

KEURBOOMSTRAND

Architectural Guidelines

For Erf 155, Keurboomstrand

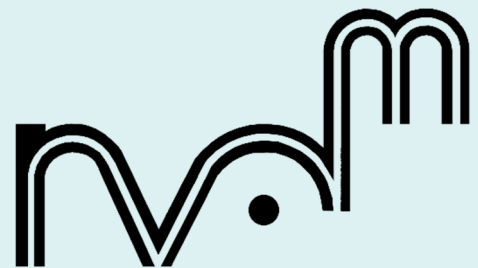
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Revision 0

Prepared by: **Rust van der Merwe**

For: **Bluepebble CC**

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ARCHITECTURAL GUIDELINES

For the

PROPOSED DEVELOPMENT AT KEURBOOMSTRAND

On Erf 155, Keurboomstrand

Submitted to:

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Reference:	Van der Merwe, R. (2021). Architectural Guidelines for the Proposed Development Erf 155, Keurboomstrand, Cape Town.

Declaration and Statement of Independence

Statement of Independence and Disclaimer

The author hereby declares that they act as an independent specialist in this matter and will perform the work relating to the matter in an objective manner, even if this results in views and findings that are not favourable to interested parties. Neither RVDM Architects, nor any of the authors of this report have any material present or contingent interest in the outcome of this Project, nor do they have any pecuniary or other interest that could be reasonably regarded as affecting their independence or that of RVDM Architects. RVDM Architects has no beneficial interest in the outcome of these guidelines which is capable of affecting its independence, and it should be noted that RVDM Architects does not have any interests in secondary or downstream applications that may arise from the granting of the application and proposed development.

The opinions, views and findings contained in these guidelines are based on the information supplied to RVDM Architects by the Client and project professional team. The author has exercised all due care and diligence in reviewing the project information supplied at the time of the writing of this report, however conclusions from the review remain reliant on the accuracy and completeness of the data and project information supplied. RVDM Architects cannot accept responsibility for errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting therefrom. RVDM Architects accepts no liability or responsibility whatsoever in respect of any use of or reliance upon this report by any third party. The findings of this report are based on the site conditions and receiving environment features as they existed at the time of investigation and writing, and those that are reasonably foreseeable, to the exclusion of conditions and features that present after the date of such site investigations and this report.

Experience and Compliance

Rust van der Merwe, the report author, has been appointed to prepare this Architectural Guidelines, and has expertise in conducting these guidelines relevant to this matter, including knowledge of regulations and guidelines that have relevance to the proposed development. He is a professional architect who is registered with the South African Council for Architectural Professionals (SACAP) and a member of South African Institute of Architects (SAIA). RVDM Architects and its representatives will comply with the appropriate Acts, regulations and all other applicable legislation, undertaking to disclose to interested parties and the competent authority (CA) all material information in his possession that reasonably has or may have the potential of influencing any decision to be taken with respect to these matters by the CA; and the objectivity of any guideline, plan or document to be prepared by him for submission to the CA.

Declaration

This specialist report has been prepared for Bluepebble CC and is subject to and issued in accordance with the agreement between these parties. The author herewith confirms the correctness of the information provided in this report, including supporting documents and reports.

Rust van der Merwe
Professional Architect

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DRAFT

1. INTRODUCTION

RVDM Architects was appointed to prepare Architectural Guidelines for the proposed development at Keurboomstrand in the Bitou Municipality, Western Cape. The proposal is to subdivide and rezone Erf155 from Open Space Zone II to Residential Zone II to enable the development of private grouped dwelling houses.

A Visual Impact Assessment (VIA) was conducted by Fillia Visual and RVDM Architects as independent specialist. For the purpose of the VIA report, a study was conducted with regards to the legal framework, the subject site and its greater receiving context in order to assess and determine the impact and limitation of the proposed development. The site visits and analysis were conducted together in February 2021 and the outcomes of our study was conducted in a shared manner. Thus, for the purpose of these guidelines, the same investigation and study with regards to the legal framework, the subject site and greater receiving environment will be used and implemented in this document.

2. THE REPORT

2.1 Background and Purpose of this report

The purpose of these guidelines is to inform the client, Architect and builders of the aesthetic, building and landscaping requirements for the proposed development information relating to the design approach to be followed in order to provide an appropriate environmental, site, contextual and visual response for the building and structures to be erected on the site and any alterations and additions thereto.

2.2 Aim and Objective

The development of these architectural guidelines is to create a site which reflects and celebrates the contextual character of the surrounding built environment (sense of place) and the natural environment in response to climate and the environment whilst embracing the use of construction materials in their raw and natural form. The objective of the guidelines is to achieve the following:

- To create an aesthetically appealing built environment whilst preserving the character and sense of place of the Keurboomstrand town.
- To ensure the integration of Keurboomstrand with its immediate environment as well as the larger Plettenberg Bay area surrounding it.
- Ensure that buildings are energy efficient (construction and operational), thereby ensuring that the overall carbon footprint of the site is limited and kept to a minimum.
- Ensure harmonious and attractive landscape through attention to the exterior detail and architectural language of the dwellings.
- Mitigate possible negative impacts of buildings on the adjoining properties.

The primary function of these guidelines is to ensure that the value of the site and buildings therein is preserved and enhanced while still allowing the dwelling user to express their personal needs and preferences within the overall aesthetic framework and guidelines.

2.3 Information available and referenced in this report

The following documents made available by the client and project team were used as source reference material.

- Motivation Report: Motivation in support of Land Development Application for Erf 155, Keurboomstrand (October 2020) provided by Viridus Works;

- Topocadastral survey of the project site and Slope Analysis (Drawing No.: KB155SUB/1) provided by Beacon Survey (2020);
- Update to the Topocadastral survey of the project site and Slope Analysis (Drawing No.: J000_Erf 155_Keurboomstrand - New Road Servitude)
- Vegetation and Sensitivity map provided by Blue Sky Mapping (Mr. Jamie Pote, 2020) in .jpeg and .kmz;
- Record of the October 2020 correspondence requesting the VIA: Email with Subject line 27-10-2020 - Erf 155 KB - Application Incomplete - Provide Add Info send by Marius Buskes, Town Planner, Bitou Municipality.
- Geotechnical Report Cover Letter: RE: Geotechnical Investigations for the proposed residential development on Portion of remainder of Erf 155, Keurboomstrand provided by Outeniqua Geotechnical Services.
- Geotechnical Report of the project site provided by Outeniqua Geotechnical Services.
- VIA Report for Erf 155, Keurboomstrand. Dated: 26-03-2021 (Smit & van der Merwe, 2021)

2.4 Legal Framework: Applicable Legislation, Policies and/or Guidelines

It is essential to consider the policy and legislative context within which the development is proposed. This includes all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to the property, the activity, and the proposal. The following relevant policies, guidelines and legislation have been considered in the assessment process:

National

- National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) EIA Regulations
- National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008).
- The NEMA Protected Areas Act (57 of 2003)
- National Heritage Resources Act (Act 25 of 1999) (NHRA)
- South African National Standards (SANS)
- National Building Regulations (NBR)
- Spatial Planning and Land Use Management Act, 2013 (SPLUMA)

Provincial

- Western Cape Department of Environmental Affairs & Development Planning: Guideline for Involving Visual and Aesthetic Specialists in EIA Processes Edition 1 (CSIR, 2005)
- Western Cape Provincial Spatial Development Framework, 2014 (PSDF), incl. the PSDF Chapter 4 Amendment (2020)
- Western Cape Land Use Planning Act (Act 3 of 2014) (LUPA, and LUPA Regulations)
- Western Cape PSDF Heritage and Scenic Resources: Inventory and Policy Framework (2013)
- Western Cape Biodiversity Spatial Plan (2017)
- Western Cape Government Provincial Strategic Plan (PSP)
- Coastal Management Lines for Eden District: Project Report (March 2018)

Regional and Municipal

- Bitou Municipal Spatial Development Framework, 2019 (MSDF)
- Eden District Spatial Development Framework, 2017 (EDSDF)
- Garden Route Integrated Development Plan, 2020-2021 (IDP)

- Bitou Municipality Revised Integrated Development Plan (IDP) 2012/2017, revised 2017/2022
- Bitou Local Municipality Zoning Scheme By-Law Draft 2020
- Bitou Local Municipality Spatial Development Framework (SDF) May 2013, revised Nov 2019
- Keurbooms and Environs Local Area Spatial Plan (LASP) 2013

3. THE CONTEXTUAL CHARACTER AND SENSE OF PLACE

3.1 The Location

The site is located in Keurboomstrand, a resort town near Plettenberg Bay in the Western Cape, under the jurisdiction of the Bitou Municipality. The receiving environment is very diverse, and is described both in terms of the greater contextual area, and at the local scale of Keurboomstrand which is unique in the receiving environment.

3.2 The Greater Context

3.2.1 The Greater Receiving Environment

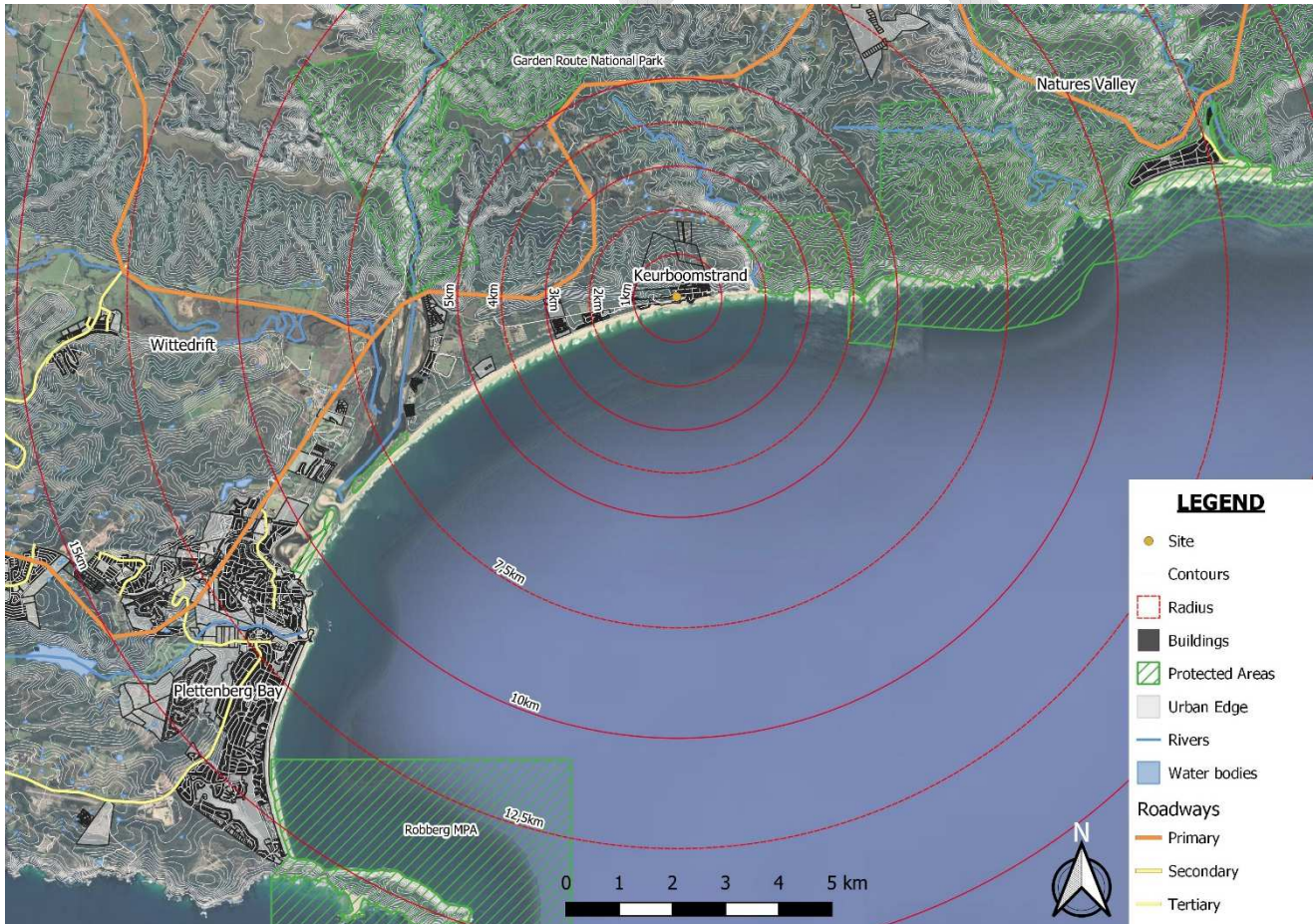


Figure 1: Context Map of Plettenberg Bay and Keurboomstrand (Van der Merwe, 2021).

The project is located within Plettenberg Bay, which is part of the Bitou Municipal area in the Eden District of the Western Cape. Plettenberg bay is typical of the crenulate bays in the Eden District, with exposed rock headlands, long sandy beaches and estuaries. The Cape Fold Mountains (the Outeniqua range) are a ubiquitous presence in the region, their marches delineating the extent of the famous Garden Route between the mountains and the

coast. Major and minor river valleys extend across the inland plateau where the mountainous topography (generally covered by natural and commercial forest) gives way to a coastal corridor of undulating coastal plains, rocky headlands, flood plains, estuaries and sandy beaches at the coast.

The study area is well connected to neighbouring coastal towns via the N2 freeway, which is a major structuring element and mobility route through the municipality in the area, having given rise over time to numerous settlements along the coastline. The region experiences increasing pressure for urban expansion, expressed mostly in and around the town of Plettenberg Bay, the local major urban center providing higher order medical, educational, commercial and administrative services. Nearby towns include Plettenberg Bay (approximately 10km south west), Nature's Valley (10km east), The Crags & Kurland (7km north east) and Wittedrift (11km west). Knysna is about 40km west, and the border of the Eastern Cape is situated a little less than 20km to the east (all measurements taken from the center of the study area - the project site itself).



Figure 2: Site photograph of the N2 freeway just before the Keurboomstrand access road turnoff (left), demonstrating the typical inland topography and vegetation cover (Smit, 2021)

The series of estuaries, lakes and forests of the Garden Route are considered to have high scenic value, most notably from Mossel Bay onward, extending to Nature's Valley and beyond, into the Eastern Cape. Plettenberg Bay's southern bay coastal area is heavily developed containing the town of Plettenberg Bay, whereas the northern part of the bay is largely undeveloped apart from several hotel complexes and the village of Keurboomstrand at its northern end. The rocky coast east of Keurboomstrand continues for a further 8km to the western end of Nature's Valley. The coastline within the receiving environment has a number of important archaeological sites, two such heritage and scenic resources with formal protection being the Robberg Peninsula and Matjies River Cave (both Provincial Heritage sites (PHS)).

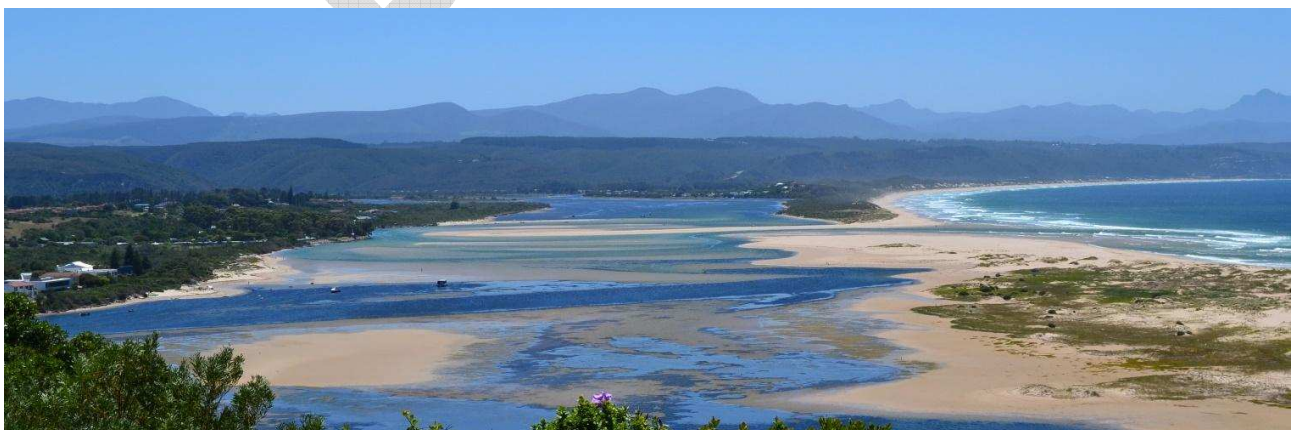


Figure 3: Site photograph illustrating topographical and landform features: mountain backdrop, deeply incised forested river valleys on the inland plateau; estuaries, lagoons and either dune systems or rocky headlands at the coast (Smit, 2021)

Large parts of the Bitou Municipality are currently under conservation, and according to the Bitou SDF it has one of the largest percentages of formally protected land of any municipality in South Africa (CNdV Africa (Pty) Ltd, 2017, p. 203). The UNESCO Garden Route Biosphere reserve contains some of the most pristine parks in South Africa and dramatically scenic formally or informally conserved areas - many of which are contained within the Garden Route National Park (GRNP). The Nature's Valley section of the GRNP is located in the east of the study area, and protects large Southern Cape indigenous forests (of national importance), fynbos areas, mountain catchments, rivers and lakes.

The Keurbooms River Estuary and Provincial Nature Reserve at the mouth of the Keurbooms river is ranked 16 in terms of conservation importance in South Africa, according to the Garden Route Biodiversity Sector Plan of 2010, and the Robberg Nature Reserve is a Provincial Heritage site, described as being a pristine example of animal and plant life existing in a unique coastal environment (Bitou Municipal Spatial Development Framework, 2017, p. 117). Additionally, there are various private nature reserves within the rural hinterland (around the Crags) and along the coast, the nearest to the subject site being the Annex Arch Rock Private Nature Reserve, directly east. No formal register of historical sites exists in the Bitou municipality.



Figure 4: Site photograph taken from within the Robberg Nature Reserve (a Provincial Heritage site) of the southern side of the rocky peninsula (Smit, 2021)

Land use and economic activity in the study area is diverse, with its roots in agriculture and forestry (Garden Route District Municipality, 2020, p. 62). Eden district is one of the last areas in the Western Cape actively utilised by the Forestry sector, according to the PSDF (Western Cape Government, 2014). All policy documents consulted during the Desktop study identified the bio-physical environment and diverse natural resource base of the region as either a key element of, or the very basis of the economy. The Bitou Municipality can be described as being rich in culture and an often-visited tourism destination in the Western Cape (CNdV Africa (Pty) Ltd, 2017, p. 192).

According to the Eden District Spatial Development Framework (GAPP Architects, Urban Designers and Spatial Planners, 2017, p. 36), the internationally recognized Garden Route area is generally considered as a leisure and tourism region. The district's outstanding natural beauty is made up of diverse wilderness and agricultural landscapes, estuaries and lagoons, mountain backdrops and coastal settings, including the verdant landscapes of

the coastal belt (Garden Route District Municipality , 2020). These features make it a significant leisure, tourism, lifestyle and retirement economic destination.

The coastline, in particular, draws tourists by the millions, and attracts development and economic activities. (Coastal Management Lines for Eden District: Project Report, 2018). Coastal areas are particularly valued for whale-watching, wide open ocean views, hiking and other outdoor lifestyle, leisure and recreation activities.

The regions contain a number of areas that are distinct from one another in terms of topography, ecology and settlement pattern, amongst other aspects. These use areas and landscape types can be grouped into:

- Sandy beaches (linear, open and flat, within the crenulate bay and bounded by resistant rock headlands (in this case, Robberg peninsula and the Keurboomstrand headland) (Royal Haskoning DHV, 2018))
- The Keurbooms river valley and estuary (flat and low-lying, with medium-density and low-density settlement on the periphery of the river, lagoon and estuary – some of which is located within the floodplain)
- The vegetated coastal dune systems (undulating) and the dune slack area directly inland (flat, low-lying)
- Urban development areas such as Plettenberg bay (characterized by medium to high density settlement, located on and covering a variety of landforms, especially in the south eastern portion of the study area);
- The inland coastal plateau containing minor and major river valleys, densely vegetated with indigenous fynbos or forest; or under forestry (through which the N2 winds);
- Rural settlements within the inland coastal plateau, mostly surrounded by forestry, tourism and agricultural land uses;
- Vegetated foothills at the coast, which give way to hard rock cliffed coasts with rock shore platforms (interrupted by small sandy river mouths)



Figure 5: Site photograph showing the view from the Keurboomstrand main beach boardwalk towards Plettenberg bay and Robberg (van der Merwe, 2021)

3.2.2 Keurboomstrand



Figure 6: Context Map of Keurboomstrand (Van der Merwe, 2021).

The local receiving environment is found at the intersection of three of the broad landscape types identified above. It is necessary to describe the subject site's localised receiving environment due to the heterogeneity of the greater receiving environment, and the uniqueness of its local context.

Keurboomstrand falls within a relatively narrow strip of land referred to as a 'Coastal Corridor', between the sea and the rural hinterland. Keurboomstrand as a township is divided into two distinct areas: the western portion situated in the floodplain of the estuary, on the dunes and within the dune slack area (extending approximately 4km east of the Keurboomsrivier Estuary), and the eastern portion situated on the steep slopes of the vegetated foothills. Both areas are delineated to the north by the inland coastal plateau (although, notably, the Keurboomstrand east urban edge includes some of this elevated, forested area for future development). This division of Keurboomstrand is created by the narrowing of the dune slack area where the primary barrier dunes that line the coastal edge of the flood plain meet the steep slopes of the vegetated foothills as the landscape changes eastward into rocky and forested cliffs.



Figure 7: Area defined as Keurboomstrand (Smit, 2021)

The town of Keurboomstrand (Keurboomstrand east) is described as a resort town, which has been developed over time in response to environmental conditions, historic patterns of subdivision, and built forms (Western Cape Government, 2013). The town proper is nestled in a sheltered cove, the topography and settlement of the town creating an amphitheater around its blue flag beaches.

Keurboomstrand is accessed mainly by the DR 1888 turn-off from the N2, which is met by the MR394. This road is notable for its 3km straight, flat stretch through the dune slack area between the coastal primary dune (south) and the steep vegetated foothill (north). There is a circular route through Keurboomstrand east via Game street and the rural hinterland north of the town, but this appears to be little used. The MR 394, a scenic route, is flanked by a paved pedestrian route that appears to be valued by locals and tourists for walking, cycling and other recreation and leisure pursuits.



Figure 8: Site photograph taken from the MR394 scenic route at 1,5km away, looking east (Smit, 2021)

Keurboomstrand west has a low density and disparate settlement pattern (CNdV Africa (Pty) Ltd, 2017, p. 274), characterized in recent years by the gated developments (holiday resort townships and private residential) that were built along the lines of large agricultural erven. The area contains some private estates, medium-density housing estates, farm stall and restaurant, and one area of semi-agricultural use (equine). The sea is not visible or accessible in this area except from the dunes on privately owned land and the +5km sandy beach.



Figure 9: Site photograph showing the older gated development, from Erf 15 on Main Road. Note the consistent building typography and extent to which the vegetation absorbs visual intrusion (Smit, 2021)



Figure 10: Site photograph from the small cove beach at low tide, looking up toward the second gated development. Note the building typography and visually exposed position on the rocky promontory (Smit, 2021)

Keurboomstrand east is compact and has a number of clusters of development. The westernmost portion consists of the Mare Nostrum and Waves Avenue buildings, situated north and south of the MR394, respectively. Keurboomstrand Beach is accessible here via a public parking lot with timber boardwalk access to the beach and lifeguards on duty. Further east is the center of the town, arranged along the Main Road which leads to the local restaurant (Enrico's) and the smaller beaches.



Figure 11: Site photograph of Keurboomstrand Main Road within the town proper (Smit, 2021)

The topography prevents any north/south connecting roads in the town's layout, and it is generally the east/west roads (at different altitudes, ending in either cul-de-sacs or the entrances of private property) that give access to erven. The town consists mainly of single residential buildings on erven, with the notable exceptions of two gated communities, both with distinctive architectural styles.



Figure 12: Site photograph taken from the Keurboomstrand public beach at the western end of Keurboomstrand east. Note the buildings visible on the ridge and the dense vegetation of the steeply sloped foreshore (Smit, 2021)

Keurboomstrand is a popular destination for tourists, retirement town and beach resort town. As a matter of interest, the highest average asking prices on the urban property market in the Bitou Municipality are located in Keurboomstrand (Bitou Municipal Spatial Development Framework, 2017, p. 151). The town is situated next to a wilderness area (CNDV Africa (Pty) Ltd, 2017, p. 28), which extends to Nature's valley and further east as part of the Garden Route and Tsitsikamma National Parks.



Figure 13: Site photograph overlooking the 5km long Keurboomstrand beach, looking toward Keurboomstrand west and Plettenberg Bay in the distance (van der Merwe, 2021)



Figure 14: Site photograph showing the use of the rocky promontories for recreational pursuits (van der Merwe, 2021)

The coastline resources are highly valued as tourism, recreation, leisure and scenic resources, including the use of the beaches and the rocky promontories for fishing. There is direct access to the Annex Arch Rock nature reserve, the Matjies River Cave and Annex rock itself via a short hiking trail (reminiscent of the Otter trail) from the easternmost beach.



Figure 15: View from the hiking trail within Annex Arch Nature Reserve west (Smit, 2021)

The local vegetation is generally forest and coastal scrub forest, (intensified by the garden trees of the town itself), and the local settlement patterns tend to retain as much of the existing vegetation as possible, resulting in an urban environment that is generally verdant and lush. This results in a notable feature of the townscape character of the local receiving environment: buildings are generally hidden by surrounding vegetation up to at least the ground floor where site vegetation is not disturbed. In these cases, only the roof of the building or the first floor and roof are visible. The town is also situated next to a wilderness area which extends to Nature's valley and further east as part of the Garden Route and Tsitsikamma National Parks.



Figure 16: Example of an existing building in Keurboomstrand with high visual exposure (due to size & height of building and position on slope) and little vegetation screening (center of image) (van der Merwe, 2021)



Figure 17: Examples of existing buildings in the Mare Nostrum development with moderate visual exposure (due to size & height of building and position on slope) and little vegetation screening (van der Merwe, 2021)



Figure 18: Example of existing building in Keurboomstrand with low visual exposure (due to size & height of building and position on slope) and effective use of the surrounding vegetation for screening (Smit, 2021)



Figure 19: Example of existing building in Keurboomstrand with very low visual exposure supported by architectural form and material colouring, and effective use of the surrounding vegetation for screening (Smit, 2021)

Distinct characteristics types within Keurboomstrand include:

- Nested within a sheltered cove with the topology and settlement of the town creating an amphitheater around the beaches;
- Tourist town; Seasonal visited, small local community (retirement and vacation)
- Pedestrian walkways and recreation pathways
- Local settlement pattern tend to retain the most existing vegetation (verdant and lush)
- Townscape characterised by building being hidden by surrounding existing vegetation (at least to the First Floor Level – Only top portion of storey and roof exposed)
- Mostly single residential dwellings located on hill slopes
- Dark colour pallet used to blend into contextual dark vegetation background

3.3 Contextual Character and Sense of Place

The Sense of Place is the unique quality or character of a place, whether natural, rural or urban (Oberholzer, 2005, p. 28). According to Lynch (1976), sense of place “is the extent to which a person can recognize or recall a place as being distinct from other places – as having a vivid, unique, or at least particular, character of its own”. It follows that an important aspect of Sense of Place is the uniqueness and distinctiveness of a landscape. According to Graham Young, the primary informant of these qualities is the spatial form and character of the natural landscape taken together with the cultural transformations and traditions associated with the historic use and habitation of the area.

The receiving environment contains a variety of landscape types at the intersection of three of the Bio-regions defined by the SDF, each with different Landscape Characters. The overall landscape character of the receiving environment is predominantly coastal, with a diverse mix of landscape types both natural (river, estuary, forest, dunes, rocky headlands and vegetated foot slopes) and transformed (urban areas, agricultural land, rural settlements and resorts).

The landscape character of Keurboomstrand is dual, encompassing both (a) the sparsely developed dune slack/floodplain area with an open, rural character between the vegetated foothill and the crenulate bay dune system; and (b) the compact, densely vegetated Keurboomstrand town proper situated on the steep foothill slopes with a distinctive resort-town character.

Key elements of the landscape character, both overall and localised, are:

- i. Dramatic coastal scenery in the form of mountainous forests (in places seemingly untouched) offering a backdrop to long sandy beaches, estuaries and river valleys, and open views of the ocean looking east, south and west. This element is maintained by the limited disturbance to vegetation, the visual continuity between the foothill and the sea, and the scenic route view corridor (its functioning as a gateway into the town proper and the lack of visual intrusion on coastal and sea views).
- ii. The landscape and natural resources (including scenic resources) as a setting and container for tourism, recreation, leisure etc. (including visual character). Generally associated with limited development that does not require the clearing of vegetation, and protection of landmarks and natural features from inappropriate

development, and the retention of the townscape character, pace and lifestyle as that of a resort town and holiday destination.

Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. In some cases, these values allocated to the place are similar for a wide spectrum of users or viewers, giving the place a universally recognized and therefore, strong sense of place (Young, 2014, p. 7).

The Garden route is a locally and internationally recognized destination place for scenic beauty and leisure/recreational and tourism activities. While the study area itself (Plettenberg Bay and the Keurboomstrand area) contains some internationally and nationally recognized cultural and historical sites, the sense of place is derived (especially at a local scale) from the scenic resources of the coastline, which is based on natural features (some of which are under conservation). These include the sandy (blue flag) beaches, rocky promontories, vegetated primary dunes and dune slack areas, and the steep forested foothills that meet the rocky coastline.

Locally, the sense of place is also drawn from the unique townscape character of the Keurboomstrand town, which (although developing) is generally that of a small, coastal resort town with single residential buildings of approximately two stories, nestled within and screened by the local vegetation.

- Eastward, the landscape takes on a distinct coastal wilderness Sense of Place, with high contrast between the natural features (sea, rocky coastline and steep green slopes).
- Westward, the landscape takes on a more rural Sense of Place within the dune slack area, still heavily influenced by the local topography and natural features, but becoming more and more transformed by infrastructure, resort and urban development toward Plettenberg Bay.

The study area and receiving environment can be described as having a strong landscape character and a distinctive sense of place (albeit dual and localised). The greater receiving environment contains recognizable landmarks, landscape features and vistas as part of the Garden Route. The local receiving environment is unique and distinctive within the coastal belt, based on both the local townscape character and the value of the natural and scenic resources.

3.4 Site Context quality and integrity

The Keurboomstrand town itself contributes to the erosion of landscape integrity, but does so minimally, due to its limited overall footprint and the average buildings having limited footprints, with minimal clearing of vegetation. There are examples of development that has a greater effect on landscape integrity, such as buildings located south of the MR394 and on the visually exposed rocky promontory.

As mentioned previously, the intactness of the landscape increases as its integrity and quality increase toward the east, where the landscape has formal protection under conservation areas.

In terms of the intactness of townscape character, there is a great deal of variation in the local architectural landscape. However, Keurboomstrand is nevertheless a recognizable town with a distinctive sense of place. The townscape character is generally eroded by buildings exceeding two storeys, with large footprints, excessive glazing and large unarticulated facades. Buildings that do not “nestle” into the landscape and vegetation also degrade the townscape character, as do erven with fences or walls surrounding the property. The townscape character does accommodate buildings being visible above the line of vegetation, but not exceeding one storey in most cases.

4. THE SITE

4.1 The Location

Erf 155, Keurboomstrand (56 615,4m² in extent) contains large areas of undeveloped coastal forest vegetation as well as developed areas that are part of a share block resort abutting the western end of the Keurboomstrand residential neighbourhood (some of which are located on Erf 151, alongside).

4.2 The Proposed Development

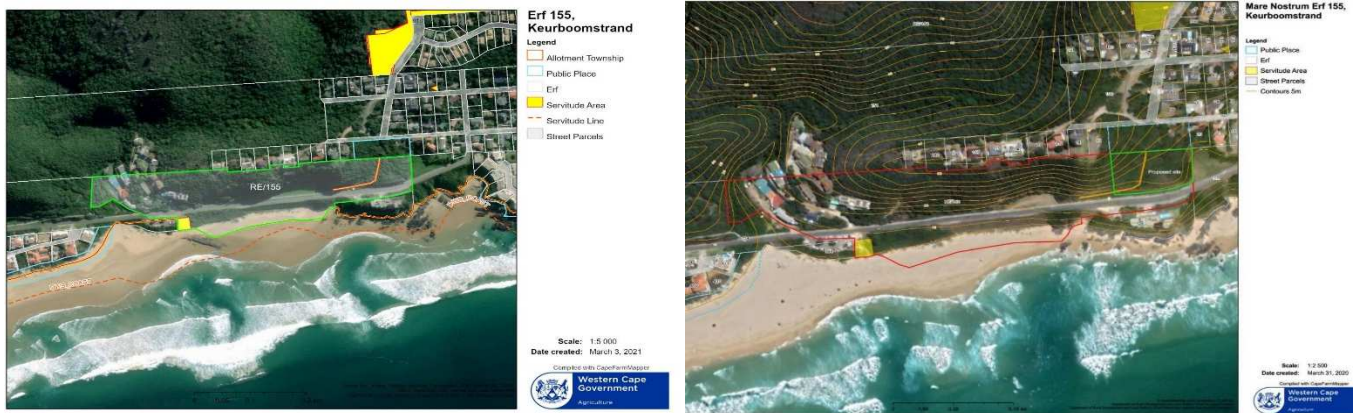


Figure 20: The remainder of Erf 155, Keurboomstrand. (Cape Farm Mapper, 2020).

The portion of the property relevant to these guidelines (the subject site) is located on the eastern extremity of Erf 155, identified by the client for subdivision and rezoning from Open Space Zone II (private open space) to Residential Zone II (to match the remainder of the Mare Nostrum resort development). The proposal is for the construction of dwelling houses in a sectional title development, for which approximately 3 250m² of the 5 000 m² subject site is earmarked.

According to the Land Development Application Motivation report, the proposed development site is an inherent part of the Mare Nostrum resort development. As the property registered as an erf in the Keurboomstrand township area, and was part of the approved residential development of the Mare Nostrum resort development (Bitou file ref: 18/151&155), Virdus Works argues that the entire property should have been included in the urban edge and not only that portion containing the houses.

The subject site is undeveloped, densely vegetated and situated on an elevated promontory with steeply sloping ground typical of the coastline in this part of the Western Cape. The proposed property boundary is flanked by residential development generally, although its immediate boundaries to the north, east, south and west are demarcated by public place (Erf 391), undeveloped publicly accessible land (Erf 152), the Main Road 394 (a scenic route) and the remainder of Erf 155 (Residential Zone II).

Proposed development details summary:

<i>Physical address</i>	Keurboomstrand
<i>Portion and Farm name</i>	Portion A, Erf 155, Keurboomstrand
<i>Municipality</i>	Bitou Municipality
<i>Coordinates</i>	34° 0' 13.7844" S 23° 27' 16.5276" E
<i>Extent of Property</i>	>0,5 Ha

Current use	Undeveloped (private, open space)
Current zoning	Open Space Zone II (private open space)
Proposed Zoning	Residential Zone II
Surrounding land uses	Residential, transport, tourism, recreation.

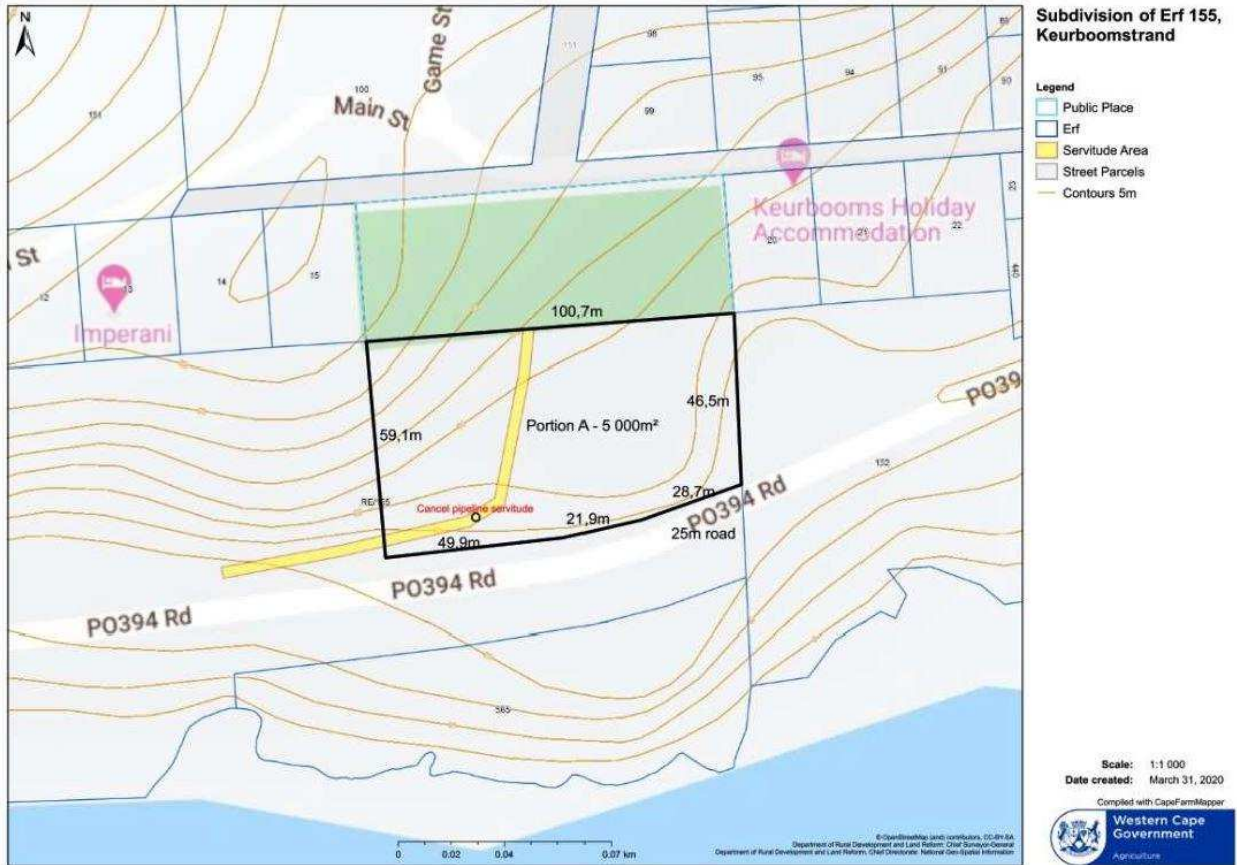


Figure 21: Plan indicating the proposed subdivision of Erf 155. Note the extents of the subject site (Portion A), the Erf 391 public place directly north, the cancelled pipeline servitude and the 25m road reserve allocated to the MR 394 (Cape Farm Mapper, 2021).

4.3 The Site

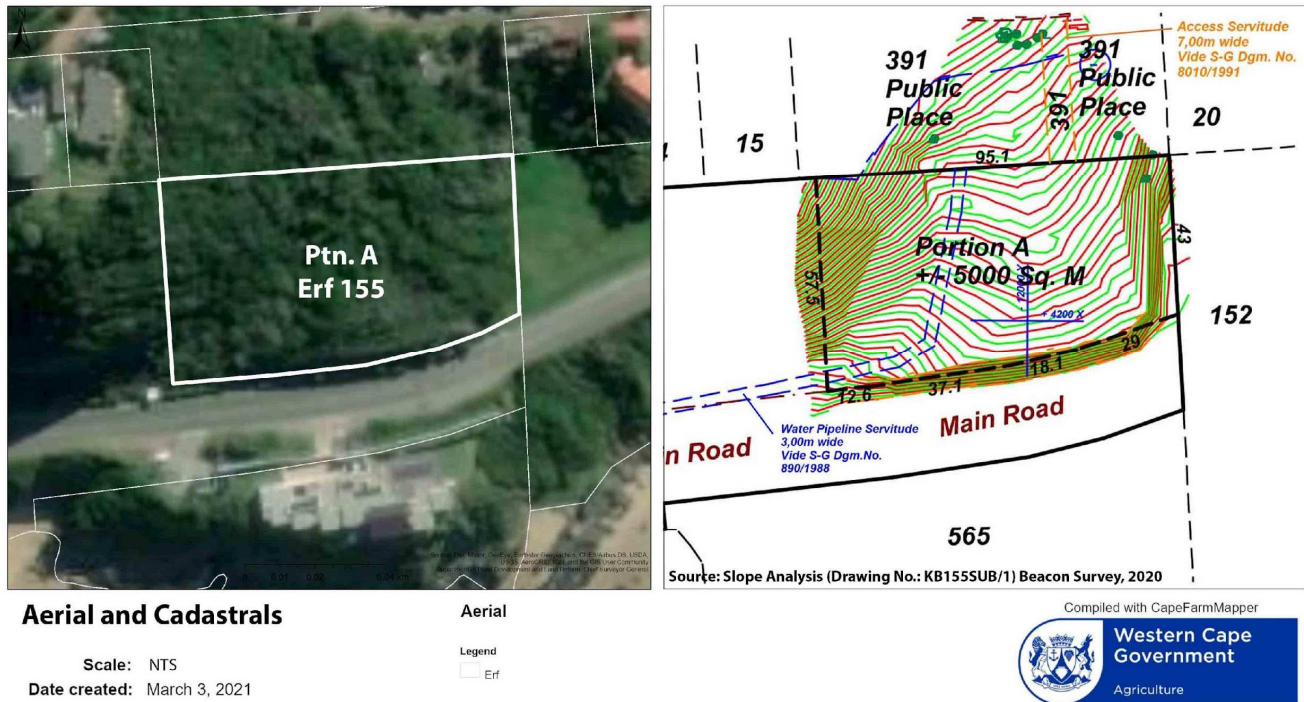


Figure 22: Aerial image of site alongside the site survey (Smit, 2021)

The site is located directly abutting and between Keurboomstrand residential properties (Erven 15, 20 and 565) and public place (Erf 391). The land use application includes the registration of a seven-meter-wide servitude right of way access over public place Erf 391 alongside, by which the proposed development will take access.

The subject site is undeveloped, containing no existing buildings, services or infrastructure (with one exception being some decommissioned water pipelines and associated infrastructure). It is offset from the nearest road (Main Street) by the 27m width of the adjoining public place (Erf 391), which shares its northern boundary. Its southern boundary is delineated by the 25m wide road servitude set out for Main Road 394, which is the main access and entrance road for the whole of the Keurboomstrand town. The eastern and western boundaries are shared with Erf 152 and Erf 155, respectively.

Existing residential buildings are located up-slope to the north east (Erven 15, 14, 13 etc.) and north west (Erven 20, 21, 22 etc.) of the site, with the majority of the town being located to the east. The recently developed Erf 565 is located 25m downslope of the site. The adjoining public place (Erf 391) is not utilised as a public space despite its zoning, houses a water reservoir and associated infrastructure, and does not appear to be part of an integrated corridor or network of public places. Erf 152 contains an open grassed area that appears to have some local amenity, and is one of a string of open areas at the foot of the coastal dune ridge that are accessible by the wide pedestrian pathway that runs along the entire length of the Main Road 394. A bus stop is located at the south western corner of the site, along the pedestrian route, and across from a small viewing area across the road, and west of Erf 565.



Figure 23: Site photograph taken from the pedestrian walkway alongside the MR394 scenic route at 150m from the project site, looking east (Smit, 2021)



Figure 24: Site photograph taken from the pedestrian walkway alongside the MR394 scenic route, at a distance of 50m from the project site boundary, looking west (Smit, 2021)



Figure 25: Site photograph taken from the publicly accessible private staircase across the small cove beach from the site, at 180m, looking west (Smit, 2021)



Figure 26: Site photograph taken in the public parking area located alongside the MR394 scenic route, opposite the site, looking north (Smit, 2021)



Figure 27: Site photograph taken in the public walkway at 700m from the site, looking towards the West (Smit, 2021)

4.4 Zoning Scheme Classification & Regulations

The proposed rezoning for the subdivision of Erf 155 to zoned as Residential Zone II. The table below is in terms of the Bitou municipality Zoning Scheme Regulations in terms of Section 8 of the Land-Use Planning Ordinance 15 of 1985 and be referred to in total by the appointed architect.

4.3.1 Zoning Classification

Land-Use	
Primary Use:	Group House
Consent Use:	Dwelling House. Retirement Village

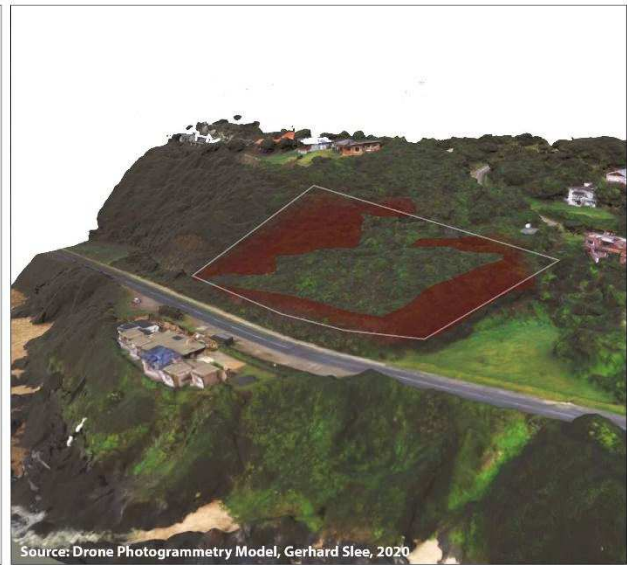
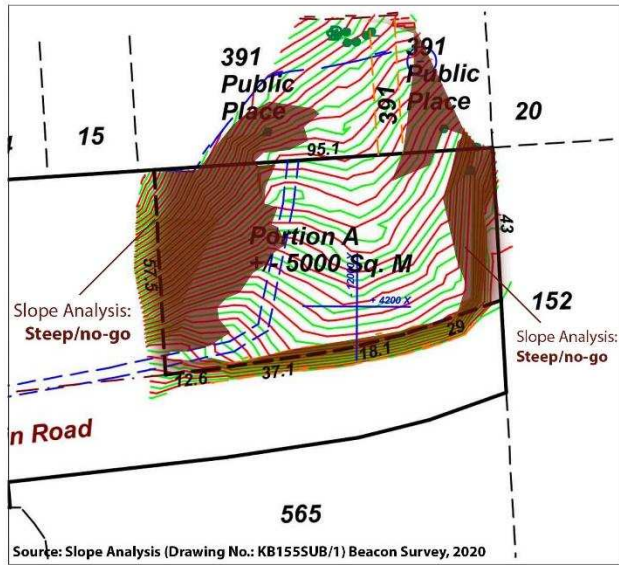
4.3.2 Height

Building Element	Height	Length
Dwelling Height	Max. 2 Storeys (2x 4m per storey = 8m)	
Services (Geyer, equipment, solar panels)	Max. 1,5m above roof/ dwelling height	
Boundary Wall	Max. 2,1m	
Garages, Carports & Outbuildings	Max. 3m	Max. 6,5m
Basement	Min. 2m below Finished Floor Level (FFL)	
Storey	Max. 4m from FFL to FFL	

4.3.3 Land-Use Restrictions

Coverage	Requirement
Coverage	Max 50%
Land-Use Restrictions	
Density	Max. 20 units per gross hectare or a 3:1 with regards to the gross density of surrounding dwelling units, whichever permits smaller number of units.
Communal Open Space	Min. 80m ² per dwelling unit
Private Outdoor Space	Min. 40% of the gross floor space of the units concerned, in a form which shall not exceed a ratio of 2:1 (Length to Width)
Combined open space:	Where there is no distinction between communal open space and private outdoor space, the above communal open space and private outdoor space requirements shall be replaced by a combined open space requirement of at least 130m ² per dwelling unit.
Building Lines	
Street Building Lines	4m
Side- & Rear Building Line	0m (adequate side building lines may be required for fire-fighting purposes, and a 3 m side building line shall apply where a residential zone II abuts on another zone.
Parking Requirements	
Parking Bay	2 Parking Bays per group dwelling
Street Width	normally at least 10 m, or 8 m in a cul-de-sac or loop road of limited length which serves only a few group houses.
Other	
Screening	Services Yards (including all services and washing Lines need to be screeded

4.5 Topology



Topography

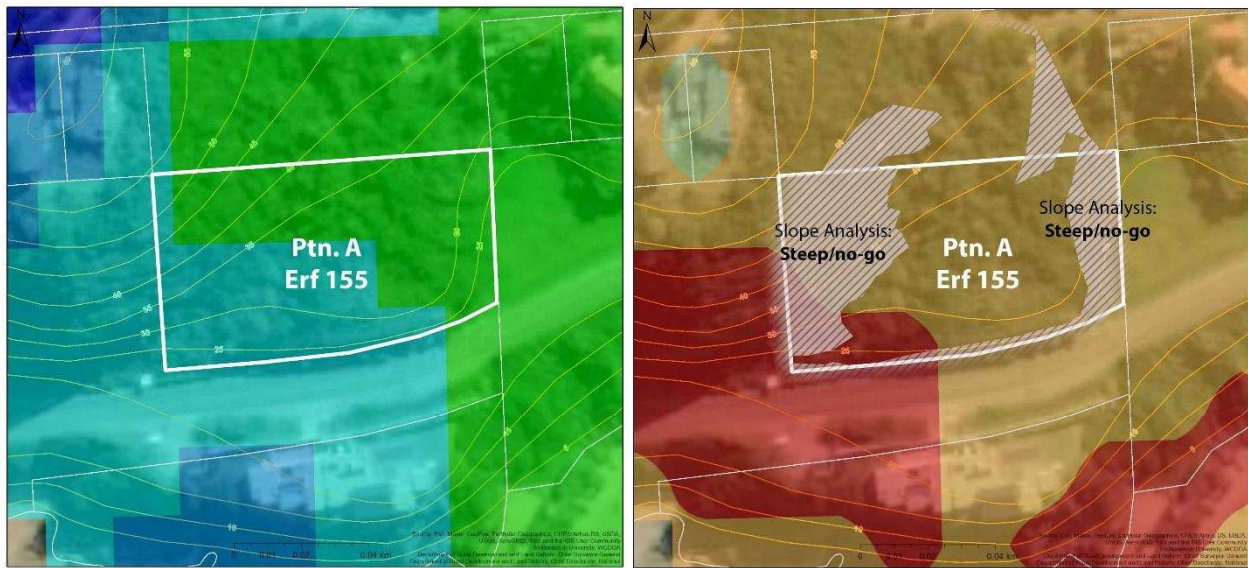
■ Slope Analysis: **Steep/no-go areas**

Terrain model

■ .Approximate representation of the steepest areas on site

■ Approximate representation of the property boundary (note: the photogrammetry model represents vegetation cover as a surface itself, as opposed to the DEM (Digital Elevation Model) which illustrates the topography underneath as a surface)

Figure 28: Graphic showing slope analysis model provided by Slee Architects (Smit, 2021)



Aspect

Legend

□ Erf

Aspect

- Flat (-1)
- North (0-22.5)
- Northeast (22.5-67.5)
- East (67.5-112.5)
- Southeast (112.5-157.5)
- South (157.5-202.5)
- Southwest (202.5-247.5)
- West (247.5-292.5)
- Northwest (292.5-337.5)
- North (337.5-360)
- Contours 5m

Slope Classification (%)

Legend

□ Erf

Slope Percentage Class

- 0 - 3
- 3 - 10
- 10 - 30
- > 30
- Contours 5m

Site Topography

Scale: NTS
Date created: March 3, 2021



Figure 29: Site map indicating slope aspect, slope classification and the results of the slope analysis (Smit, 2021)

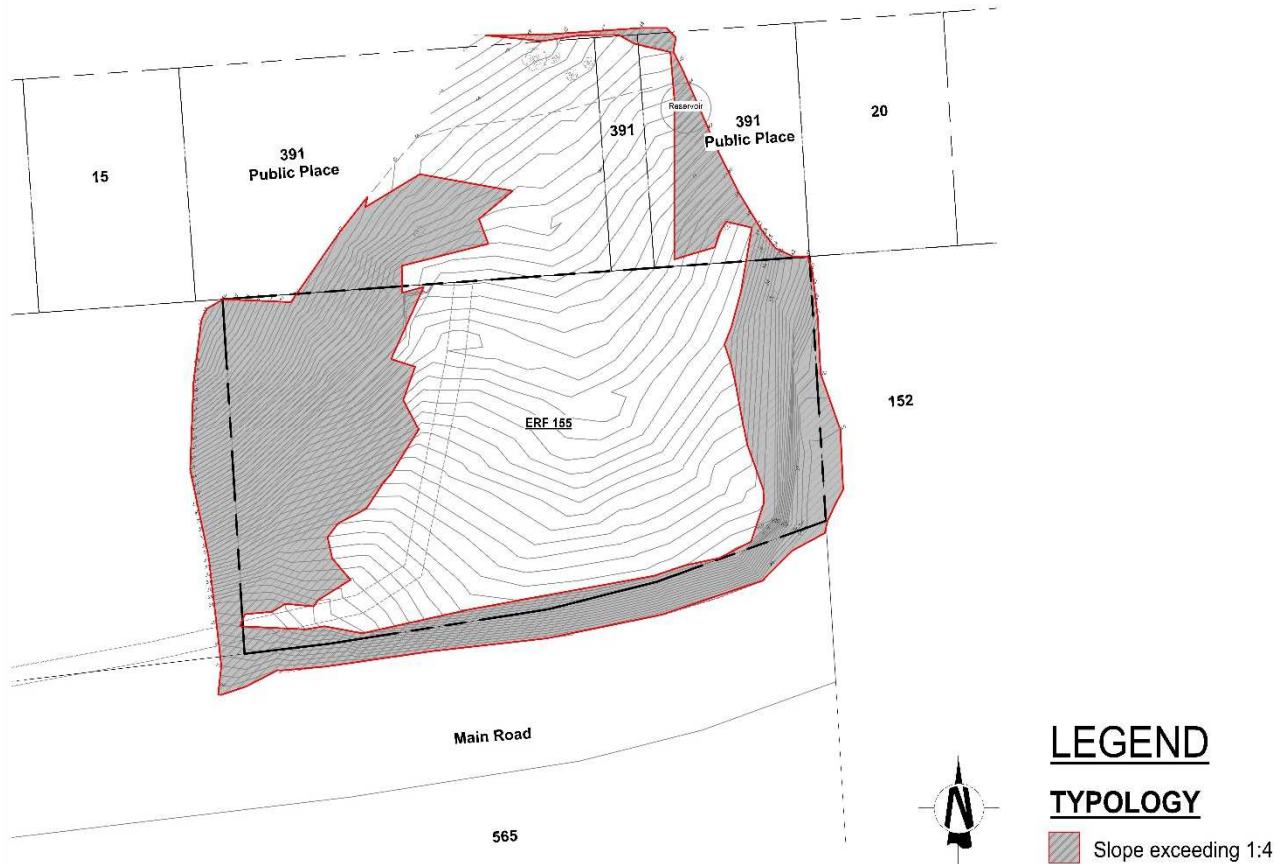


Figure 30: Plan of Erf 155 indicating the no-go 1:4 steep slopes from the Survey done by Beacon Surveyors. (Van der Merwe, 2021).

The site is characterized mainly by its vegetation cover and the site topography which is steeply sloped on the eastern, western and southern boundaries; while gently sloping in the central area (it is located on a shelf or promontory of part of a larger coastal foothill which extends to the west of the site). Half of the site (bisected diagonally by the ridgeline of the promontory) faces south west, while the other half slopes off southward. The slope analysis conducted by a professional surveyor indicates portions of the site more steeply sloped than 1:4 that are no-go areas for proposed development, a recommendation described in the Geotechnical report.

4.6 Site Vegetation



Figure 31: Site maps indicating vegetation types and CBA overlaid with the vegetation sensitivity areas (Smit, 2021)

The mapped vegetation type over the site is Goukamma Dune Thicket (previously Keurbooms Thicket forest) according to the Mucina & Rutherford (The Vegetation Map of South Africa, Lesotho and Swaziland, 2018). The property falls within a Critical Biodiversity Area (CBA) according to the Western Cape Biodiversity Spatial Plan (2017), and the ecological survey determined that the site-specific vegetation types include Scrub Forest and Shale Fynbos, both of which are threatened vegetation types. The ecologist found that the site contains elements of critical biodiversity: patches of protected scrub forest and the protected Milkwood tree (*Sideroxylon inerme*). However, their conclusion was that the vegetation is partially degraded and therefore the site is partially developable, subject to (a) the protection of specific elements of the vegetation and (b) the directive to ensure that any development on site is undertaken in the most sensitive manner possible.

Vegetation patterns on the site are strongly influenced by the topography and geological features of the site. The forest areas generally adhere to the steepest parts of the site, while the Fynbos is limited to the shale soils presenting along the southern portion of the promontory. The Forest areas are densely vegetated, growing in places in excess of 6m tall, while the Fynbos vegetation type is generally lower-growing (0,5 – 1,5m in height). The Scrub-forest is established in the central and less steeply sloping part of the site. The height of the vegetation is between 2 and 5m, and grows less densely as one moves southward, opening up to views over the ocean where it meets the Fynbos area.

The site is situated on a shelf or promontory about three-quarters of the way up the slope of the vegetated foothill (which is approximately 60m ASL at its highest point), between the 25m and 50m ASL contours. The

site gains 32m in elevation from the lowest to the highest point, sloping most steeply at its north western and eastern boundaries (see Figures 6 and 7 indicating the steep/no-go areas). Half of the site (bisected diagonally by the ridgeline of the promontory) faces south west, while the other half slopes off southward. A slope analysis has indicated all portions of the site that are no-go areas for proposed development. The central area of the site is less steeply sloped than the extremities of the site.

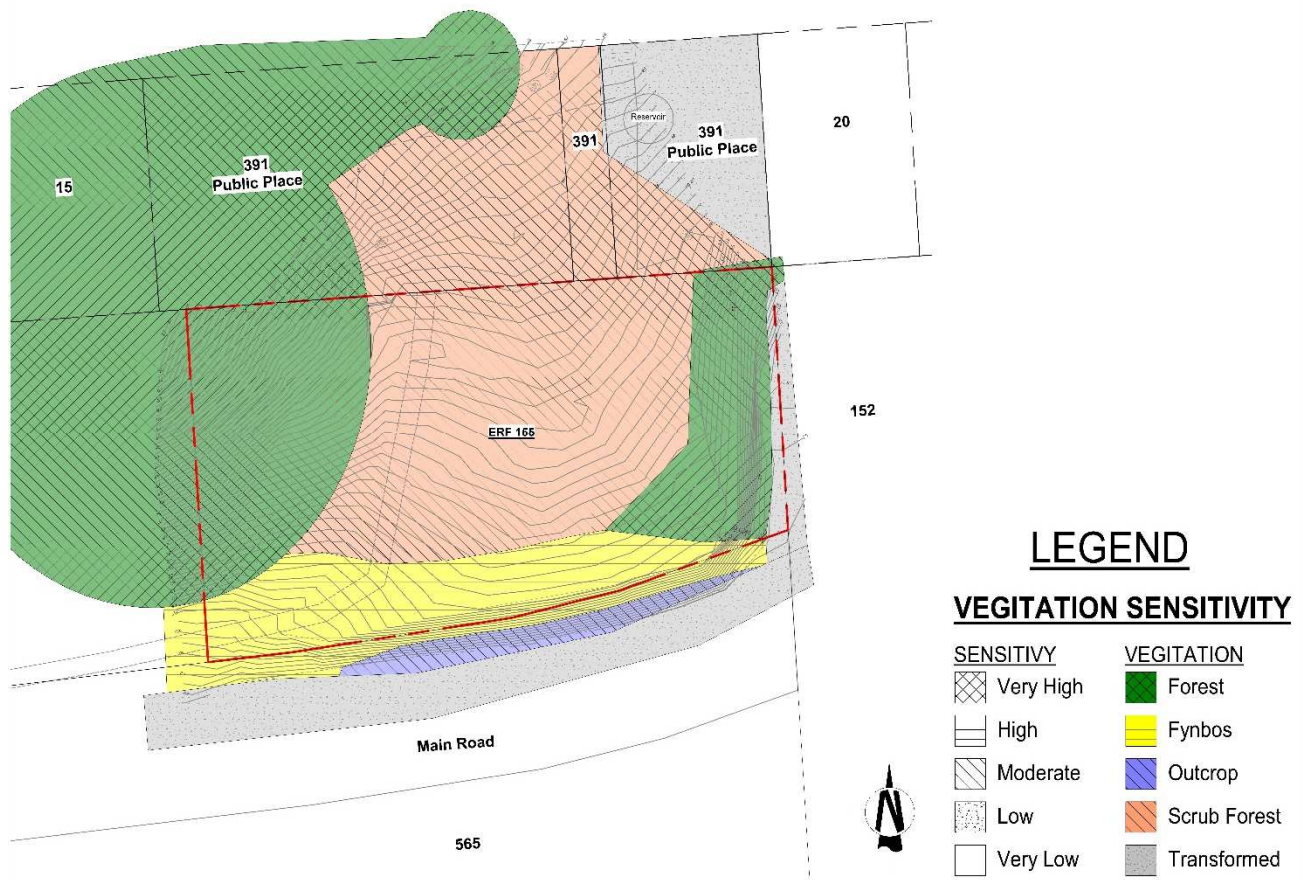


Figure 32: Plan of Erf 155 indicating the Vegetation Sensitivity Survey done by the botanical survey. (Van der Merwe, 2021).

The botanical survey found the site to be partially degraded and partially developable, subject to limitations to protect specific elements of the vegetation and biodiversity inherent to the site (protected species, sensitive vegetation types/pristine habitats and steep slopes). The botanist concluded the following:

- 1 The protected species (*Sideroxylon inerme*), threatened vegetation types (the former Shale fynbos and the scrub forest) and pristine forest habitats (indicated by the CBA overlay) should not be impacted by the development.
- 2 The steeper slopes less desirable for development, and considering that the sensitive vegetation is generally associated with steeper slopes, development should be restricted to the flattest part of the property.

Overall, any proposal to develop the site must be done in the most sensitive manner possible, from a botanical/ecological point of view.



Figure 33: Site photograph taken from the junction of Game and Main Streets, approximately 50m from the subject property boundary. The vegetation in the foreground is growing on Erf391 upslope to the north (Smit, 2021)



Figure 34: Site photograph from within the Forest Vegetation type (Smit, 2021).

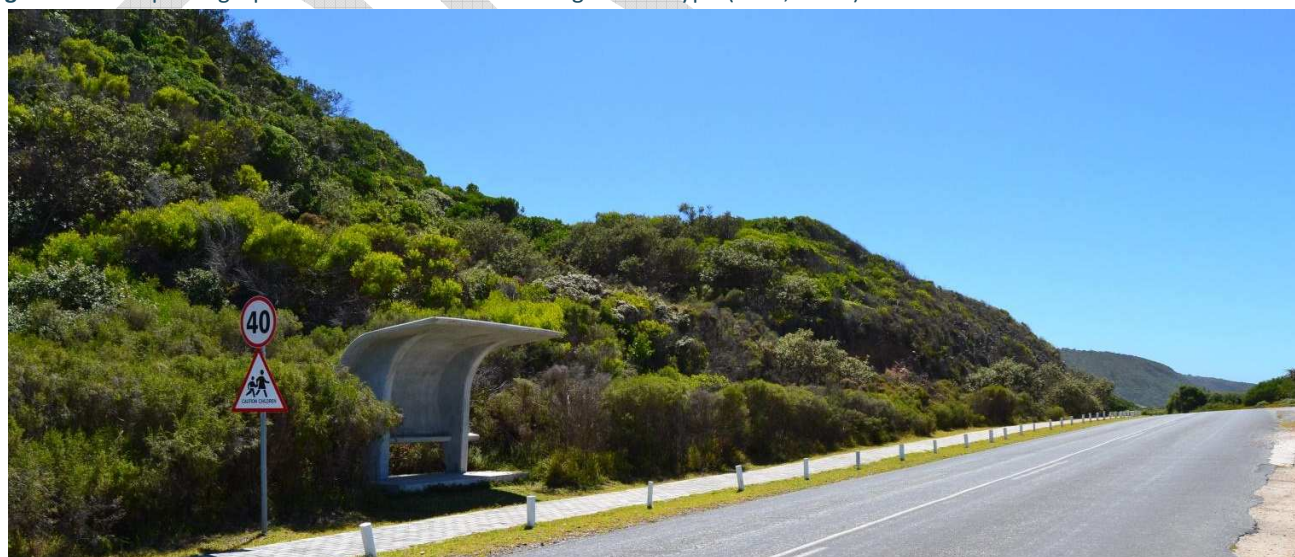


Figure 35: Photograph of the site taken from the parking area of the lookout point on the ocean side of the MR 394 scenic route. Note the steep cutting and density of vegetation covering the site (Smit, 2021)



Figure 36: Site photograph from the Scrub-forest vegetation type looking west toward the Forest vegetation type area containing Milkwood trees (Smit, 2021)



Figure 37: Site photograph taken from within the Fynbos vegetation type, looking north toward the Scrub-forest vegetation type (Smit, 2021)

4.7 Climatic Zone and Region

The region is typified by an extremely mild maritime warm and temperate climate with few rainfall and temperature extremes. The climate is considered to be Cfb according to Köppen-Geiger climate classification. The area is located within the Knysna Afrotropical Forest biome which contains temperate gallery forest, supported by mild warm temperatures and high, evenly distributed rainfall. (Weather Spark, 2021)

Annual average rainfall: 740 - 945mm p/a
Annual average temperature 17°C (Annual variation 6.8°C)
Annual average ocean temperature (18.5°C)
Highest precipitation month: February (50mm)
Lowest precipitation month: November (73mm)

Temperature:

The warm season period is from 18 December to 25 March (3.2 months) with average temperature of 19-29°C
The cold season period is from 2 June to 4 October (4 months) with an average temperature ranging between 12-25°C. Mild warm temperature with little fluctuations during the course of the year.

Cloud Coverage:

The clearest cloud coverage season is between 13 December to 24 March (3.5 months) with 86% partly cloudy and 14% mostly cloudy. The cloudier season extends from 27 March to 13 December (8.5 months) with 41% mostly cloudy and 59% partly cloudy.

Precipitation and Rainfall:

The Region does not experience significant seasonal variation in the frequency of wet days. The frequency ranges from 10% to 17%, with an average value of 13%. The least rain day occurs around 22 January with an average rainfall of 22mm. The most rainy day is around 31 October with an average rainfall of 39mm.

Sun:

Winter solstice (21 June) provides the shortest day with 9h 53m daylight time. Summer solstice (21 December) provides the longest daylight time of 14h 26m. On average there are 97.37 hours of daylight per month with 2961.33 hours of daylight throughout the year.

Humidity:

The humidity comfort level is based on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night.

The region experiences some seasonal variation in the perceived humidity. The most muggy period of the year lasts for 3.7 months from 6 December to 28 March with 26% muggy conditions, which time the comfort level is muggy, oppressive or miserable. The least muggy day occurs on 1 July with only 7% muggy conditions.

The Humidity during the warm season provides muggy and miserable comfort zones. It also provides hazy mornings during the warm season which provide an uncomfortable climatic zone and lack of visible views. The colder season provides more comfortable levels with regards to humidity.

Wind:

The average hourly wind speed in Plettenberg Bay experiences mild seasonal variation over the course of the year. The most windy period is experienced from 25 May to 9 February (8.4 months) with an average wind speed of 12.7km/h, The least windy period is experienced from 9 Feb to 25 May (3.5 months) with an average wind speed of 11.5km/h.

Easterly wind is experience from 22 Jan until 31 March and from 19 November until 20 December (3.3 months total) with an average peak of 37%. Westerly wind is experienced from 31 March until 19 November (7.6 months) with a peak of 50%. Wind is consent and evident throughout the year with little fluctuation. The least windy season is during the end of summer and the Autumn season. A Westly wind is mostly evident (63%) during the annual year.

Solar Energy:

The brighter period during the year is from 6 November until 18 February (3.4 months) with an average daily incident shortwave energy (Shortwave radiation includes visible light and ultraviolet radiation) per m² (kWh) of 7.1 kWh. The darker period is experienced from 28 April until 16 Augustus (3.6 months) with an average daily incident shortwave energy (Shortwave radiation includes visible light and ultraviolet radiation) per m² (kWh) of 3.8 kWh.

The daily incident shortwave length during the annual year is fairly consent with the seasons. The brighter period is evident during the warmer (Summer – 3,4 month) season with an average of 7,1kWh and the darker period during the colder (Winter – 3,6 months) season with an average of 3,8 kWh. This provides an average solar energy harvest capacity of 5,45kWh during the annual year.

5. ENVIROMENTAL DESIGN DETERMINANTS

5.1 Informants

<u>Type</u>	<u>Category</u>	<u>Description</u>
5.1.1 Climate	Temperature	Mild maritime warm and temperate climate (Passive Heating)
	Rainfall	Good annual rainfall (Water harvesting)
	Wind	Natural Ventilation (Passive Cooling) Wind is predominantly from the West which is mostly sheltered by the natural topography of the hill
	Not extreme fluctuation	Temperature, rainfall and wind is fairly constant with little extreme fluctuations between seasons
	Microclimate	Sunny and warm in the center of the site and along the edge of the descending slopes. The forest toward the NW provides shade and privacy, where the center- and South descending slope edge is fairly exposed and warm.
5.1.2 Topography	Building Platform	Gentle central area with steep slope around erf boundary creates an elevated building platform (Hierarchy)
	Cut & Fill	The balance between cut & fill of the sloping site creates potential for hiding the building by cutting into the natural earth. Earth filling creates the potential to create hierarchy and elevation to exploit views of ocean to the South.
	Security	Steep slopes around the erf boundary serves as potential security
	Privacy	Steep slopes create potential for privacy (Screening with natural topography)
5.1.3 Vegetation	Site Status	The botanical survey found the site to be partially developable and degraded.
	Protected Plant Species	Protected plant species is evident on the site which can be incorporated into the design to create emphasis (sense of place and uniqueness) and use as a tool to aid in the design (Security, Screening, limit visibility, privacy, etc)
	Protection and Privacy	The natural vegetation creates protection and privacy towards the north of the site
	Colour and Texture	The vegetation is the backdrop and informant to the design. It should inform the building's material colour and textures including the choice of planted vegetation incorporated into the Landscape design
5.1.4 Environment & Contextual Character	Sun pattens	A sun study should be conducted by the appointed Architect which shall inform the design of the building(s)
	Views	South: Ocean (Primary view*) East: Keurboomstrand Secondary view) West: Plettenberg Bay (Secondary view**) *No view directly below site (Main Road and existing dwelling) **Limited by Western hill Views over the ocean is encouraged to be exploited
	Topography	The site has a centrally located relatively Gentle and flat plateau progress into steeps descending slopes towards West

		and South and steep ascending slopes towards the East and North.
	Site Access	Due to the steep slopes towards the West, East and South of the site, it will be best suited to obtain primary site access from the North of the site. In manner vehicle access is obtain from a quieter public street.
	Sense of Place	<ul style="list-style-type: none"> • Small town located in a mostly sheltered corridor between the ocean and sloping hills. The climate, natural beauty (scenic resources) and landscape (Beaches, vegetation and hills) attaches large quantities of tourist to the town. • Nested within a sheltered cove with the topology and settlement of the town creating an amphitheater around the beaches; • Local settlement patten tend to retain the most existing vegetation (verdant and lush) • Townscape characterised by building being hidden by surrounding existing vegetation (at least to the First Floor Level – Only top portion of storey and roof exposed • Mostly single residential dwellings located on hill slopes • Dark colour pallet used to blend into contextual dark vegetation background
	Residence and occupants	Small local town with seasonal (vacation) visitors with small local permanent residence and community (retirement)
5.1.5 Land-Use Restrictions	In terms of the Bitou municipality Zoning Scheme Regulations in terms of Section 8 of the Land-Use Planning Ordinance 15 of 1985.	

5.2 Constrains

Type	Category	Description
5.2.1 Climate	Humidity	2/3 of the year is mostly muggy which creates uncomfortable weather conditions
	Rainfall	Erosion protection (Constant rainfall and steep slopes)
	Clouds and haze	Large portion of the year is cloudy Hazy mornings create uncomfortable humidity and limits views of the surroundings.
	Microclimate	Cool and shady along the North-East Forest of the site
5.2.2 Topography	Slopes	Slopes exceeding a ratio of 1:4 is considered a no-go area. No development may occur on the identified no-go area
	Erosion	Erosion prevention should be implemented by natural indigenous vegetation
	Southern Steep Slopes	Creates an elevated building platform which increase visibility of the building(s) and lack of privacy

5.2.3 Vegetation	Protected Plant Species	The protected species (<i>Sideroxylon inerme</i>), threatened vegetation types (the former Shale fynbos and the scrub forest) and pristine forest habitats (indicated by the CBA overlay) should not be impacted by the development.
	Steep Slopes	The steeper slopes are less desirable for development, and considering that the sensitive vegetation is generally associated with steeper slopes, development should be restricted to the flattest part of the property.
	Sensitivity	A sensitive approach towards botanical and ecological limits development potential
5.2.4 Orientation	Scenic Route	The Main Road (MR394) into Keurboomstrand, and adjacent to the Southern boundary of the site, is identified as a Scenic Route. The City of Cape Town (CoCT) propose a scenic route setback which measure a distance of not less than four times the building's largest dimension, but never less than 30m
	Adjacent Property	adjacent neighbouring property should be consider and the proposed development should have a minimal and limited impact. The design should incorporate and consider neighbouring property with regards to privacy, visibility, noise- and light population
5.2.5 Land-Use Restrictions	In terms of the Bitou municipality Zoning Scheme Regulations in terms of Section 8 of the Land-Use Planning Ordinance 15 of 1985.	

6. ARCHITECTURAL ELEMENTS

6.1 General Design Approach

The whole site should be planned as one entity, with all elements of the development, buildings and outdoor spaces, being conceived and designed together. Buildings should be seen as a series of forms that extrude from the natural topology and nestle between the trees located on the hill slope and dark vegetative palette as backdrop.

As a result of the natural terrain typography, it is envisaged that dwellings will comprise of major and minor forms which is linked by a series of covered walkways, verandas, yard walls etc. These forms will be platformed on different levels (terraces) which steps with natural sloping typography. Roof elements should be of a low-pitch nature to limit visibility of the building. Minor linking elements and covered verandahs should also consist a low-pitch roof nature. Verandahs, pergolas, carports and shading structures may act as a scale reducer and add complexity to the built environment.

Buildings and structures must be sited to limit alteration of natural topography, alteration of land forms, tree and vegetation removal and the extent of earthworks. Buildings blend more successfully with the landscape when aligned parallel to contours. The buildings should preferably adhere to the “u-shaped” configuration (a view supported by other specialist), as opposed to a linear configuration that would cause two or all three of the buildings to read as one, larger building. Large platforms should be kept to a minimum, and new levels should be designed to fit into the surrounding landform, stepping down as the natural topography steps down across the site. Landscaping, soil shaping and low walls can be used to tie buildings into the landscape.

Buildings must be designed to blend with the natural setting and outdoor spaces should be designed so that the landscape appears to flow through the site, rather than impose structures on top of it. Due to dark vegetation backdrop, it's encouraged to use a dark exterior wall and building plinth colour with earth tone accent colours and textures. It's important not to contrast against the dark natural environment as it will result in greater visibility and exposure of the building, but rather to contribute to the natural environment, the sense of place of Keurboomstrand town and the surrounding architectural character.

It must be ensured that sensitive rehabilitation of indigenous and sensitive planting should maintain and the impact of the development and its daily users limited on the natural surrounding environment. Construction clearance and access should also be kept in mind during the design and construction process.

Building heights must be compatible with existing development and avoid creating sharp contrasts with neighbouring structures or with the landscape and townscape at large. The scale of buildings should be appropriate for their uses and should relate to that of the neighbourhood and context.

6.2 Development Area and Offsets

The placement and orientation of any permanent structure on the site should adhere to parameters, guidelines and recommendation as set-out in the VIA Report, Botanical-, Geotechnical- and Typography survey and reports.

The following offsets and setback were extruded from the project team's reports, surveys and guidelines and include Statutory law, guidelines and regulations and incorporated into these guidelines, and should be implemented into the design development, placement and orientation of any building placed on the site, from in order to determine and reflect a development area for the proposed development. These offsets are prominently:

- 1) 30m Scenic Route setback
- 2) 5m Eastern Forest Offset (Botanical sensitive area)
- 3) 1:4 Slope No construction area (Geotechnical sensitive area)

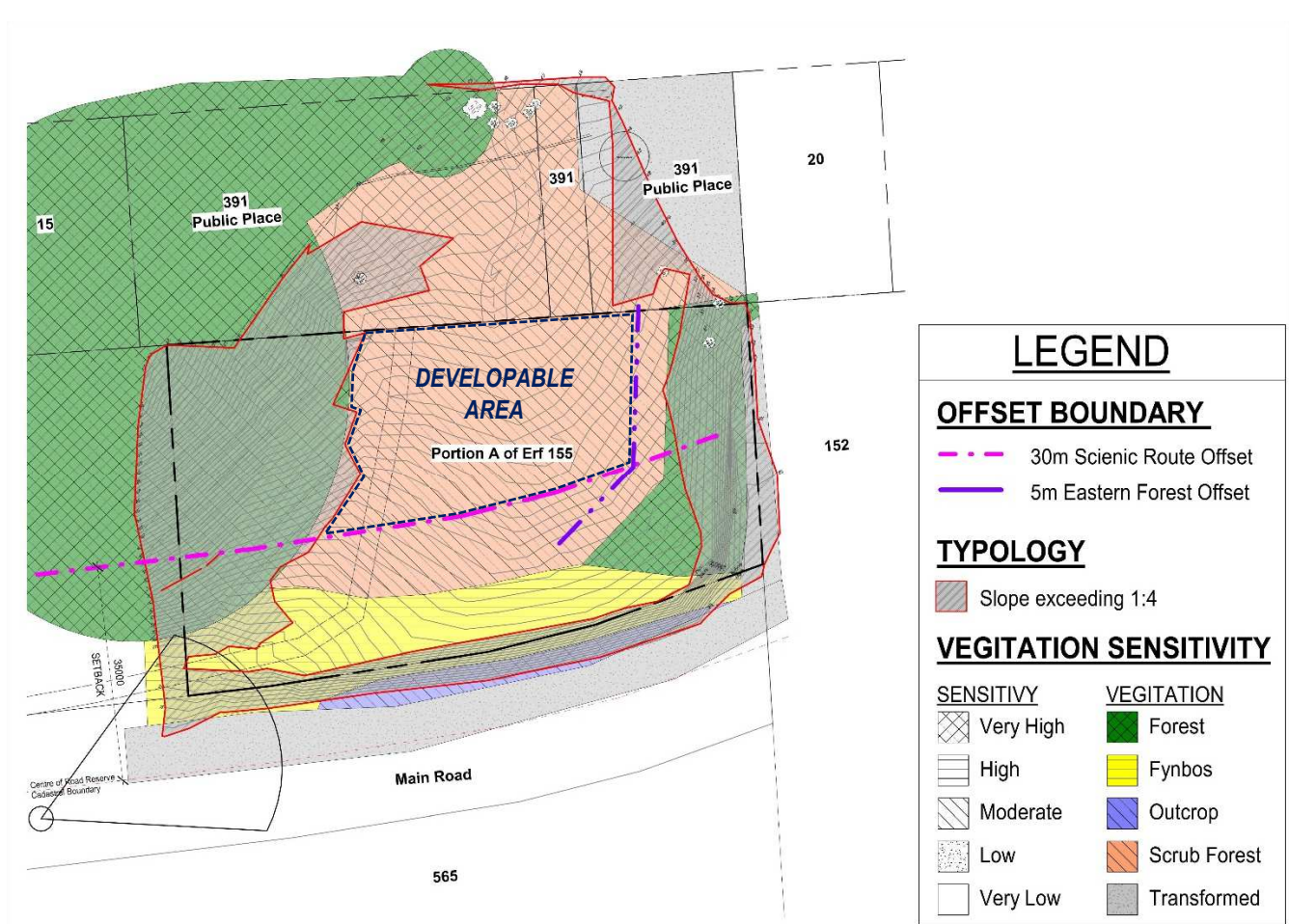


Figure 38: Visual Sensitivity offsets and setback lines (Smit & van der Merwe, 2021)

6.3 Building Form

Core Building:

- Core Buildings, and it’s orientation, must incorporate the natural topography of the site
- Cutting and Filling of the site should be limited and approached with sensitivity in mind

Abutments

- Abutments are rectangular, single storey extensions to the core buildings
- Abutments must be built to the dimensions that are described in this document

Extensions

- Extensions to the Core Building are building structures that are added to the Core Building and linked to it by a flat roof or covered walkway.
- Extensions to the core building must be dimensioned as described further in this document.

Free-Standing Building

- Free-standing building relate to outbuildings such as garages, servant quarters, garden sheds and store rooms
- Free-standing buildings may have flat or pitched roofs

6.4 Building Dimensions

Building heights must be compatible with existing development and avoid creating sharp contrasts with neighbouring structures or with the landscape and townscape at large. The scale of buildings should be appropriate for their uses and should relate to that of the neighbourhood. Prescriptions relevant to the width and heights of the core building, abutments and free-standing buildings.

Building Width:

- Core Buildings: Max. 20m
- Abutments: Max. 4,5m
- Free-standing: Min. 3m Max. 8m

Building Height:

- Core Buildings: Max. 8m
- Abutments: Max. 7,5m
- Free-standing: Max. 4m
- Garages: Max 3m

6.5 Building Coverage

Coverage:

- Maximum site coverage is 50% (2 500m²)

Bulk:

- The floor area of a building(s) may not be less than 20% of the site area.
- The floor area includes the floor area of the house and garages, but excludes verandas and stoeps.

Parking:

- 2x Parking Bays per dwelling unit to be provided
- No street parking allowed

6.6 Building Height

The building envelope, including chimneys, must not protrude above the 8m height restriction. The Bitou Municipality's zoning scheme does not provide specific guidance as to how the base level measurement is taken, but does provide definitions to determine "Storey" and "Basement" heights:

- a) "Storey" means a single level of a building, excluding a basement, which does not exceed a height of 4 m, measured from finished floor level to finished floor level or the top of the ceiling in the case of the top storey.
- b) "Basement" means that portion of a building, the finished floor level of which is at least 2 m below, or the ceiling of which is at most 1 m above, a level halfway between the highest and lowest natural levels of the ground immediately contiguous to the building.

6.7 Building Platform

Dwellings designed for a levelled site cannot be incorporated as it be an inappropriate environmental response which will require large embankments and retaining structures. Large platforms should be kept to a minimum, and new levels should be designed to respond to the surrounding landform, stepping down as the natural topography steps down across the site.

The design should incorporate terraced levels which response to the natural topography. The floor level may not exceed 1m above the natural ground level. Landscaping, Earth and low walls is encouraged be used to tie buildings into the landscape.

6.8 Roofs

General:

- It's encouraged that roofs to be an extension of the landscape and potentially that building spaces and requirements is located on the roof area, opposed to an exposed roof material. Examples of building spaces and requirements that may be located on the roof area, to enhance the development potential and bulk of the site, include parking, outdoor living space, roof terraces, landscaping and walkways.
- Major forms are to be roofed with rectilinear roof plans.

Roof Types:

Permissible roof types:

- Core Building and abutments: Single and flat roofs (double-pitched roofs only for single storey buildings)
- Extensions: Flat or single-pitched roofs
- Free-Standing Building: Flat roofs

Not permissible roof types:

- Mansard roof; Tiled roofs, Hipped ends; Fibre cement, tiled and slate roofs; IBR profile roof sheeting, Thatched roofs.

General:

- Flat roofs are only allowed as a major form on single storey buildings.
- 40% of all flat roofs (excluding garages) shall be used as covered roof terraces, should the flat roof exceed 25m².
- Flat roofs to be hidden behind parapet walls.

Roof Material:

Pitched roofs: Metal concealed-fix roof sheeting.

Flat roofs: Concrete

Roof Pitch:

Core Building: Pitched @ min 4° degrees and max 10° degrees

Abutments: Pitched @ min 3° degrees and max 10° degrees (Adjacent to vertical wall of core building form)

Extensions: Pitched @ min 3° degrees and max 4° degrees

Roof Material Finish and Color

Metal roof sheeting:

- Standard factory finished.
- Dark (Charcoal) Color
- Flashing and counterflashing colour to match roofsheeting colour.

Flat roofs:

- Flat roofs to be covered with min. 50mm thick washed chip stone surface and/ or tiled/ paved as defined under external surfaces or indigenous sustainable planting as defined by a landscape specialist
- Flat roofs may be used as terraces

Verandah roofs:

- Verandah roof colour to match core building roof colour

Skylight and roof light:

- Skylight and roof lights are permitted.
- Skylights to be installed flush with roof surface and the framework to match the roof colour
- Glare exposure should be eliminated.

6.9 Gables, parapets, eaves, gutters and downpipes

General:

Flashing and fascia's to match roof colour

Gutters and downpipes to match exterior wall colour or roof colour (no white pipes, if exterior wall colour is not matched in colour)

Gables:

No gables allowed

Parapets:

Parapets allowed on minor-, major building forms and garages.

Parapets walls to be maximum 800mm from highest point of the roof level.

No decorative detailing to be allowed on parapet walls

Eaves:

Eaves to have overhang of 200-600mm (Eaves overhang to be in portion with building scale)

Fascia's to be timber, fibre cement or PVC. Fascia's to match roof colour.

Gutters:

Gutters are to be Ogee-profiled continuous seamless powder coated aluminum gutters.

Gutters colour to match the wall or roofsheeting colour

Down pipes:

Down pipes to be of round PVC or box Aluminum. No white PVC downpipes.

Down pipes to be finished in white, the approved accent colour, or darker colour to match the roof colour.

6.10 Materials and Colours

- Consistency of materiality and their finishes (Color and Textures) is key to the development with regards to the buildings, site and its context.
- Materials should be appropriate for the climate, ecology, texture and scale of the site and should be capable of weathering well over time.
- A material palette should be established and maintained throughout the development.
- The colour palette for materiality and finishes must draw on the colouring of the natural environment, preferencing mid-tone to darker colouring to blend with forest vegetation or lighter (not reflective, light, white, or beige) colouring to blend with fynbos vegetation.
- If natural material such as stone is used, the material must be locally sourced and match the colouring (and, if possible, the geological origins) of the site and receiving environment.
- Materials and finishes may not consist of bright colours, highly reflective surfaces or gratuitous use of glass. Curtain walls, windows, skylights and other glazing features must be shaded/set back under overhangs or similar to prevent glare, especially in the direction of sensitive receptors identified.

- The use of exposed metal must be kept to a bare minimum, and any potentially shiny or reflective surfaces must be avoided altogether, or covered with matte, non-reflective finishes.

6.11 Exterior Walls and Cladding

Exterior walls

General:

- Blank, unarticulated walls and tall chimney columns (especially on the southern and eastern interfaces) should be avoided.

Permissible wall types:

- Off-shutter concrete (plastered and painted)
- Cladding: Natural Stone, Nutec fibre cement boards, weathered timber cladding

Not permissible wall types:

- Off shutter concrete (unplastered and unpainted)
- Face-Brick Masonry

Plastered and Painted:

- If exterior walls are plastered and painted, only bagged, smooth or vertical brushed plaster will be permissible.
- No light (white) wall colour to be used

Cladding

Permissible cladding:

- Natural Stone
- Nutec fibre cement boards
- weathered timber cladding

Not permissible wall types:

- Concrete (unplastered and unpainted)
- Tiles

6.12 Retaining Structures, Boundary- and Yard Walls

Retaining Structures

General:

- It's evident that cutting and filling of the site is unavoidable due to natural sloping topology of the site. However, the design should be sympathetic towards the natural contours, and be stepped so that retaining structures are maximum 1,5 above/ below the surveyed natural ground level. Steps in between retaining structures should be at least 750mm apart from each other.
- No retaining structure are permitted to protrude beyond the allocated surveyed development area

Permissible retaining structures:

- Dry-packed natural stone (stone colour to match context stone colour)
- Plaster and painted Masonry or Concrete wall

Not permissible retaining structures:

- Off-shutter reinforced concrete walls (unpatented and unpainted)
- Corten Steel (if not visible on dwellings)

Boundary walls and Fences

General:

- Boundary wall is not encouraged, should be limited and only used as a retaining structure where necessary. Natural vegetation and steep slopes to be incorporated as security measure
- Fences is only encouraged as security measurement and containing pets on the site.
- Boundary walls and fences should form a cohesive part of the primary building form. It should be perceived as an extension of the buildings
- On a slope, the masonry, concrete or stone walls should follow (step) the natural ground contours of the site.
- Fencing is not permissible to follow the boundary of the development or site.
- No barbed wires or razor wires are permissible
- Visible alarm systems and electric fencing is not encouraged

Size:

- 2,1m max permissible wall height
- 9m max permissible length without stepping

Material:

- To be earth-toned to contribute to the natural environment
- Natural stone, timber and Clearvu Fencing (Dark) are permissible
- Exposed off-shutter concrete (unplastered and unpainted) are not permissible

Color:

- All boundary walls and fences, except painted and plastered walls, to consist of a natural dark colour to match to contextual vegetation colour palette and textures.

Gates:

- Gate height to match the height of the wall
- Gate colour to match the colour of fence/ boundary wall
- Fences and walls must have piers at gate openings and should be in proportion to the height of the wall

Yard walls

- All Yard walls to 1,8m to 2,1m high
- All service equipment, including washing lines, to be screened (hidden) behind a wall

6.13 Window and Doors

General:

- Clerestory (high-level) windows are permissible
- Dormer and gable windows are not permissible
- Cottage-pane windows and doors are not permissible
- No arched windows are permissible
- Horizontal sliding timber or powder coated aluminum doors are encourages (as per the NBR and XA calculations)

- Total window and door surface may not exceed 30% of the total wall surface area on wall subject to the local authority light and ventilation requirements

Frames:

- Only a single window frame colour per dwelling is permissible.
- Unpainted timber (Stained, oiled, sealed)
- Power Coated Aluminum (Dark Color)

Shutters:

- Shutters too match exterior wall colour
- If timber window and door frames is being used, shutters may also be unpainted timber (stained, oiled, sealed)

Glass:

- Glass standards to conform to National Building Regulations and XA calculations for energy saving and efficiency
- Glass glare to be limited
- Curtain walls, windows, skylights and other glazing features must be shaded/set back under overhangs or similar to prevent glare, especially in the direction of sensitive receptors identified.

Burglar Bars:

- External burglar bars are not permitted. If essentially required, only interior mounted burglar bars are permitted (clear Perspex bars or wrought-iron burglar bars)

Window Sills and Plaster bands:

- Window sills colour to match the colour of exterior wall colour
- No decorative window sills
- Window sills to contain a weather drip
- No decorative plaster bands
- Plasterband proportion to be in relation to window/ door opening and frame size and to the portions of the façade.

6.14 External Floors, Driveways and Walkways

Driveway

- Natural Masonry clay brick pavers and cobble stone or Sandstone concrete cobbles or grass block are permissible (Natural colour) with contrasting borders to the field paver
- No exposed concrete driveway is permissible
- Access road to be minimum 5,5m wide

6.15 Stoeps and Veranda's

- Veranda's is to be integrated in design of the larger development scale and not to alienated.
- Veranda roof colour to match the primary building's roof colour.

6.16 Balconies, roof terraces and balustrades

Balconies

- Balcony roofs to relate to character of dwelling and may be an extension of the major plan form's roof.
- Balconies structural supports to adhere to the specification as set-out for Veranda's and Pergola's.

Balustrades

Permissible Balustrades:

- Plaster and painted masonry / concrete balustrade walls
- Glass balustrades
- Stainless Steel and cable balustrades
- Dark Powder coated aluminum

Not Permissible balustrades

- Balustrade to be min 1m high

6.17 Pergolas, Awnings and shading devices

General

- No shade cloth is permissible

Pergola's

- Encouraged to be timber (unpainted, oiled and stained). Steel, iron and Aluminum pergolas are permissible if painted a dark colour (charcoal).

Awnings

- Including umbrellas and other shading devices, should consist of a natural canvas colour (cream). No stripes or bright colours is permissible.

Beams and piers:

- Natural Stone piers to be min 340x340mm
- Plastered masonry peers to match exterior wall colour of primary dwelling
- Single or double timber/ Steel posts to be min 100x100mm. Portions should relate to windows/ doors

6.18 Garages and Carports

Garages

Garage Types:

- Garage should be of a permanent nature
- Single and/ or double garages is permitted
- Horizontal slats are encouraged (ornate paneled doors are not permissible)
- No golf cart garages permitted

Door Size:

- Maximum garage opening height to be 3m
- Double Garage: May comprise of two individual single garage door or a single double garage door size

Door Material:

- Standard Powder Coated Aluminum

- Timber (Sectional fold-up)

Door Window:

- Garage door windows are permissible, except arched shaped windows

Carports

- Single or Double carports are permitted and must be fully attached to the garage
- Carport roof to match the primary dwelling's roof
- Support structure to adhere to same guidelines as defined under Verandas/ Pergola's

6.19 Mechanical Equipment and services

General:

- All service equipment (water tanks, panels, water cylinders, piping etc.) to be not visible (screened)
- Flat PV panels may be positioned flush on pitched roofs, but should be positioned in such a way to limit glare exposure.

Services Pipes

- No external mounted pipes to be visible. It's encouraged that all plumbing is concealed within shafts
- Sewer and vent pipes to be connected in vertical ducting within wall.

Dishes and Aerials

- Satellite dishes, TV aerials and the similar are permissible, but should be inconspicuous and mostly hidden from the public eye.

Airconditioning

- Airconditioning units must be located and installed at ground floor level
- Units must be screened with max 1,2m high wall
- No window-mounted units allowed

Solar Heating and PV Panels

- PV Panels may be installed on pitched roof, but should be positioned of the roof surface and sub-frame painted to match the roof colour
- Solar Heating panels to be positioned on flat roofs and concealed by parapet walls.

Rainwater Tanks

- Rainwater harvesting and storage on site are permissible
- All rainwater tanks to be screened and placed on ground floor level
- Rainwater types and sizes should be correctly specified according to water harvesting potential (roof area size and rainfall region). It's encouraged to separate water-tanks into smaller tanks and strategic place them where required.
- The location and placement of tanks should have a practical and logical approach

Other

- Refuse bins and clothing lines to be located and screened within Yard walls.
- No geyser allowed to be located on rooftop.
- CCTV cameras should be position to limit their visibility

6.20 Chimneys

- Maximum 1,5m above highest point of roof
- Portion of chimneys should relate to building portions and architectural composition
- Chimneys must be plastered and painted or natural sandstone tiles laid in a horizontal random pattern.
- Stainless Steel modern chimney flute specification and placement should consider glare exposure
- Wind cowls must consist of a non-reflective and non-corrosive material

6.21 External Light Fittings

Light pollution should be avoided and have a limited impact on neighbouring properties, the Scenic route and the cumulative impact of the town's light pollution load. Light fixtures that provide precisely directed illumination to reduce light "spillage" beyond the immediate surrounds of the light source are compulsory.

- External lighting should consist of a low-voltage and energy efficient bulb to avoid light pollution and nuisance.
- Must be subdued (+/-1 Lux) and directed downwards. No upwards directed lighting allowed.
- No exterior lighting to be directed at neighboring property.
- All light fixture to consist of a light cover and diffuser

6.22 Swimming Pools

- The length of swimming pools should run parallel to the contour lines and be limited in size
- No swimming pool to breaks crest of the slope (Ridge line or silhouette).
- No swimming pool should be visible from a lower a lower level.
- No swimming pool may protrude over the natural slopes
- Swimming pool fences and gates to comply with the National Building Regulations (NBR) and SANS 10400.
- Swimming pool to drain into sewerage system and not into landscaping
- Pool decks to be in natural timber and may be max. 1,5m above natural ground level (ngl)
- Pool systems, pumps and pipes should not be visible and must be screened.

6.23 Landscaping

A landscape plan should be implemented which shows the impact on vegetation, the landscape development implementation and management and maintenance thereof. The plan should also include a vegetation protection mythology and must ensure to be consistent, sustainable and visually sensitive specification and maintenance of the landscape over time.

The landscape plan should indicate, address and describe the following aspects:

- Clearing of vegetation
- Landscape / Outdoor Lighting
- Fencing and boundary walls
- Signage
- Material and Finishes
- Plant species and landscape installation
- Environmental and Alien control and management
- Relationship to open, private and public space

- The recommendations and offsets of the Botanical, Geotechnical and Visual specialists must be incorporated into the final design.
- Plant species should be selected according to their growing, operational and maintenance properties which includes its intent of use (privacy, shading, visual, screening etc).
- All plants to be local and indigenous plant species that contribute to the surrounding indigenous vegetation on site

6.24 Clearing of Vegetation

Clearance of vegetation for construction shall extend 2m beyond the approved building footprint in every direction. This includes vegetation clearance for the establishment of the construction site office, materials storage, stockpiling and vehicular access to the site etc.

- All construction activities must be limited to the building footprint and the 2m buffer zone. E.g.: All in-situ material as a result of bulk earthworks and excavations is not to be spoiled outward into the surrounding vegetation.
- Any additional disturbance to local vegetation must be recorded and rehabilitated or re-established according to the Vegetation protection methodology.
- Where vegetation that would otherwise have contributed to the screening of the buildings is removed, damaged or disturbed to the point that it can no longer function as screening, the vegetation shall be replaced in such a way that the replacement vegetation is functional as screening within 8-10 years.
- No additional or temporary roads, driveways, parking or turnaround areas may be established or cleared in addition to those indicated on the Site plan.
- No mass clearing of vegetation to establish flat lawn areas (with specific reference to those requiring retaining walls to create flat areas) should be permitted. Small lawned areas may be accommodated, with measures to prevent the establishment of domesticated grass species in any other part of the site.
- Limited and appropriate soft landscaping may extend further than the 2m offset around the buildings within the Moderate and Low sensitivity areas (refer to the Sensitivity map), but should avoid the protected forest and fynbos vegetation areas (High and Very high sensitivity).

6.25 Privacy and Population

The proposed development should consider and incorporate the impact on its neighboring context and should be limited to its fullest potential. Noise and light pollution should not be directed at neighboring property and should be screened/ reduced when located close to neighboring dwellings. Privacy is also important to limit impact, but also to contribute to the town's seasonal and vacation sense of place.

7 Key Parameters

- Height restriction
- Adhere to Single Residential II Zoning Scheme Regulations
- 1:4 typology slope (no-go areas)
- Botanical Sensitive Areas and Offsets
- Geotechnical Sensitive Areas and Offsets
- Scenic route offset
- Finishes (Material, colour and texture to contribute and blend with natural surrounding)
- Local material, products, (indigenous) plants to be sourced and use
- Building to be nested within vegetation and
- Natural sloping typology and vegetation to assist in security, screening (limit/ break visibility), privacy and noise
- Climatic conditions of the subject to inform and guide the design process and assist in the building operational cost and service requirements. Environmental element assist in building service requirement and running cost. Eg. passive cooling by means of natural ventilation assist by not requiring additional mechanical cooling and ventilation equipment and service (Which also require maintenance and operation building cost)
- Building to be response to natural typology and be an extension of the natural landscape. No large retaining structures, plinths/ building platforms.
- Balanced approach towards cutting and filling of the site
- Limit impact, visibility and pollution (lighting, glare, signage, noise etc) on neighboring property
- Vegetation clearance, especially additional clearance required for the construction phase, should be kept to a minimal.
- The development scale and building forms should relate to contextual building forms. It should be seen as a series of different scale forms extruding from the natural topography and nested between the trees. These building forms is linked (with a relationship between interior and exterior / private and public) with covered walkways, pathways and landscaping elements as an extension of the natural landscape and environment.
- Light pollution, including glare, must be eliminated and only implemented where required with the necessary precautions taken.

8 Conclusion

Adding to the general design approach consideration, the following should also be considered and incorporated into the proposed development design

The building form, elements and materiality should be conceived as an extension of the natural environment and landscape. This can be achieved by sharing building resources and requirements.

Examples:

- Parking, roof Terrace and landscaping to serve as rooftops (insulation, multi-purpose space, increase development potential, great visual response and approximations)
- The building can be cut into landscape to decrease visibility and increase building mass (insulation). It also has the potential to increase development bulk and potential with a limited visual impact. Basements can also be used and serve as retaining and building plinth structures.
- Use of environmental and climate resources to limit building operational, maintenance and service requirements.
Climate resources such as water harvesting, passive cooling and heating, solar gain and shading, natural ventilation can assist in reducing the building services required (also reduce visibility and limit screening requirement for services) and building operational cost
- Vegetation can be used for shading, screening, visibility, landscaping, privacy, security and noise population reduction

The development potential is limited due to sensitivity constraints posed by the site's natural sloping topography and vegetation/ plant species which has a direct impact on the site vegetation clearance area for the construction and development of the proposed. The development is also limited due to high visual resources and sensitivity of the site, scenic route and greater receiving environment.

It's also important to note that the development must not be intrusive on the its surrounding context, especially due to its nature, location and potential impact on sensitive receptors. Privacy, visibility and noise- and light pollution is of importance so that the development is conceived as not to be occupied permanently and contribute to the local town's seasonal and vacation atmosphere.

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