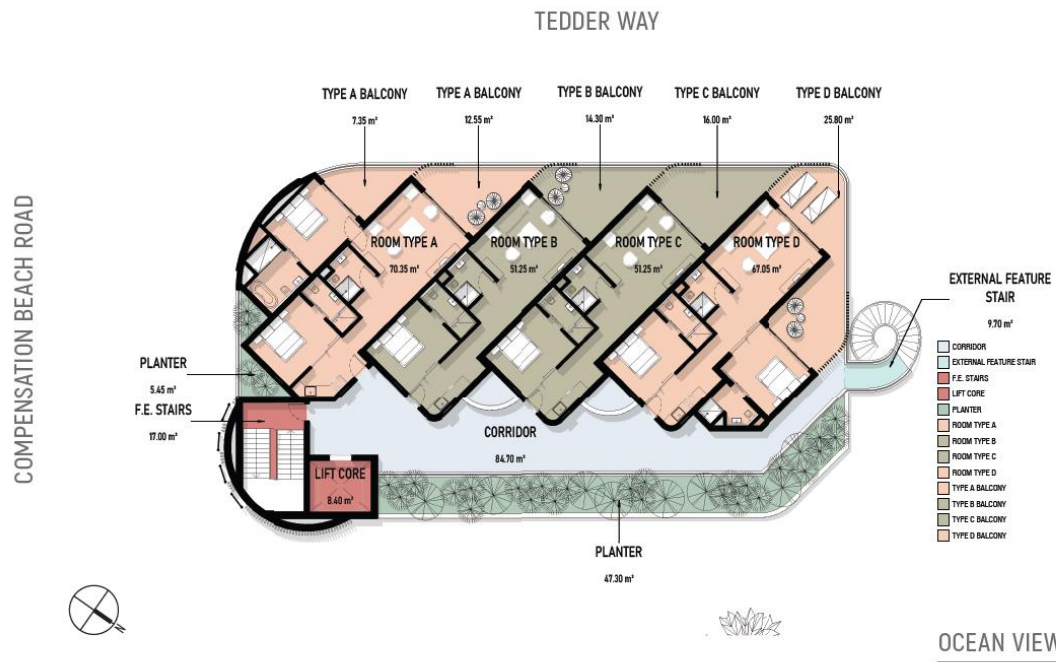
SCALE 1:150



Figure 13: First Floor – Offices of Alternative Layout

Second Floor - Residential: Four residential units are proposed on the second floor as illustrated in Figure 14 below.

SECOND FLOOR - RESIDENTIAL



SCALE 1:150



Figure 14: Second Floor – Residential of Alternative Layout



Figure 15: North West View of Alternative Layout



Figure 16: South East View of Alternative Layout

Alternative A2 is not supported as the basement coverage is approximately 900m² and extends completely into the 6m development setback. As per the specialist, it is clear that the proposed structure, lies within the sand sharing system and will therefore likely be affected by shifts in the dynamism of the sand sharing system and in turn alter the state of the system under certain situations. It is evident that the 6m development setback was not taken into consideration for this particular layout.

N.B., Alternative A2 was not perused past the planning stage.

(d) The technology to be used in the activity;

All construction activities will be in line with the National Building Regulations and Building Standards, together with the Occupational Health and Safety regulations.

(e) The operational aspects of the activity;

The operational aspects relate to the daily operations of the Ballito Beach Club. No other alternatives were deemed feasible or applicable to this development. Management measures relating to the operational aspects of the proposed development, e.g. stormwater management, waste management areas and vegetation have been addressed as per the EMPr.

(f) The option of not implementing the activity;

The no-go alternative implies that the status quo remains, and that the proposed Ballito Beach Club will not be established. The property will remain vacant and will possibly be vulnerable to illegal dumping.

From an environmental perspective, if the “no go” alternative is applied, vegetation within the site which comprises primarily of early seral and secondary psammoseral dune species including *Chrysanthemoides monilifera*, *Strelitzia Nicolai*, *Gazania rigens*, and *Clerodendrum glabrum*. *C monilifera* will remain untouched. Listed species which include the *Aloe thraskii*, *Aloe arborescens* and *Mimusops caffra* will not require permits for removal and relocation. Furthermore, there will be no development within the sand sharing system/6m development setback. It's also important to note, that should this development not go ahead, the domestic waste which was identified during the Geotechnical Assessment will remain on the property.

From an economic and social perspective, if the development is not realised, potential temporary and permanent employment opportunities will not be realised and will not contribute to the general economic development of the area. The Ballito Beach Club as indicated previously will solely serve the residents of the Ballito Hills Estate, which is another development of Balwin Properties. Should the proposed development not go ahead, the local authority will also lose revenue in the form of rates from the property.

The need for the proposed Ballito Beach Club must be evaluated in terms of the NEMA principles, inclusive of sustainable development, taking into consideration the current status of the environment, as well as socio-economic impacts as mentioned above. The no-development option is not supported reason being:

- The proposed development is in keeping with the surrounding land uses and is one of the few properties that is currently vacant along Salmon Bay.
- The domestic waste which was identified during the Geotechnical Assessment will remain on the property.
- Prior to construction, permits will be applied for, from the relevant authorities for the removal and relocation of the listed species identified by the specialist.
- Prior to construction, the heritage specialist will undertake further assessment via test pit excavations to determine if there are additional middens on site.
- A timber deck which will be supported by timber columns is proposed within the 6m development setback and will also be supported on reusable piles (screw piles). Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals and will not entail complete removal of the dune vegetation, located within the southern, mobile dune form.
- Once construction of the proposed Ballito Beach Club is complete, rehabilitation and landscaping will be undertaken with indigenous dune vegetation.
- The existing access to the beach will be utilised and no new access will be created.
- The Ballito Hills Estate which received Environmental Authorisation in 2009 will serve to benefit from this development through the use of the key amenities such as a restaurant, pool, dining area, kitchen and buffet bar. It must be noted that Ballito Hills was identified as a “catalytic project” in terms of the Municipal IDP (2022/2023).
- As per the Site Traffic Assessment, no adverse road safety conditions are expected to occur due to the increase in traffic by the proposed Beach Club.
- As per the Shadow Impact Assessment, it is clear that the influence of shadow arising from the development of the Ballito Beach Club is of little significance. During the winter, it is apparent that shadows cast from other natural and man-made features landward of the site have far greater significance than anticipated through the modelled evaluation. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the shade impact of negligible significance.

1.5 Project Locality as per Section 3(b) (i) – (iii)

2014 EIA Regulations, Appendix 1- 3(b) the location of the activity, including: (i) the 21 Surveyor General code of each cadastral land parcel.

Table 6: Location of the Proposed Activity

District Municipality	iLembe District Municipality
Local Municipality	KwaDukuza Local Municipality
Ward	6
Area / Town / Village	Ballito
Property Description	Erf 14 Ballitoville
21 Digit SG Code	N0FU0015000001400000

Site Alternative

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 ¹ (only site alternative)	29	32	41.48	31	12	53.03

Design or Layout Alternative

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	Size of the activity:
Alternative A1 ² (preferred alternative)	Basement - 650m ²
Alternative A2	Basement - 900m ²

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	Size of the site/servitude:
Alternative A1 (preferred alternative)	1 013,53m ²
Alternative A2	1 013,53m ²

1.6 Site Access

Does ready access to the site exist?	YES
If NO, what is the distance over which a new access road will be built	
Describe the type of access road planned: Existing access is off Compensation Beach Road.	

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

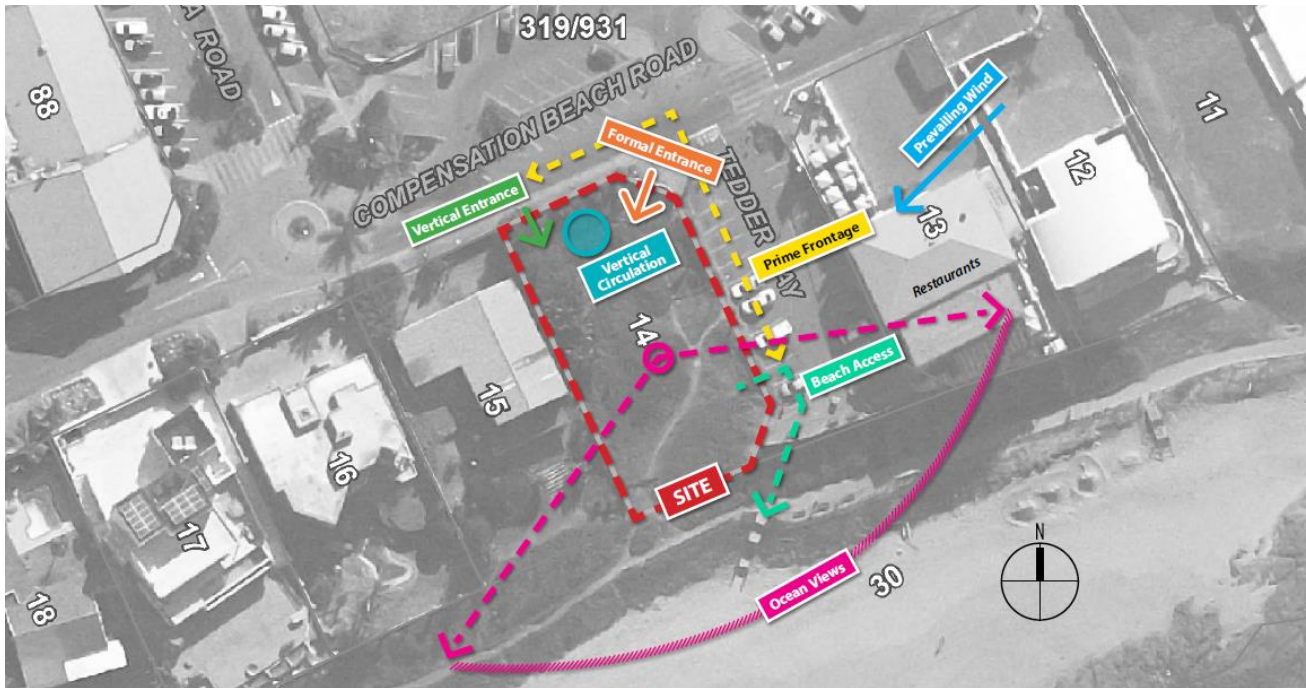


Figure 17: Map illustrating access to the site

¹ "Alternative S.." refer to site alternatives.

² "Alternative A.." refer to activity, process, technology, or other alternatives./

1.7 Zoning and Land Use Rights

What is the land currently zoned for? Multipurpose Retail and Office. An application in terms of the Spatial Planning and Land Use Management Act (2013) for the proposed re-zoning of Erf 14 Ballitoville from “Residential only detached 6 (rode 6) to Multipurpose retail and office (MRPO 2) was approved by KwaDukuza Municipality Business Unit: Economic Development and Planning on the 14th of April 2021.		
Will any person’s rights be negatively affected by the proposed activity/ies?	YES	NO
Will the activity be in line with the following?		
The Provincial and Local Spatial Development Framework	YES	NO
The Provincial and Local Integrated Development Framework	YES	NO

The proposed development is in line with the Municipal Integrated Development Plan (2022/2023) in which economic development is a primary contributor to the Municipal overall development plans. The investment into the local economy by Balwin Properties will be beneficial as the site is currently vacant. It must be further noted that the site is also located in close proximity to surrounding bed and breakfasts, beach accommodations and flat lettings which conforms to the overall zoning of the surrounding area.

The Ballito Hills project which received Environmental Authorisation in terms of NEMA EIA Regulations 2014 (as amended) in 2009 will serve to benefit from this development activity through the use of the key amenities (such as a restaurant, pool, dining area, kitchen and buffet bar) located on the ground floor. The Ballito Hills was identified as a “catalytic project” in terms of the Municipal IDP (2022/2023) and as such finds support in this development activity.

The Ballito area has been identified as a “strategic focus area” which largely contributes to tourism and urban development (iLembe SDF, 2021). The proposed development also finds support in the KwaDukuza Municipality Low Carbon Emission Development Strategy (2016) which aligns with the National Development Plan which advocates that by 2030 our economy should have transited to low carbon by 30 percent.

1.8 Water Use and Bulk Service Availability

Please indicate the source(s) of water that will be used for the activity.

Municipal – It is anticipated that a new 110mm diameter HDPE pipe connects into the existing water main at the site boundary along Compensation Beach Road. It is envisaged that the proposed development will employ an internal water reticulation system and make provisions for Moderate Risk 2 fire flow. It must be noted that connections into the municipal system will be confirmed once the engineers have engaged with the KwaDukuza Local municipality.

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month.

N/A

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water & Sanitation? Please provide proof that the application has been submitted to the Department of Water & Sanitation.

It is unlikely that a Water Use Authorisation will be required given the location, however this will be confirmed with the Department of Water and Sanitation.
--

Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as an Appendix).

As indicated previously, the project engineers have provided recommendations on how the proposed can tie into the municipal systems, however this connections will be confirmed once the engineers have engaged with the KwaDukuza Local Municipality.

1.9 Energy Efficiency

Describe the design measures, if any, which have been undertaken to ensure that the activity is energy efficient.

In terms of energy efficiency, the proposed development should be undertaken during regular working hours to reduce the use of artificial lighting, if need be. Additionally, the contractor will be advised to transport all construction materials on-site at the same time wherever possible; the collection of waste material must be conducted simultaneously with other activities to reduce the amount of fuel usage for such transportation. Waste management methods (i.e., recycling and reusing), as well as water conservation measures are recommended and included in the EMPr (**see Appendix G**).

SECTION 2: SITE DESCRIPTION OF SURROUNDING LAND USE AS PER SECTION 3(H) (IV) AND (K)

2014 NEMA EIA Regulations (as amended), Appendix 1- 3(H) a full description of the process followed to reach the proposed preferred alternative within the site, including (iv) and 3 (K) a summary of findings and impact management measures identified in any specialist report complying with Appendix 6 to these regulations and an indication as to how these findings and recommendations have been included in this report.

2.1 Topography and Biophysical Environment

The coastline in and around Ballito comprises of a number of rocky promontories and “pocket beaches” covered by a generally thin veneer of sand. The supra tidal coastal environment varies from steep cliffs to low elevation and relatively “young” sand dunes that are backed by older (+/- 10000 yrs BP) paleo dunes and rocky cliff.

The proposed Ballito Beach Club is located at the northern extent of Salmon Bay Beach and lies upon an elevated paleo dune complex underlain by a fractured sandstone and dolerite geology. Salmon Bay is prone to severe erosion with a vacillating envelope of shoreline mobility, giving rise to a wide and expansive beach under some periods, often replaced by narrow, steep beach under others. The rocky promontory at the north of Salmon Bay serves to focus the prevailing wave energy onto the frontal dune at this point and this in turn gives rise to significant erosion of the beach and dune form. The Salmon Bay coastline and associated infrastructure suffered significant impacts during a 2007 storm event. Presently, the beach to dune crest lies at an overly steep grade, supported primarily by Hyson cell and imported clayey soils. This angle of repose lies between 35° and 42°. A stable angle of repose on dune forms approximates 27°.

2.2 Terrestrial and Coastal Dynamic Impact Assessment

A Terrestrial and Coastal Dynamic Impact Assessment was undertaken by Sustainable Development Projects (SDP) in September 2022. The main findings are summarised below.

- The study areas fall within the “Critically Endangered” KwaZulu-Natal Coastal Belt Grassland and is characterised by highly dissected undulating coastal plain environment, which was historically covered by subtropical coastal forest (Mucina and Rutherford 2006).
- The Provincial Conservation Authority has identified regions in KwaZulu-Natal considered to be of critical importance from a conservation perspective, having some areas designated as “CBA Irreplaceable”, “CBA Ecological Support Areas” and “CBA Optimal areas”. The proposed site does not fall within a CBA, however the marine environment is considered an “Ecological Support Area (ESA)”.
- According to the Coast KZN database, the study site falls within a medium-term (50 year) risk category and is under “High Risk” in terms of the Coastal Vulnerability Index (Figure 18). Sites considered “high” risk are those that have an increased probability in terms of erosion, sea level rise and susceptibility to extreme events (Palmer et al. 2011). In addition, the Coast KZN database shows that the subject area was impacted by the 2007 storm event. The impacts were addressed by use of interventions, such as geofabric bags, gabions and other counter erosion measures.
- The site provides for limited habitat for larger fauna, due to its small extent and placement within in an urban environment.
- Seaward of the study area lies Subtropical Seashore vegetation which is characterised by recent/young coastal sandy sediments which form beaches and dunes that support herbaceous and dwarf-shrubby vegetation (Mucina and Rutherford 2006). Dominant species common to this vegetation type typically include *Scaevola plumieri*, *Phyllohydrax carnosa*, *Gazania rigens* and *Canavalia rosea*.

- Given the recent history of the site, the nature of the property can be divided into two “zones”, namely:
 - A landward portion of dune form comprising of deep, compacted clayey sands, much of which may be import; and
 - A more seaward landform comprising of unconsolidated sands of marine origin.
- The vegetation within the site comprises primarily of the following:
 - Early seral and secondary psammoseral³ dune species including *Chrysanthemoides monilifera*, *Strelitzia Nicolai*, *Gazania rigens*, and *Clerodendrum glabrum*. *C monilifera* which can be described as the “dominant” species.
 - Notable species, include the listed *Aloe thraskii* and *Aloe arborescens* (KZN Conservation Act (No. 29 of 1992)), which will require permitting and possible translocation, prior to development of the site.
 - A listed tree, *Mimusops caffra*, was identified on the western and southern boundaries of the property (Figure 19). It must be noted that the removal or pruning of these listed trees will require a permit from the Department of Forestry, Fisheries and the Environment (DFFE).

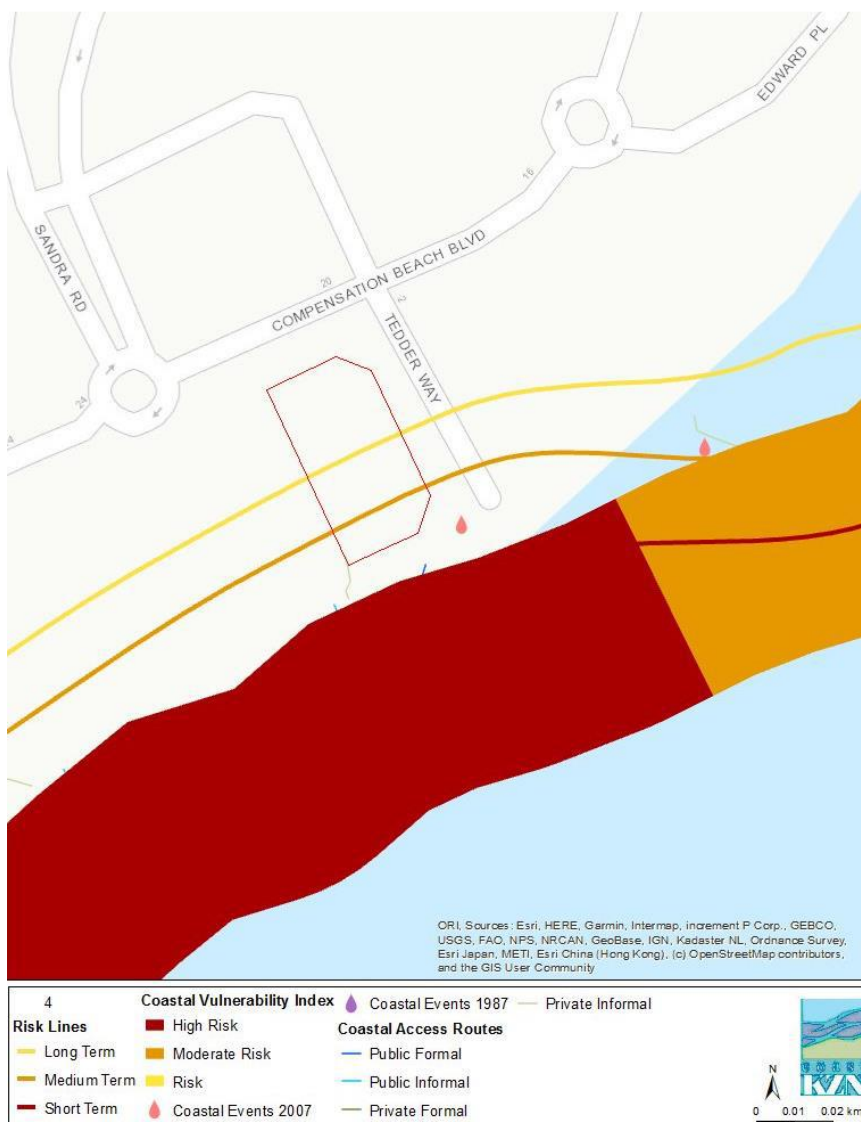


Figure 18: Map showing the risk lines and coastal vulnerability index associated with the study area

³ Psammoseral Dune System - A psammosere is a seral community, an ecological succession that began life on newly exposed coastal sand. Most common psammoseres are sand dune systems (Field Studies Council, 2023).



Figure 19: Map showing the listed species, area of mobile dune form and stable form within the site (outlined in white)

Impact Rating:

The impact rating associated with terrestrial (flora and fauna) within the property of “low” significance. This is primarily due to the disturbed conditions of the site. The proposed layout of the development, in relation to its influence on the sand sharing system is considered to be “high”. Recommendations to mitigate, reduce or avoid the anticipated impacts on the sand sharing system are outlined below.

- The placement and seaward extent of the proposed built structures: In consideration of the data gathered during site reconnaissance, aerial imagery and data from the 2007 storm event, sea level rise predictions and bank stability derived from the site survey, the seaward delimit of the development was determined. Presently, the beach to dune crest lies at an overly steep grade, supported primarily by Hyson cell and imported clayey soils. This angle of repose lies between 35° and 42°. A stable angle of repose on dune forms approximates 27°. As such by setting seaward extent of built structure back from the property’s seaward cadastral by approximately 8m, a more stable angle of repose can be achieved. The 8m set back was not achievable from a design perspective and as such 6m setback has been incorporated. According to SDP the 6m setback was considered viable given the variable factors that are inherent in the setback calculation and the uncertainty surrounding the rates of erosion and other variables affecting the coastline. Additional engineering interventions (such as the use of stilts) must be considered to safeguard the structure under sea level rise and storm conditions. The 6m set back must allow for the positioning of structures outside of the sand sharing system and has also considered the establishment of a suitable angle of repose using the present dune profile.

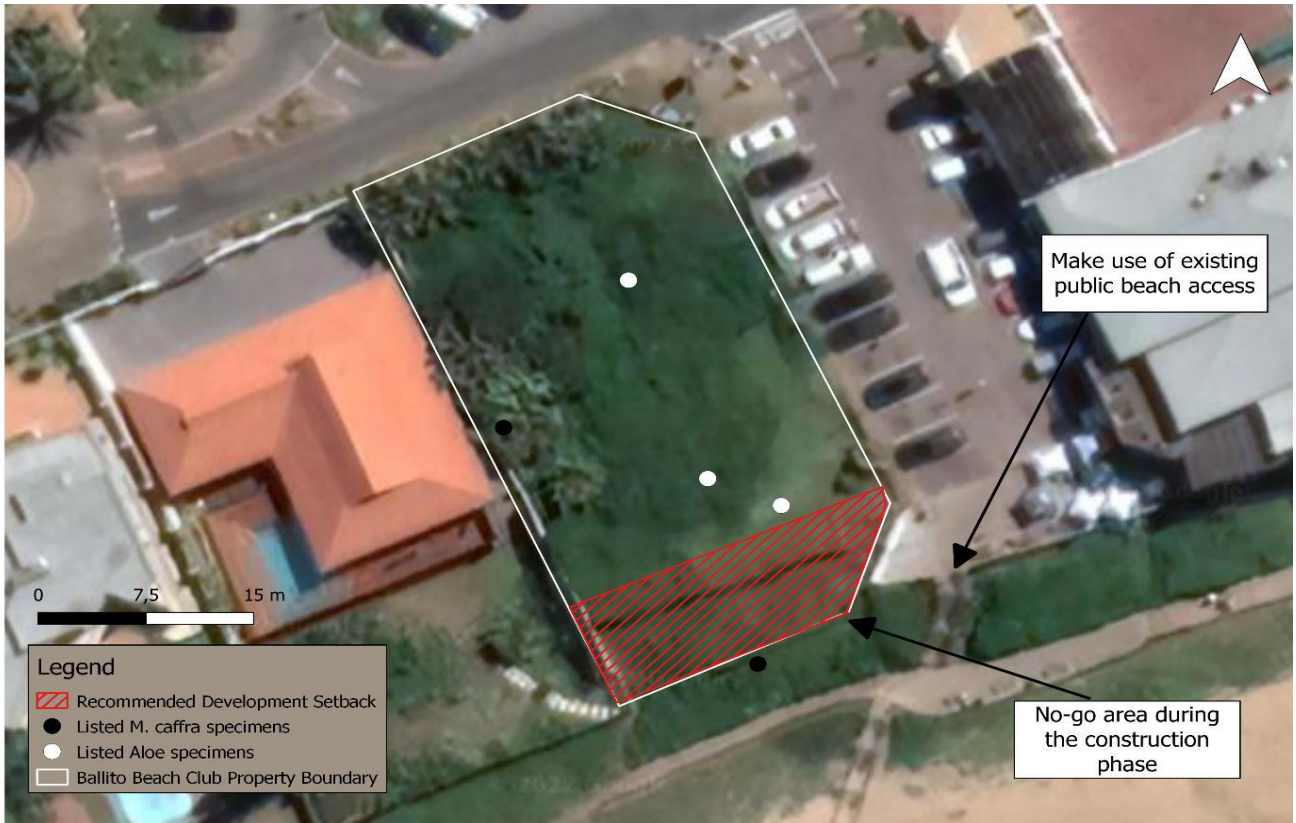


Figure 20: Recommended Development Setback

- Stormwater Management: Stormwater disposal systems should be connected to the municipal system lying to the north of the site on Tedder Way. Direct discharge of stormwater towards the beach should not be permitted. However, it is strongly recommended that on site measures to decelerate flows from roof tops and other hard surfaces be established on the property.
- Additional measures to consider:
 - All specimens of listed *Aloe spp.* should be translocated. Landscaping of the dune, seaward of the development, should be kept to a minimum and should be restricted to indigenous dune vegetation.
 - The use of external lighting should be confined to areas around the built structures. Specifically, spotlights directed onto the beach should be avoided.
 - The northern public beach access should be utilized for this site as per Provincial Government guidelines.

Please refer to Appendix D8: Specialist Reports, Terrestrial and Coastal Impact Assessment Dated September 2022.

2.3 Shadow Assessment

A Shadow Study using software analysis was undertaken by Lyt Architects for the proposed development which indicated that the Ballito Beach Club will have a shadow impact on the beach.

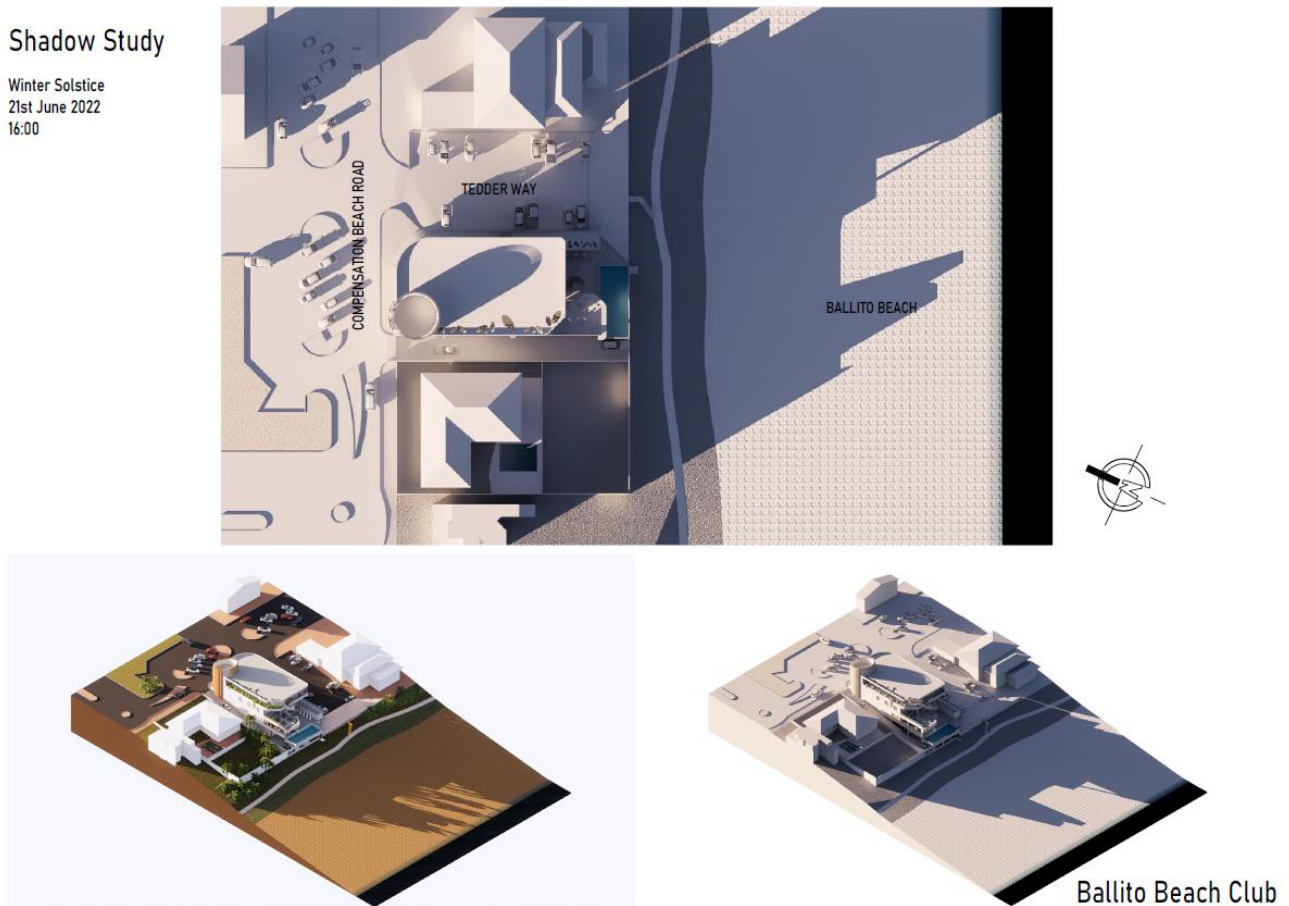


Figure 21: Winter Solstice – June 2022

Sustainable Development Projects (SDP) was requested to determine the extent of shade and the impact of this shading on various habitats. As indicated in Figure 22, there are three broad habitats that are affected by the evident shading arising seaward of the Beach Club. These habitats are namely:

- The dune environment, which includes a portion of the public promenade. This zone lies between the upper beach and approximately 16m amsl.
- The beach environment, which extends from approximately the low water mark to the upper extent of the dune environment at 4m amsl. This is marked by highly dynamic sediments and significant sediment transport.
- The immediate inshore sub tidal zone and rocky shore that lies in a promontory and below the low water mark.



Figure 22: Aerial image of site taken on 28 February 2023 showing specific features and habitats around site

Figure 23 presents the actual state of shading on the above environments (i.e., dune, beach and immediate inshore sub tidal zone) during the austral winter period. The shading of the beach environment was recorded at ~ 15.30 on 19 July 2022. Evident from this image is the extent of the shadow cast by the extensive hill (or paleo dune) that lies landward of the site and other built structures that affect primarily, the beach, dune and sub tidal marine environment.

As per SDP, it is clear that the influence of shadow arising from the development of the Ballito Beach Club on Erf 14 Ballito, is of little significance. The modelled conceptual shadow extent is purely a construct and does not reflect the actual state of shading arising on the beachfront at Salmon Bay during the austral winter period. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the impact of shading of negligible significance.

Please refer to Appendix D5 and D6: Specialist Reports, Shadow Study and Shadow Impact Review.



Figure 23: Aerial image of site taken on 19 July 2022, showing extensive shadow on the beach and intertidal environment

2.4 Geology and Soils

A Geotechnical Investigation was undertaken by Geosure (Pty) Ltd in December 2022. The findings from the report is summarised below.

- According to the regional geological map sheet titled “2930 Durban” to scale 1:250 000 published by Council of Geoscience (1998), the site is regionally underlain by Jurassic age dolerite, with aeolian (windblown) deposits of Quaternary age in the immediate vicinity.
- The proposed site was observed to be underlain by fill (uncontrolled) and aeolian beach deposits.
 - Fill (uncontrolled): These materials can be described as dark brown speckled orange, very loose silty fine to medium grained sand, containing roots and particle contaminants (domestic waste). Fill was encountered in all inspection pits investigated and was observed to extend from 0.0m EGL to depths in the range of approximately 0.11m (IP1) to 0.34m (IP3/PT1) below EGL.
 - Colluvium: These soils can be described as greyish brown, looser silty fine to medium grained sand. The deposits was encountered in all inspection pits investigated and was observed to extend to depths in the range of approximately 0.11m (IP1) to 0.78m (IP2) below EGL.
 - Aeolian/Beach Deposits: These soils can be describes as medium brown and light brown, loose to medium dense, silty sand with shell fragments. These deposits were encountered in all inspection pits investigated and was observed to extend to depths in range of approximately 0.90m to 3.m below EGL and are anticipated to extend to significant depths.
- Groundwater seepage was not observed to depths investigated. An intermittent perched groundwater condition however may develop during and after periods of rainfall. An allowance should be made for the potential intermittent perched groundwater condition during the design and construction phase of the development.

- The results of the soil percolation test PT1 indicate a rapid percolation rate of 2 – 3 minutes for a 25mm rainfall event. This corresponds to an application rate of approximately 112 – 116 litres / m² of soakpit wall / day. It must be noted that the below tests were taken into the design of the stormwater soakaway.
- The windblown soils occurring on the site are considered highly susceptible to rapid erosion by uncontrolled / channelled stormwater and it is therefore important that adequate erosion controls to engineers detail are put in place during and after construction. Open excavations, even to shallow depths, may display rapid sidewall collapse / instability.
- Based on the results of the fieldwork undertaken during investigation, it is considered that this site is generally stable and suitable for the proposed development provided the recommendations provided in the geotechnical report are strictly adhered to.

Please refer to Appendix D3: Specialist Reports, Geotechnical Assessment dated December 2022.

2.5 Climate Change

Climate change is already a measurable reality and along with other developing countries, South Africa is especially vulnerable to its impacts. The National Climate Change Response Plan White Paper (2011) presents the South African Government’s vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society. South Africa’s response to climate change has the following two objectives:

- Effectively manage inevitable climate change impacts through interventions that build and sustain South Africa’s social, economic and environmental resilience and emergency response capacity.
- Make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.

This response is guided by the Draft Guideline for Consideration of Climate Change Implications in applications for Environmental Authorisations, Waste Management Licenses and Atmospheric Emission Licenses (2021).

It must be noted that the proposed development activity will most likely be impacted upon by climate change due to the following reasons:

- Sea level rise: According to Coast KZN database, the study site falls within a medium-term (50 year) risk category and is under “High Risk” in terms of the Coastal Vulnerability Index (SDP, 2022). Sites considered “high” risk are those that have an increased probability in terms of erosion, sea level rise and susceptibility to extreme events (Palmer et al. 2011).
- Warming ocean temperatures.
- Extreme weather conditions.

However, the impacts of climate change on the development may be avoided by means of the following measures:

- Implementation of the 6m development setback, ensuring no hard structures (concrete) are proposed within the setback.
- Once construction is complete, rehabilitation and landscaping must be undertaken with indigenous dune vegetation as recommended by a Landscape Architect.

2.6 Cultural / Historical Features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or paleontological sites, on or within 20m of the site?	YES	NO
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If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.		
Briefly explain the recommendations of the specialist:	<p>A Heritage Survey was undertaken by Umlando: Archaeological Surveys and Heritage Management in September 2022. As per the Heritage Assessment, an archaeological site (Ref:2931CA 044), was noted on the property. The site is a shell midden presumed to date to the Historical Period. The shell midden has not been disturbed since its recording and is the last intact shell midden for at least 2km to the north and south of the site. 2931CA 044 is considered to have medium significance. This midden requires test-pit excavations prior to construction and possibly on-site monitoring during construction.</p> <p>It must be noted that the test -pit excavations will be undertaken once a permit has been received from KZNARI. Please refer to Appendix D4: Specialist Reports, Heritage Survey dated September 2022.</p>	
Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO
If YES, please submit the necessary application to AMAFA and attach proof thereof to this report. This will be included in the Final BAR.		

2.7 Socio-economic Environment

Anticipated CAPEX value of the project on completion	This information will be included in the Final BAR.
Expected annual turnover to be generated by or as a result of the project	
New skilled employment opportunities created in the construction phase of the project	
New skilled employment opportunities created in the operational phase of the project	
New un-skilled employment opportunities created in the construction phase of the project	
New un-skilled employment opportunities created in the operational phase of the project	
Expected value of the employment opportunities during the operational and construction phase	

2.8 Surrounding Environment and Land Uses

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

Land use character	YES or NO		Description
Natural area	YES		The proposed site is located on Salmon Bay Beach, Ballito.
Low-density residential		NO	
Medium-density residential	YES		The site is located within a residential area and is surrounded by residential dwellings and small commercial businesses.
High density residential		NO	
Informal residential		NO	
Retail commercial & warehousing	YES		The site is located within a residential area and is surrounded by residential dwellings and small commercial businesses.
High Impact Industrial		NO	

Power station		NO	
Office/consulting room		NO	
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir		NO	
Hospital/Medical Centre		NO	The Netcare Alberlito Hospital is approximately 2.8km south west of the site.
School/ crèche	YES		The Little Rascals Pre-school is approximately 270m south west of the site.
Tertiary education facility		NO	
Church		NO	The All-Saints Catholic Church is approximately 1.8km from the site.
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	The N2 is approximately 1.2km south west of the site.
Airport		NO	The King Shaka International Airport is approximately 23km south west of the site.
Harbour		NO	
Sport facilities		NO	
Golf course		NO	House of Golf is approximately 1.2km from the site.
Polo fields		NO	
Filling station		NO	The Ballito Service Station (Ship Tech) is approximately 1.7km of the site.
Landfill or waste treatment site		NO	The Dolphin Coast Waste Management Depot is approximately 8.8km south west of the site.
Plantation		NO	
Agriculture		NO	
River, stream, or wetland		NO	The Tongati River is approximately 1.2km south west of the site and an NFEPA (Channelled valley bottom wetland) is approximately 11km of the site.
Nature conservation area		NO	
Mountain, hill, or ridge		NO	
Museum		NO	
Historical building		NO	
Protected Area		NO	
Graveyard		NO	
Archaeological site	YES		The HIA undertaken by Umlando (2022) noted a Shell Midden (Ref: 2931CA 044) on site. The shell midden is approximately 15cm to 30cm below the surface and varies from 5cm to 10cm in thickness and consists mostly of Perna Perna.
Other land uses (describe)		NO	

2.9 Nuisance Considerations

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES	<input checked="" type="checkbox"/>
If yes, what estimated quantity will be produced per month?	Approximately 50m ³	
How will the construction solid waste be disposed of? (describe)		
<p>❖ Waste hierarchy would be applied when managing construction waste. The first objective will be to reuse and recycle as much waste as possible and whatever cannot be reused or recycled will be disposed of at one of the registered licensed landfills.</p> <p>❖ Waste skips/bins will be provided throughout the working area with separate skips/bins made available for construction debris and solid waste. The waste will be recycled or reused whenever possible, and the rest disposed to the registered waste disposal site. Small amounts of hazardous waste such as discarded oil or grease may be generated on-site. Hazardous waste will be disposed of at an appropriately licensed and registered hazardous waste disposal facility. Waste management will be dealt with more extensively within the EMP for the relevant phases of the project.</p>		
Where will the construction solid waste be disposed of? (Provide details of landfill site)		
<p>❖ Solid Waste will be disposed of at a registered licensed landfill. The general waste produced will be disposed at the relevant registered Municipal waste facility. In the unlikely event that hazardous waste is produced, this will be disposed of at an appropriately licensed and registered hazardous waste disposal facility.</p>		
Will the activity produce solid waste during its operational phase?	<input checked="" type="checkbox"/>	NO
If yes, what estimated quantity would be produced per month?	N/A	
How will the solid waste be disposed of in the operational phase? (Provide details of landfill site)	N/A	
If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.		
Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	<input checked="" type="checkbox"/>	NO
If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.		
Is the activity that is being applied for a solid waste handling or treatment facility?	<input checked="" type="checkbox"/>	NO
If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.		

Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	<input checked="" type="checkbox"/>	NO
If yes, what estimated quantity will be produced per month?	N/A	
Will the activity produce any effluent that will be treated and/or disposed of on-site?	<input checked="" type="checkbox"/>	NO
If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.		
Will the activity produce effluent that will be treated and/or disposed of at another facility?	<input checked="" type="checkbox"/>	NO
If yes, provide the particulars of the facility: -	N/A	

Facility name:	N/A		
Contact person:	N/A		
Postal address:	N/A		
Postal code:	N/A		
Telephone:	N/A	Cell:	N/A
E-mail:	N/A	Fax:	N/A
Describe the measures that will be taken to ensure the optimal reuse or recycling of wastewater, if any:			

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	<input checked="" type="checkbox"/>	NO
If yes, is it controlled by any legislation of any sphere of government?	<input checked="" type="checkbox"/>	NO
If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.		
If no, describe the emissions in terms of type and concentration:		
<p>❖ Limited dust liberation and emissions during the construction phase due to the off-loading of construction materials, movement of construction vehicles and clearing. Emissions generated will be in the form of dust, carbon dioxide and other vehicle emissions generated by diesel-powered machinery and trucks during the construction process, i.e., tip trucks, TLBs and dust from the movement of the construction vehicles. These emissions will be composed primarily of CO₂ and will be of a low concentration. Also, proper maintenance of vehicles will mitigate high concentrated vehicle emissions. Dust generation can be mitigated by either water spraying and/or dust suppressants or by minimising the area that is cleared and re-vegetating exposed areas as quickly as possible. The speed of construction vehicles and other vehicles should be strictly controlled to avoid excessive dust generation.</p>		

Generation of noise

Will the activity generate noise?	YES	<input checked="" type="checkbox"/>
If yes, is it controlled by any legislation of any sphere of government?	YES	<input checked="" type="checkbox"/>
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.	N/A	
If no, describe the noise in terms of type and level:		
<p>❖ During the construction phase noise associated with normal construction activities, i.e., vehicles, generators and plant equipment will be used on the site. However, construction activities will as far as possible be limited to normal working hours.</p> <p>❖ Noise levels are to be kept within the legislated limits for the area, following the requirements of the relevant national and local noise control statutes and KwaDukuza Local Municipality By-laws.</p> <p>❖ Other noise disruptions could potentially be experienced during the construction phase through activities such as drilling. This will be a temporary disturbance and it the ambient noise generated is expected to be well below 85 dBA (Occupational Health and Safety Act, 1993; Environmental Regulations for Workplaces, 1987, Noise and Hearing Conservation from SABS 083-1983) at potential receptor sites.</p> <p>❖ Measures to minimise noise generation during construction are contained in the EMP.</p>		

SECTION 3: POLICY AND LEGISLATIVE FRAMEWORK

2014 NEMA EIA Regulations (as amended), appendix 1- 3(e) a description of the policy and legislative context within which the development is proposed including – (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 (ii)

3.1 Identification of All Legislation, Policies, Plans, Guidelines, Spatial Tools, Municipal Development Planning Frameworks and Instruments as per Section 3(e)(i) and Compliance of Proposed Activity with Legislation and Policy 3(e)(ii)

Legislation	Section	Relates to
The Constitution (No 108 of 1996)	Chapter 2	Bill of Rights.
	Section 24	Environmental rights.
National Environmental Management Act (No 107 of 1998 [as amended])	Section 2	Defines the strategic environmental management goals and objectives of the government. Applies throughout the Republic to the actions of all organs of state that may significantly affect the environment.
	Section 24	Provides for the prohibition, restriction and control of activities that are likely to have a detrimental effect on the environment.
	Section 28	The developer has a general duty to care for the environment and to institute such measures as may be needed to demonstrate such care.
	Section 30	Deals with the control of emergency incidents, including the different types of incidents, persons responsible for the incidents and reporting procedures to the relevant authority.
National Environmental Management: Waste Act (No 59 of 2008)		Provides specific waste management measures and the remediation of contaminated land.
		Regulations for waste management licensee activities
National Environmental Management: Biodiversity Act (No 10 of 2004) Threatened or protected species (GN 388) Lists of species that are threatened or protected (GN 389) Alien and invasive species regulations (GNR 506) Publication of exempted alien species (GNR 509) Publication of National list of invasive species (GNR 507) Publication of prohibited alien species (GNR 508)		Provides for the management and conservation of biodiversity, protection of species and ecosystems, and sustainable use of indigenous biological resources – provisions re alien and invasive species?
Conservation of Agricultural Resources		The objects of this Act are to provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land, by

Act, 1983 (Act No. 43 of 1983)		combating and preventing of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants. Section 5 details measures for the prohibition of the spreading of weeds.
National Environmental Management: Air Quality Act (No 39 of 2004)	Section 32	Control of dust
	Section 34	Control of noise
	Section 35	Control of offensive odours
National Heritage Resources Act (No 25 of 1999) and regulations	Section 34	No person may alter or demolish any structure or part of a structure that is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
	Section 35	No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface, or otherwise disturb any archaeological or paleontological site.
	Section 36	No person may, without a permit issued by the South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. "Grave" is widely defined in the Act to include the contents, headstone, or other markers of such a place, and any other structure on or associated with such place.
	Section 38	This section provides for Heritage Impact Assessments (HIAs), which are not already covered under the ECA. Where they are covered under the ECA, the provincial heritage resources authorities must be notified of a proposed project and must be consulted during the HIA process. The Heritage Impact Assessment (HIA) will be approved by the authorising body of the provincial directorate of environmental affairs, which is required to take the provincial heritage resources authorities' comments into account prior to making a decision on the HIA.
Occupational Health and Safety Act (No 85 of 1993)	Section 8	General duties of employers to their employees
	Section 9	General duties of employers and self-employed persons to persons other than their employees
National Water Act (No 36 of 1998) and regulations	Section 19	Prevention and remedying the effects of pollution
	Section 20	Control of emergency incidents
	Section 21	Licenses for water use
Hazardous Substances Act (No 15 of 1973) and regulations		Provides for the definition, classification, use, operation, modification, disposal or dumping of hazardous substances
National Veld & Forest Fire Act		Provides for a variety of institutions, methods, and practices to prevent and combat veld, forest, and mountain fires.
National Road Traffic Act (No 93 of 1996)		Provides for controlling transport of dangerous goods, hazardous substances, and general road safety
Spatial Planning and Land Use Management Act (No. 16 of 2013).		Provides the framework for spatial planning and land use management in South Africa at the different spheres of government and for the establishment, functions, and operations of Municipal Planning Tribunals.
Occupational Health and Safety Act (No 85 of 1993) and regulations		Addresses occupational health and safety aspects

SANS 10103 (Noise Regulations)		The measurement and rating of environmental noise with respect to annoyance and to speech communication
KwaZulu-Natal Planning and Development Act, (No. 6 of 2008);		Strategic spatial development intentions for the municipality based on the IDP and SDF, influenced by and in alignment with adjacent municipalities
KZN Nature Conservation Ordinance (Ordinance No. 15 of 1974)		Protected indigenous plants, in general, are controlled under the relevant provincial Ordinances or Acts dealing with nature conservation. In KwaZulu-Natal, the relevant statute is the 1974 Provincial Nature Conservation Ordinance. In terms of this Ordinance, a permit must be obtained from Ezemvelo KZN Wildlife to remove or destroy any plants listed in the Ordinance.
KwaZulu Natal Heritage Act (Act 4 of 2008)		To provide for the conservation, protection, and administration of both the physical and the living or intangible heritage resources of the Province of KwaZulu-Natal; to establish a statutory Council to administer heritage conservation in the Province.
Integrated Coastal Management Amendment Act (36 of 2014).		ICMA presents several principles that relate to sound coastal management practices. Principles applicable to the proposed activity include Chapter 7, Section 58, which stipulates the duty of care and remediation of environmental damage which includes the duty to avoid negative effects on the receiving environment. As such, this Act applies to any activity that has an adverse effect on the coastal environment.
National Forest Act (1998)		Where there is the “cutting, removal or disturbance” of designated forest or protected trees as determined, an application in terms of Section 7 of the National Forest Act is required.
National Climate Change Response Plan White Paper (2011)		The White Paper presents the South African Government’s vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society.

Table 9: Current Environmental Legislation

Regulations and Guidelines
Environmental Impact Assessment Regulations, 2014 (as amended).
Internal Guideline: Generic Water Use Authorisation Application Process, August 2007 by DWA.
The General Policy on Environmental Conservation (January 1994).
DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs (DEA), Pretoria, South Africa.
Department of Environmental Affairs (2017), Public Participation guideline in terms of NEMA EIA Regulations, Department of Environmental Affairs, Pretoria, South Africa.
Disaster Management Act (57/2002): Directions Regarding Measures to Address, Prevent and Combat the Spread of COVID-19 Relating to National Environmental Management Permits and Licences

Table 10: Current Municipal By-Laws

By-Laws
KwaDukuza Municipality: Land Use Scheme Bylaw, 2021
KwaDukuza Municipality: SPLUMA Bylaw Amendment, 2018
KwaDukuza Municipality: Parking Bylaw, 2018
KwaDukuza Municipality: Amendments to Rates Bylaw, 2004

SECTION 4: MOTIVATION, NEED AND DESIRABILITY

4.1 Need and Desirability as per Section 3(f)

KwaDukuza Municipality is one of the most prosperous municipalities and is a category B municipality and is one of the municipalities that fall under the iLembe District (Category C, DC 29 Municipality) in the KwaZulu-Natal Province. Covering an area of approximately 633km², the Municipality stretches from the Zinkwazi River in the north to the Tongati River in the south. KwaDukuza (formerly known as Stanger) is the district node and dominant commercial centre in the iLembe District.

The KwaDukuza study area includes a 50km stretch of coastline incorporating a range of sensitive coastal environments, a great number of unique river mouths and lagoons, and significant urban developments in the southern sections. The urban areas within the municipality include KwaDukuza (formerly known as Stanger), Shakaskraal, Blythdale and Ballito. These urban centres house high levels of infrastructural development, service development and social facilities to support the local population.

The main contributors to the KwaDukuza Municipality's local economy are agriculture, majority sugarcane farming and processing; light industry, including engineering, and manufacturing of paper and packaging; and tourism. The region boasts a number of seaside resorts and popular coastal towns for holiday making and recreation, including Ballito. The economy of KwaDukuza Municipality is dominated by primary and secondary sectors with a smaller portion from the tertiary sector, meaning the economy has a good balance of sectors.

As per the Integrated Development Plan (IDP) 2022/2023, the two major town centres, Ballito and KwaDukuza, offer mixed uses and walkability potential, however Ballito outperforms KwaDukuza in terms of it being an attractive 'destination venue' to live, work and play. It must be noted that the proposed development is in line with the Municipal Integrated Development Plan (2022/2023) in which economic development is a primary contributor to the Municipal overall development plans. The investment into the local economy by Balwin Properties will be beneficial as the site is currently vacant. The full potential of the site will be developed through the mixed-use development as it primarily located within a medium density residential zone. It must be further noted that the site is also located in close proximity to surrounding bed and breakfasts, beach accommodations and flat lettings which conforms to the overall zoning of the site.

The Ballito Hills project which received Environmental Authorisation in terms of NEMA EIA Regulations 2014 (as amended) in 2009 will serve to benefit from this development activity through the use of the key amenities (such as a restaurant, pool, dining area, kitchen and buffet bar) located on the ground floor. The Ballito Hills was identified as a "catalytic project" in terms of the Municipal IDP (2022/2023) and as such finds support in this development activity.

The Ballito area has further been identified as a "strategic focus area" which largely contributes to tourism and urban development (iLembe SDF, 2021). The proposed development also finds support in the KwaDukuza Municipality Low Carbon Emission Development Strategy (2016) which aligns with the National Development Plan which advocates that by 2030 our economy should have transited to low carbon by 30 percent.

4.2 Motivation for the Preferred Site, Activity and Technology as per Section 3(g)

The applicant, Balwin Properties, intends on establishing the proposed Ballito Beach Club which is a mixed use development comprising of a:

- Basement level with parking;
- Ground floor with entertainment facilities, including a restaurant, pool, timber deck, dining area, kitchen and buffet bar;
- First floor with entrance facilities, including a reception, meeting rooms, Offices and terrace bar;
- Second floor with four residential units.

The property has been rezoned from Residential Only Detached 6 (RODE 6) to Multipurpose Retail and Office (MPRO2) on the 14th of April 2021. No alternative types of activities were considered feasible as it's the applicants intention to establish the Ballito Beach Club which will solely service the residents of the Ballito Hills Estate, which is approximately 3km apart.

Alternative A1 is the preferred layout as its basement coverage (parking area) is 650m² which is much less as compared to Alternative A2 which is approximately 900m². Furthermore, the parking area for Alternative A1 does not extend into the 6m development setback, whereas the parking and storage area extends completely into the 6m development setback for Alternative A2. The timber deck which is approximately 80m² will be supported by timber columns. The timber columns will also be supported on reusable piles (screw piles) and will be located within the 6m development setback as indicated in Figure 9 and Figure 10. Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals as compared to a concrete structure such as the parking and storage areas as illustrated in Alternative A2.

The need for the proposed Ballito Beach Club must be evaluated in terms of the NEMA principles, inclusive of sustainable development, taking into consideration the current status of the environment, as well as socio-economic impacts. The motivation of support for the proposed development is as follows:

- The proposed development is in keeping with the surrounding land uses and is one of the few properties that is currently vacant along Salmon Bay.
- The domestic waste which was identified during the Geotechnical Assessment will remain on the property.
- Prior to construction, permits will be applied for, from the relevant authorities for the removal and relocation of the listed species identified by the specialist.
- Prior to construction, the heritage specialist will undertake further assessment via test pit excavations to determine if there are additional middens on site.
- A timber deck which will be supported by timber columns is proposed within the 6m development setback and will also be supported on reusable piles (screw piles). Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals and will not entail complete removal of the dune vegetation, located within the southern, mobile dune form.
- Once construction of the proposed Ballito Beach Club is complete, rehabilitation and landscaping will be undertaken with indigenous dune vegetation.
- The existing access to the beach will be utilised and no new access will be created.
- The Ballito Hills Estate which received Environmental Authorisation in 2009 will serve to benefit from this development through the use of the key amenities such as a restaurant, pool, dining area, kitchen and buffet bar. It must be noted that Ballito Hills was identified as a “catalytic project” in terms of the Municipal IDP (2022/2023).
- As per the Site Traffic Assessment, no adverse road safety conditions are expected to occur due to the increase in traffic by the proposed Beach Club.
- As per the Shadow Impact Assessment, it is clear that the influence of shadow arising from the development of the Ballito Beach Club is of little significance. During the winter, it is apparent that shadows cast from other natural and man-made features landward of the site have far greater significance than anticipated through the modelled evaluation. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the shade impact of negligible significance.

SECTION 5: PUBLIC PARTICIPATION

5.1 Notification of Interested and Affected Parties (I&APs)

- (a) *fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of—*
- (i) *the site where the activity to which the application or proposed application relates is or is to be undertaken; and*
 - (ii) *any alternative site;*

Four site notices were placed on the 14th of October 2022. The noticeboard detailed the proposed activity, notifying the surrounding communities, as well as inviting potential Stakeholders and I&APs to register. Refer to Appendix E2 for proof of placement of the site notice boards.

- (b) *giving written notice, in any of the manners provided for in section 47D of the Act, to—*
- (i) *the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;*
 - (ii) *owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;*
 - (iii) *the municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area;*
 - (iv) *the municipality which has jurisdiction in the area;*
 - (v) *any organ of state having jurisdiction in respect of any aspect of the activity; and*
 - (vi) *any other party as required by the competent authority;*

Stakeholders and I&APs were notified about the Environmental Process, through the distribution of the Background Information Document (BID), which was done on the 14th October 2022. Physical copies of the BID's were also distributed on the 14th October 2022.

- (c) placing an advertisement in—
- I. one local newspaper; or
 - II. any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in paragraph (c)(ii);

An advert was placed in the North Coast Rising Sun on the 10th of March 2023, which provided information on the project scope of works, location, dates for the review of the draft Basic Assessment Report, details of EAP as well as requested for potential I&APs to register themselves in order to get further information on the project and the EIA process. (Relevant proof is attached as Appendix E4).

Stakeholder Engagements

Stakeholder engagement will continue throughout the Basic Assessment process.

Public Review of the Basic Assessment Report

The First Draft Basic Assessment Report inclusive of specialist reports and Environmental Management Programme (EMPr) went out for public comment from the 10th of March – 17th April 2023. The documents were made available on the Wallace and Green website: www.wallaceandgreen.co.za or could have been made available electronically upon request. Provision was made for Stakeholders that required hardcopies of the First Draft Basic Assessment Report.

5.2 Authority Notification

The Pre-Application meeting with the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA), was undertaken on the 19th of October 2022 at 10h30 at the Ballito Hills Club House, prior to the submission of the First Draft BAR. **Please refer to Appendix J1 – EDTEA Pre-application Minutes of Meeting.**

5.3 Registered Interested and Affected Parties

A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of—

- (a) all persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;
- (b) all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and
- (c) all organs of state which have jurisdiction in respect of the activity to which the application relates.

The contact details of all I&APs that have registered will be included in the Final Basic Assessment Report.

5.4 Comments and Responses Report

- (1) The applicant must ensure that the comments of interested and affected parties are recorded in reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.
- (2) Where a person desires but is unable to access written comments as contemplated in sub-regulation due to -
 - (a) a lack of skills to read or write;
 - (b) disability; or
 - (c) any other disadvantage;
 - (d) reasonable alternative methods of recording comments must be provided for.

❖ **All concerns, comments, viewpoints and questions (collectively referred to as 'issues') will be documented and responded to adequately in a Comment and Response Report and attached in the Final Basic Assessment Report.**

SECTION 6: IMPACT ASSESSMENT

6.1 Methodology to Determine and Rank Significance and Consequences of Impacts Associated with all Alternative as per Section 3(h)(vi)

2014 NEMA EIA Regulations (As Amended), Appendix 1- 3(H) (vi) the methodology used in determining and ranking the nature, significance, consequence, extent, duration and probability of potential environmental impacts and risks associated with the alternatives, (v) the impacts 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 can be reversed, may cause irreplaceable loss of resources and can be avoided, managed and mitigated. Appendix 1- 3 (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- (i)- (ii). Appendix 1- 3 (J) an assessment of each identified potentially significant impact and risk (i)- (vii)

Scoring of Impacts	
Consequence	
Severity	1 – Insignificant / Non-harmful 2 – Small / Potentially harmful 3 – Significant / Slightly harmful 4 – Great / Harmful 5 – Disastrous / Extremely harmful
Duration	1 – Up to 1 month 2 – 1 month to 3 months 3 – 3 months to 1 year 4 – 1 to 10 years 5 – Beyond 10 years / Permanent
Spatial Scale	1 – Immediate, fully contained area 2 – Surrounding area 3 – Within business unit area or responsibility 4 – Within mining boundary area / Beyond BU boundary 5 – Regional, National, International
Overall Consequence = (Severity + Duration + Extent) / 3	
Likelihood	
Frequency of the Activity	1 – Once a year or once / more during operation / LOM 2 – Once / more in 6 months 3 – Once / more a month 4 – Once / more a week 5 – Daily / hourly
Probability of the Incident / Impact	1 – Almost never / almost impossible 2 – Very seldom / highly unlikely 3 – Infrequent / unlikely / seldom 4 – Often / regularly / likely / possible 5 – Daily / highly likely / definitely
Overall Likelihood = (Frequency + Probability) / 2	
Overall Environmental Significance = Overall Consequence * Overall Likelihood	
Overall Environmental Significance	
0 - 2.9	Very Low
3 - 4.9	Low
5 - 6.9	Medium - Low
7 - 8.9	Medium
9 - 10.9	Medium - High

6.2 Impacts that may result from the Planning and Design, Construction, Operational, Decommissioning and Closure Phases as well as Proposed Management of Identified Impacts and Proposed Mitigation Measures

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities.

Refer to Impact Assessment Matrix- Appendix F

6.3 Environmental Impact Statement as per Section 3(l)

Alternative S1 (preferred site) and Alternative A1 (preferred alternative)

The Basic Assessment considered relevant environmental aspects and impacts from the proposed development and proposed mitigation during the planning, construction and operational phases. The proposed site (S1) and layout alternative (A1) is recommended based on the following:

The applicant, Balwin Properties, intends on establishing the proposed Ballito Beach Club which is a mixed use development comprising of a:

- *Basement level with parking;*
- *Ground floor with entertainment facilities, including a restaurant, pool, timber deck, dining area, kitchen and buffet bar;*
- *First floor with entrance facilities, including a reception, meeting rooms, Offices and terrace bar;*
- *Second floor with four residential units.*

The property has been rezoned from Residential Only Detached 6 (RODE 6) to Multipurpose Retail and Office (MPRO2) on the 14th of April 2021. No alternative types of activities were considered feasible as it's the applicants intention to establish the Ballito Beach Club which will solely service the residents of the Ballito Hills Estate, which is approximately 3km apart.

Alternative A1 is the preferred layout as its basement coverage (parking area) is 650m² which is much less as compared to Alternative A2 which is approximately 900m². Furthermore, the parking area for Alternative A1 does not extend into the 6m development setback, whereas the parking and storage area extends completely into the 6m development setback for Alternative A2. The timber deck which is approximately 80m² will be supported by timber columns. The timber columns will also be supported on reusable piles (screw piles) and will be located within the 6m development setback as indicated in Figure 9 and Figure 10. Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals as compared to a concrete structure such as the parking and storage areas as illustrated in Alternative A2.

❖ *Planning Phase – Short Term Duration*

- *Potential environmental impacts were identified and addressed during the Basic Assessment process.*
- *The EMPr incorporates the layout and Specialist recommendations to ensure that positive impacts be maximised, and negative impacts are prevented or minimised.*
- *Loss of fauna and flora and impact to local hydrology is considered to be a Low impact due to the transformed and manipulated state of the site.*
- *The creation of Temporary and Permanent Employment opportunities for the local community is considered a High-Positive impact.*

- *Optimisation of Socio-Economic integration and benefits associated with the proposed development is considered a High-Positive impact.*
- *Working Opportunities for Permanent and Temporary skilled employment are considered a High-Positive impact.*
- *Ecological Pollution and/or Degradation can be mitigated from a High to Low impact, where planning from Engineers takes cognisance and responsibility to preserve the natural environment.*

❖ **Construction Phase – Short Term Duration**

- *Loss of Indigenous Species and Species of Special Concern (SCC) is considered to be very Low impact, as no SCC were identified onsite by the Ecologist.*
- *Removal of Alien Invasive Plant Species (AIP's) that establish is considered a High-Positive impact with regular maintenance and monitoring of the site.*
- *The risk to human H&S due to open excavations and the moving of construction machinery can be mitigated from a Medium – High Impact to Very Low by implementing guidelines and regulations of the OHS Act/regulations for construction and EMP commitments.*
- *Possible spillage of Hazardous materials onto surfaces during usage and inadequate storage can be mitigated from Medium-High to Low impact, with the appropriate handling, storage and disposal measures for material and waste.*
- *Contamination of soils, surface and groundwater from spillages, leakages and incorrect storage can be mitigated from Medium to Low impact by ensuring the use of drip trays during the storage of hydrocarbon containers and servicing of Machinery.*
- *The creation of temporary and permanent employment is considered a High Positive impact.*

❖ **Operation/Rehabilitation Phase – Long Term Duration**

- *An increase in the number of Indigenous Vegetation occurring onsite is considered a High Positive Impact.*
- *Improved resistance and increased number of indigenous vegetation is considered a High Positive impact.*
- *The definitive impacts associated with improved social, environmental and economic opportunities through the provision of additional permanent employment opportunities are all considered High Positive impacts.*
- *Pollution of surface water and riparian systems can be mitigated from a High to Low impact, as there are no watercourses on site.*
- *The Shadow Impact is considered negligible.*
- *The additional traffic on Compensation Road is considered a low impact.*
- *The Local Municipality would benefit via the proponent's contribution in rates and taxes owing to amenities provided for as part of the Ballito Beach Club.*

Alternative S2 (Not Applicable)

Alternative A2 (Not Supported)

The Basic Assessment considered relevant environmental aspects and impacts from the proposed development and proposed mitigation during the planning, construction, and operational phases.

Planning Phase – Short Term Duration

- *Potential environmental impacts were identified and addressed during the Basic Assessment process.*
- *The layout did not consider the 6m development setback and proposes a parking area within the entire setback therefore this is considered a very high impact.*
- *Loss of fauna and flora and impact to local hydrology is considered to be a Low impact due to the transformed and manipulated state of the site.*
- *The creation of Temporary and Permanent Employment opportunities for the local community is considered a High-Positive impact.*
- *Optimisation of Socio-Economic integration and benefits associated with the proposed development is considered a High-Positive impact.*
- *Working Opportunities for Permanent and Temporary skilled employment are considered a High-Positive impact.*
- *Ecological Pollution and/or Degradation can be mitigated from a High to Low impact, where planning from Engineers takes cognisance and responsibility to preserve the natural environment.*

Implementation of Alternative A2 is not preferred as Alternative A2 extends completely into the 6m development setback. As per the specialist, it is clear that the proposed structure, lies within the sand sharing system and will therefore likely be affected by shifts in the dynamism of the sand sharing system and in turn alter the state of the system under certain situations. It is evident that the 6m development setback was not taken into consideration for this particular layout.

No-go alternative (compulsory)

The no-go alternative implies that the status quo remains, and that the proposed Ballito Beach Club will not be established. The property will remain vacant and will possibly be vulnerable to illegal dumping.

*From an environmental perspective, if the “no go” alternative is applied, vegetation within the site which comprises primarily of early seral and secondary psammoserai dune species including *Chrysanthemoides monilifera*, *Strelitzia Nicolai*, *Gazania rigens*, and *Clerodendrum glabrum*. *C monilifera* will remain untouched. Listed species which include the *Aloe thraskii*, *Aloe arborescens* and *Mimusops caffra* will not require permits for removal and relocation. Furthermore, there will be no development within the sand sharing system/6m development setback. It's also important to note, that should this development not go ahead, the domestic waste which was identified during the Geotechnical Assessment will remain on the property.*

From an economic and social perspective, if the development is not realised, potential temporary and permanent employment opportunities will not be realised and will not contribute to the general economic development of the area. The Ballito Beach Club as indicated previously will solely serve the residents of the Ballito Hills Estate, which is another development of Balwin Properties. Should the proposed development not go ahead, the local authority will also lose revenue in the form of rates from the property.

The need for the proposed Ballito Beach Club must be evaluated in terms of the NEMA principles, inclusive of sustainable development, taking into consideration the current status of the environment, as well as socio-economic impacts as mentioned above. The no-development option is not supported reason being:

- ***The proposed development is in keeping with the surrounding land uses and is one of the few properties that is currently vacant along Salmon Bay.***
- ***The domestic waste which was identified during the Geotechnical Assessment will remain on the property.***
- ***Prior to construction, permits will be applied for, from the relevant authorities for the removal and relocation of the listed species identified by the specialist.***
- ***Prior to construction, the heritage specialist will undertake further assessment via test pit excavations to determine if there are additional middens on site.***
- ***A timber deck which will be supported by timber columns is proposed within the 6m development setback and will also be supported on reusable piles (screw piles). Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals and will not entail complete removal of the dune vegetation, located within the southern, mobile dune form.***
- ***Once construction of the proposed Ballito Beach Club is complete, rehabilitation and landscaping will be undertaken with indigenous dune vegetation.***
- ***The existing access to the beach will be utilised and no new access will be created.***
- ***The Ballito Hills Estate which received Environmental Authorisation in 2009 will serve to benefit from this development through the use of the key amenities such as a restaurant, pool, dining area, kitchen and buffet bar. It must be noted that Ballito Hills was identified as a “catalytic project” in terms of the Municipal IDP (2022/2023).***
- ***As per the Site Traffic Assessment, no adverse road safety conditions are expected to occur due to the increase in traffic by the proposed Beach Club.***
- ***As per the Shadow Impact Assessment, it is clear that the influence of shadow arising from the development of the Ballito Beach Club is of little significance. During the winter, it is apparent that shadows cast from other natural and man-made features landward of the site have far greater significance than anticipated through the modelled evaluation. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the shade impact of negligible significance.***

6.4 Impact Management Measures from Specialist Reports for the Development for Inclusion in the EMPr as per Section 3(m)

2014 NEMA EIA Regulations (as amended), Appendix 1- 3(M) based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management outcomes for the development for inclusion in the EMPr

The following outcomes must be considered for this project:

- To encourage sustainable development in an environment that is healthy, suitable and sustainable for years to come.
- All construction work must comply with the conditions of the relevant authorisations and licences.
- The implementation of the environmental management plan and environmental management on-site.
- Environmental impacts are minimised through effective awareness and training for all construction staff, including sub-contractors, service providers and suppliers.
- Environmental impacts are minimised in and surrounding the construction area.

- To avoid, prevent and manage any stormwater impacts.
- Impacts on flora and fauna are minimised through adherence of the EMPr requirements.
- Impacts resulting from earthworks are managed and guided by specifications and material sourced from authorised sites.
- Vegetation clearance and associated impacts are minimised through adherence of EMPr vegetation clearance requirements.
- Impacts to the soil, surface water and groundwater resources are avoided or minimised through the implementation of management actions.
- All precautions are taken where possible to minimise the risk of injury or harm.
- Geotechnical Assessment: Groundwater seepage was not observed to depths investigated. An intermittent perched groundwater condition however may develop during and after periods of rainfall. An allowance should be made for the potential intermittent perched groundwater condition during the design and construction phase of the development.
- Geotechnical Assessment: Workers should not enter any excavations deeper than 1.5m that are not shored or battered back.
- Geotechnical Assessment: Earthworks and drainage measures should be designed in such a way as to prevent ponding or high concentrations of stormwater or groundwater anywhere on site, both during and after the development.
- Heritage Survey: Inclusion of a Chance Find Protocol.
- Terrestrial and Coastal Dynamics Assessment: Due to the risk associated with development of the site too close to the seashore, a calculated 8m (11amsl) set back from the south-eastern boundary was recommended. However, this set back was not achievable from a design perspective and so a 6m setback has been incorporated. Such a setback is considered sufficient given the variable factors that are inherent in the setback calculation and the uncertainty surrounding the rates of erosion and other variables affecting the coastline. Additional engineering interventions (such as the use of stilts) must be considered to safeguard the structure under sea level rise and storm conditions. The 6m set back should allow for the positioning of structures outside of the sand sharing system and has also considered the establishment of a suitable angle of repose using the present dune profile.
- Terrestrial and Coastal Dynamics Assessment: The development setback should ensure built structures are placed landward of the sandy aeolian deposits which have been identified as being indicative of the upper extent of the sand sharing system
- Terrestrial and Coastal Dynamics Assessment: Stormwater disposal systems should be connected to the municipal system lying to the north of the site on Tedder Way. Direct discharge of stormwater towards the beach should not be instituted. However, it is strongly recommended that on site measures to decelerate flows from roof tops and other hard surfaces be established on the property.
- Terrestrial and Coastal Dynamics Assessment: Other environmental management controls that require consideration on the site is the removal of exotic vegetation which may establish following the construction of the development. In addition, all specimens of listed Aloe spp. should be translocated. Landscaping of the dune, seaward of the development, should be kept to a minimum and should be restricted to indigenous dune vegetation. In addition, the use of external lighting should be confined to areas around the built structures. Specifically, spotlights directed onto the beach should be avoided.

6.5 Assumptions, Uncertainties and Gaps in Knowledge relating to the Assessment and Mitigation Measures Proposed as per Section 3(o)

The information in this report is based on the findings of several specialists' studies. The layouts and engineering drawings have been provided to the EAP by the architect and engineer. The following assumptions and limitations relating to this assessment were identified:

- Geotechnical: The conclusion in the report are based on interpolation and extrapolation of shallow subsurface conditions encountered at the field test locations. The actual subsurface conditions at unexplored locations may be different.
- Terrestrial and Coastal Dynamics Assessment: Beach geomorphology is affected by several dynamic processes such as waves, tides and currents that act to shape the beach and dune environments. As such, a coastal impact assessment requires the consideration of numerous, complex factors. Management measures have been suggested using the current available data and should be open to re-evaluation, as the coastline changes under varying scenarios.

6.6 Period for which Authorisation is required, Proposed Monitoring and Auditing and Post Construction Requirements as per Section 3(q)

2014 NEMA EIA Regulations (As Amended), Appendix 1- 3(Q) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post-construction monitoring requirements finalised.

Based on the time required for the applicant to undertake all necessary planning processes governing the establishment of the Ballito Beach Club; an estimated construction period of four years, and rehabilitation and post-construction monitoring period of one year, it is recommended that the environmental authorisation is granted for a period of five years.

Given the nature of this project, internal environmental audits of the activity and implementation of the EMPr will be undertaken by the ECO. The findings and outcomes of these audits will be recorded in the ECO Reports and filed in the Environmental file. The environmental audits and associated reports must be conducted and submitted to the CA at intervals as indicated in the EA.

The ECOs must prepare an Environmental Assessment Report. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting, and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the EA, the holder of the EA must submit the monthly reports to the CA in terms of NEMA.

The EMPr (**Appendix G**) details the post-construction, rehabilitation, and closure, which will be monitored by the ECO and compliance authorities. One post-construction audit should be conducted once construction is complete. Thereafter an annual audit should be conducted for two years in order to ensure that the post-construction and rehabilitation outcomes have been achieved.

6.7 Financial Provisions as per Section 3(s)

2014 NEMA EIA Regulations (as amended), Appendix 1- 3(S) where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.

Not Applicable.

6.8 EAP's Opinion on whether or not to Authorise the Activity and Recommendations & Conditions for Authorisation as per Section 3(n) and (p)

2014 NEMA EIA Regulations (as amended), Appendix 1- 3(N) any aspects which were conditional to the findings of the assessment either by EAP or specialist which are to be included as conditions of authorisation and (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 respect of that authorisation.

It is the opinion of the EAP, that the proposed development be approved as:

- The proposed development is in keeping with the surrounding land uses and is one of the few properties that is currently vacant along the coast.
- The domestic waste which was identified during the Geotechnical Assessment will be removed during construction.
- Prior to construction, permits will be applied for, from the relevant authorities for the removal and relocation of the listed species.
- Prior to construction, the heritage specialist will undertake further assessment via test pit excavations to determine if there are further middens on site.
- A timber deck which will be supported by timber columns is proposed within the 6m development setback and will also be supported on reusable piles (screw piles). Despite the columns been placed within the 6m development setback, it will have a less impact on the dunes as it will be placed at certain intervals and will not entail complete removal of the dune vegetation, located within the southern, mobile dune form.
- Once construction is complete, rehabilitation and landscaping will be undertaken with indigenous dune vegetation.
- The existing access to the beach will be utilised and no new access will be created.
- The Ballito Hills Estate which received Environmental Authorisation in 2009 will serve to benefit from this development through the use of the key amenities such as a restaurant, pool, dining area, kitchen and buffet bar. It must be noted that Ballito Hills was identified as a "catalytic project" in terms of the Municipal IDP (2022/2023).
- As per the Site Traffic Assessment, no adverse road safety conditions are expected to occur due to the increase in traffic by the proposed Beach Club.
- As per the Shadow Impact Assessment, it is clear that the influence of shadow arising from the development of the Ballito Beach Club is of little significance. During the winter, it is apparent that shadows cast from other natural and man-made features landward of the site have far greater significance than anticipated through the modelled evaluation. In addition, it is also evident that the habitats that may be affected by such shadow are highly transformed in nature or subject to other externalities that would render the shade impact of negligible significance.

It is the EAP's considered opinion that the activity for which environmental authorisation is being sought, is authorised provided that it is undertaken in accordance with the preferred layout (Alternative A1) on the preferred site (Alternative S1), subject to the following conditions:

Properties and Infrastructure:

- Signage must be placed prior to the commencement of construction to make the community aware of the upcoming activities.
- The engineer must identify any existing infrastructure services that may be affected prior to commencement of construction.
- Any structures that are required to be removed must be replaced, and any damage incurred must be repaired.

Waste Management, Storage Areas:

- The Contractor must ensure that all litter is collected from the work and camp areas daily.
- All hazardous substances must be stored within a secured storage area, with impervious lining and bunding. Drip trays must be used where suitable.
- The mixing of concrete must be done on plastic sheeting, mortar boards or similar structures to prevent the risk of run-off.
- Chemical toilets must be used as ablution facilities during the construction period by all contractors.

Traffic and Construction Vehicles:

- Appropriate safety signage must be used to cordon off construction areas.
- Construction vehicles must adhere to speed limits.
- Access to the site for site establishment and construction activities must be planned from the existing access routes.

Dust and Erosion Control:

- The liberation of dust into the surrounding environment must be effectively controlled by the use of water sprays, water carts, fabric containment or curtains, where required.
- Suitable erosion control measures must be implemented in areas sensitive to erosion, i.e., stormwater discharge points, exposed areas and embankments.
- All exposed surfaces must be re-vegetated and stabilised as soon as is practically possible.

Permits:

- Prior to construction, permits must be applied for, from the relevant authorities for the removal and relocation of the listed species.
- Prior to heritage specialist undertaking further assessment via test pit excavations, a permit must be attained from KZNARI.

Monitoring and Auditing:

- The EMPr (**Appendix G**) and conditions thereto should be adhered to.
- An ECO must be appointed and all contractor staff to be trained on the EMPr and Environmental Authorisation requirements prior to commencement of activities.
- Environmental monitoring and auditing shall be undertaken by the Independent ECO on a frequency as to be determined by the competent authority.