



EXPRESSION OF INTEREST (EOI) IN RESPECT OF REDEVELOPMENT OF THE VIRGINIA AIRPORT PRECINCT

EOI CONTRACT NO:	TENDER DESCRIPTIONS	SITE SIZE
7E – 27754	EXPRESSION OF INTEREST: REDEVELOPMENT OF THE VIRGINIA AIRPORT PRECINCT	26.203Ha
Briefing Sessions	The Bidders are advised that a non-compulsory briefing session will be held on the Expression of Interest (EOI) on 14 March 2024 from 11:00 to 12:00 on Teams. The purpose of this session is only for Bidders to gain clarity about the compliance documents that need to be submitted to meet the requirements in the EOI and no other matter. Bidders are requested to send a confirmation email by the 08 March 2024 @ 12:00, to the contact email addresses in the EOI, in order to receive a Teams link meeting invite.	
Delivery of bid	Ground floor Engineering Unit, Municipal Centre 166 K.E. Masinga Road (formerly Old Fort Road) DURBAN	
Closing Date	31 May 2024 @ 11:00am	
Requests and Clarifications	Email queries to be submitted by 16 April 2024 and consolidated answers to questions will be uploaded 24 April 2024.	
Contact for queries	Phumlani.zondi@durban.gov.za and Yanga.gagela@durban.gov.za	
Note to Bidders:	N/A	



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1 Disclaimer

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ETHEKWINI MUNICIPALITY reserves the right to amend, modify or withdraw this EOI or any part of it, at any time, without prior notice and without liability to compensate or reimburse any person pursuant to such amendment, modification, withdrawal, or termination.

The terms and conditions set out in this EOI are stipulated for the express benefit of ETHEKWINI MUNICIPALITY and, save as expressly stated to the contrary, may be waived at ETHEKWINI MUNICIPALITY's sole discretion at any time.

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2 Definitions and Interpretation

In this Document, except as otherwise defined herein, the following terms shall have the following meanings:

- 2.1 Bidder** - any entity or consortium that submits a Bid Response, which must be either a Project Company or a consortium of legal entities, all of whom shall become shareholders (either themselves or through an intermediary entity) in a Project Company, who submits a Bid Response;
- 2.2 Bid Response** - any bid submitted by a Bidder in response to the invitation contained in the RFP to be issued by ETHEKWINI MUNICIPALITY within its sole and absolute discretion;
- 2.3 Consents** - all consents, permits, clearances, authorizations, approvals, decisions, required to be issued by or made with any Responsible Authority in connection with the performance of any of the Construction, Operation and maintenance of the Property by the Project Company;
- 2.4 Document** - this explanation and expression of interest document for the Redevelopment of The Virginia Airport Precinct
- 2.5 Preferred Bidder** – any Bidder that is selected by ETHEKWINI MUNICIPALITY pursuant to the issuing of an RFP for the Redevelopment of The Virginia Airport Precinct following qualification and evaluation of the Bid Response submitted by the Bidder;
- 2.6 Project** - the Redevelopment of The Virginia Airport Precinct by Respondent;
- 2.7 Project Company** - the company that a Bidder proposes using as the vehicle to undertake the Bidder’s Project, that is the subject matter of a Bid Response;
- 2.8 Project Officer** – the person appointed by ETHEKWINI MUNICIPALITY as the project officer in respect of the Redevelopment of The Virginia Airport Precinct
- 2.9 Project Site** - the site(s) upon which the Redevelopment of The Virginia Airport Precinct are to be constructed and operated;
- 2.10 Respondent** - any entity or consortium that submits a EOI Response in response to this document.
- 2.11 EOI** – this expression of Interest document to which Respondents are required to

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submit an EOI response to;

2.12 EOI Response – the completed Response form, together with all necessary supporting documents; and

2.13 RFP – the request for qualification and proposals to be issued to the short-listed Respondents, in respect of the ETHEKWINI MUNICIPALITY Redevelopment of The Virginia Airport Precinct, in due course.

3 LIST OF FIGURES AND ANNEXURES

- Figure 1: Location of the Virginia Airport development site within National, Provincial and Regional which is part of the eThekweni Metropolitan area in Kwazulu-Natal, South Africa.
- Figure 2: The location of the development site within the eThekweni.
- Figure 3: Aerial view of Virginia Airport towards the north in context of Northern suburbs
- Figure 4: Aerial view of Virginia Airport towards the South in context with Gateway and Northern suburbs
- Figure 5: Contextual information regarding land uses and in facility in the surrounding Northern suburbs. (Source: *Virginia Airport Redevelopment high level professional opinion April 2019 Demacon*)
- Figure 6: Existing top structures on the site
- Figure 7: Site extent showing developable area
- Figure 8: Brownfields and green fields developable extent showing 100-year flood line and Environmental Sensitive (D'MOSS) areas and buffer zone.
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- Annexure 3 - Rapid Environmental Risk Assessment



4 INTRODUCTION AND PURPOSE

- 4.1** eThekweni Municipality is the gateway to Africa and Durban has for decades occupied a lead position in South Africa's leisure and recreation market. Apart from the world class Durban International Conference Centre (ICC) and its popular beaches there are several projects identified for mixed use development such as the Beachwood Estate, various sites in the Durban Inner City and Virginia Airport.
- 4.2** The eThekweni Municipality's Economic Development and Economic Recovery Strategies have set the City on a development path that prioritizes investment in infrastructure and promotes private sector partnerships and investments. The recently adopted Economic Development Incentive policy seeks to attract development to the City by offering incentives with a long-term view in growing the city revenue.
- 4.3** Accordingly, the key focus of capital expenditure activities (in addition to service delivery capex), is on catalytic projects which boost rates and services income for the municipality, while also creating employment and improved accessibility.
- 4.4** To this end, major investments are planned for the City which includes the redevelopment of the Virginia Airport site into a mixed-use node. The Virginia Airport site has been assessed as a catalytic project which the City aims to redevelop and reintegrate with its surrounding nodes.
- 4.5** Previously the City received an unsolicited bid for the redevelopment of Virginia Airport into a mixed-use development including commercial, retail, residential, leisure and educational components. The bid was assessed by a technical task team comprising of Supply Chain, Development Planning, Environmental and Management and the Office of the Deputy City Manager Department. It was noted that the bid satisfied the minimum requirements of the supply chain policy. However, the municipality chose not to award the bid in order to follow a proper competitive process through the City's Supply Chain Management Chain (SCM).
- 4.6** Pursuant with this goal, the Municipality, through the Supply Chain Management Policy, commence with the process to invite interested suitably qualified and experienced developer teams to respond to this Expression of Interest (EOI) for the redevelopment of Virginia Airport.
- 4.7** It is the intention of the Municipality:
- That this land parcel be developed into its highest and best use potential.
 - That the proposed development should be intentionally focussed on being interesting, innovative, out-of- the-ordinary and internationally benchmarked.



4.8 The City expects that the development that will take place on the site shall comply with the following development outcomes:

- The development trajectory of higher end property and tourism appeal to the North.
- Environmental and place making synergies with the beach area.
- A meaningful empowerment model and employment impact.

4.9 This Terms of Reference (TOR) provides potential interested parties with an overview and information of the:

- Location of the Virginia Airport Precinct, within the Northern eThekweni Region.
- Access to the site.
- Property Attributes and Description.
- Strategic Context.
- The Development, Urban and Architectural Vision.
- Development Submission requirements and information.
- Stakeholder Considerations.
- Land Preparation and Statutory Processes information.
- Infrastructure Development.
- Additional Data Sources.

4.10 The Municipality issues this EOI as the first formal step in a procurement process to ultimately procure a preferred bidder to enter into a lease (and or sale) agreement. Any sale of land may only be considered for a residential component. The commercial component may be leased over a 50-year period. The land disposal method preferred by the Municipality over the site is leasehold however the Respondent will have to differentiate between the Residential component and the Commercial component and provide the municipality with suitable land disposal options for consideration.



5 THE VIRGINIA AIRPORT REDEVELOPMENT PRECINCT – SITE DEVELOPMENT AREA

- 5.1** As part of the National Spatial Development Plan (2013/2014), the Virginia Airport Precinct Plan was developed.
- 5.2** The prime location of Virginia Airport Precinct intends to unlock the potential for new and expansionary investment within the broader City and Virginia Precinct and directly surrounding the site (Beachwood golf course, Gateway shopping mall, Umhlanga Rocks Village, etc.), stimulating long-term growth and development. This process is part of the eThekweni Municipality's economic development strategy, aimed at attracting private investors to the Durban North.
- 5.3** The quantum of vacant, underutilized Government-owned land within the Virginia Airport Precinct provides a unique opportunity for the regeneration of the Durban Inner City. However, the role of South African Municipalities is to facilitate development and not act as developers. Therefore, there is a need to engage in a public process to facilitate the call for proposals for a mixed-use development for part of the Virginia Airport Precinct.
- 5.4** This Expression of Interest will involve inviting suitably qualified and experienced Property Developers/ Consortium to submit proposals expressing their interest in the Virginia Airport site for mixed-use property development and investment purposes.
- 5.5** Within the eThekweni Municipality, it is the role Catalytic Projects Unit (CPU) to facilitate the development of key investment initiatives within the Municipality. The CPU is being supported by the Real Estate Department in this process.
- 5.6** This EOI document provides potential interested parties with an overview and information on the following:
- 5.6.1 Strategic Context and Location: Location Virginia Airport Durban North
 - 5.6.2 Site / Property Description
 - 5.6.3 Bidders' response to the development
 - 5.6.4 Virginia Airport Precinct: Planning Background and Legal Status



5.6.5 The Development Vision including the Urban and Architectural Vision

5.6.6 Stakeholder Considerations

5.6.7 Infrastructure Development (high level)

5.6.8 Additional Data Sources

6 OBJECTIVE CRITERIA

- 6.1** The Objective Criteria is framed in terms of Paragraph 2(1)(f) of the Preferential Procurement Policy Framework Act 5 of 2000 is to give effect to Section 25 (5) of the Constitution of the Republic of South Africa.
- 6.2** In line with Section 25 (5) of the Constitution "The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis."
- 6.3** The objective criteria will be applied in the following manner:
- 6.4** The demographic profile of property ownership or access to property will be assessed using the Municipality's lease register in relation to the location of the subject property and the level of participation in the sector. Preference will be given to the most underrepresented groups within that property profile.



7 OBJECTIVE OF THE EOI PROCESS

- 7.1** The EOI documentation (which expression shall include all other information, written or oral, made available during the procurement process) is being made available by the Municipality Respondents on the condition that it is used solely for the purpose of considering whether or not to submit a Response, and if affirmative, to submit a Response in sufficient detail to allow the Municipality to shortlist Respondents who will participate in the RFP stage of this procurement process, and for no other purpose.
- 7.2** The Municipality issues this EOI as the first formal step in a procurement process to ultimately procure a preferred bidder to enter into a lease (and or sale) agreement for this Project.
- 7.3** The objective of this EOI is to provide prospective Respondents with sufficient background information in relation to the Project (i) to allow the Municipality to take an informed decision as to whether to continue with the procurement process, and (ii) for those who are shortlisted by the Municipality to be invited to submit a full and informative response in the next stage of the procurement process.
- 7.4** The purpose of this EOI is to allow the Municipality to establish a list of shortlisted Respondents who are adjudged to be sufficiently experienced and committed organisations.
- 7.5** The Municipality therefore seeks Responses from experienced and committed organisations who wish to be shortlisted and in due course be given the opportunity to bid at RFP stage.
- 7.6** The Municipality has elected to employ a two-stage procurement process, namely a EOI stage to be followed by an RFP stage. It is accordingly envisaged that –
- 7.6.1 Responses to this EOI will be to produce a list of shortlisted Respondents;
 - 7.6.2 the Municipality will approve the shortlisted Respondents.
 - 7.6.3 shortlisted Respondents will be issued with an RFP in due course, inviting them to submit proposals in response to the RFP to undertake the project.



7.6.4 the shortlisted Respondents will then submit their proposals; and

7.6.5 an evaluation of the proposals will be undertaken by the Department with the view to select a preferred bidder and a reserve bidder.

7.7 All MBD forms in this EOI must be properly completed as required, and the document shall not be taken apart or altered in any way whatsoever. Failure to complete the MBD Forms to the satisfaction of the Municipality will lead to rejection of the Response on the grounds that the Response is not responsive.

7.8 The Municipality in issuing out this EOI documentation, must ensure that it adheres to the PoPI Act. As part of the requirements of the PoPI Act, all Respondents are requested to consent to the processing of their personal information, and as such are required to complete and sign the section 11 PoPI Act consent form, contained in Annexure 1 (POPI Act Consent for Proposals), if they wish for their submission or Response to be evaluated.

7.9 The Municipality reserves the right to reject a Respondent's Response at any time.

7.10 The outcome of the EOI process will culminate in Council and SCM approving shortlisted Respondents who will be invited to submit a proposal in the RFP stage. No other bids, other than those approved shortlisted bids from the EOI process, will be allowed to tender for the RFP process on this project. The RFP process will follow a separate procurement process.

7.11 The Municipality has no obligation to pursue the procurement process at any stage if the process is deemed unfeasible and can withdraw the Bid.



8 BIDDERS RESPONSE TO THE DEVELOPMENT

8.1 The future redevelopment of the Virginia Airport Precinct should consider the following site requirements as a guide as to the needs of the City:

- a) Enhance the positioning of the municipality as a port and ocean city and to capitalize on the strength of this natural endowment.
- b) Be a vibrant 24-hour node along the M4 corridor integrated with the Inner City.
- c) Be of the highest-best use practice; maximizing the revenue potential to the City from the development.
- d) Contribute to the socio-economic goals of the City in terms of economic growth, employment creation and poverty alleviation for the vast majority of the City's residents.
- e) Embody all the principles of sustainability, environmental-friendliness and Spatial Planning and Land Use Management Act principles as contained in various legislations that govern development in the City.
- f) Amongst other land use options; the development of high-end residential units, a luxurious precinct with supporting tourism and leisure activities.
- g) Be a luxurious international destination with all the supporting urban amenities.
- h) The vision of the Municipality is to develop Virginia Airport into financially viable mixed-use node.

8.2 Guidelines to the Concept Development - The following below are some key guidelines to inform the concept plan development:

Should accommodate a mixture of land uses taking advantage and appreciation of the site's coastal location and investment and market potential.

- b) Encourage development which complement and integrate into the surrounding land uses and activities such as the existing high-end residential accommodation of Durban North, the luxurious upcoming Beachwood Estate, the coastal belt and public spaces within a well- balanced and sustainable urban structure.
- c) Be guided by the municipal strategic plans such as the SDF, Northern Management Planning Region and all other relevant policies and By-laws.
- d) Should include the vision for the site and a demonstration through land use management, urban design, and sustainable environmental principles how that

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vision will be achieved.

The compulsory design performance criteria that should be reflected in the concept design proposal is outlined in the table below.



Table 1: Compulsory Design and performance Criteria

<p>DESCRIPTION OF DESIGN PERFORMANCE CRITERIA</p>
<p>Conceptual Framework Plan for the Virginia Airport Site</p>
<p>The vision for the development site, based on its identified role within the broader urban context. Translation of the vision into development objectives and design principles to ensure that it is realized at the site level. Indicate the proposed linkages between the site and the surrounding areas and proposed pedestrian linkages (including graphic format).</p> <p>Through text and graphics indicate broad development uses, the movement systems, the urban design issues, and Phasing Plan for the development.</p> <p>Include proposed Development Blocks on the Site including a breakdown of the various proposed floor areas and building bulk.</p> <p>Footprints with proposed FAR, bulk and proposed building heights and number of floors and location and description of proposed public realm spaces (including graphic format).</p>
<p>Mixed use development</p>
<p>The site is to be developed into a mixed-use node with high end residential units and supporting ancillary land uses such as the tourism related activities and entertainment areas. The node should be a vibrant 24-hour coastal node.</p> <p>The node is to accommodate a variety of complementary land uses taking advantage of its coastal location and investment potential. the vision for the site should be to develop this node into a mixed-use node in order to meet the socio-economic benefits of the larger metropolitan area in terms of economic growth, job creation and revenue enhancement for the City.</p> <p>The node should ideally accommodate luxurious land uses and tourism facilities. Attract facilities such as conferencing and hotel facilities to stimulate local economic development and to create a local destination that people are attracted to.</p>



The land use development configuration of the site will be determined by the market.

At this point the municipality anticipates a hybrid tenure approach consisting of both the leased portion and outright sale.

Urban and Architectural Vision

In the assessment of the submission, emphasis will be placed on how the proposals aims to address the urban and architectural vision of the site.

Ideas for land uses to be integrated into its immediate surroundings and place-making on a large site metropolitan scale, considering the sea shadow policy.

Ideas for integration with the overall vision for the NMPR.

Resonating with its location along the coastline and this must extend seamlessly into the proposed land uses, buildings and green spaces and environmentally sensitive areas.

Public Access to the Coast and Pedestrian Permeability

Development along the sea frontage is a privilege and this privilege should be balanced with a responsibility to society at large. Therefore, public access to nodal points along the sea frontage and along the coast to ensure connectivity should be promoted.

Maximizing Natural Advantages

The site is situated on the seafront, approximately 50m from the ocean. The site has been graded flat to accommodate the runway. The elevation of the site is approximately 6m above sea level. There are two exceptions to this:

- The sea fronting portion of the site containing small dune topography of approximately 8m and;



- The M4 facing portion of the site where the elevation increases to approximately 18m in some portions.
- To maximize the potential sea view of the site, the buildings will have to be two to three stories high. The height of the buildings should be sensitive to preserving the vistas of the existing residential development in Virginia and Broadway.

Protecting and enhancing the natural environment

Indigenous coastal dune forest occurs in fragmented patches along the coast.

The portion on the seaward and inland side of the site represents some of the largest intact portions of dune forest along the north coast.

The existing indigenous forest should be protected and enhanced.

In addition, there are portions of urban parkland, left over open space and formal sport/recreational grounds in the urban areas surrounding the site.

Linkages between these sites and the indigenous forest should be established to encourage continuity and promote ecological processes

Movement and Access Points

The site is situated east of the M4 (Leo Boyd/ Northern Freeway) and as a result is very accessible from a sub-regional perspective. However, the site currently only has one access point off a residential street (Fairway/Airport Road).

The future design of the site could incorporate multiple access points to reduce the pressure off Fairway/Airport Road and facilitate permeability through the site.

Additional access points include the extension of the residential roads to the north of the site (Ypsilanti Avenue and The Promenade), and the formalization of the current access routes to the beach.



Place making

The proposal should showcase development architecture reflective of a modern society appreciating and respecting its coastal line. Provide annotated illustrations and written submissions outlining the following:

Ideas for an architecture reflective of a modern society that's improving the socio-economic status of the metro.

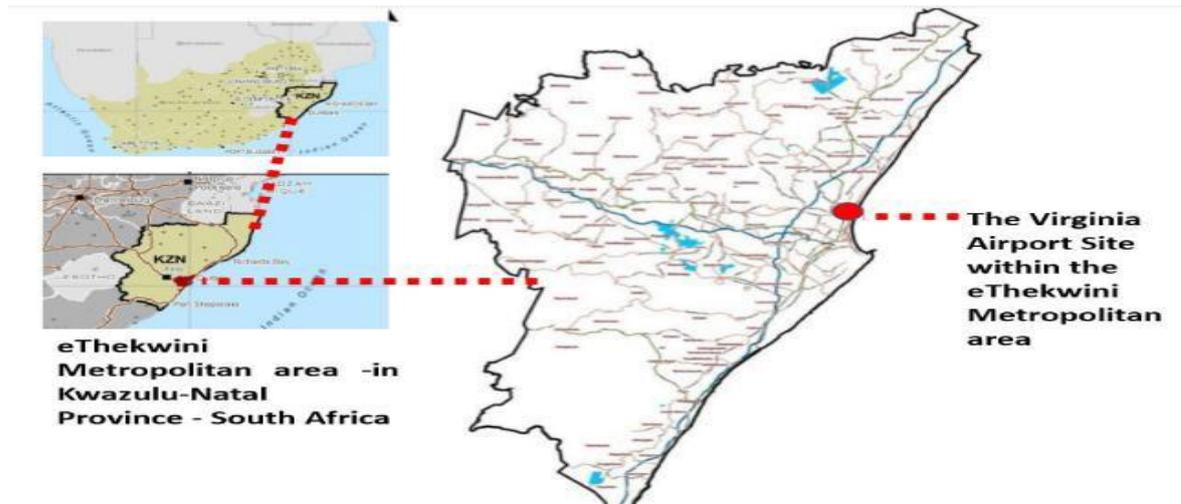
The Development must be that of an innovative style with a strong Environmental and Climate Change accreditation that expresses this status through its buildings, environmental quality, and contextual relationships.

- The Development must represent a pioneering response that promotes social and environmental sustainability in an age of austerity. Ideas to create spaces which are inspiring, memorable, and multi-sensory environments.
- Ideas on spaces that are well suited to all intended user-groups.

9 LOCATION, STRATEGIC CONTEXT AND SITE DESCRIPTION

9.1 The purpose of this Section is to provide contextual information on the Virginia Airport Precinct, and the development site.

Figure 1: Location of the Virginia Airport development site within National, Provincial and Regional which is part of the eThekweni Metropolitan area in Kwazulu-Natal, South Africa.



9.2 The Virginia Airport Precinct

- North of the Durban central business district (CBD) along the coastal line of Durban North, and east of the M4 North (now known as Ruth First Highway)
- Just behind a well-established but sensitive coastal strip of land which runs from the Umgeni River in the south to the Umhlanga Rocks Village Centre in the north.
- South of the development site is the Beachwood golf course which is subject to a major investment
- About 10 kilometres east south from the Gateway shopping mall

Figure 2: The location of the development site within the eThekweni



Figure 3: Aerial view of Virginia Airport towards the north in context of Northern suburbs



Figure 4: Aerial view of Virginia Airport towards the South in context with Gateway and Northern suburbs

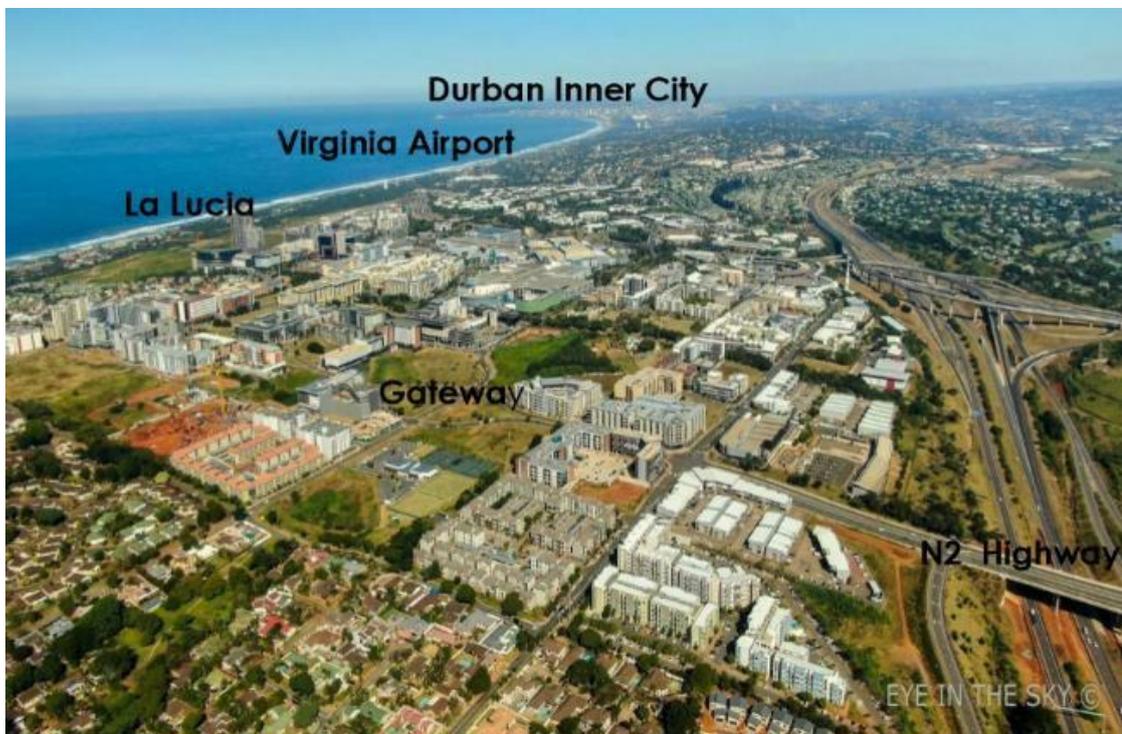
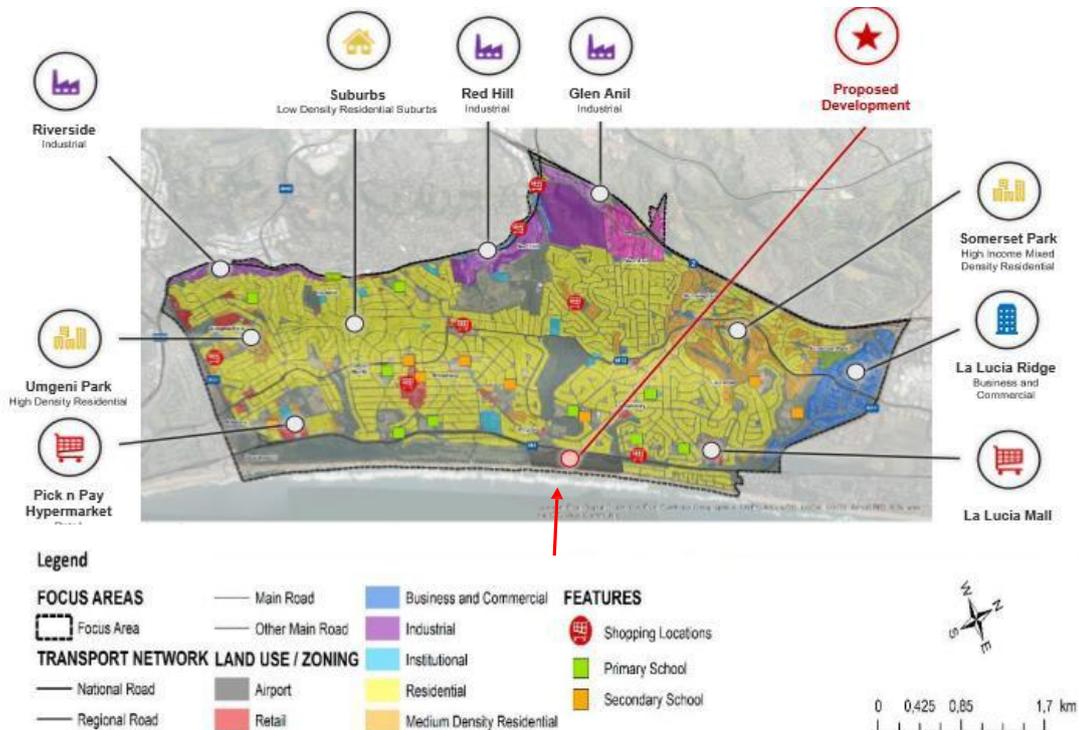


Figure 5: Contextual information regarding land uses and in facility in the surrounding Northern suburbs. (Source: *Virginia Airport Redevelopment high level professional opinion April 2019 Demacon*)



9.3 THE VIRGINIA AIRPORT PRECINCT:

- Measures 26.25 hectares, although the portion with development potential is 9.8 hectares. A detailed feasibility/specialist study will determine the developable area.
- Is currently zoned as an airport in terms of the municipal land use scheme.
- Is owned by the eThekweni Municipality.
- Is currently leased to operators for both business and recreational aviation on a month-to-month basis.
- Stormwater infrastructure is located across the site, including pipework out to sea.
- The site is prone to some flooding during large storms due to Stormwater management issues.
- Is surrounded by Environmentally Sensitive (D'MOSS) areas which require at least a 40m buffer zone.
- The site is serviced with engineering infrastructure services adequate for its current needs.
- Includes ATNS structures, which may be heritage structures.

9.4 THE DEVELOPMENT SITE

The development site comprises of 26.203 hectares with the following key characteristics and features:

- Although the portion with a development potential is 9.8 hectares
- Is currently zoned as an airport in terms of land use.
- Is owned by the eThekweni Local Authority
- Is leased to operators for both business and recreational aviation which expired on or before 25 October 2011.
- Stormwater infrastructure is located across the site
- The site was prone to flooding during storms
- Is impacted by Sea Level Rise and CBA 100m High water mark EIA Buffer and 40m D'Moss.

Figure 6: Existing top structures on the site



- The Virginia Airport comprises of the following infrastructure/facilities:
 - The runway is 925m in length
 - One terminal building with 40 offices, a control tower and a restaurant/bar, 2 fuel bays and maintenance quarters.
 - A fire station.
 - A squash court and swimming pool.

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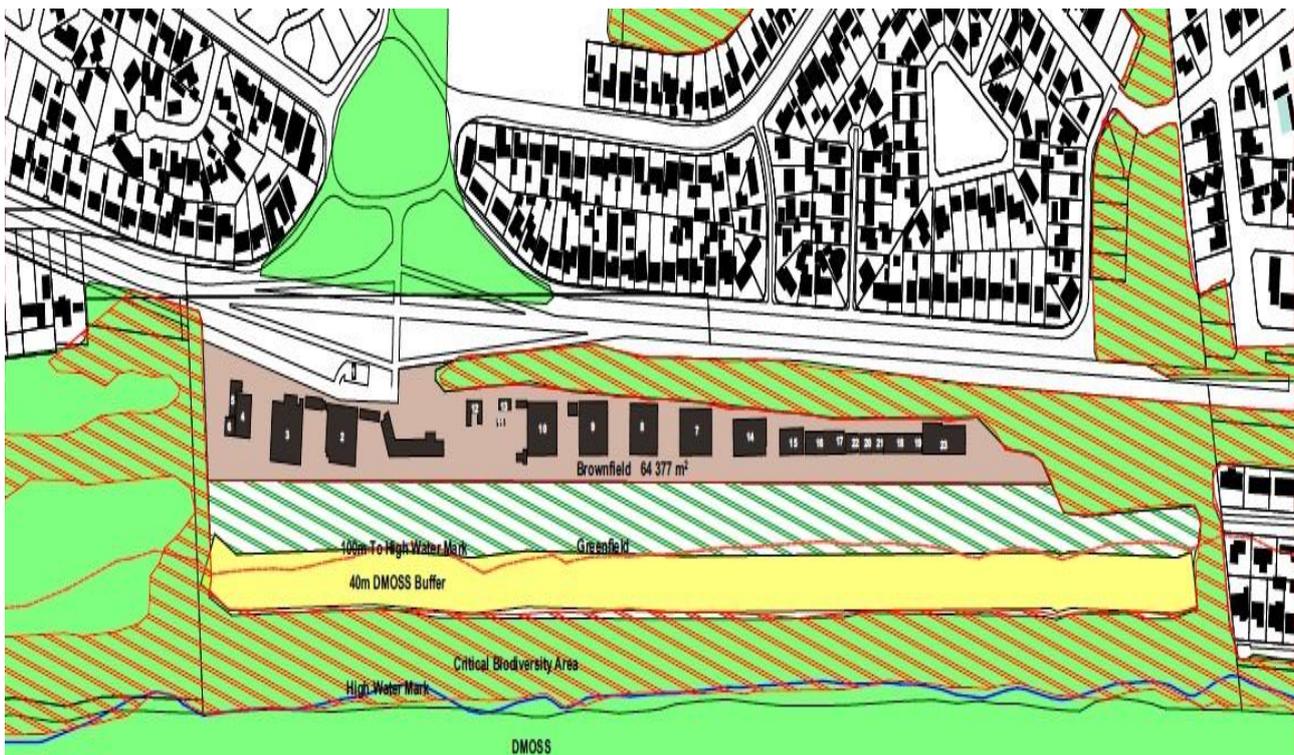


- o Sixteen hangars (a total area of about 16 650m²) ranging from in excellent condition (nearly brand new) to in poor condition. Most of the operators own the hangars but lease the land on which its stands from eThekweni Municipality.

Figure 7: Site extent showing developable area



Figure 8: Brownfields and green fields developable extent showing 100-year flood line and Environmental Sensitive (D'MOSS) areas and buffer zone.



9.5 Existing Roads Infrastructure

- The site is linked into metropolitan/sub regional transportation network via the M4 and is directly serviced by the Virginia interchange which provides regional access to land on both sides of the M4.
- The interchange forms the northern access point of a local access circulation loop system Fairview Road serving Fairview residential suburb, Beachwood Gold course, Virginia Beach and Virginia Airport.
- Direct access to the site is via Fairway Road which is accessible from the Virginia Airport off ramp (Broadway Road) of the Northern Freeway.

Figure 9: The Site in context to the surrounding Durban North suburbs



9.6 THE CURRENT ZONING





9.7 HAND PLAN

Outlines the extent to the limits of development excluding currently leased areas by the Municipality.

Shows the layout of the two properties abutting each other. Virginia Airport site (Remainder of Proposed Portion (A) of Erf 3193 and Proposed Portion (B) of Erf 3139 both Durban North is owned by eThekweni.

ANNEXURE 1: VIRGINIA AIRPORT PRELIMINARY PROPERTY LAND SURVEYOR PLAN

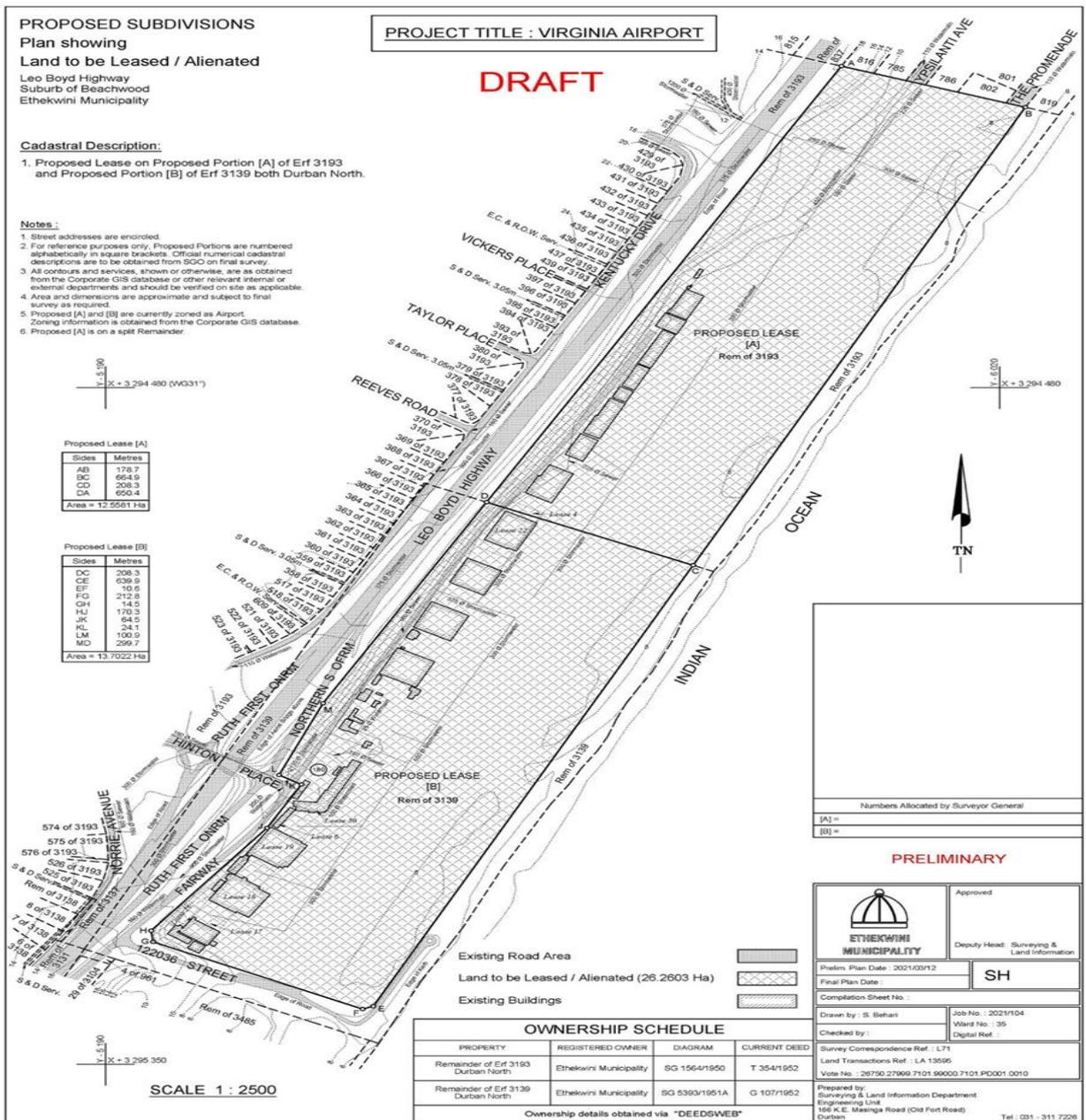




Table 2: Property Attributes

PROPERTY INFORMATION	
Property Description as per hand plan (SH 9980)	Proposed Portion (A) Remainder of Erf 3193 (12.5581 ha) and Proposed Portion (B) Remainder of Erf 3139 Durban North (13.7022 ha)
Ownership	eThekweni Metropolitan Municipality
Locality	27 Fairview Road, Beachwood
Land Size	26.2603 ha (262 603 m ²)
Ward	35
Zoning and development controls in terms of the eThekweni Sub-Scheme	Flight training Commercial flights and support businesses
Current Use	Airport
Heritage	A heritage assessment may be required by AMAFA along with a heritage study and application (triggered by several erven involved and the size of the site).
Structural and Physical feature	The ATNS Tower block may have heritage value and future bidder's will be expected to conduct their own Heritage determinations in terms of the relevant laws.
Geotechnical Conditional	Any geotechnical conditions will be the responsibility of the Developer.



10 VIRGINIA AIRPORT PRECINCT: PLANNING BACKGROUND AND LEGAL STATUS

In terms of the municipal strategic guidelines, Virginia Airport site falls under the Northern Management Planning Region of the eThekweni Municipality. Currently there is no Local Area Plan in place for the development site and the surrounding area. Therefore, in terms of

planning and development, the Northern Spatial Development Plan (NMPR) provides the future role of the broader area and the development site.

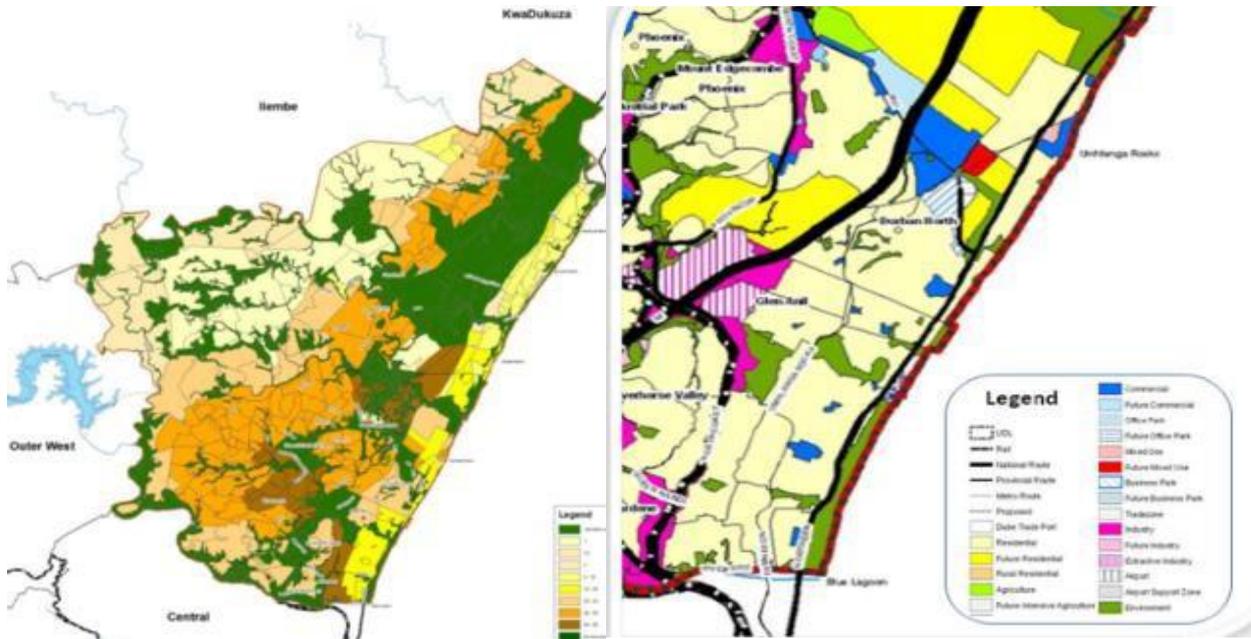
This plan is part of the eThekweni Municipality's 'Package of Plans', and therefore, has legal status.

The NMPR states that the region is to be consolidated as a mixed use and mixed density residential including recreation, entertainment and tourist-oriented corridor and emphasizes the importance of the Northern Coastal Corridor in this region that is situated east of the N2 and is oriented around the M4 and includes the coastal conurbations of Durban North, Umhlanga, Umdloti and Tongaat Beach.

The highly fragile, but relatively intact, coastal assets of this corridor should also be vigorously protected and appropriately developed to provide for residential/recreation and tourism development as reflected in the figures below.

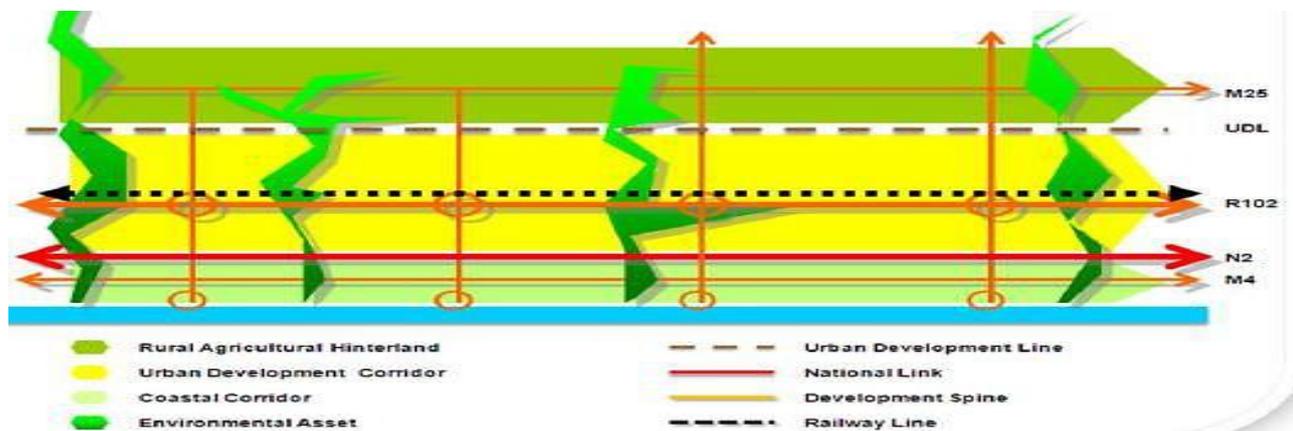
Figure 10: The Northern Spatial Development Plan for eThekweni Municipality

Figure 1: The Northern Spatial Development Plan for eThekweni Municipality



The NMPR envisaged high densities of up to 100 units/ha for the Northern Coastal Corridor around established nodes that will be permitted and densities of up to 75 units/ha will be encouraged in new nodes and along metropolitan spines in accordance with appropriate environmental impact assessment studies. Low densities, maximum of 10 units/ha, are to be enforced adjacent to and within designated buffer zones to sensitive environmental areas and dune corridors. The figure below illustrates the spatial concept for the northern coastal region.

Figure 11: The Spatial Concept for the Northern eThekweni Spatial Region and the Northern Coastal Corridor





11 DEVELOPMENT, URBAN AND ARCHITECTURAL VISION

The vision of the municipality is to redevelop Virginia Airport into a financially viable mixed-use node. The proposed development is to:

- Enhance the positioning of the municipality as a port and ocean city and to capitalise on the strength of this natural endowment.
- Be a vibrant 24-hour node along the M4 corridor integrated with the Inner City.
- Be of the highest-best use practice; maximising the revenue potential to the City from the development.
- Contribute to the socio-economic goals of the City in terms of economic growth, employment creation and poverty alleviation for the vast majority of the City's residents.
- Embody all the principles of sustainability, environmental-friendliness and Spatial Planning and Land Use Management Act principles as contained in various legislations that govern development in the city.
- Amongst other land use options; the development of high-end residential units, a luxurious precinct with supporting tourism and leisure activities.
- Be a luxurious international destination with all the supporting urban amenities.

The following Development Principles as per Northern Spatial Development Framework Plan provides a guide in terms of development and planning for the Virginia Airport Site which include:

- Relevant for Mixed use positioning of the site.
- Potential to become a local level service node.
- Integration with Umgeni River Mouth to be further investigated.

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- Included in Coastal Zone.
- Low Residential Density Corridor.
- Enhance recreational amenity for neighboring residential.
- Low density favoured.
- Protection of Dune Systems.
- Protection and Enhancement of Virginia Bush.
- Bulk service constraints to be address in relation to the development principles set out for the coastal zone.
- The site is not located within the IRPTN framework.
- M4 Realignment / upgrade is favoured for the north of Umdloti.
- Consolidate existing open spaces and parks within residential areas and link into coastal zone.

Figure 12: Spatial concept for the Northern Coastal Corridor development

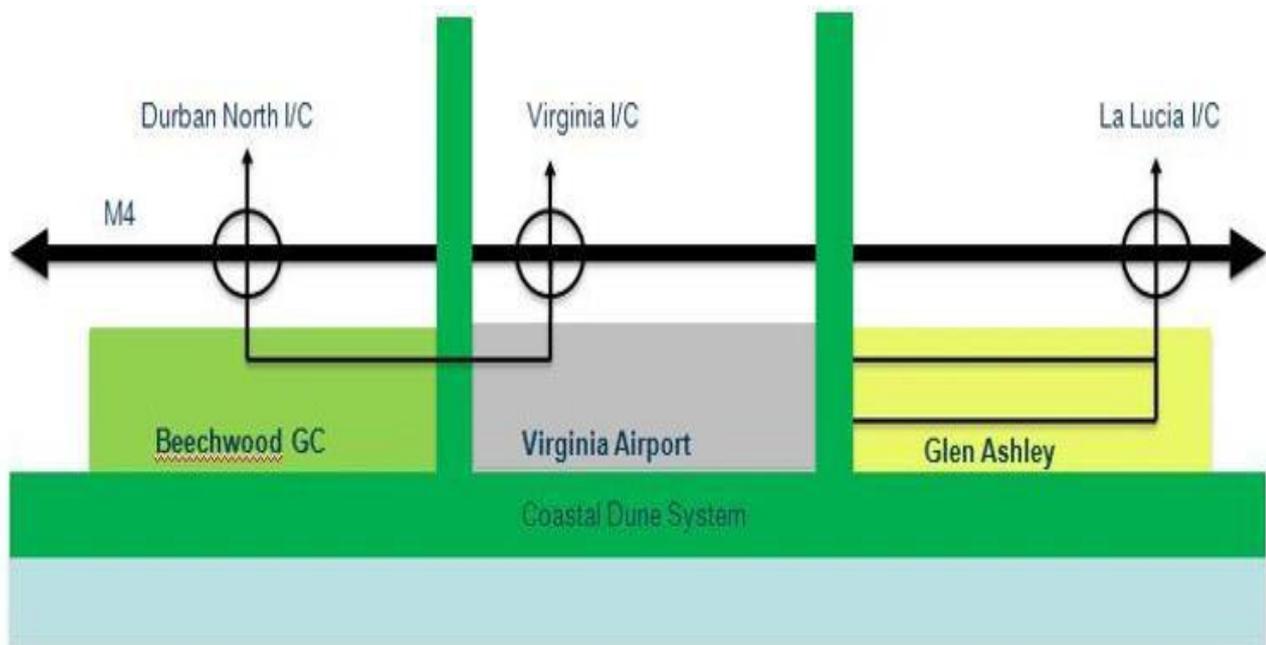


Figure 13: Public access to the coast

**DEVELOPMENT PRINCIPLES
ADOPTED**

Principle 1: Public Access to the Coast and Pedestrian Permeability

Development along the sea frontage is a privilege and this privilege should be balanced with a responsibility to society at large.

Therefore, public access to nodal points along the sea frontage and along the coast to ensure connectivity should be promoted.

Figure 2: Public access to the coast

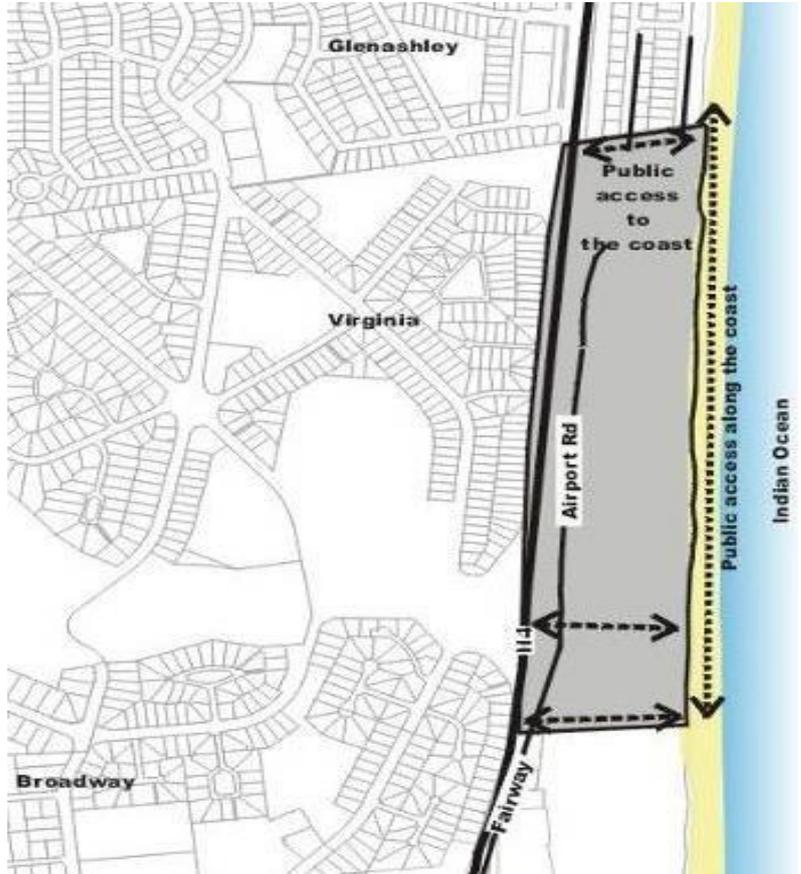


Figure 14: Vistas and views that maximise the natural advantages

Principle 2: Maximising Natural Advantages

The site is situated on the seafront, approximately 50m from the ocean. The site has been graded flat to accommodate the runway. The elevation of the site is approximately 6m above sea level. There are two exceptions to this:

- The sea fronting portion of the site containing small dune topography of approximately 8m, and
- The M4 facing portion of the site where the elevation increases to approximately 18m in some portions.

To maximise the potential sea view of the site, the buildings will have to be two to three storeys high. The height of the buildings should be sensitive to preserving the vistas of the existing residential development in Virginia and Broadway.

Figure 3: Vistas and views that maximise the natural advantages

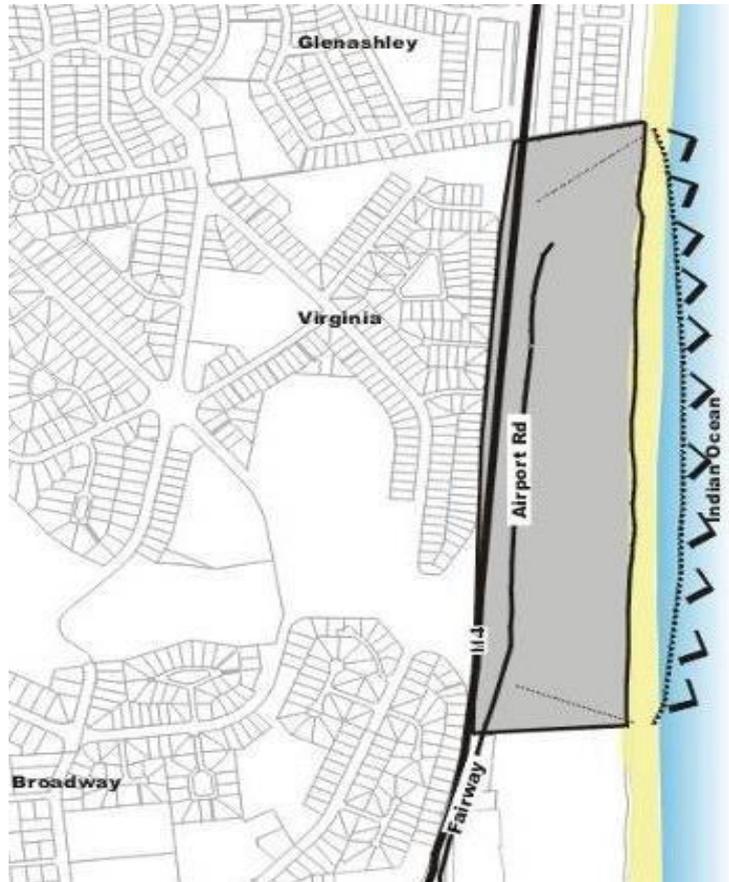


Figure 15: Protection of the natural environment

Principle 3: Protecting and enhancing the natural environment.

Indigenous coastal dune forest occurs in fragmented patches along the coast.

The portion on the seaward and inland side of the site represents some of the largest intact portions of dune forest along the north coast.

The existing indigenous forest should be protected and enhanced. In addition, there are portions of urban parkland, left over open space and formal sport/recreational grounds in the urban areas surrounding the site.

Linkages between these sites and the indigenous forest should be established to encourage continuity and promote ecological processes.

Figure 4: Protection of the natural environment



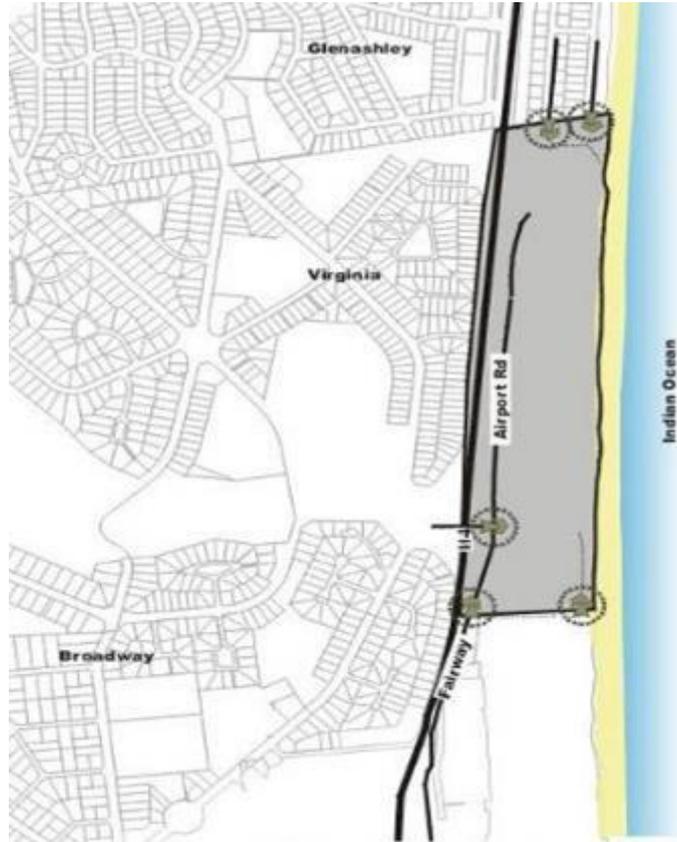
Figure 16: Movement and access points

Principle 4: Movement and Access Points

The site is situated east of the M4 (Leo Boyd/ Northern Freeway) and as a result is very accessible from a sub- regional perspective. However, the site currently only has one access point off a residential street (Fairway/Airport Road). The future design of the site could incorporate multiple access points to reduce the pressure off Fairway/Airport Road and facilitate permeability through the site.

Additional access points include the extension of the residential roads to the north of the site (Ypsilanti Avenue and The Promenade), and the formalisation of the current access routes to the beach.

Figure 5: Movement and access points





12 INFRASTRUCTURE DEVELOPMENT

The bulk infrastructure needs will be guided by the bulk requirements of the proposed development and the current infrastructure.

All bulk infrastructure requirements and existing services on site and surrounds, as well as roads, that require upgrade or relocation due to the Development will be the responsibility of the successful bidder/ Developer including all costs to be incurred to enable the development and will be addressed as part of the planning approval processes between the developer and the municipality. Development charges will be in accordance with the relevant eThekweni Municipal Development Charges Policy at the time.

The current demand and capacity of the existing infrastructure is still to be determined. As the Virginia Airport site and surrounding area are highly developed it is assumed the current water and sewer demand is high, and the existing bulk infrastructure adequately meets these demands. However, this needs to be investigated and confirmed by the Developer.

The following are intended as guidelines based on very high-level input that needs to be reviewed, investigated, and verified by the bidders and the successful developer at the relevant stage of design development. All necessary Infrastructure assessments and investigations are to be undertaken by the developer.

WATER, SEWER, STORMWATER

The Developer is to:

- Conduct a sewer impact assessment from the Virginia Airport site to the Central Wastewater Treatment Works (WWTW) including all associated sewer infrastructure impacted by the proposed development to determine if there is sufficient sewer capacity to accommodate the additional sewer flows generated by the development.
- Provide a report that needs to be submitted to eThekweni Water and Sanitation (EWS) for review and comment.
- Engage with:
 - EWS (Wastewater Planning, Wastewater Design and Sewer Networks Branches) to identify all sanitation infrastructure constraints and obtain all sanitation-associated information to conduct the sewer impact assessment.
 - EWS (Wastewater Planning Branch) to determine if there is available capacity at the Central WWTW
 - EWS (GIS Branch) to obtain the sewer network layout.



Water Infrastructure: The municipality water supply is currently constraint also given the adjacent Beachwood development. The successful developer must engage with the municipality water division based on its demand analysis for the redevelopment of the site to determine available capacity and infrastructure upgrade requirements. Likely the bulk supply line and pump station require upgrading as well.

Sewer Infrastructure: The site is serviced by the Northern Wastewater Treatment Works with a current capacity of 70 ML/day that is operating at capacity of 65 ML. The current planning is to increase the capacity by 30ML/day, which includes provision for the Virginia site redevelopment. However due to the recent flood damage the available budget for these works was reallocated towards rehabilitation of the flood damage with no timeline of when the budget for the upgrade will be reinstated to enable the upgrading.

About the network the existing pump station and sewer pipeline servicing Virginia site is very small and not suitable to accommodate the redevelopment and will have to be upgraded. The successful developer must conduct a detailed sewer impact assessment as per the Terms of Reference that will be provided by the municipality.

Stormwater: The site is at the bottom of a large catchment and a lot of work was done in the past 20 years or so to improve the storm water system from Virginia Circle to the sea. It was designed for a one in ten-year storm but may have slightly less capacity. The culvert onto the beach was extended about 20 years ago but it is still too short so fills with sand, and there is a blockage problem. To accommodate high value redevelopment, the culvert would need to be extended further. The invert is low, and a coffer dam would have to be built to keep the sea at bay during works. The only escape for water from the higher catchment in larger storms is along the road through the underpass which floods the site. The culvert system runs across the site and most of the site drains towards where the culvert crosses. Proper planning and upgrades are required to deal with bigger storms. A flow route could be created but the bidders should be aware that storm water is a challenge on the site. There may be implications in trying to discharge water through the DCA'MOSS portion to the beach because if water is concentrated through one point, it will scour through an area, so attenuation may require the allowance of an attenuation area on the site without flooding properties, or the development have to be raised above existing ground level to avoid buildings being flooded, even if the roads are. It is unlikely another discharge point would be allowed to the beach. A storm water management plan would be required from the successful bidder. Stormwater attenuation needs to be looked at upstream from the site.



ELECTRICITY

Interested bidders must note that the high voltage sub stations in the coastal vicinity of the site were almost fully subscribed, the two most relevant being at Riverside and in the CBD. The purpose of the new Spring Park substation north of Connaught Bridge was to decommission the existing substation. The Virginia development power demand needs to be determined to establish how this can be accommodated given that there may be some spare capacity in the north dependent on other developments taking place to the north and given the capacity of the Connaught Bridge installation that would have to be determined once completed.

TRAFFIC IMPACT STUDIES AND ROAD UPGRADES

It must be noted that Vehicle trips cannot be ascertained at this stage for the proposed Virginia site development as there is no frame of reference considering the adjacent Beachwood resort development TIA. There are potential cadastral constraints on Fairway Road in terms of any upgrades. The Beach way interchange has been upgraded. There are preliminary designs being undertaken inhouse by the municipality in terms of interchange improvements and the M4 widening to three lanes as there are current constraints on the M4, but the funding and or time frames for implementation is unknown. For the proposed redevelopment of the site, there are quite a few mitigations that might be required at least on the interchanges. The types of mixed use would need to be known and the number of trips that could be generated then a full traffic impact assessment would have to be undertaken to know the exact mitigations needed. Road infrastructure requirements may entail expropriation with legal implications which needs to be considered in the process. The successful bidder would have to have a traffic engineer as part of its team, who could liaise with ETA on the status quo and what ETA is proposing in the future.

The successful bidder is to ensure that a traffic impact assessment is approved prior to development on any of the sites that are to be alienated. All costs associated with the transport infrastructure requirements for the development shall be borne by the Developer.

The Developer to note the following requirements:

- Any development proposal is generally subject to a detailed Traffic Impact Assessment and TRL preparation to the approval of ETA Traffic Planning and Engineering Departments.
- The traffic impact assessment should not only cover development impacts but should

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also cover the impact of any possible road closures/modifications, including the impact and measures to mitigate for the road closure in question.

- Final Roadworks Design Drawings to be approved by Roads Provision.
- Works within the road reserve is subject to conditions contained in the Roads Policy Document.

GEOTECHNICAL INVESTIGATIONS

Only the types of the various soils are known and described in Annexure 2.3 (source: E-mail from Debbie Abel, Engineering Geologist, Pavement and Geotechnical Engineering Branch, Roads Provision).

However, the third party has to undertake detailed Geotechnical investigations.



13 INFORMATION TO BE PROVIDED BY THE RESPONDENT IN THIS EOI RESPONSE (MANDATORY)

13.1 General Respondents Request:

- The EOI Response submitted should be as comprehensive as possible and include the information requested below and any supporting documentation in respect thereof.
- Respondents are required to provide as much detail as possible about their proposed project solution, including the necessary commercial arrangements which have been put in place or still need to be put in place. Such information will assist the Municipality in determining the readiness of the market.
- Compliance with the requirements below is mandatory and should form part of the returnable in the Respondent's Response. Failure by a Respondent to comply with the above requirement will result in the Respondent being ineligible for shortlisting.
- Projects of Similar Nature/Relevant for the purposes of this tender are defined as: Large-scale integrated and mixed-use projects involving property development, inter alia retail, residential, amenities and ancillary land uses, which require external and internal engineering services, and with capital investment value of R1 billion and above.

13.2 Responsiveness of the Bidder:

13.2.1 Respondent Details (Mandatory Requirement)

The Respondent will be required to provide the following information about its Project:

- 13.2.1.1 The name and contact details (email address; and telephone number) of the person appointed by the Respondent as its representative in the event that the Project Officer wishes to engage on the Project
- 13.2.1.2 Designation of contact person.
- 13.2.1.3 The main business of the Respondent.
- 13.2.1.4 Which projects has the respondents implemented whether in a municipal, national or other context in a summary format.



13.2.2 Respondent Professional Team (Mandatory Requirement)

- 13.2.2.1 The professional team made up of built environment professionals/specialists as determined by the respondent required for the redevelopment of the site, each to be qualified, registered and at least 10 years post qualification experience.
- 13.2.2.2 Summary of each of the above professionals must include the following below and not exceed a maximum of 3 pages per professional:
- Description or outline of relevant projects worked on, of a similar nature/ experience.
 - Personal Particulars.
 - Qualifications; and
 - Skills.
- 13.2.2.3 Name of current employer and position in enterprise

13.3 Respondent Company Experience (Refer to MBD 21 A and MBD 21 B) (Mandatory Requirement)

In a maximum of 20 pages the following submission is required from Respondents:

- 13.3.1.1 The Lead Respondent company or joint venture partners in the case of an unincorporated joint venture or consortium, in property development of a similar nature and scale must have been a minimum of ten years relevant development experience or at least three property mixed use development projects completed to the value of R1 billion each and above or evidence of its property portfolio that is equal to or exceeds R5 billion. This should be evidenced by MBD 21 B and signed letters of reference from the Sponsors of those projects.
- 13.3.1.2 Lead Respondent companies should describe their experience in this regard and attach this information to the schedule. (Please note that non-compliance with this requirement makes the Respondent's Response invalid)
- 13.3.1.3 Respondent Responses must describe their experience with the following headings:



a) Relevant Development Experience:

- Submissions needs to include descriptions of relevant completed mixed-use projects/development.

b) Property Portfolio Size and Investment Value (Refer to MBD 21B):

- The value of the project/development.
- The square-meterage (m²) of the project/development
- The percentage split of the various land uses within the project/development.
- Market / business success of the project
- Socio-economic benefits yielded from the project.
- Bulk infrastructure upgrade implemented for the project.

c) Project Development Cycle Experience

- Developer's activities and role in the project/development.
- Land legal development experience in the project/development.
- Responsibilities across the project life cycle description of the developer's duties in the project life cycle, what was the developer's involvement with the project/development from inception to completion in terms of pre-feasibility, planning, construction, and facilities management.

d) Proof of Relevant Development Experience

- Submit hard copy of brochures of relevant experience including the dates the projects were undertaken and completed.
- The Respondent must also provide a minimum of 3 (three) client reference letters demonstrate its company experience according to the above requirements. Failure by a Respondent to comply with the above requirement may result in the Respondent being ineligible for shortlisting.



e) Project Innovation Experience: including the following but not limited to:

- Incorporation of green initiatives and sustainability in the into the scheme at a precinct and building scales.
- How the development bulk will be optimized

f) Land legal development Experience

- Projects of Similar Nature/Relevant for the purposes of this tender are defined as: Large-scale integrated and mixed-use projects involving property development, inter alia retail, residential, amenities and ancillary land uses, which require external and internal engineering services, and with capital investment value of R1 billion and above.
- Completed for the purposes of this Response is defined as entire life cycle for a development project to be completed and successfully operational.

13.4 Respondents Project Overview (Mandatory Requirement)

The Respondent is required to provide the following details:

13.4.1 The bidder must prepare a **Concept Site Development (CSD)** Proposal that provides overview of the Project scope, background and expected cost. The CSD Proposal and approach should consider the following:

- Provide clear evidence that the bidder has a clear understanding of the Durban North dynamics and challenges.
- Should indicate that the Respondent has outstanding experience and knowledge of state-of-the-art, and best practice approaches for large scale mixed use urban development nodes.
- Must provide innovative concepts that could enhance the outcomes and the quality of the urban environment, public realm and future mixed-use developments of the Virginia Airport Precinct.
- Should indicate how the Respondent will incorporate green/ecological design principles and sustainable precinct approach.

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- Respondent will have to differentiate between the Residential component and the Commercial component. The CSD must depict areas and location of both the residential and commercial components.

The following below are some key guidelines to inform the crafting of the CSD Proposal (refer to Section 8 of this EOI for more detail):

- a) Urban and Architectural Vision
- b) Linkages and Contextual Connectivity
- c) Place Making Qualities
- d) Enhancement of the Public Realm
- e) Meeting Density Targets and a good Development Mix
- f) Development and City Parking needs Provision
- g) Green/Ecological Design Principles and the Sustainable Precinct Approach
- h) Facilities Management Strategy
- i) Innovation and uniqueness of design concept

13.4.2 Format of CSD proposal (Read in conjunction with Section 15. Format of EOI Response)

The CSD proposal that can consist of either a Poster or Site Hand Plan. The CSD Proposal should communicate key design ideas rather than produce detailed plans.

The CSD proposals should include:

- A poster which outlines the key guidelines (a- i above) in the form of sketches and Cross-sections illustrating key spatial, formal, structural and functional features of the design of the site as a whole for all the buildings and public spaces.
- A report not exceeding 10 pages outlining the basic principles of the design and the general concept of the overall design, including 1 annotated diagram illuminating key aspects of the design; and
- A PowerPoint presentation and 3 dimensional renderings depicting the main aspects of the concept proposal
- The report should comment on the current status of the project regarding project lifecycle stage (concept, design complete, construction commenced, construction complete) including high level costs in Lifecycle staging process.



- Detail to also be provided where relevant on the status of discussions / agreements for land security purposes, whether the project requires any permits or environmental authorization in terms of the National Environmental Management Act, No. 107 of 1998 and, if so, the progress made in obtaining any outstanding regulatory approvals / authorization and anticipated timelines.

13.5 B-BBEE Recognition Level and project contribution to development targets (Mandatory Requirement)

- 13.5.1 Respondents, as part of their Response, are required to demonstrate their B-BBEE Recognition Level or anticipated BBEE ownership for the project.
- 13.5.2 In the case where the Respondent is an incorporated entity, their B-BBEE Recognition Level will be determined with reference to their B-BBEE status level, as indicated in their valid B-BBEE Verification Certificate or sworn affidavit.
- 13.5.3 In the case where a Respondent is an unincorporated joint venture or a Consortium, their B-BBEE Recognition Level will be determined with reference to the consolidated B-BBEE Recognition Level of the joint venture or consortium. In this regard, Respondents that are a consortia are required to submit a consolidated B-BBEE Verification.
- 13.5.4 Indicate the projects' contribution to economic development including job creation during construction and operations, skills development, local content value, and use and development of SMMEs.

13.6 Information relevant to the Project Timing and Risks (Mandatory Requirement)

The Respondent is required to state:

- 13.6.1 What is the current or anticipated project debt or equity funding and if the debt is funded, what are the outstanding terms of the debt agreements.
- 13.6.2 Its anticipated critical path between Financial Close and commercial operation date for the Project.
- 13.6.3 Evaluate project complexity [low/medium/high] and identify any key risks relevant to implementation of project; and



- 13.6.4 Disclose any key issues relevant to timing of the submission of a Bid Response for this Project that the Respondent would like to bring to the attention of ETHEKWINI MUNICIPALITY.

13.7 Information relevant to the Project Financing (Mandatory Requirement)

The Respondent is required to provide a general background on how the Respondent intends to finance the overall Project, including as much detail as possible with respect to:

- 13.7.1 How the Respondent proposes to finance the Project; and
13.7.2 Proposed debt/ equity mix for the Project.

13.8 Additional Information (Mandatory Requirement)

The Respondent is required to provide capability statements demonstrating.

- 13.8.1 The Respondent is required to indicate the project spatial requirements as well as any need for bulk services from ETHEKWINI MUNICIPALITY or other entity to bring about the proposed project.
- 13.8.2 The Respondent is required to indicate any specific access and/or construction requirements.



14. FORMAT AND SUBMISSION OF EOI RESPONSES

14.1 Submission of EOI Responses

- 14.1.1 The EOI Responses must be submitted to ETHEKWINI MUNICIPALITY as specified in the EOI bid cover page.
- 14.1.2 EOI Responses reaching ETHEKWINI MUNICIPALITY later than the date and time specified will not be considered by ETHEKWINI MUNICIPALITY.
- 14.1.3 All costs incurred by a Respondent in connection with this EOI and the preparation of its responses hereto shall be borne by the Respondent;
- 14.1.4 The Respondent will not have to pay any monies in order to submit an EOI Response;
- 14.1.5 The Respondent is encouraged to submit any additional information that, in its view, would assist ETHEKWINI MUNICIPALITY in the further development of the Virginia Airport Precinct;
- 14.1.6 One (1) Original and one (1) soft copy (on a flash disk in PDF format)
- 14.1.7 Properly indexed, readable and capable of being opened.

15. FORMAT OF EOI RESPONSE

- 15.1 The Respondent is requested to complete the EOI Response and provide all the information required in terms of this EOI and to address every item in 13.2 to 13.7.
- 15.2 All pages should be numbered consecutively from beginning to end and there should be an index to the entire EOI Response; and
- 15.3 The EOI Response can be contained in more than one document and with



annexures as the Respondent may consider appropriate to provide the information requested. All documents comprising the EOI Response must be visible from the index to the EOI.

- 15.4 The CSD proposal that can consist of either a Poster or Site Hand Plan including a report not exceeding 10 pages outlining the basic principles of the design and the general concept of the overall design, including 1 annotated diagram illuminating key aspects of the design as well as a PowerPoint presentation and 3 dimensional renderings depicting the main aspects of the concept proposal.
- 15.5 The Respondent Company Experience format must follow the headings as identified 13.2.3.

16. LANGUAGE OF THE EOI RESPONSE

- 16.1 The EOI Response and all documents forming part of it must be in English.
- 16.2 Any printed literature submitted with the EOI Response may be in another language so long as it is accompanied by an English translation (made by an accredited translator) of the entire document;
- 16.3 For the purpose of interpretation of the EOI Response, ETHEKWINI MUNICIPALITY will rely on the English translation provided; and
- 16.4 All correspondence and any other documentation and oral communication exchanged between the Respondent and ETHEKWINI MUNICIPALITY shall be in English.

17. SIGNING OF THE EOI RESPONSE

- 17.1 The Respondent is requested to provide a signed letter with its EOI Response.



18. FURTHER INFORMATION

- 18.1 ETHEKWINI MUNICIPALITY reserves the right to seek additional information from the Responded regarding its EOI Response, as it may, in its sole discretion, determine, whether such information has been requested under this EOI or otherwise, and may request the Respondent to present supplementary information, in respect of its EOI Response; and
- 18.2 The Respondents may, following the submission of an EOI Response, be requested to engage with ETHEKWINI MUNICIPALITY and / or other relevant Government stakeholders to discuss matters relevant to its EOI Response. Any meetings will take place via MS Teams, unless otherwise arranged.

19. CONTACT WITH THE PROJECT OFFICER

- 19.1 The Respondent must give the name and contact details of the person whom it appoints to undertake all contact with the Project Officer in its EOI Response, as provided for above (Information to be provided by Respondents in their EOI Responses);
- 19.2 After the submission of its EOI Response, the Respondent may only communicate with ETHEKWINI MUNICIPALITY through such person and ETHEKWINI MUNICIPALITY shall be entitled, at its sole discretion, to disregard any communication from the Respondent, which is not contact person identified through the process.
- 19.3 Where engagement is required with the Respondent as highlighted above, other representatives of ETHEKWINI MUNICIPALITY and the Respondent will be requested to be available for such engagement.

20. FORMAL BRIEFING

- 20.1 There will be no briefing session or clarification meeting.
- 20.2 The outcome of the EOI process will culminate in Council and SCM approving shortlisted bidders who will be invited to submit a proposal in the RFP stage. No



other bids, other than those approved shortlisted bids from the EOI process, will be allowed to tender for the RFP process on this project.” The RFP process will follow a separate procurement process.

- 20.3 eThekweni Municipality has no obligation to pursue with the Bid at any stage if the process is deemed unfeasible can withdraw the Bid.

21. REQUESTS AND CLARIFICATIONS

- 21.1 The Respondent may request clarification on any item contained in this EOI as referenced on the EOI cover page
- 21.2 All enquiries, queries, and requests for clarification in respect of this EOI must be in writing and addressed to the Project Manager and emailed to **Phumlani.Zondi@durban.gov.za and Yanga.Gagela@durban.gov.za**; and
- 21.3 ETHEKWINI MUNICIPALITY will endeavor to respond to all reasonable written queries and requests for clarification raised by any Respondent.

22. CONFIDENTIALITY

- 22.1 The information contained in this EOI is confidential and proprietary to ETHEKWINI MUNICIPALITY. In accepting this EOI, “suppliers”, “service provider” and/or “Agents” agree to the following conditions under applicable legislation:
- 22.2 Each party recognizes and agrees that the Confidential Information has been compiled, created, and maintained by special effort and expense of the other party.
- 22.3 Each party recognizes and agrees that disclosing or disseminating Confidential Information to a third party will have a materially adverse effect on the other party and agrees not to disclose or disseminate the Confidential Information to any third party. Except as necessary to perform its obligations hereunder.
- 22.4 Each party shall not use, reproduce, or draw upon the Confidential Information or circulate it within its own organization.

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- 22.5 Each party shall provide notice to the other party of any demand made upon it under lawful process to disclose or provide the other party's Confidential Information;
- 22.6 Each party agrees to co-operate with the other party if it elects to seek reasonable protective arrangements or oppose such disclosure, at the expense of the party that is seeking the protective arrangements or opposing the disclosure; and
- 22.7 Any Confidential Information disclosed pursuant to such lawful process shall continue to be Confidential Information, the access to such Confidential Information shall be limited to those persons:
 - a) only with a need to review such information for the purposes for which the disclosure was required; and
 - b) who agree in writing to keep the Confidential Information confidential.

23. OFFERING OF COMMISSION OR GRATUITY

- 23.1 If a Respondent, or any person employed by him, is found to have either directly or indirectly offered, promised or given to any person in the employ of ETHEKWINI MUNICIPALITY, any commission, gratuity, gift or other consideration, ETHEKWINI MUNICIPALITY shall have the right and without prejudice to any other legal remedy which it may have in regard to any loss or additional cost or expenses, to disqualify the EOI Respondent from further participation in this process and any other subsequent processes in this regard; and
- 23.2 In such an event, the Respondent will be responsible for all and any loss that ETHEKWINI MUNICIPALITY may suffer as a result thereof. In addition, ETHEKWINI MUNICIPALITY reserves the right to exclude such a Respondent from future business with ETHEKWINI MUNICIPALITY.



24. SOURCES

The eThekweni Municipality has various data sources available which could contribute to this tender.

PLEASE NOTE THAT IT IS THE RESPONSIBILITY OF THE TENDERING TEAM/DEVELOPER TO FAMILIARISE THEMSELVES WITH ALL RELEVANT INFORMATION AVAILABLE AND IS NOT LIMITED TO THE DOCUMENTS BELOW.

Some of these data sources included or referred to, but not limited to, are:

- Draft Integrated Development Plan (IDP) 2022/2023
- eThekweni Municipality: Planning and Land Use Management By-Law, 2016
- Municipal Systems Act (2000) (Section 26)
- Spatial Planning and Land Use Management Act (No. 13 of 2016)
- eThekweni Spatial Development Framework 2022-2023
- Technical Guidelines: Virginia Airport site project



25. MBD COMPLIANCE DOCUMENTS

- 25.1 All MBD forms in this EOI must be properly completed as required, and the document shall not be taken apart or altered in any way whatsoever. Failure to complete the MBD Forms to the satisfaction of the Municipality will lead to rejection of the Response on the grounds that the Response is not responsive.

- 25.2 The Municipality, in issuing out this EOI documentation, must ensure that it adheres to the PoPI Act. As part of the requirements of the PoPI Act, all Respondents are requested to consent to the processing of their personal information, and as such are required to complete and sign the section 11 PoPI Act consent form, contained in Annexure 1 (POPI Act Consent for Proposals) if they wish for their submission or Response to be evaluated.

- 25.3 MBD compliance forms as part of this EOI submission are:

- MBD 4: DECLARATION OF INTEREST
- MBD 8: DECLARATION OF RESPONDENT'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES
- MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION
- MBD 14: REGISTRATION
- MBD 16: PAYMENT OF MUNICIPAL ACCOUNT
- MBD 21A: DEVELOPMENT EXPERIENCE OF THE RESPONDENT ENTITY
- MBD 21B: VALUE OF PROPERTY PORTFOLIO
- APPENDIX 1: POPI CONSENT FORM



MBD 4: DECLARATION OF INTEREST

DECLARATION OF INTEREST

- 1. No EOI will be accepted from persons in the service of the state*.
- 2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this Expression of Interest. In view of possible allegations of favouritism, should the resulting EOI, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the respondent or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
- 3. In order to give effect to the above, the following questionnaire must be completed and submitted with the EOI.

- 3.1. Full Name:
- 3.2. Identity Number:
- 3.3. Company Registration Number:
- 3.4. Tax Reference Number:
- 3.5. VAT Registration Number:
- 3.6. Are you presently in the service of the state* ** * YES / NO
- 3.6.1. If so, furnish particulars.

.....

.....

- 3.7. Have you been in the service of the state for the past twelve months? YES / NO

- 3.7.1. If so, furnish particulars.

.....

.....



EXPRESSION OF INTEREST: REDEVELOPMENT OF THE VIRGINIA AIRPORT

* MSCM Regulations: "in the service of the state" means to be

- (a) a member of –
any municipal council.
any provincial legislature; or
the national Assembly or the national Council of provinces.
- (b) a member of the board of directors of any municipal entity.
- (c) an official of any municipality or municipal entity.
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

3.8. Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this EOI?

YES / NO

3.8.1. If so, furnish particulars.

.....
.....

3.9. Are you, aware of any relationship (family, friend, other) YES / NO

between a respondent and any persons in the service of the state who may be involved with the evaluation and or adjudication of this EOI?

3.9.1. If so, furnish particulars

.....
.....

3.10. Are any of the company's directors, managers, principal YES/NO
shareholders or stakeholders in service of the state?

3.10.1. If so, furnish particulars.

.....
.....

3.11. Are any spouse, child or parent of the company's directors, managers, principal YES /NO
shareholders or stakeholders in service of the state?

3.11.1. If so, furnish particulars.

.....
.....



CERTIFICATION

I, THE UNDERSIGNED (NAME)

.....

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.
I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of Respondent



**MBD 8: DECLARATION OF RESPONDENT’S PAST SUPPLY CHAIN
MANAGEMENT PRACTICES**

1. This Municipal Expression of Interest (EOI) Document must form part of all EOI’s invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The EOI of any respondent may be rejected if that Respondent, or any of its directors have:
 - a) abused the municipality’s / municipal entity’s supply chain management system or committed any improper conduct in relation to such system;
 - b) been convicted for fraud or corruption during the past five years;
 - c) wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
4. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	<p>Is the Respondent or any of its directors listed on the National Treasury’s Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?</p> <p>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</p> <p>The Database of Restricted Suppliers now resides on the National Treasury’s website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>



4.1.1	If so, furnish particulars:		
4.2	<p>Is the Respondent or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?</p> <p>The Register for Tender Defaulters can be accessed on the National Treasury’s website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	<p>Was the Respondent or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	<p>Does the Respondent or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>



4.4.1	If so, furnish particulars:		
4.5	Was any contract between the Respondent and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (NAME)

.....

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of Respondent



MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

In this document Bid refers to the Expression of Interest (EOI)

1. This Municipal Bidding Document (MBD) must form part of all bids invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a per se prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a) take all reasonable steps to prevent such abuse.
 - b) reject the bid of any Respondent if that Respondent or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c) cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

EXPRESSION OF INTEREST: REDEVELOPMENT OF THE VIRGINIA AIRPORT



I, the undersigned, in submitting the accompanying Expression of Interest:

(EOI Number and Description)

in response to the invitation for the EOI made by:

(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of:

that:

(Name of Respondent)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying EOI will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the Respondent to sign this Certificate, and to submit the accompanying EOI, on behalf of the Respondent;
4. Each person whose signature appears on the accompanying EOI has been authorized by the Respondent to determine the terms of, and to sign, the EOI, on behalf of the Respondent;
5. For the purposes of this Certificate and the accompanying EOI, I understand that the word "competitor" shall include any individual or organization, other than the Respondent, whether or not affiliated with the Respondent, who:
 - (a) has been requested to submit a EOI in response to this EOI invitation;
 - (b) could potentially submit a EOI in response to this EOI invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the Respondent and/or is in the same line of business as the Respondent
6. The Respondent has arrived at the accompanying EOI independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices.
 - (b) geographical area where product or service will be rendered (market allocation)



MBD 14: REGISTRATION

The following documents must be attached:

- Natural persons, Sole proprietors and JVs – copy of ID document/passport
- Schools – copy of Provincial School registration certificate
- NGO – copy of Provincial registration certificate
- Society Club/ Association – copy of Constitution / founding document
- Partnership -copy of partnership agreement plus IDs of all partners
- Closed Corporation - Copy of CK1 and/or CK2 and members' agreement
- Company – current CM29,
- Trust – letter of appointment from the Master of the High Court of SA and deed of trust
- Joint Venture / Consortiums– JV agreement plus ID documents/ company Registration document of all members of JV/ Consortiums.



MBD 16: PAYMENT OF MUNICIPAL ACCOUNT
In This MBD, The Respondent is referred to as "The Tenderer"



DECLARATION OF MUNICIPAL CHARGES FROM TENDERER

Ethekwini Revenue
Florence Mkhize Building
251 Anton Lembede Street
Durban
4001

Tel: 031 328 1200
Fax: 031 328 1002
E-Mail: revline@durban.gov.za
Website: http://www.durban.gov.za

I, _____
(Full Name and Surname)

ID Number in my capacity as the duly authorised member / director / owner or partner of

(Full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture) hereinafter referred to as the TENDERER

do hereby declare that all Municipal charges of the aforesaid TENDERER, are, as at the date hereunder, fully paid or an Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in installments.

The following account details relate to property of the said TENDERER:

ACCOUNT	ACCOUNT NUMBER
ELECTRICITY	_____
WATER	_____
RATES	_____
OTHER (specify)	_____

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears. **ATTACHED** please find copies of the above account's and or agreements signed with the municipality.



- Where the **TENDERER'S** place of business or business interests **are outside the jurisdiction of eThekweni municipality**, a copy of the accounts/agreements from the relevant municipality must be attached.
- Where the tenderer's Municipal Accounts are part of their lease agreement, then a copy of the agreement, or official letter to that effect is to be attached.

Full Name and Surname

Signature

Date

Designation

Company Stamp

Contact No



MBD 21 A: DEVELOPMENT EXPERIENCE OF THE RESPONDENT ENTITY

Certificate of Practical Completion issued in terms of the Joint Building Contracts Committee (JBCC) clearly reflecting the Respondent entity or its Consortium/JV partners as employers or developers, indicating the name and type of development.

No	NAME / TYPE OF DEVELOPMENT (Shopping centre, Offices, Residential Development)	DATE OF COMPLETION	PROJECT VALUE IN RANDS	PRINCIPAL AGENT NAME	CONTACT DETAILS (PHONE NUMBER AND EMAIL ADDRESS)
1					
2					
3					
4					
5					
6					
7					
8					

EXPRESSION OF INTEREST: REDEVELOPMENT OF THE VIRGINIA AIRPORT



9					
10					
11					
12					
13					
14					
15					
16					
17					



MBD 21: B – VALUE OF PROPERTY PORTFOLIO

	NAME / TYPE OF DEVELOPMENT	ERF NUMBER, TOWNSHIP AND PHYSICAL ADDRESS	SQUARE METERAGE (EXTENT) OF PROJECT	VALUE OF PROJECT / DEVELOPMENT	% SPLIT OF LAND USES WITHIN THE DEVELOPMENT	BULK INFRASTRUCTURE UPGRADE	SOCIO ECONOMIC BENEFITS YIELDED FROM PROJECT	TITLE DEED NUMBER AND OWNER
1								
2								
3								
4								
5								
6								
7								

**APPENDIX 1: POPI CONSENT FORM****CONSENT TO PROCESS PERSONAL INFORMATION IN TERMS OF THE PROTECTION OF INFORMATION ACT, 4 OF 2013 ("PoPI Act")****1. GENERAL**

In order to evaluate Response submitted by Respondents with respect to the EOI, the Municipality is required to process the personal information of Respondents and their constituent members, therefore the Municipality must comply with the provisions of PoPI Act and give effect to the purposes of the PoPI Act, which *inter alia*, includes giving effect to the constitutional right to privacy, by safeguarding personal information of Bidders and their constituent Members when processing same.

2. INFORMATION BEING COLLECTED AND PROCESSED BY THE MUNICIPALITY

- 2.1. The Municipality will be collecting and processing the personal information of the Respondent and its members which the Municipality has requested in this EOI document.
- 2.2. The personal information collected and processed by the Municipality will be collected directly from the Respondents and its members, and from the Respondent's Response.
- 2.3. The Municipality reserves the right to seek such further information from any Respondent and/or their constituent members as it determines is required in its absolute and sole discretion, which further information will also be collected and processed for the purpose mentioned in section 3 (The Purpose for Collecting and Processing Information) below.
- 2.4. The Municipality reserves the right to collect and process the Respondent and its member's personal information indirectly, from public records, including but not limited to the website of the Bidder and the website of each of its members. In this regard, the Municipality undertakes to collect and process of such information in a manner that does not prejudice the legitimate interests of the Respondents and its members.



3. THE PURPOSE FOR COLLECTING AND PROCESSING INFORMATION

- 1.1. The personal information collected and processed by the Municipality will be for the purpose of requesting from each Respondent a fully developed, comprehensive and firm Response in the prescribed format and capable of acceptance by the Municipality, and for the purpose related to the function and activity of the Municipality as a public body. The full purpose of the EOI is as recorded in section 1.2 of this EOI and personal information of each Respondent and member may also be processed by the Municipality for various components of such EOI purpose.
- 1.2. The Municipality will keep the records of the Respondent and its member's personal information for the period necessary for achieving the purposes of the EOI, and for any period prescribed by law that may require the Municipality to retain the Respondent's and its member's personal information.

4. SUPPLY OF THE INFORMATION BY EACH RESPONDENT AND ITS MEMBERS

Each Respondents and its Members acknowledge and understand that the personal information collected and processed by the Municipality is mandatory for purposes of evaluating the Respondent's Response and is provided to the Municipality by the Respondent and its Members voluntarily.

5. CONSEQUENCES OF FAILURE TO PROVIDE THE INFORMATION

Each Bidder and its Members acknowledge and understand that any failure by a Bidder and/or its members to satisfy the requirements of Annexure 1 (*Mandatory Proposal Requirements*) of Volume 1 to the EOI, may in the sole and absolute discretion of the Municipality result in the disqualification by the Municipality of the Bidder and/or any one or more of its members.

6. PROCESSING OF INFORMATION BY THIRD PARTIES

The Municipality is assisted by the Transaction Advisory Team in the project, who may as part of its mandate and to the extent required by the Municipality provide support to the Municipality's evaluation officials, and consequently in providing such support, process the EOI and its Member's personal information, on behalf of the Municipality, and under the authority of the Municipality.



7. RIGHTS OF EACH RESPONDENT AND ITS MEMBERS

- 7.1. The Municipality hereby notifies the Respondents and their members of their rights, with respect to the processing of their personal information, in terms of section 11 of the PoPI Act. Each Respondent and its members are entitled to exercise the rights in paragraph 7.2, below in deference to applicable procurement jurisprudence, such as the provisions of section 217 of the Constitution, section 51(1)(a) of the PFMA, the PPPFA, the PPPFA Regulations and case law.

- 7.2. In terms of the PoPI Act, each Respondent and its Members, have the right to, *inter alia*:
 - 7.2.1. request access to their personal information.

 - 7.2.2. request, where necessary, the correction, destruction or deletion, of their personal information.

 - 7.2.3. object, on reasonable grounds and with respect to its particular circumstance, to the processing of its personal information, which may in the sole and absolute discretion of the Municipality result in the disqualification by the Municipality of the Respondent concerned;

 - 7.2.4. access its personal information.

 - 7.2.5. submit a complaint to the Regulator, as contemplated by the provisions of the PoPI Act, with respect to an alleged interference regarding the protection of its personal information; and

 - 7.2.6. institute civil proceedings regarding an alleged interference with the protection of its personal information.



8. CONSENT

By signature hereunder, each Respondent and each of its members acknowledge that they know and understand the terms and conditions for the processing of their personal information and consent to the collection and processing of their personal Information by the Municipality as set out in this consent form.

Signature

Date

Name of Authorised Member

Name of Respondent

Capacity or position of signatory in
Authorised Member

Name of signatory



26. EOI DOCUMENT ANNEXURES

VIRGINIA ANNEXURE 1:	Hand Plan
VIRGINIA ANNEXURE 2.1:	Geotechnical Assessment Report
VIRGINIA ANNEXURE 2.2:	Virginia Airport Pavement Design Report
VIRGINIA ANNEXURE 2.3:	Virginia Airport Geology
VIRGINIA ANNEXURE 3:	Rapid Environmental Risk Assessment

Virginia Airport Annexure 1

Hand Plan

PROPOSED SUBDIVISIONS

Plan showing

Land to be Leased / Alienated

Leo Boyd Highway
Suburb of Beachwood
EtheKwini Municipality

PROJECT TITLE : VIRGINIA AIRPORT

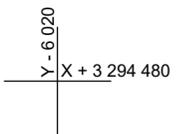
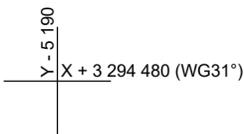
DRAFT

Cadastral Description:

1. Proposed Lease on Proposed Portion [A] of Erf 3193 and Proposed Portion [B] of Erf 3139 both Durban North.

Notes :

1. Street addresses are encircled.
2. For reference purposes only, Proposed Portions are numbered alphabetically in square brackets. Official numerical cadastral descriptions are to be obtained from SGO on final survey.
3. All contours and services, shown or otherwise, are as obtained from the Corporate GIS database or other relevant internal or external departments and should be verified on site as applicable.
4. Area and dimensions are approximate and subject to final survey as required.
5. Proposed [A] and [B] are currently zoned as Airport. Zoning information is obtained from the Corporate GIS database.
6. Proposed [A] is on a split Remainder.



Proposed Lease [A]

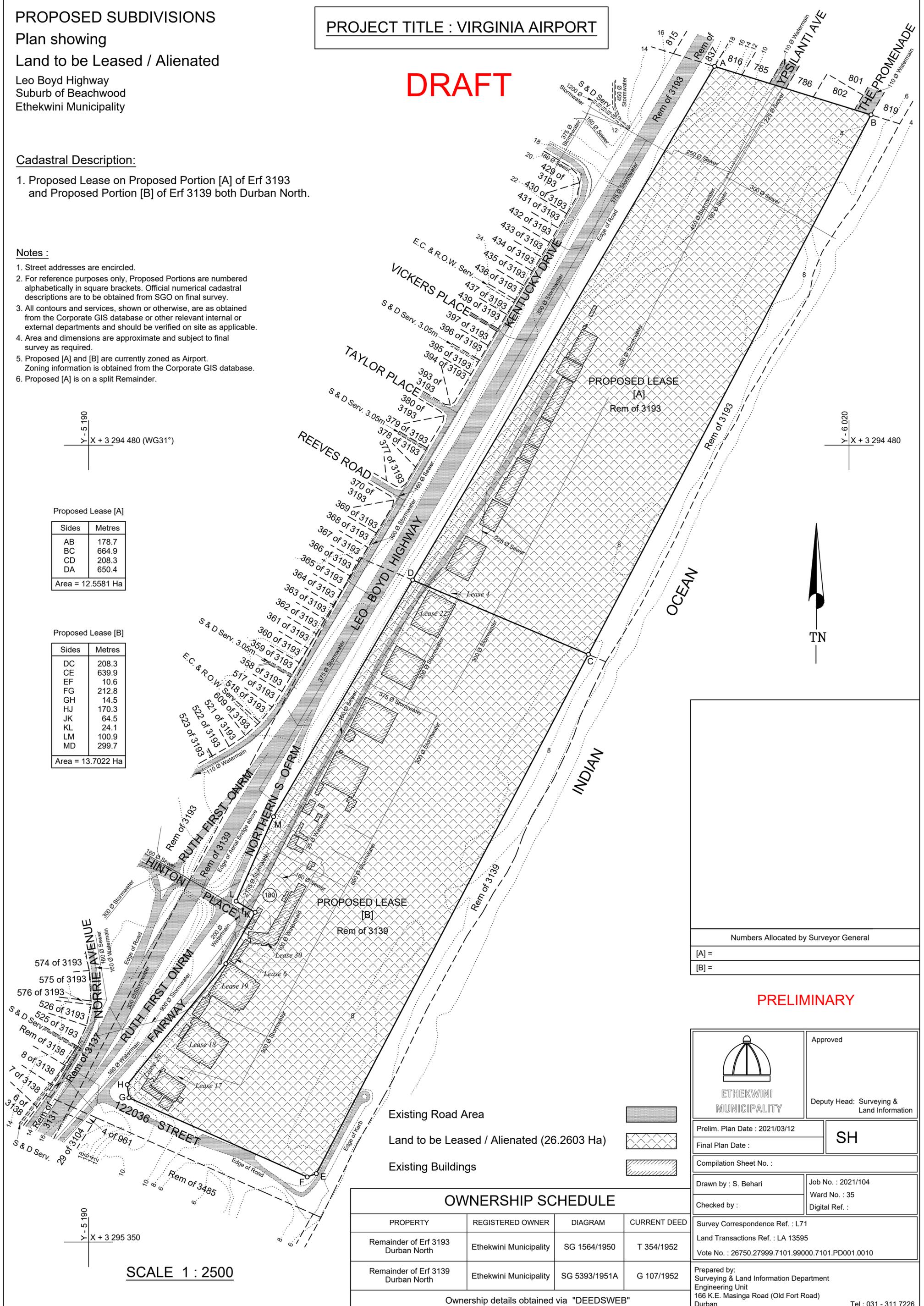
Sides	Metres
AB	178.7
BC	664.9
CD	208.3
DA	650.4

Area = 12.5581 Ha

Proposed Lease [B]

Sides	Metres
DC	208.3
CE	639.9
EF	10.6
FG	212.8
GH	14.5
HJ	170.3
JK	64.5
KL	24.1
LM	100.9
MD	299.7

Area = 13.7022 Ha



Numbers Allocated by Surveyor General	
[A] =	
[B] =	

PRELIMINARY

<p>ETHEKWINI MUNICIPALITY</p>	Approved
	Deputy Head: Surveying & Land Information
Prelim. Plan Date : 2021/03/12	SH
Final Plan Date :	
Compilation Sheet No. :	
Drawn by : S. Behari	Job No. : 2021/104
Checked by :	Ward No. : 35
	Digital Ref. :
Survey Correspondence Ref. : L71	
Land Transactions Ref. : LA 13595	
Vote No. : 26750.27999.7101.99000.7101.PD001.0010	
Prepared by: Surveying & Land Information Department Engineering Unit 166 K.E. Masinga Road (Old Fort Road) Durban	
Tel : 031 - 311 7226	

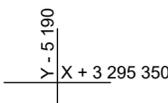
- Existing Road Area
- Land to be Leased / Alienated (26.2603 Ha)
- Existing Buildings

OWNERSHIP SCHEDULE

PROPERTY	REGISTERED OWNER	DIAGRAM	CURRENT DEED
Remainder of Erf 3193 Durban North	EtheKwini Municipality	SG 1564/1950	T 354/1952
Remainder of Erf 3139 Durban North	EtheKwini Municipality	SG 5393/1951A	G 107/1952

Ownership details obtained via "DEEDSWEB"

SCALE 1 : 2500



**Virginia Airport Annexure 2.1
Geotech Assessment Report**

DRENNAN, MAUD & PARTNERS

Consulting Civil Engineers and Engineering Geologists



PARTNERS:

M.J.F. BÉNET, Pr.Sci.Nat.,B.Sc.(Hons.),M.Sc.,FSAIEG.
M.J. HADLOW, Pr.Sci.Nat.,B.Sc.(Hons.),MSAIEG.

CONSULTANT:

R.R. MAUD, Pr.Sci.Nat.,B.Sc.,Ph.D.,FGS.,FGSSA., FSAIEG.,FSAII
R.D. COLLYER, Pr.Eng.,B.Sc.(Eng.),M.Sc.(Eng.),MSAICE.

68 PETER MOKABA RIDGE
TOLLGATE
DURBAN 4001

P.O. BOX 30464
MAYVILLE 4058

TELEPHONE (031) 201-8992
TELEFAX (031) 201-7920

E-MAIL dmp@iafrica.com

OUR REF.: 24414

YOUR REF.

12th December 2013

SiVest Industrial & Structural Engineering Division
P.O. Box 1899
UMHLANGA ROCKS
4320

Email : garyv@sivest.co.za

Attention : Mr G. Visser

Dear Sirs,

**REPORT ON A GEOTECHNICAL INVESTIGATION FOR THE PROPOSED
DEVELOPMENT AT BEACHWOOD GOLF COURSE**

1. INTRODUCTION & TERMS OF REFERENCE

Drennan, Maud and Partners was requested by Mr G. Visser of SiVest via email dated 11th November 2013, to conduct a geotechnical investigation for a proposed housing development on the abovementioned site.

The field investigation was executed on the 20th November 2013, in terms of our detailed fee proposal referenced '91' and dated 6th September 2013, this being set out in order to fulfill the requirements of a PDA application.

Set out hereunder are the details of our investigation, geotechnical assessment and recommendations for development.

2. SITE DESCRIPTION AND DEVELOPMENT PROPOSAL

The golf course at this location is very low-lying (approx. 3 to 8m above sea level).



The area proposed for housing is located west and southwest of the existing clubhouse and associated structures on Beachwood Place.

Natural ground on the site is gently undulating, reflecting a series of beach-parallel sand dunes over which the fairways and greens are now superimposed.

The proposed development layout is indicated on the attached Figure 1.

An upmarket residential development is envisaged for which internal access roads will be required. A small dam is proposed on the existing fairway immediately south of the proposed housing development.

3. FIELD INVESTIGATION

The following geotechnical tasks were undertaken;

- Mechanical excavation, logging and sampling of 10 No inspection pits.
- 11 No dynamic cone penetrometer (DCP) tests.
- 1 No Percolation test.

The positions of all field tests are indicated on the attached Figure 1.

All aspects of the testing were overseen by an Engineering Geologist under supervision of the Club's technician (Gilbert) who was provided to delineate services. The course's main irrigation pipe was severed during the excavation of IP2 and attempts at repairing it were still underway at the time of our departure.

3.1 Excavation of Inspection Pits : IP1 - 10

Pits allowed for observation of the shallow subsoils and groundwater conditions within the proposed development footprint.

Inspection pit profiles are included in Appendix 1.

3.2 DCP Tests : DCP1 - 11

Light DCP probes were driven into the ground to obtain an indication of the relative density of subsoils through the upper 5 to 8m of profile.

DCP test results are attached as Figures 2 to 12.

Table 1 provides a guideline for interpretation of the DCP test results. The values therein should be used cautiously as they are specific to Drennan, Maud and Partners test apparatus.

Table 1 : Guideline to Interpreting DCP Test Results

Non Cohesive Soils		Cohesive Soils	
No Of Blows/300mm Penetration	Subsoil Consistency	No Of Blows/300mm Penetration	Subsoil Consistency
<8	Very Loose	<4	Very Soft
8 - 18	Loose	4 - 8	Soft
19 - 54	Medium Dense	9 - 15	Firm
55 - 90	Dense	16 - 24	Stiff
>90	Very Dense	25 - 54	Very Stiff
		>54	Hard

3.3 Percolation Testing : PT1

A single percolation test was carried out in the prevailing beach sand material.

Following the prescribed saturation period, a percolation rate of approximately 12min was recorded for a 25mm drop in water level.

3.4 Subsoil Sampling

Relatively extensive subsoil sampling was undertaken and the samples sent to Thekwini Soils Laboratory in Durban to be subjected to a combination of Full Indicator, Mod AASHTO density and CBR testing.

Table 2 summarizes the sampling exercise and laboratory testing.

Table 2 : Schedule of Subsoil Sampling and Laboratory Testing

Position	Depth (m)	Description	Lab Testing		
			F.I	Mod.	CBR
IP1	0.6 - 2.6	Beach Sand	✓		
IP3	0.7 - 2.8	Beach Sand	✓	✓	✓
IP4	0.2 - 0.7	Fill (Beach Sand-derived)	✓	✓	✓
IP4	0.7 - 2.3	Hillwash	✓	✓	✓
IP5	0.2 - 2.8	Beach Sand	✓	✓	✓
IP6	0.2 - 1.4	Beach Sand	✓	✓	✓
IP6	1.4 - 2.0	Beach Sand	✓		
IP7	0.5 - 2.2	Hillwash	✓		
IP8	0.9 - 1.7	Alluvium	✓		
IP9	2.0 - 2.6	Alluvium	✓		

Abbreviations : Full Indicators (F.I) ; Mod AASHTO density (Mod.)

4. GEOLOGY AND SOILS

The westernmost embankment fringing the proposed development is considered the approximate geological contact between the Berea Formation and associated hillwash/alluvial materials in the west, and the beach sand (littoral) deposits in the east.

The low-lying golf course appears to be almost entirely underlain by beach sand through at least the upper 2,5 to 3m. It is possible that more clayey deposits of the "Harbour Beds" occur thereunder but these were not encountered during the field investigation.

The beach sand proved very difficult to excavate through due to constant undermining and collapse of the pit sidewalls, this being exacerbated at depth with increasing moisture content.

Re-worked (fill) material occasionally mantles the surface but is very similar in composition to the underlying beach sand.

Toward the western boundary of the site (IP7,8,9,10 refer), more diverse materials occur at shallow depth which define the transported "hillwash" and "alluvium" deriving from the rising gradient in the west. The "hillwash" (IP7,10) is essentially a slightly clayey sand similar to the upper Berea Formation sands however, the "alluvium" (IP8,9) is locally very clayey and organic-rich.

Bedrock is only expected at depths well in excess of 10m below the site.

5. LABORATORY TESTING

Full indicator testing (grading, hydrometer analysis and Atterberg limits) was carried out for classification purposes and to assess the materials suitability for founding in.

Modified AASHTO density and CBR testing was carried out to determine the material densities, optimum moisture content and CBR values for use in the design of engineered fill embankments and road layerworks.

5.1 Full Indicator Testing

10 samples were tested across the site.

5.1.1 *Beach Sand*

5 samples were tested. All classified as A-3(0) after the AASHTO Classification and as SP after the Unified Classification. The material is non-plastic with Liquid Limit ranging from 17 to 23%, and Grading Modulus from about 1.0 - 1.2.

5.1.2 *Hillwash*

2 samples were tested. The material classifies as A-2-4(0) to A-3(0) after the AASHTO Classification and as SP-SM after the Unified Classification. The material is non-plastic, with clay content of less than 10%. Liquid Limits of 17 to 20% were recorded and Grading Moduli of 0.9 to 1.0.

5.1.3 *Fill Material*

1 sample was tested. The material classifies as A-3(0) after the AASHTO Classification and as SP after the Unified Classification. It recorded a Liquid Limit of 22% and a Grading Modulus of 0.99.

5.1.4 *Alluvium*

2 samples were tested. The material classifies as A-2-6(0) after the AASHTO Classification and as SC after the Unified Classification. Clay content is approximately 23%, while Liquid Limit ranges from 20 to 22%, PI from 11 to 12, Linear Shrinkage from 2 to 3% and Grading Modulus approximates 0.8.

5.2 Mod AASHTO Density and CBR Testing

5 samples were tested across the site.

5.2.1 *Beach Sand*

3 samples were tested. The material recorded Mod AASHTO densities ranging from 1684 to 1760kg/m³ at optimum moisture content of 5.7 to 8.7%. CBR values range from 16 to 26% at 90% to 95% of Mod AASHTO. No CBR swell was recorded and the material hence classifies as G7 in terms of TRH14 (1985).

It is considered suitable for use as subgrade and selected layer in the new road design.

5.2.2 *Fill Material*

1 sample was tested. The material recorded a Mod AASHTO density of 1716kg/m³ at an optimum moisture of 6%. CBR values of 9% at 90% Mod AASHTO to 19% at 95% Mod AASHTO were recorded. No CBR swell was recorded and the material hence classifies as G8 after TRH14 (1985).

It is considered suitable for use as subgrade and lower selected layer in the new road design.

5.2.3 Hillwash

1 sample was tested. The material recorded a Mod AASHTO density of 1785kg/m³ at an optimum moisture content of 6.8%. CBR values range from 10% at 90% of Mod AASHTO to 20% at 95% of Mod AASHTO. No CBR swell was recorded and the material classifies as G7 in terms of TRH14 (1985).

It is considered suitable for use as subgrade and selected layer in the new road design.

5.2.4 Alluvium

This material was not tested. It is of localised occurrence (near the western site margin) and generally exists as a wet, clayey sand. It is likely to classify as worse than G10 after TRH14 (1985) and is also likely to have a lengthy drying time due to its high clay content.

6. GEOTECHNICAL ASSESSMENT

The majority of the site is underlain by very loose beach sand to depths in excess of 2,5 to 3m below existing ground level (EGL).

The site is characterised by a shallow perennial ground water table and in this regard an attempt has been made to indicate the worst affected areas on Figure 1. These observations roughly correspond with the areas delineated in the Wetland Report provided by the Client.

Site earthworks will need to be planned carefully to minimize the influence of groundwater on the proposed structures. Practical problems associated with wet subsoils (pumping/heaving) are likely to be encountered during the earthworks unless effective subsoil drainage can be installed prior to excavation. For planning purposes, we recommend assuming a **ground water table of 1m below existing ground level for the problem areas delineated on Figure 1.**

The shallow founding materials generally comprise of very loose sands which in addition to being highly compressible upon immediate loading by foundations, must be assumed to have a moderate collapse potential above the permanent groundwater table.

All subsoils beneath this site are considered highly erodible.

7. RECOMMENDATIONS FOR DEVELOPMENT

The following geotechnical recommendations are sufficiently generalised to direct the proposed housing development as a whole. Individual site recommendations may be specifically tailored at a later stage based on more detailed testing thereon.

7.1 Site Stability

The embankment binding the proposed development to the west is considerably over-steep and potentially unstable. It would appear that only the dense vegetation prevents it from collapsing.

During earthworks and construction this embankment should not be modified in any way. It should be considered extremely sensitive as any disturbance and subsequent failure will have serious consequences for the existing residences above.

7.2 Platform Levels

Having regard for the shallow water table, the loose and compressible nature of the sands through the upper 2,5 to 3m and the anticipated double-storey nature of some or all of the proposed structures, we would strongly recommend the structural platforms be elevated using an engineered fill material.

While this will necessitate fairly major earthworks, it may prove advantageous for the following reasons;

- Engineered “soil rafts” beneath proposed structures may allow for founding of conventional single and double storey structures on lightly reinforced strip footings.
- The engineered fill beneath foundations will not be susceptible to collapse settlement.
- The beach sand on site is considered favourable for use in the construction of engineered fill platforms and the major of settlement within the fill will occur during construction.

It is recommended that the fill be engineered to a depth of about 1.5m below founding level to alleviate the majority of foundation settlement. With an engineered soil raft platform, it would be beneficial to found structures as shallowly as possible i.e. 0,5m below final platform level. Henceforth an engineered fill thickness of 2m is recommended and considered.

It must be ensured that the engineered soil raft is of uniform thickness across the footprint of the proposed structure, otherwise differential settlement could become an issue.

7.3 Earthworks

Earthworks should be carried out during the dry season to minimize the influence of groundwater and erosion.

7.3.1 *Volume Considerations*

From observations of the sand materials underlying the site, a bulking factor of approximately 15% should be applied for the earthworks planning.

Upon construction at the specified compaction, the fill should be expected to settle by up to 2% of its thickness. At least 70% of this settlement is likely to occur during construction.

7.3.2 *Cutting*

“Soft excavation” after SABS1200D is expected throughout the scope of the earthworks.

Permanent cuttings must assume a batter of 1:2 (26°) to be considered stable in the long term.

Even temporary excavations will require sidewalls flattened to 1:1.75 (30°) in the cohesionless beach sand.

Erosion protection should be allowed for where cutting is carried out.

7.3.3 *Filling*

If due to lack of gradient, effective subsoil drainage cannot be installed on those portions where shallow groundwater is expected, provision must be allowed for importing a crushed rock fill as a pioneer layer on which to construct the new fill embankments. A thickness of 0,5m could be assumed for planning purposes.

Geo-textile will be required to separate the crushed rock from the underlying sand and the proposed fill above.

Once a “dry” level has been established the new fill should be placed and spread in layers not exceeding 300mm loose thickness, thereafter compacted using sufficiently heavy plant, to a density of at least 95% Mod AASHTO.

The outer fill embankments should be battered to 1:2 (26°) and vegetated immediately post-construction to prevent the onset of erosion. Use of Multi-Cell or Bidim should be considered.

7.4 Founding Options and Anticipated Settlements

Founding structures shallowly in the very loose *in-situ* sand is not recommended and will result in significant immediate settlement and potential future collapse settlement (expect NHBRC S2/C2 classification).

The most apparent practical founding options are considered to be;

- Construct a soil raft (engineered fill) within the footprint of proposed structures and consider founding shallowly therein.
- Bypass the engineered soil raft option and found structures on piled foundations.

Both of these founding options are considered suitable for the “wet” areas required to be addressed.

7.4.1 **Engineered Soil Raft and Shallow Founding**

The fill will settle both internally and from the consolidation of *in-situ* materials thereunder.

Provided a minimum 3month hiatus is allowed between construction of the fill and the proposed development, the internal fill settlement can be ignored, but should otherwise be taken as 0,5% of the fill thickness i.e. 10mm for a 2m high fill.

Settlement beneath the new fill embankments is likely to approximate 15mm for a 2m high fill embankment. If a 3month hiatus is allowed between construction of the fill and the proposed development, this may be reduced to about 10mm.

Assuming the fill is allowed at least 3 months to settle, it is likely to be feasible to found structures on **lightly reinforced strip footings** provided the bearing pressure does not exceed 100kPa. The structures would need to be articulated to accommodate total settlement of up to 20mm, of which differential could be conservatively taken as 50% (10mm).

If there is no hiatus between the earthworks and construction, it is likely that structures will require suitably **stiffened raft foundations**, as the total settlement in this case may approach 35mm, of which differential could be conservatively taken as 50% (18mm).

7.4.2 Piled Foundations

This option may be preferred especially along the western boundary where the steep, potentially unstable embankment and the shallow groundwater may restrict the range of earthworks.

Advantages of piled foundations is that differential settlement will be reduced to negligible amounts. In addition, the piles can be rapidly installed once the platform is prepared.

If piled foundations are to be considered, Table 3 offers a preliminary guideline to be used in pricing and planning purposes, based on the general DCP test results. Actual pile design will need to be carried out by a design specialist following a site-specific geotechnical investigation.

Table 3 : Estimated Pile Lengths Relative to Pile Diameter and Load

Pile Length (m)	Maximum Working Load (kN)		
	300mm Ø	400mm Ø	500mm Ø
13.5	350	470	590
16	-	625	780
18.5	-	-	980

* The above values are based on a recommended pile shaft cross-sectional area stress of 5MPa and lengths do not take into account the down-drag of new fill material.

Continuous flight auger (CFA) piles should be used due to the elevated groundwater table and the very loose sands.

The depth to bedrock is unknown and for this reason, friction piles will need to be designed.

7.5 Dam Construction

The proposed dam site as indicated on Figure 1 is underlain by beach sand harbouring a shallow ground water table (est. 1m below existing ground level).

It is possible that ground water at this location, which is less than 3m above sea level, will be saline.

Lining of the dam with a suitable material such as Kaytech’s Sealmac will be essential as the water table is likely to fluctuate with the tide and seasonally.

If the “dry” excavation depth above the ground water table is considered insufficiently deep for the proposed dam, an option may be to build up a mound of fill to add some depth to the feature.

7.6 Stormwater Disposal

The subsoil percolation rate recorded in the percolation test (12min for 25mm drop of water level following prescribed 4hr saturation period), shows the prevailing sands to be highly permeable and well suited to subsoil stormwater disposal.

Soak pits must be positioned well away from structures due to the collapse potential of shallow subsoils.

All storm water must be accounted for in designing the proposed structures, through the use of gutters and surface interceptor drains etc. Infiltration of water beneath structures and paving may result in collapse settlement.

7.7 Road Construction

Referring to the laboratory test results detailed under Section 5, it is evident that the beach sand which underlies the majority of the site classifies as G7 after TRH14 (1985) and is thus considered suitable as subgrade and selected layer in the design of new access roads.

Where orange hillwash (slightly clayey sand) is encountered it should be blended in with sufficient beach sand to produce a G7 if required.

The only location where unsuitable materials may be encountered is at the toe of the oversteep western boundary embankment, possibly also on the fairway immediately east of the toe.

Prior to construction of new roads, the *in-situ* sand should be vibratory rolled, following which the new layerworks design could assume an *in-situ* CBR value of about 20%.

8. **CONCLUSIONS**

The development of this site is feasible from a geotechnical perspective, though it is reiterated that disturbance to the embankment along the western boundary must be avoided.

The shallow ground water table may prove challenging to work around during the earthworks and allowance must be made for importing coarse rock material in the case that subsoil drainage proves ineffective and pumping or heaving is encountered.

Shallow founding in the very loose sand is not recommended and single to double storey structures should either be founded shallowly into an engineered fill material or otherwise piled.

The sands underlying this site classify as G7 to G8 (TRH14, 1985) and are considered favourable for use in the construction of engineered fill embankments.

We trust that this meets with your immediate requirements in this matter, however please feel at liberty to contact the author should any further information be required.

Yours faithfully

DRENNAN, MAUD AND PARTNERS



M.D. COOPER

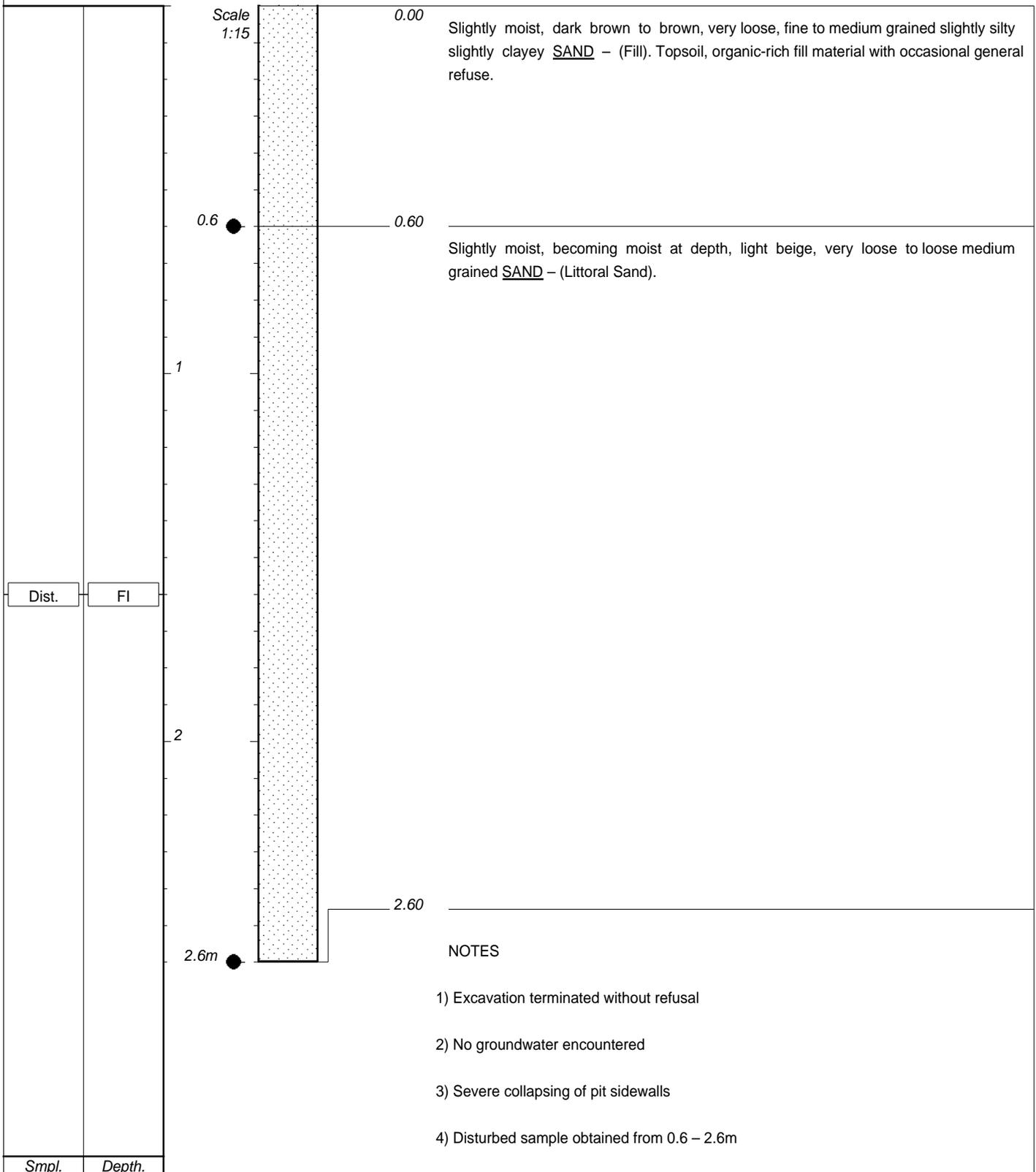
Pr.Sci.Nat

Encls. Appendix 1 - IP's 1 - 10
Appendix 2 - Laboratory Test Results
Figure 1 - Site Plan
Figures 2 - 12 - DCP's 1 - 11

/mh/kc

APPENDIX 1

**INSPECTION PIT PROFILES
(IP 1 - IP 10)**



NOTES

- 1) Excavation terminated without refusal
- 2) No groundwater encountered
- 3) Severe collapsing of pit sidewalls
- 4) Disturbed sample obtained from 0.6 – 2.6m

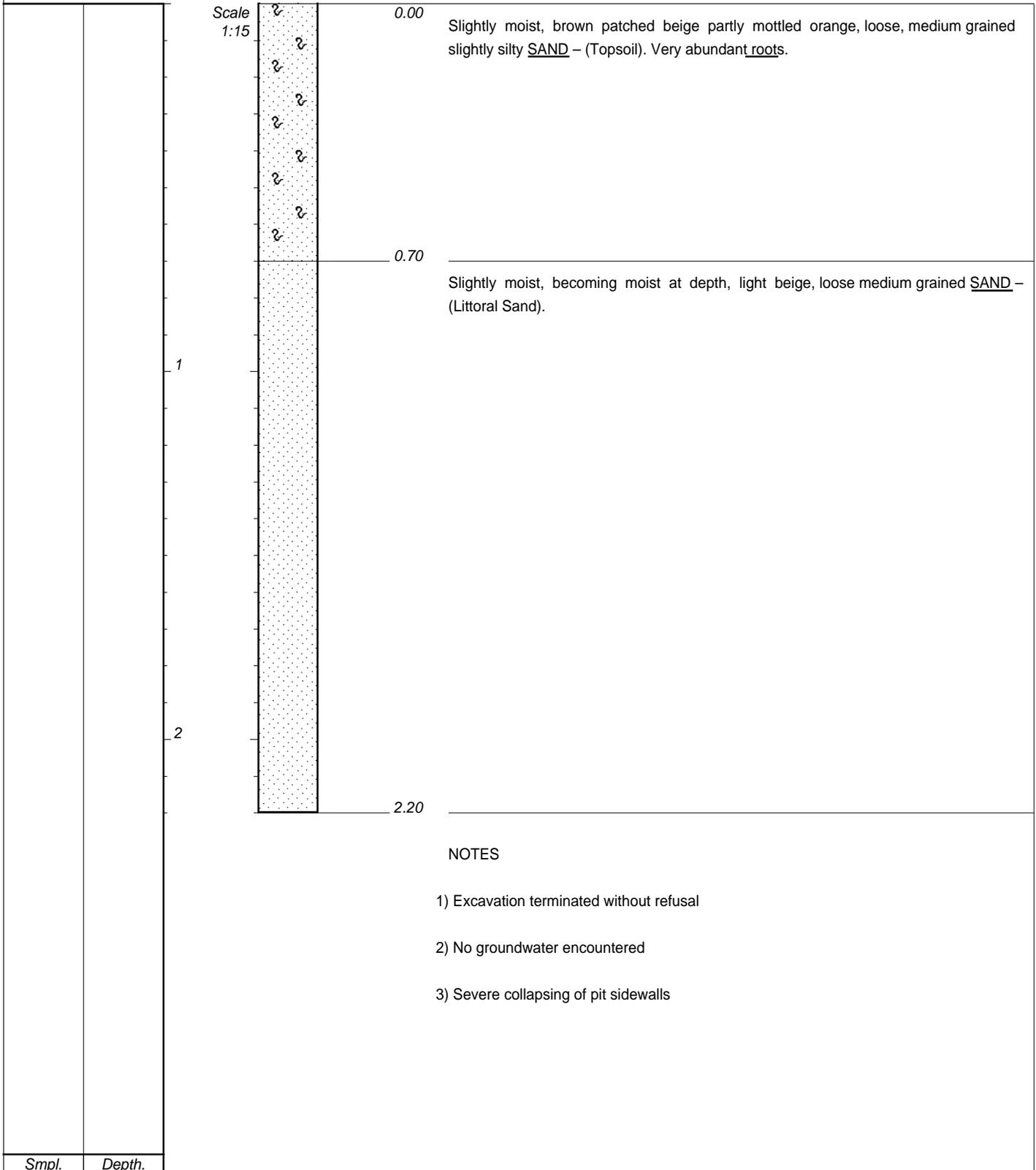
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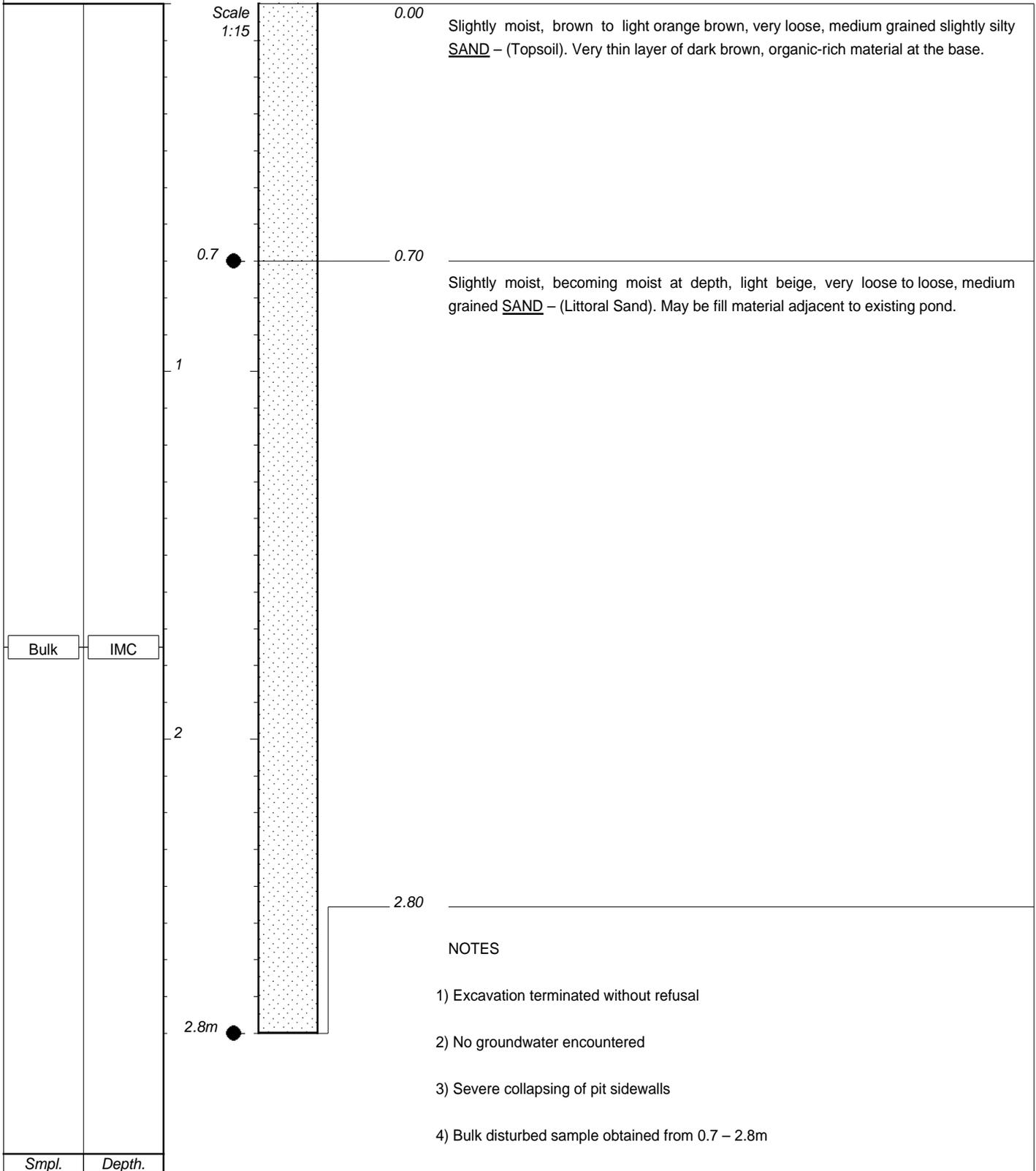
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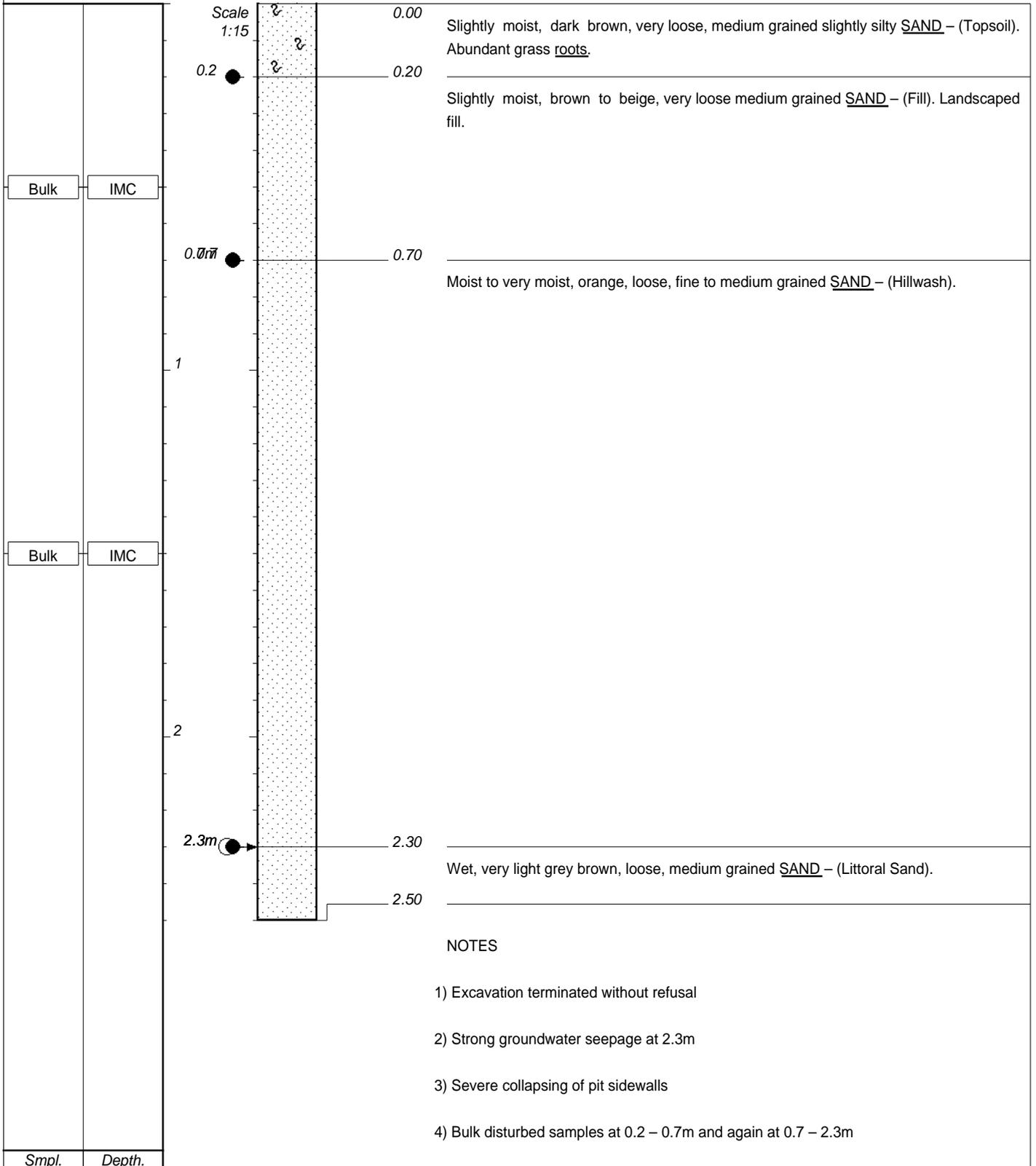
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X-COORD :
Y-COORD :



NOTES

- 1) Excavation terminated without refusal
- 2) Strong groundwater seepage at 2.3m
- 3) Severe collapsing of pit sidewalls
- 4) Bulk disturbed samples at 0.2 – 0.7m and again at 0.7 – 2.3m

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PROFILED BY : M.C

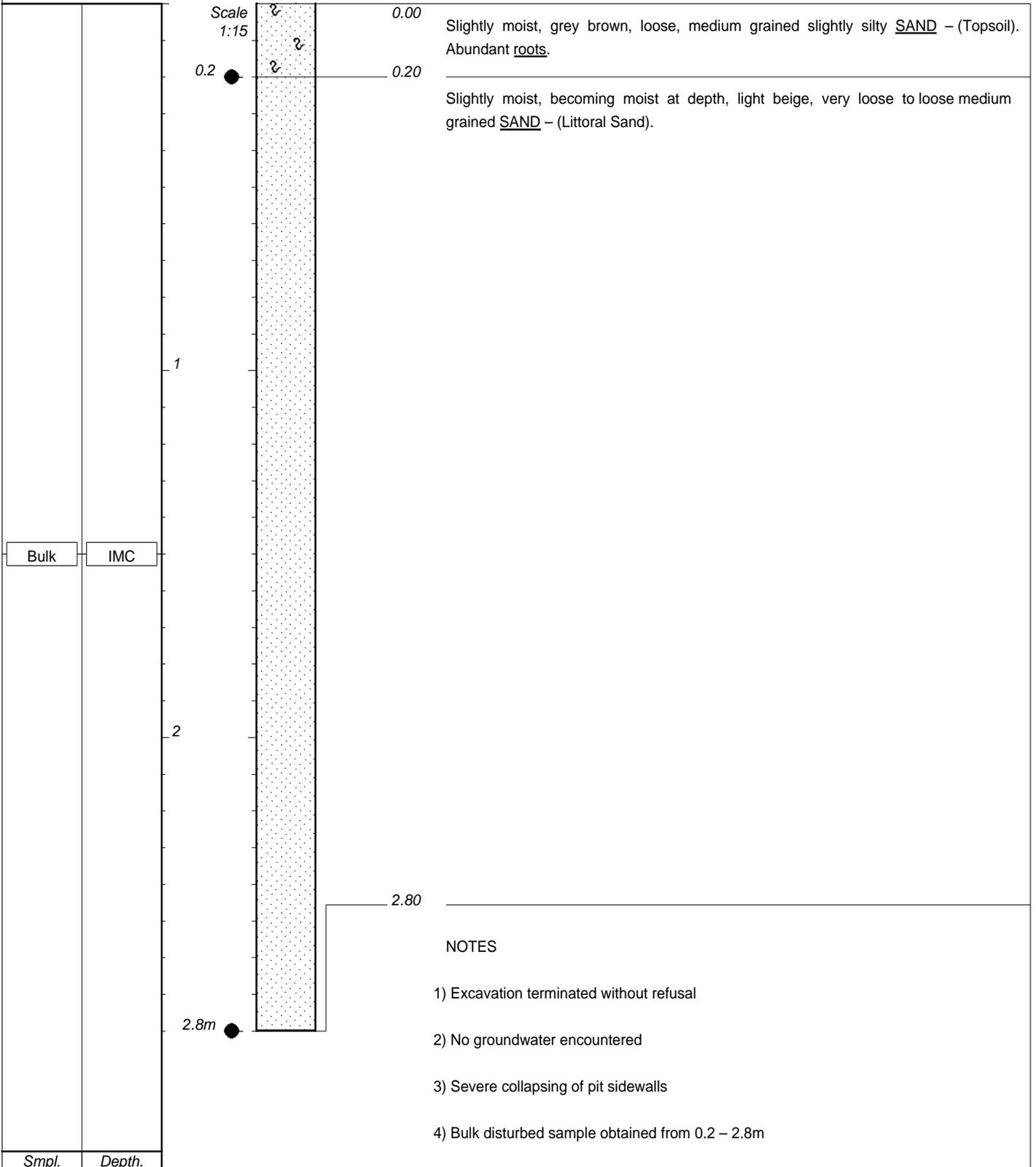
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HOLE No: IP4



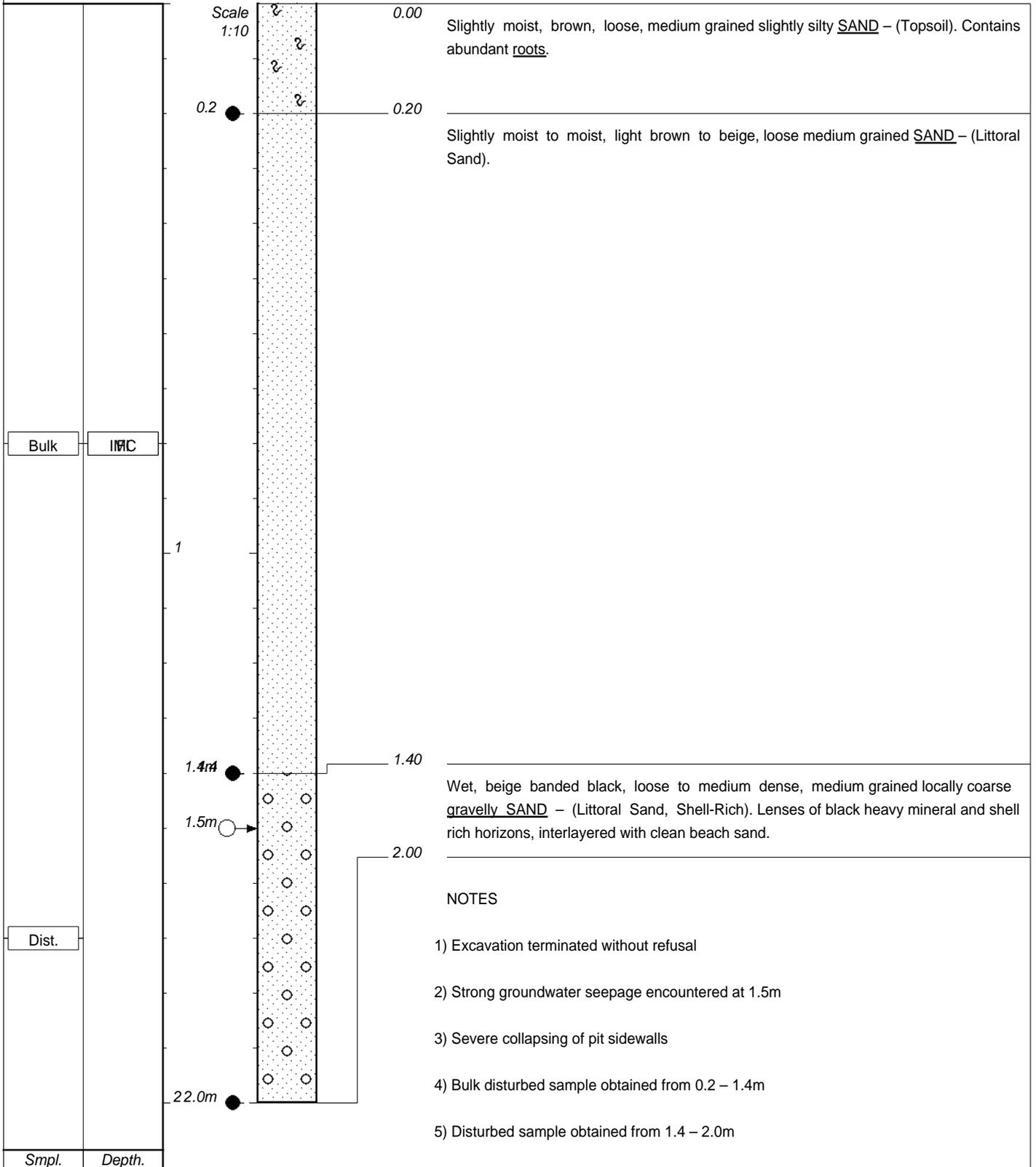
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Y-COORD :



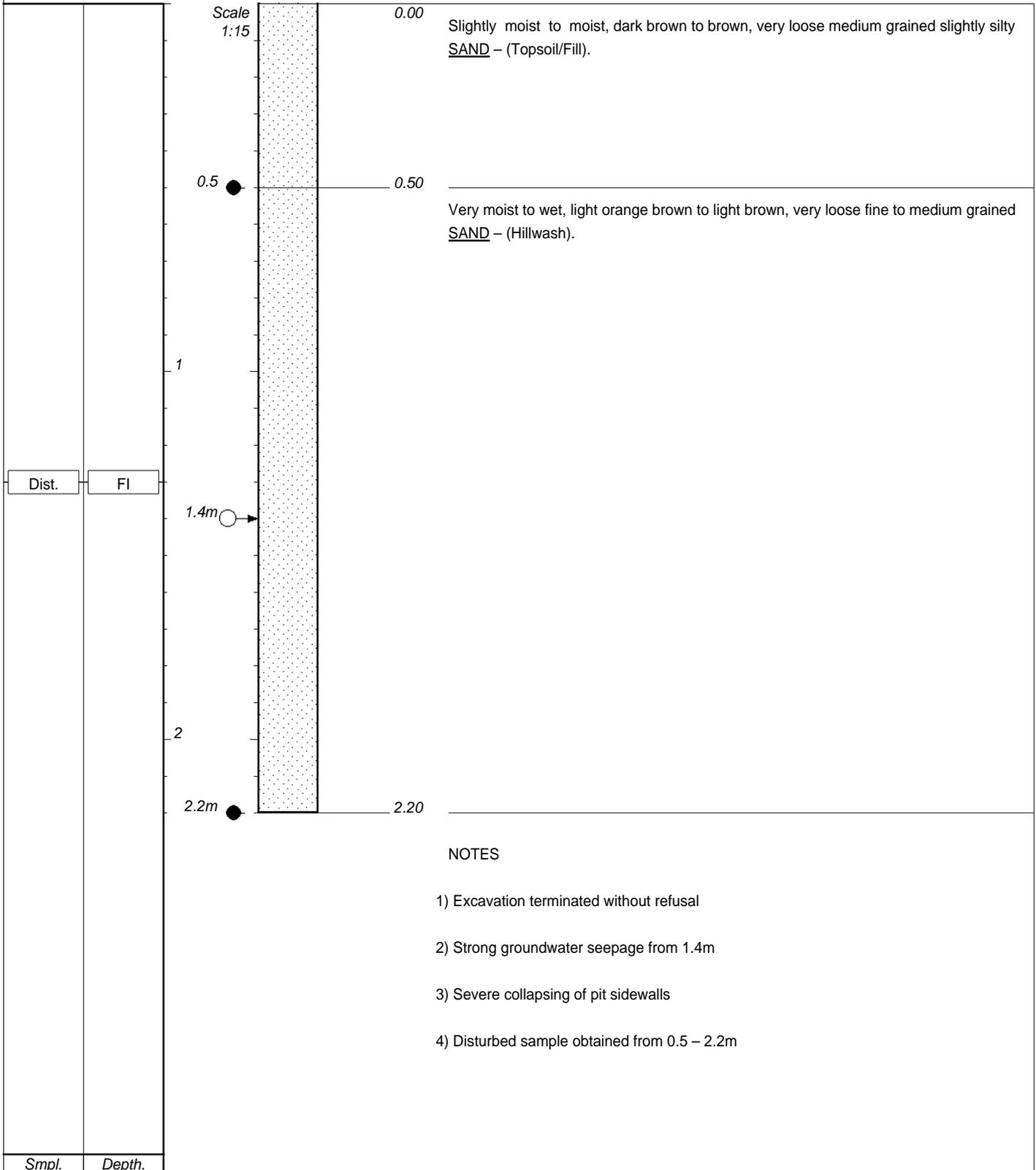
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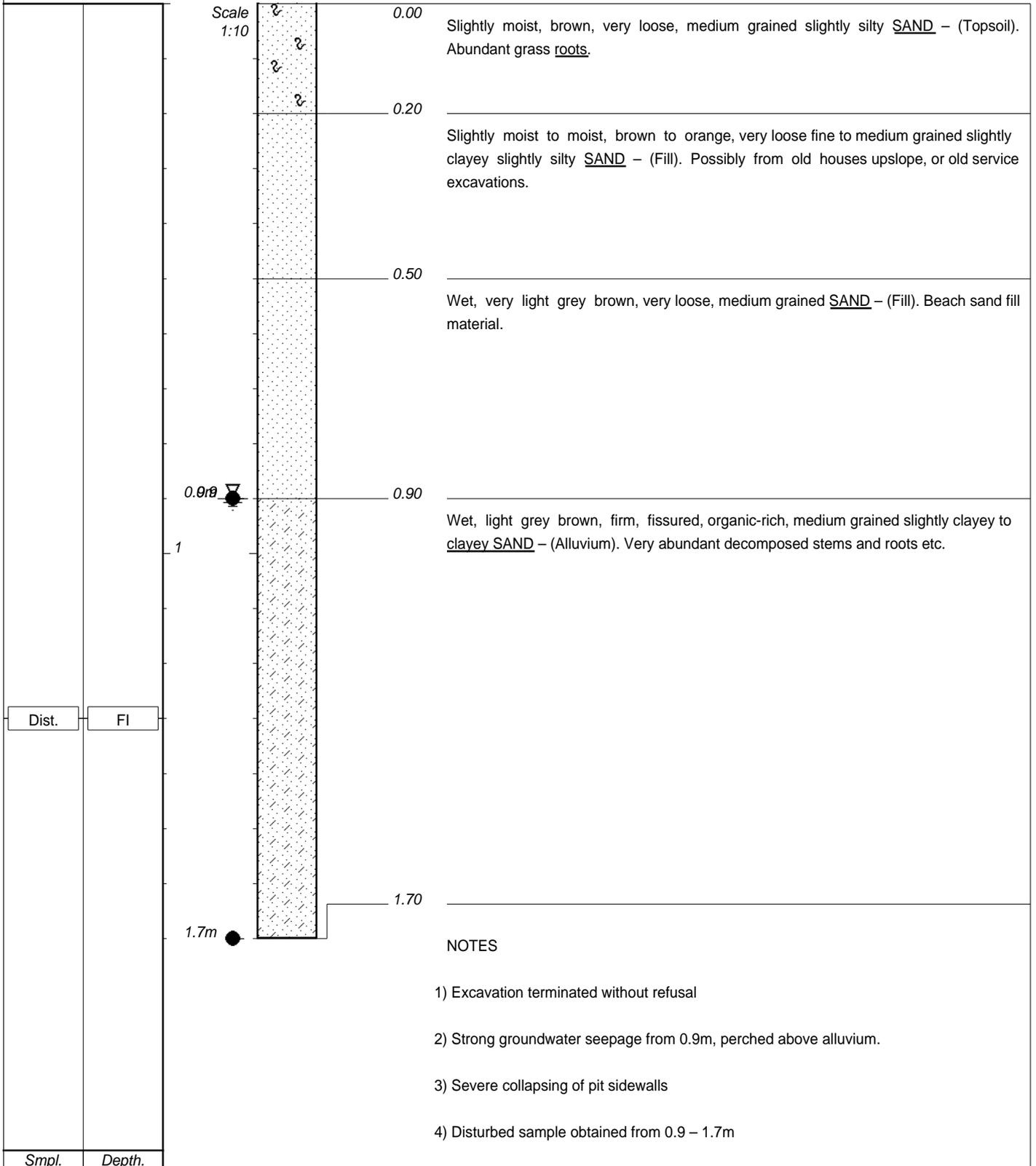
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ELEVATION :
X-COORD :
Y-COORD :



- NOTES
- 1) Excavation terminated without refusal
 - 2) Strong groundwater seepage from 1.4m
 - 3) Severe collapsing of pit sidewalls
 - 4) Disturbed sample obtained from 0.5 – 2.2m

Smpl.	Depth.	CONTRACTOR : NA	INCLINATION :	ELEVATION :
		MACHINE : TLB	DIAM : NA	X-COORD :
		DRILLED BY : NA	DATE : NA	Y-COORD :
		PROFILED BY : M.C	DATE : 20.11.2013	
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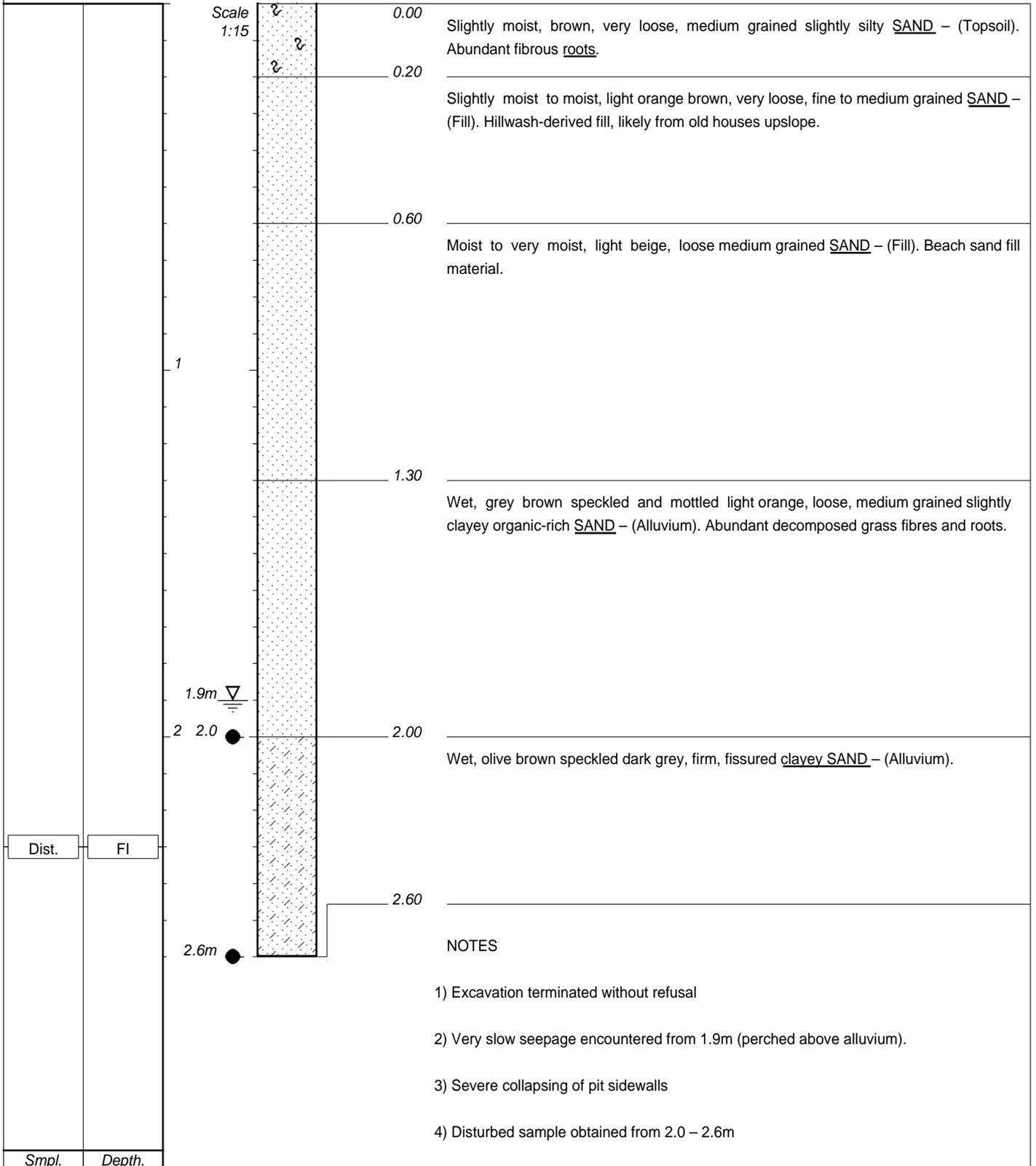
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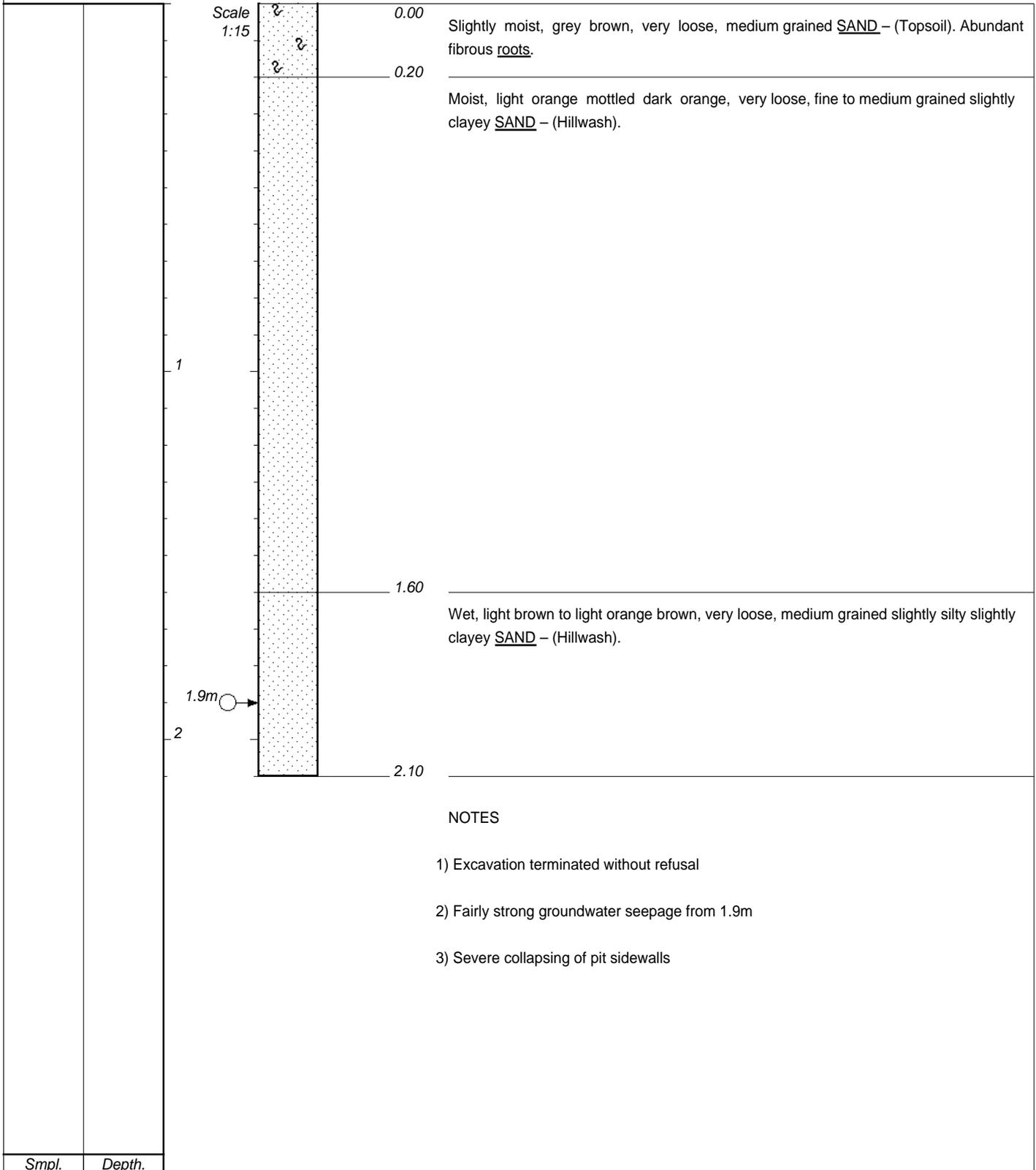
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ELEVATION :
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HOLE No: IP9



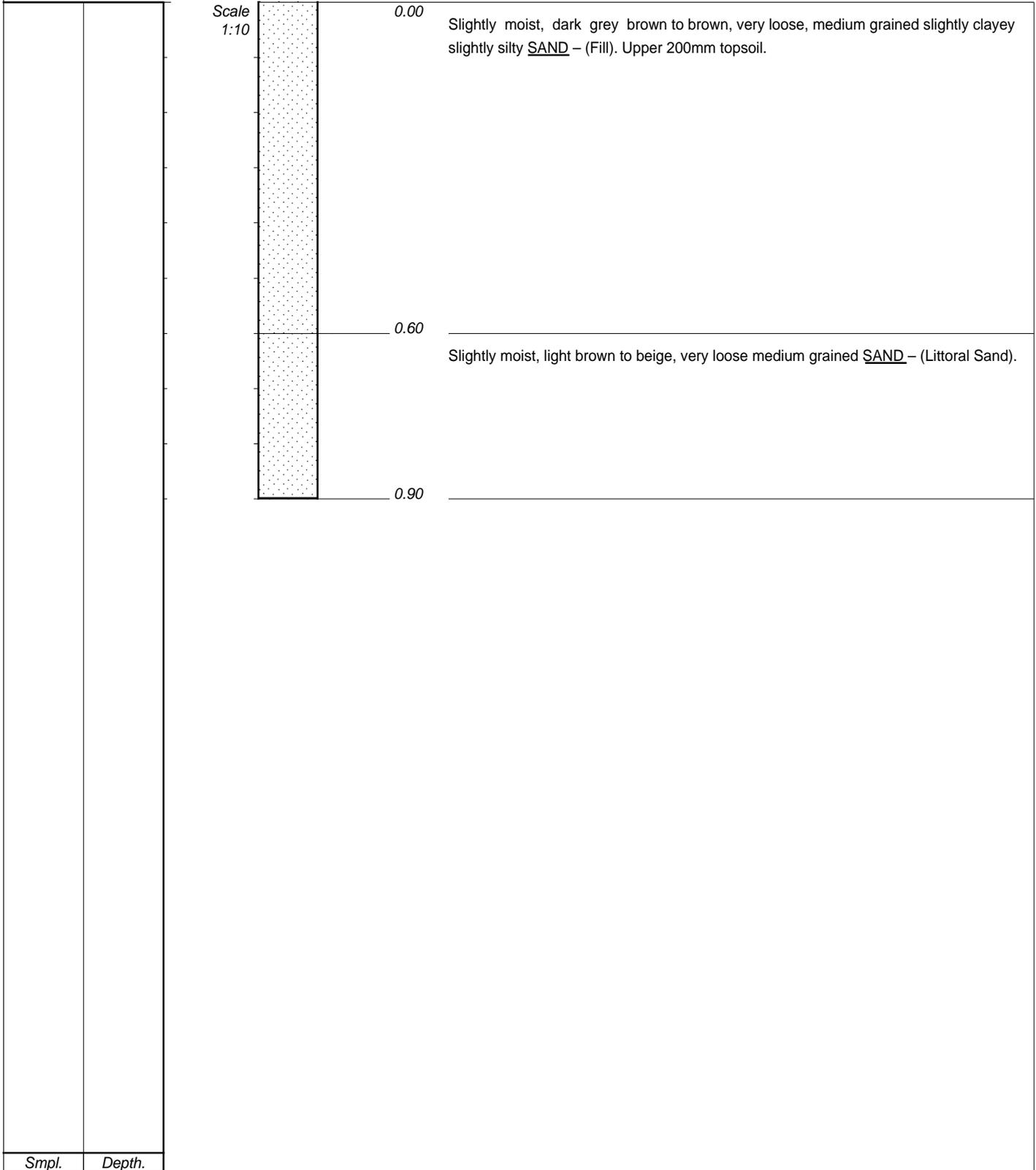
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Smpl.	Depth.

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ELEVATION :
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APPENDIX 2

LABORATORY TEST RESULTS

Laboratory Test Summary

THEKWINI SOILS LAB. CC
VAT REGISTRATION NO. 400009871
 100, 2nd FLOOR,
 TONGA SQUARE
 6011 (P.O. BOX 100)
 DURBAN, KZN 6011

Job Description: DMP/Beach Wood
Job no.: 24414/3389
Date: 10.11.13

	0091	0092	0093	0094	0095
Lab no.	IP3	IP4	IP4	IP5	IP6
Location	0.7-2.8	0.2-0.7	0.7-2.3	0.2-2.8	0.2-1.4
Depth	Beach Sand	Fill	Hillwash	Beach Sand	Beach Sand
Description					
Binder Material					
	75				
	53				
	37.5				
	26.5				
	19				
	13.2				
	9.5				
	4.75				
	100	100	100	100	100
	100	100	100	100	100
	91	99	97	94	94
	26	25	37	18	20
	5	6	11	3	4
	1	3	6	1	1
	1	3	5	1	1
	1	2	5	0	1
	1	2	5	1	1
	1	2	4	0	1
	8.3	1.2	3.0	6.3	5.8
Soil	91.1	96.3	92.5	93.2	93.5
Mortar	0.1	0.5	0.0	0.0	0.0
	0.5	2.0	4.5	0.5	0.8
	20	22	17	17	21
Atterberg	0	0	0	0	0
Limits	0	0	0	0	0
Mod AASHTO	1705	1716	1785	1684	1760
Density	5.7	6	6.8	8.6	8.7
IMC	25	24	21	31	26
100%	25	22	20	25	26
98%	24	19	20	18	25
95%	23	14	15	17	25
93% (Inferred)	22	9	10	16	25
90%	0.00	0.00	0.00	0.00	0.00
CBR Swell	A-3 (0)	A-3 (0)	A-3 (0)	A-3 (0)	A-3 (0)
AASHTO Soil Classification	1.08	0.99	0.97	1.06	1.05
Grading Modulus	G7	G8	G7	G7	G7
TRH 14 (1995)					

Particle Size (mm)

Laboratory Test Summary

Job Description: Beachwood - Ref. 24414
 Job no.: 7132
 Date: 10-12-2013

Lab no.	11187	11188	11189	11190	11191
Location	IP 1	IP 6	IP 7	IP 8	IP 9
Depth	0.60 - 2.60	1.40 - 2.00	0.50 - 2.2	0.90 - 1.70	2.0 - 2.6
Description	Beach Sand	Beach Sand	Hillwash	Alluvium	Alluvium
Binder Material	-	-	-	-	-
Particle Size (mm)	75				
	53				
	37.5				
	26.5				
	19				
	13.2	100			
	9.5	100			100
	4.75	96	100		100
	2	94	100	100	99
	0.425	88	86	96	92
0.25	29	50	67	69	
0.15	5	10	18	33	
0.075	2	1	10	26	
0.05	2	1	9	25	
0.02	2	1	8	24	
0.005	2	1	8	23	
0.002	2	1	7	21	
Hydrometer	% Passing				
	Coarse Sand <2.0 >0.425mm	11.5	9.0	3.4	4.3
	Fine Sand <0.425>0.05mm	86.6	90.2	87.5	71.6
	Silt <0.05 >0.005	0.2	0.1	1.6	2.0
	Clay <0.005	1.7	0.7	7.5	22.1
Atterberg Limits	Liquid Limit % (m/m)	23.4	21.1	19.5	19.6
	Plasticity Index	0	0	0	11.1
	Linear Shrinkage %	0	0	0	2
	Natural MC %	-	-	-	-
	Dry Density kg/m ³	-	-	-	-
Mod AASHTO Density	OMC %	-	-	-	-
	100% MDD	-	-	-	-
	98%	-	-	-	-
	95%	-	-	-	-
	93% (inferred) *	-	-	-	-
CBR	90%	-	-	-	-
	CBR Swell (%)	-	-	-	-
AASHTO Soil Classification *	A-3 (0)	A-3 (0)	A-2-4 (0)	A-2-5 (0)	A-2-6 (0)
	1.11	1.19	0.94	0.78	0.82
Grading Modulus					
TRH 14 (1985) *					

MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

Project: Beachwood - Ref. 24414

Ref no.: 7152 **Lab no.:** 11187 **Borehole/Pit no.:** IP 1 **Fig no.:** -
Description: -

Depth: 0.60 - 2.60

Test Methods: TMH1 METHOD A1(a), A2, A3 & A4, D+M1000

Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	99.5
2	99.2
0.425	87.8
0.25	28.6
0.15	4.6
0.075	2.2
0.05	2.2
0.02	2.0
0.005	2.0
0.002	1.8

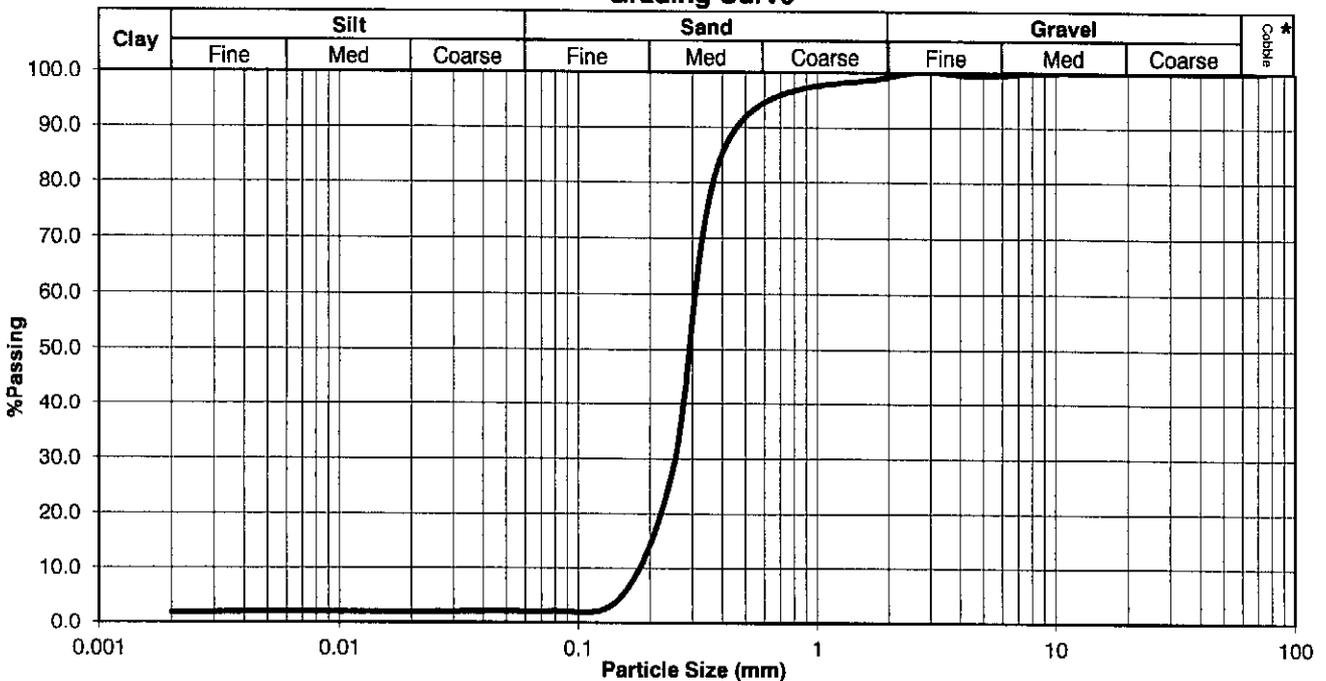
M.I.T SIZE *	
CLASSIFICATION	
Cobble%	0.0
Gravel%	0.8
Coarse	0.0
Medium	0.4
Fine	0.4
Sand%	97.1
Coarse	10.1
Medium	72.5
Fine	14.4
Silt%	0.4
Coarse	0.2
Medium	0.0
Fine	0.2
Clay%	1.8

PLASTICITY	
Liquid Limit, %	23.4
Plasticity Index	0
Linear Shrinkage, % (L/L)	0

GRADING	
D10 Size (mm)	0.17
Uniformity Coefficient	*
Grading Modulus	1.11

CLASSIFICATION *	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP

Grading Curve



Ref no.: 7152

Fig no.: -

* Information marked with an asterisk is outside the scope of Accreditation.

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MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

V.A.T. REGISTRATION NO. 482470661

66 RING ROAD, P.O. Box 30484,
7800 DURBAN, MAYVILLE, 4054
Tel: (031) 201-9982 Fax: (031) 201-7820

Project: DMP/Beach Wood

Ref no.: 24414/3389 **Lab no.:** 0091 **Borehole/Pit no.:** IP3 **Fig no.:** -

Depth: 0.7-2.8

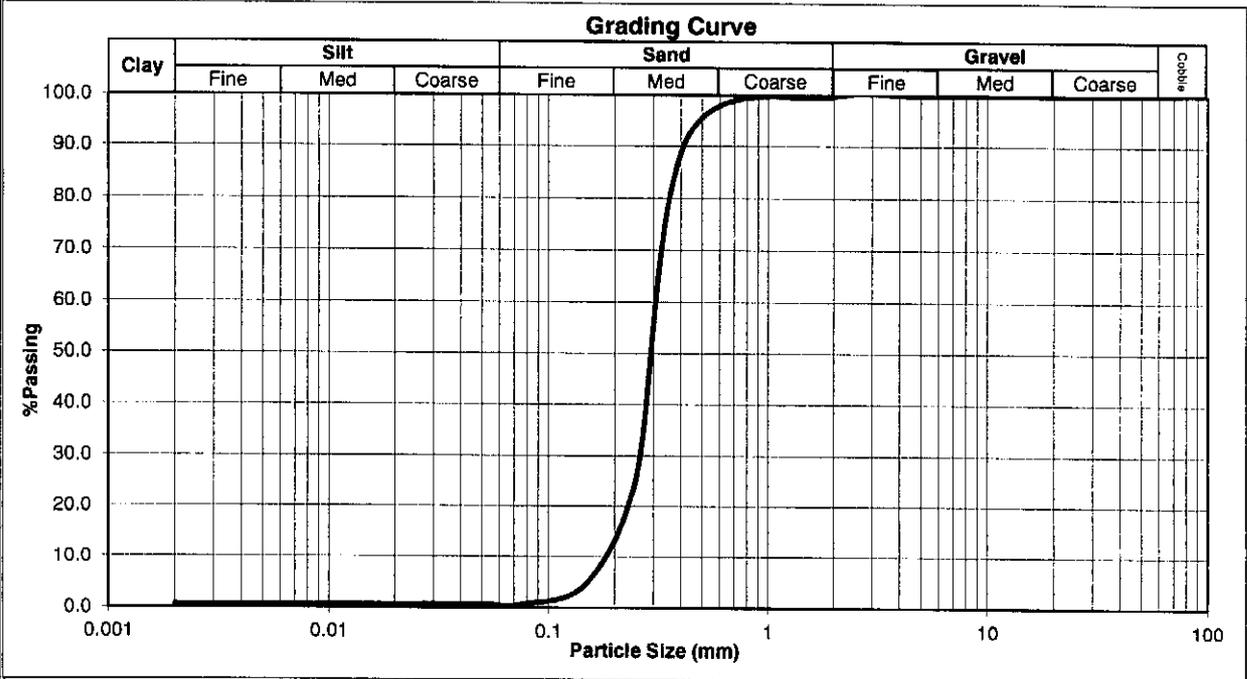
Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	99.9
2	99.8
0.425	91.5
0.25	25.8
0.15	5.0
0.075	0.7
0.05	0.7
0.02	0.7
0.005	0.6
0.002	0.6

M.I.T SIZE CLASSIFICATION	
Cobble%	0.0
Gravel%	0.2
Coarse	0.0
Medium	0.1
Fine	0.2
Sand%	99.1
Coarse	7.4
Medium	77.0
Fine	14.7
Silt%	0.1
Coarse	0.0
Medium	0.1
Fine	0.0
Clay%	0.6

PLASTICITY	
Liquid Limit	20
Plasticity Index	0
Linear Shrinkage	0

GRADING	
D10 Size (mm)	0.17
Uniformity Coefficient	1.94
Grading Modulus	1.08

CLASSIFICATION	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP



Ref no.: 24414/3389

Fig no.: -

MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

V.A.T. REGISTRATION NO. 450210981

48 Ripps Road, P.O. Box 20461,
Thekwini, DURBAN, KAPUYALE, 4001
Tel: (031) 201-0002 Fax: (031) 201-7203

Project: DMP/Beach Wood

Ref no.: 24414/3389 **Lab no.:** 0094 **Borehole/Pit no.:** IP5 **Fig no.:** -

Depth: 0.2-2.8

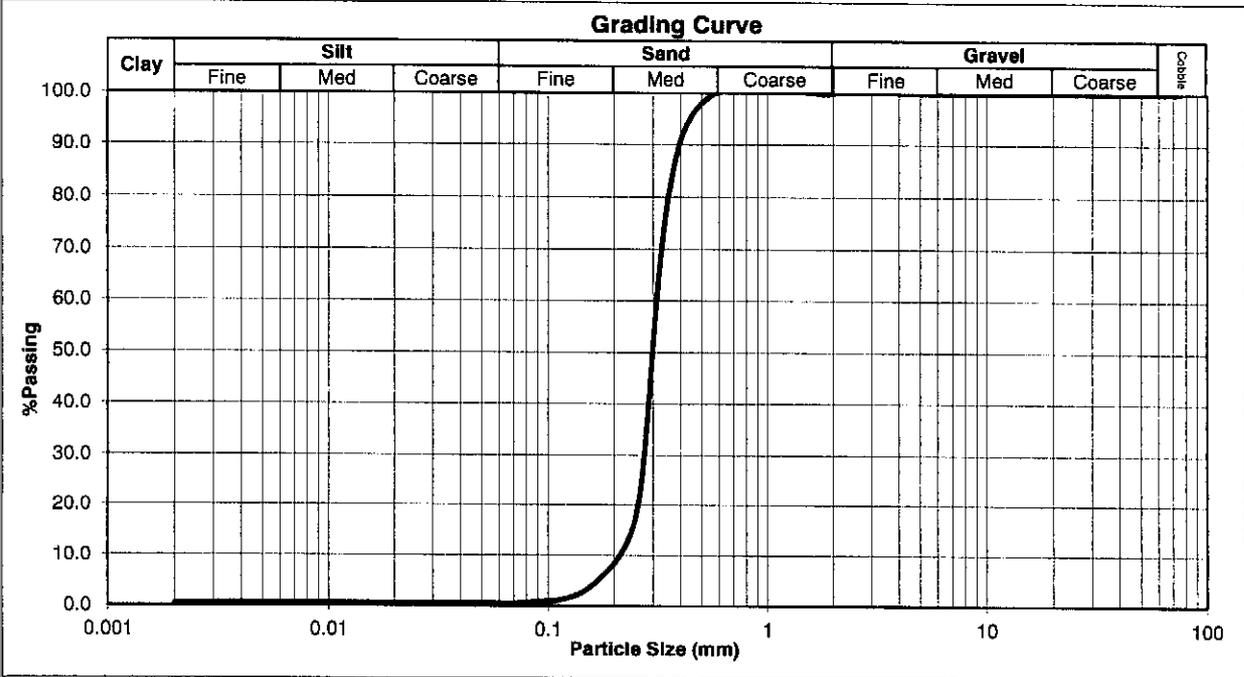
Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	100.0
2	100.0
0.425	93.7
0.25	17.7
0.15	3.3
0.075	0.6
0.05	0.5
0.02	0.5
0.005	0.5
0.002	0.4

M.I.T SIZE CLASSIFICATION	
Cobble%	0.0
Gravel%	0.0
Coarse	0.0
Medium	0.0
Fine	0.0
Sand%	99.5
Coarse	5.6
Medium	83.9
Fine	9.9
Silt%	0.1
Coarse	0.1
Medium	0.0
Fine	0.1
Clay%	0.4

PLASTICITY	
Liquid Limit	17
Plasticity Index	0
Linear Shrinkage	0

GRADING	
D10 Size (mm)	0.19
Uniformity Coefficient	1.76
Grading Modulus	1.06

CLASSIFICATION	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP



Ref no.: 24414/3389

Fig no.: -

MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

V.A.T REGISTRATION NO. 456215041

57 Ridge Road, P.O. Box 3844,
Tlokoeng, 00101
Tel: (011) 201-0002 Fax: (011) 201-7220

Project: DMP/Beach Wood

Ref no.: 24414/3389 **Lab no.:** 0095 **Borehole/Pit no.:** IP6 **Fig no.:** -

Depth: 0.2-1.4

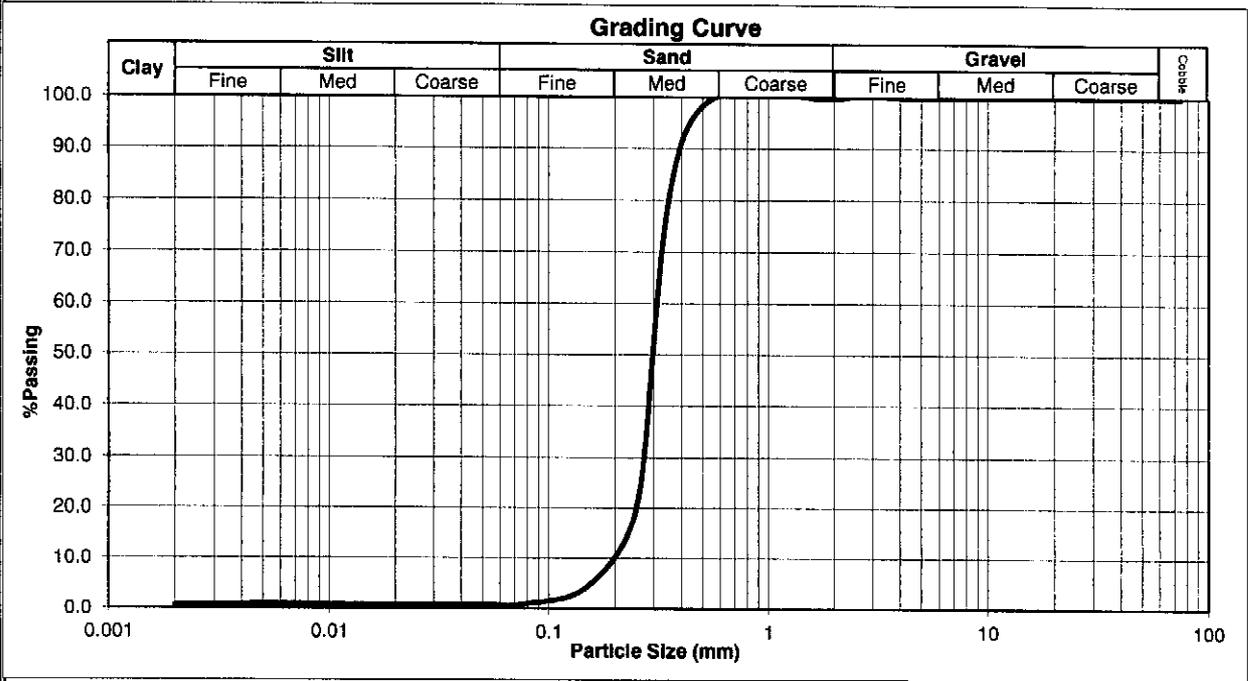
Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	99.9
2	99.7
0.425	94.0
0.25	20.1
0.15	4.5
0.075	0.9
0.05	0.8
0.02	0.8
0.005	0.8
0.002	0.7

M.I.T SIZE CLASSIFICATION	
Cobble%	0.0
Gravel%	0.3
Coarse	0.0
Medium	0.1
Fine	0.2
Sand%	98.9
Coarse	5.1
Medium	82.3
Fine	11.5
Silt%	0.1
Coarse	0.1
Medium	0.0
Fine	0.1
Clay%	0.7

PLASTICITY	
Liquid Limit	21
Plasticity Index	0
Linear Shrinkage	0

GRADING	
D10 Size (mm)	0.18
Uniformity Coefficient	1.85
Grading Modulus	1.05

CLASSIFICATION	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP



Ref no.: 24414/3389

Fig no.: -

MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

Project: Beachwood - Ref. 24414

Ref no.: 7152 **Lab no.:** 11188 **Borehole/Pit no.:** IP 6 **Fig no.:** -

Description: -

Depth: 1.40 - 2.00

Test Methods: TMH1 METHOD A1(a), A2, A3 & A4, D+M1000

Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	99.7
4.75	96.2
2	94.3
0.425	85.9
0.25	49.6
0.15	9.9
0.075	0.9
0.05	0.9
0.02	0.8
0.005	0.8
0.002	0.7

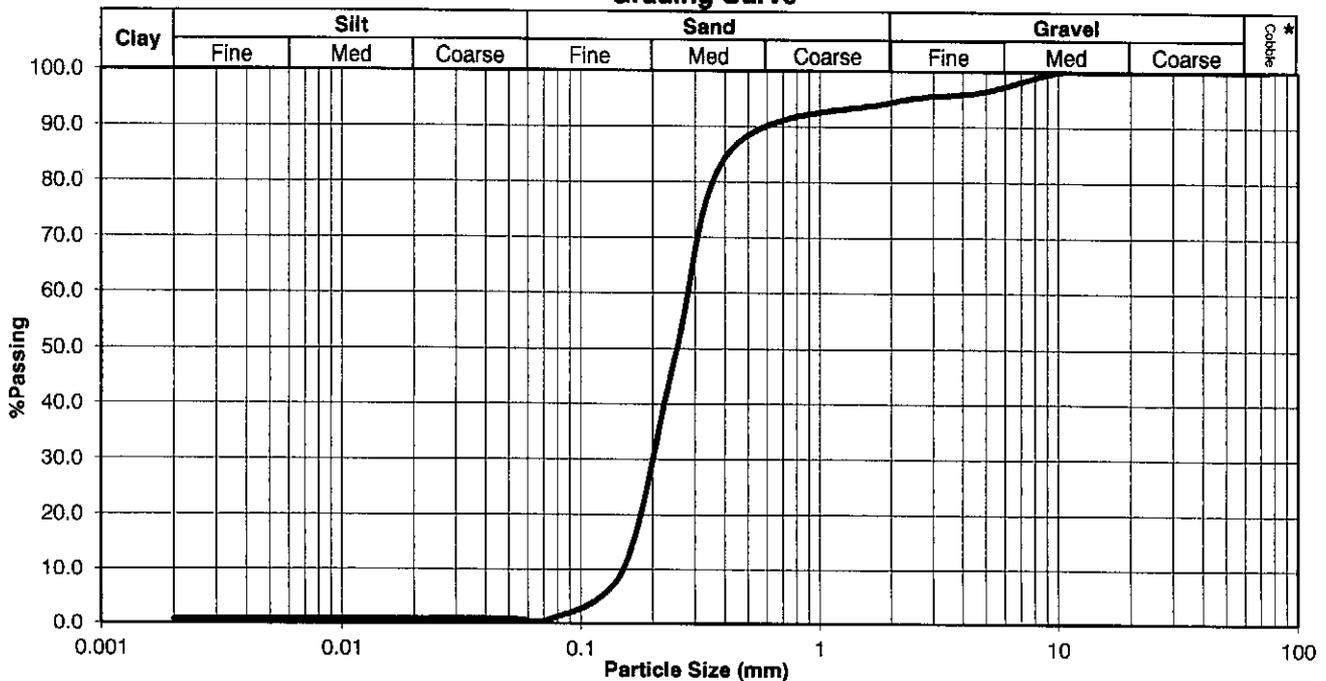
M.I.T SIZE *	
CLASSIFICATION	
Cobble%	0.0
Gravel%	5.7
Coarse	0.0
Medium	2.8
Fine	2.8
Sand%	93.4
Coarse	7.5
Medium	57.0
Fine	28.9
Silt%	0.1
Coarse	0.1
Medium	0.0
Fine	0.1
Clay%	0.7

PLASTICITY	
Liquid Limit	21.1
Plasticity Index	0
Linear Shrinkage	0

GRADING	
D10 Size (mm)	0.15
Uniformity Coefficient	1.94
Grading Modulus	1.19

CLASSIFICATION *	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP

Grading Curve



Ref no.: 7152

Fig no.: -

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MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

Project: Beachwood - Ref. 24414

Ref no.: 7152 **Lab no.:** 11189 **Borehole/Pit no.:** IP 7 **Fig no.:** -

Depth: 0.50 - 2.2 **Description:** -

Test Methods: TMH1 METHOD A1(a), A2, A3 & A4, D+M1000

Grading Analysis

Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	100.0
2	99.6
0.425	96.2
0.25	67.0
0.15	18.1
0.075	10.0
0.05	9.4
0.02	8.3
0.005	7.7
0.002	7.0

M.I.T SIZE *

CLASSIFICATION	
Cobble%	0.0
Gravel%	0.4
Coarse	0.0
Medium	0.0
Fine	0.4
Sand%	90.0
Coarse	3.0
Medium	54.1
Fine	32.8
Silt%	2.7
Coarse	1.4
Medium	0.5
Fine	0.8
Clay%	7.0

PLASTICITY

Liquid Limit	19.5
Plasticity Index	0
Linear Shrinkage	0

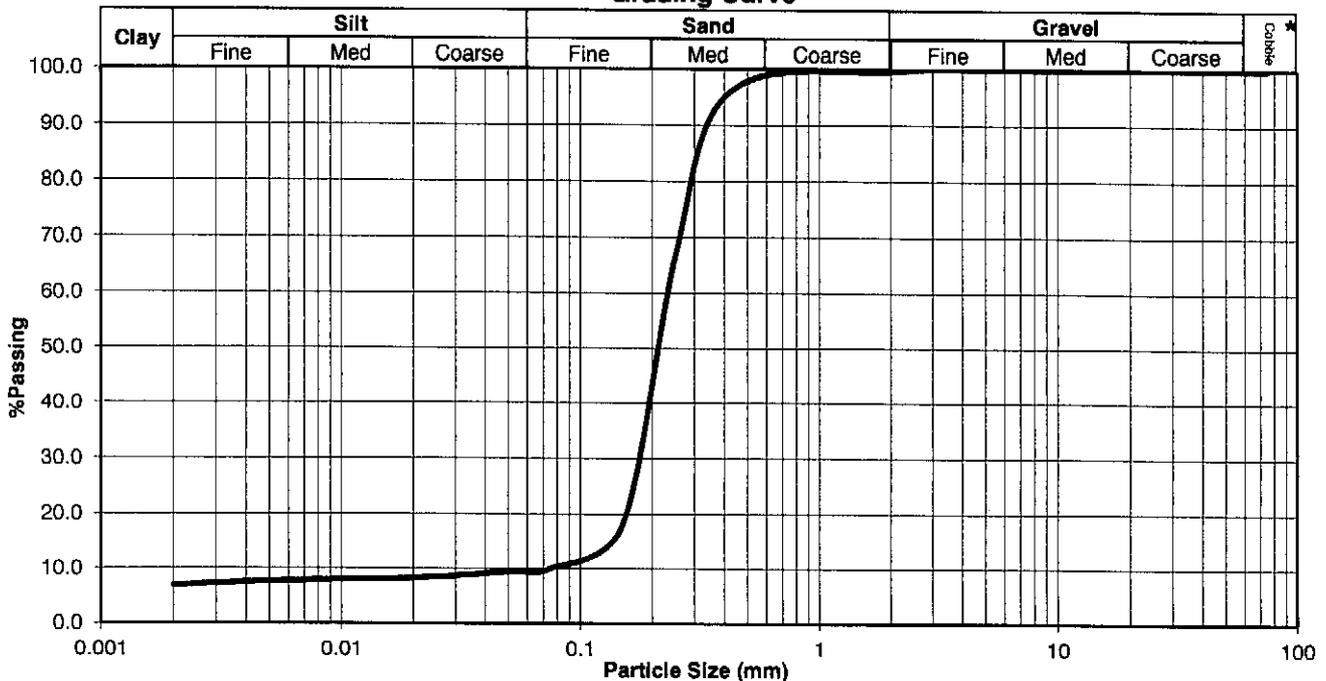
GRADING

D10 Size (mm)	0.075
Uniformity Coefficient	3.11
Grading Modulus	0.94

CLASSIFICATION *

Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 2 - 4
Unified Classification	SP - SM

Grading Curve



Ref no.: 7152

Fig no.: -

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MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

VAT REGISTRATION NO. 458210967

58 Ridge Road, P.O. Box 2444,
Tolpelt, DURBAN, MAYVILLE, 4050
Tel : (031) 201-8982 Fax : (031) 201-7829

Project: DMP/Beach Wood

Ref no.: 24414/3389 **Lab no.:** 0093 **Borehole/Pit no.:** IP4 **Fig no.:** -

Depth: 0.7-2.3

Grading Analysis

Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	100.0
2	99.9
0.425	96.9
0.25	37.4
0.15	11.5
0.075	6.5
0.05	4.6
0.02	4.6
0.005	4.6
0.002	4.0

M.I.T SIZE

CLASSIFICATION	
Cobble%	0.0
Gravel%	0.1
Coarse	0.0
Medium	0.0
Fine	0.1
Sand%	94.5
Coarse	2.7
Medium	72.8
Fine	19.1
Silt%	1.4
Coarse	0.7
Medium	0.0
Fine	0.6
Clay%	4.0

PLASTICITY

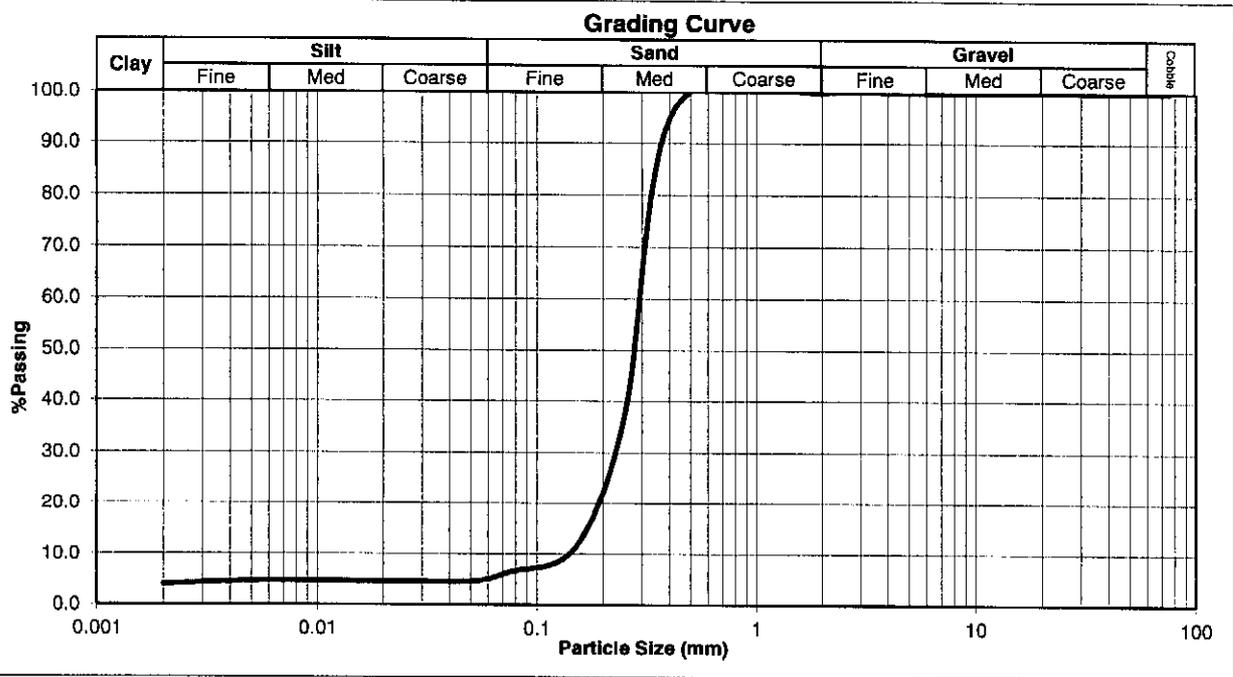
Liquid Limit	17
Plasticity Index	0
Linear Shrinkage	0

GRADING

D10 Size (mm)	0.12
Uniformity Coefficient	2.51
Grading Modulus	0.97

CLASSIFICATION

Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP - SM



Ref no.: 24414/3389

Fig no.: -

MATERIALS ANALYSIS



THEKWINI SOILS LAB. CC

VAT REGISTRATION NUMBER:

58 Ridge Road, P.O. Box 20464,
Telipos, DURBAN, MAYVILLE, 4050
Tel : (031) 201-4892 Fax : (031) 201-7320

Project: DMP/Beach Wood

Ref no.: 24414/3389 **Lab no.:** 0092 **Borehole/Pit no.:** IP4 **Fig no.:** -

Depth: 0.2-0.7

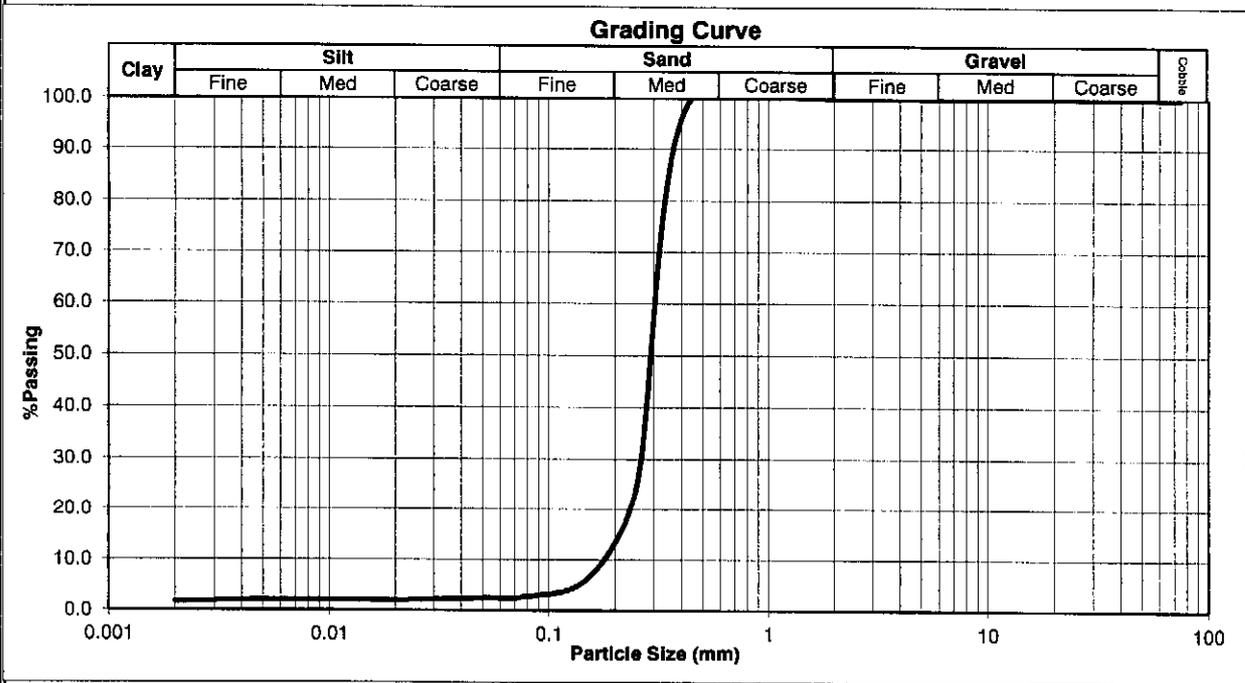
Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	100.0
2	99.9
0.425	98.7
0.25	24.7
0.15	6.4
0.075	2.7
0.05	2.5
0.02	2.0
0.005	2.0
0.002	1.7

M.I.T SIZE CLASSIFICATION	
Cobble%	0.0
Gravel%	0.1
Coarse	0.0
Medium	0.0
Fine	0.1
Sand%	97.3
Coarse	1.1
Medium	83.3
Fine	13.0
Silt%	0.9
Coarse	0.5
Medium	0.0
Fine	0.3
Clay%	1.7

PLASTICITY	
Liquid Limit	22
Plasticity Index	0
Linear Shrinkage	0

GRADING	
D10 Size (mm)	0.17
Uniformity Coefficient	1.94
Grading Modulus	0.99

CLASSIFICATION	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 3
Unified Classification	SP



Ref no.: 24414/3389

Fig no.: -

MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

Project: Beachwood - Ref. 24414

Ref no.: 7152 **Lab no.:** 11191 **Borehole/Pit no.:** IP 9 **Fig no.:** -

Description: -

Depth: 2.0 - 2.6

Test Methods: TMH1 METHOD A1(a), A2, A3 & A4, D+M1000

Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	99.7
2	99.4
0.425	91.7
0.25	56.3
0.15	31.2
0.075	27.3
0.05	27.3
0.02	26.7
0.005	25.2
0.002	23.1

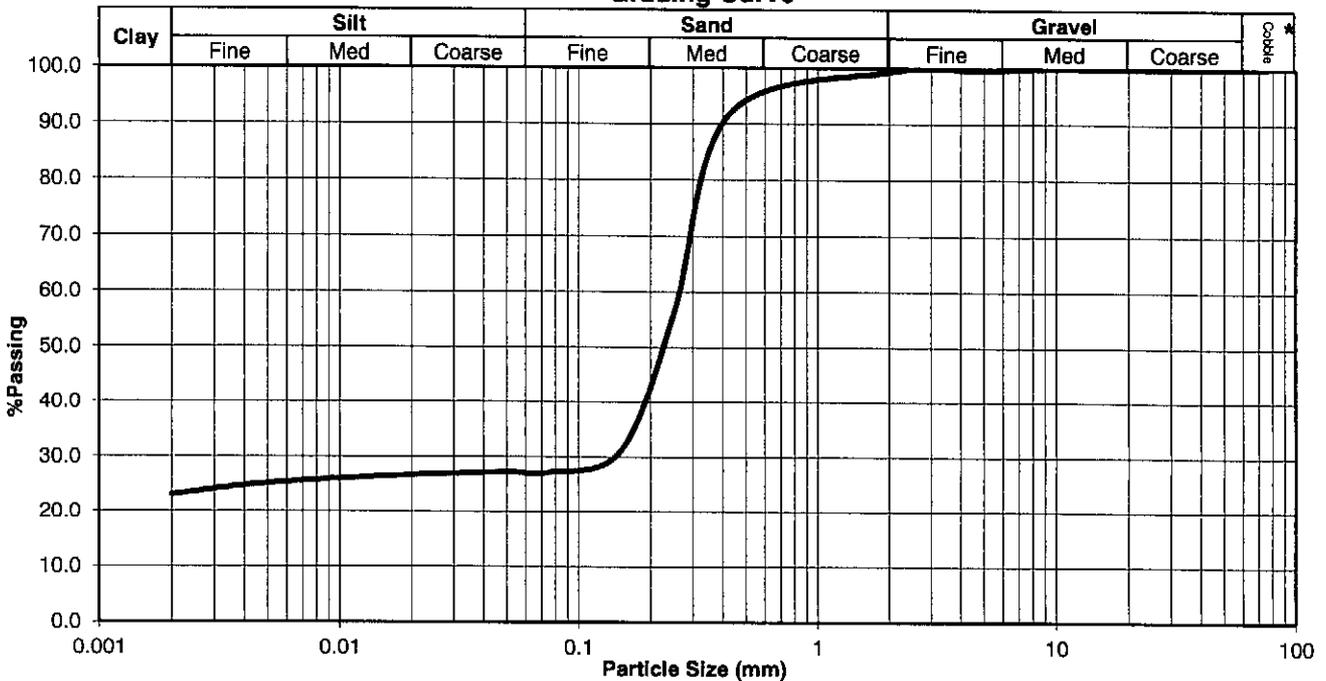
M.I.T SIZE *	
CLASSIFICATION	
Cobble%	0.0
Gravel%	0.6
Coarse	0.0
Medium	0.2
Fine	0.4
Sand%	72.1
Coarse	6.8
Medium	48.9
Fine	16.5
Silt%	4.2
Coarse	0.5
Medium	1.5
Fine	2.2
Clay%	23.1

PLASTICITY	
Liquid Limit	21.6
Plasticity Index	11.8
Linear Shrinkage	3.3

GRADING	
D10 Size (mm)	<0.002
Uniformity Coefficient	NA
Grading Modulus	0.82

CLASSIFICATION *	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 2 - 6
Unified Classification	SC

Grading Curve



Ref no.: 7152

Fig no.: -

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MATERIALS ANALYSIS

THEKWINI SOILS LAB. CC

Project: Beachwood - Ref. 24414

Ref no.: 7152 **Lab no.:** 11190 **Borehole/Pit no.:** IP 8 **Fig no.:** -
Description: -

Depth: 0.90 - 1.70

Test Methods: TMH1 METHOD A1(a), A2, A3 & A4, D+M1000

Grading Analysis	
Grain Size (mm)	% Passing
75	100.0
53	100.0
37.5	100.0
26.5	100.0
19	100.0
13.2	100.0
9.5	100.0
4.75	100.0
2	100.0
0.425	95.7
0.25	68.6
0.15	33.2
0.075	26.2
0.05	25.2
0.02	24.1
0.005	23.1
0.002	21.5

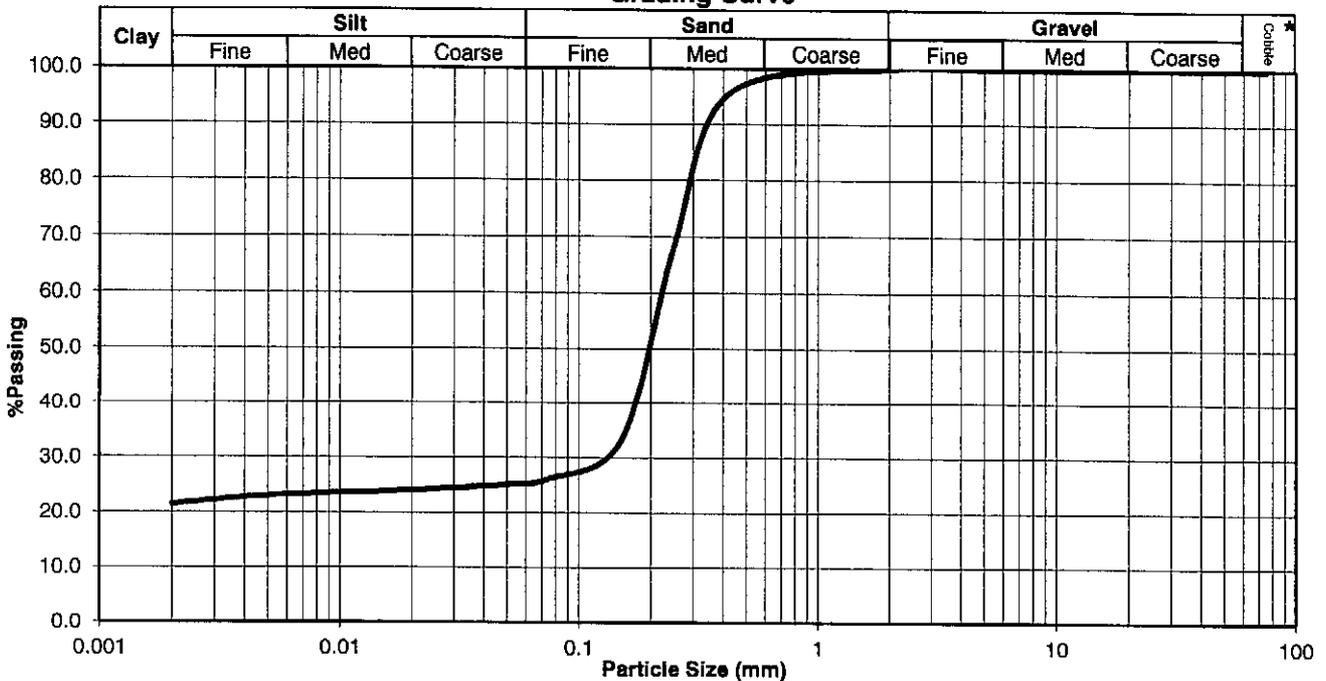
M.I.T SIZE *	
CLASSIFICATION	
Cobble%	0.0
Gravel%	0.0
Coarse	0.0
Medium	0.0
Fine	0.0
Sand%	74.4
Coarse	3.9
Medium	45.3
Fine	25.3
Silt%	4.1
Coarse	1.5
Medium	1.0
Fine	1.6
Clay%	21.5

PLASTICITY	
Liquid Limit	19.6
Plasticity Index	11.1
Linear Shrinkage	2

GRADING	
D10 Size (mm)	<0.002
Uniformity Coefficient	NA
Grading Modulus	0.78

CLASSIFICATION *	
Potential Expansiveness	Low
Group Index	0
AASHTO Soil Classification	A - 2 - 6
Unified Classification	SC

Grading Curve



Ref no.: 7152

Fig no.: -

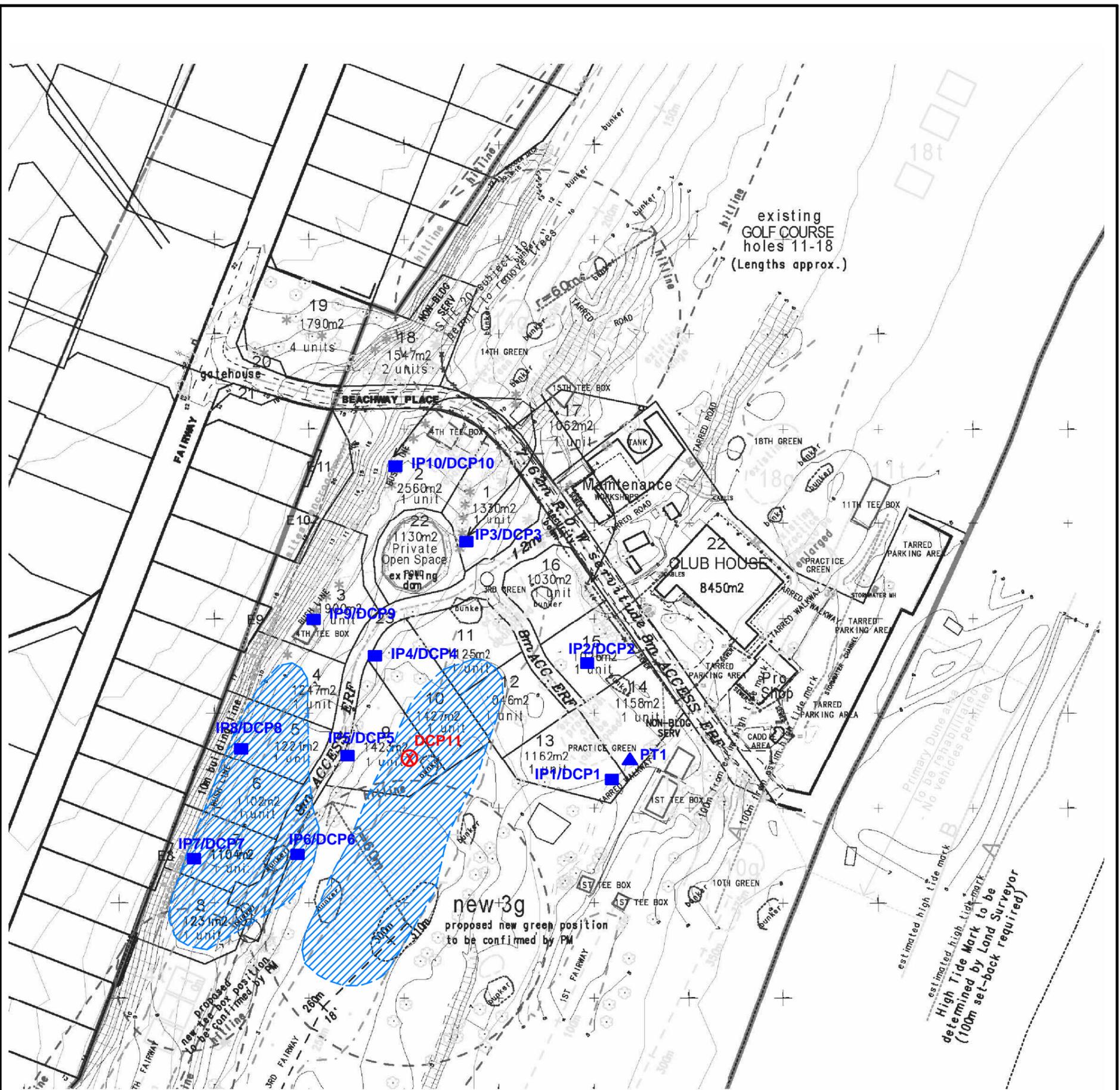
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FIGURE 1

SITE PLAN



existing GOLF COURSE holes 11-18 (Lengths approx.)

new 3g proposed new green position to be confirmed by PM

estimated high tide mark
 High Tide Mark to be determined by Land Surveyor (100m set-back required)
 Primary Dune area to be rehabilitated - No vehicles permitted

KEY

- ⊗ **DCP11** APPROX. POSITION OF DYNAMIC CONE PENETROMETER TESTS
- **DCP1/IP1** APPROX. POSITION OF INSPECTION PITS/ DYNAMIC CONE PENETROMETER TESTS
- ▲ **PT1** APPROX. POSITION OF PERCOLATION TEST
- ▨ **GROUNDWATER EXPECTED WITHIN 1.0m TO 1.5m OF EXISTING GROUND LEVEL**



DRENNAN, MAUD AND PARTNERS
 Consulting Civil Engineers

DESIGNED :	M.C.
DRAWN :	S.P.
DATE :	28/11/2013
SCALE :	N.T.S.
CHECKED :	

GEOTECHNICAL INVESTIGATION BEACHWOOD GOLF COURSE DEVELOPMENT

REF. NO. **24414**
 FIG. NO. **1**

FIGURES 2 - 12

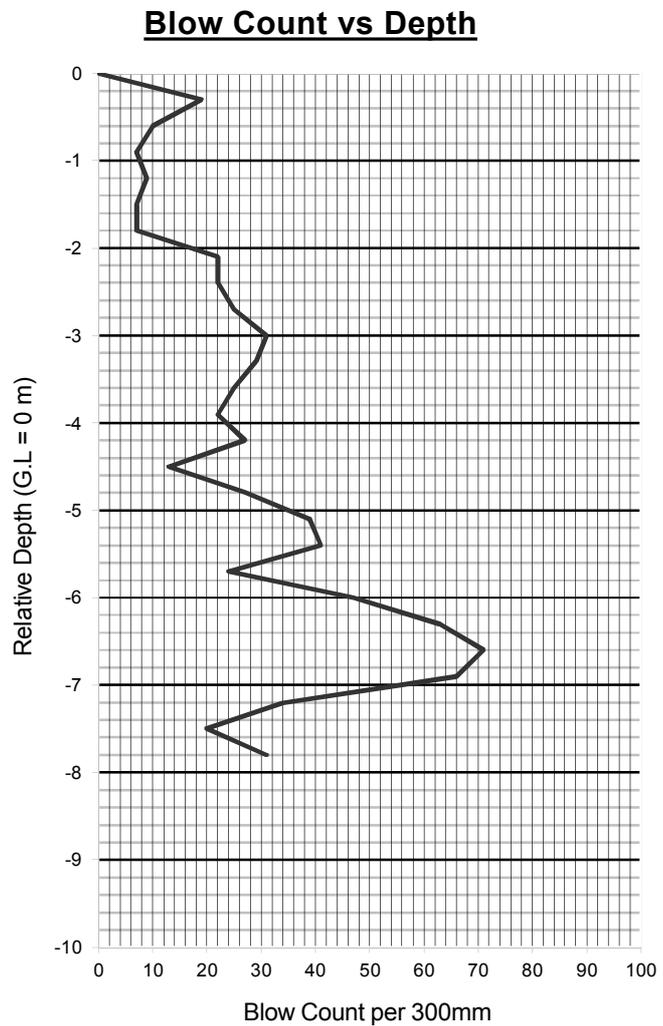
**DYNAMIC CONE PENETROMETER TEST
RESULTS (DCP 1 - DCP 11)**

Dynamic Cone Penetrometer

Test No. : 1

Project : Beachwood Golf Course
Client : SiVest
 Date: 20.11.2013 Remarks: -
 Test Location: - -
 Date of Test: 20.11.2013 Depth Interval (m) : 0.3

Depth (m)	Count Blows/0.3m
0	0
-0.3	19
-0.6	10
-0.9	7
-1.2	9
-1.5	7
-1.8	7
-2.1	22
-2.4	22
-2.7	25
-3.0	31
-3.3	29
-3.6	25
-3.9	22
-4.2	27
-4.5	13
-4.8	27
-5.1	39
-5.4	41
-5.7	24
-6.0	47
-6.3	63
-6.6	71
-6.9	66
-7.2	34
-7.5	20
-7.8	31
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-



Reference No. : 24414

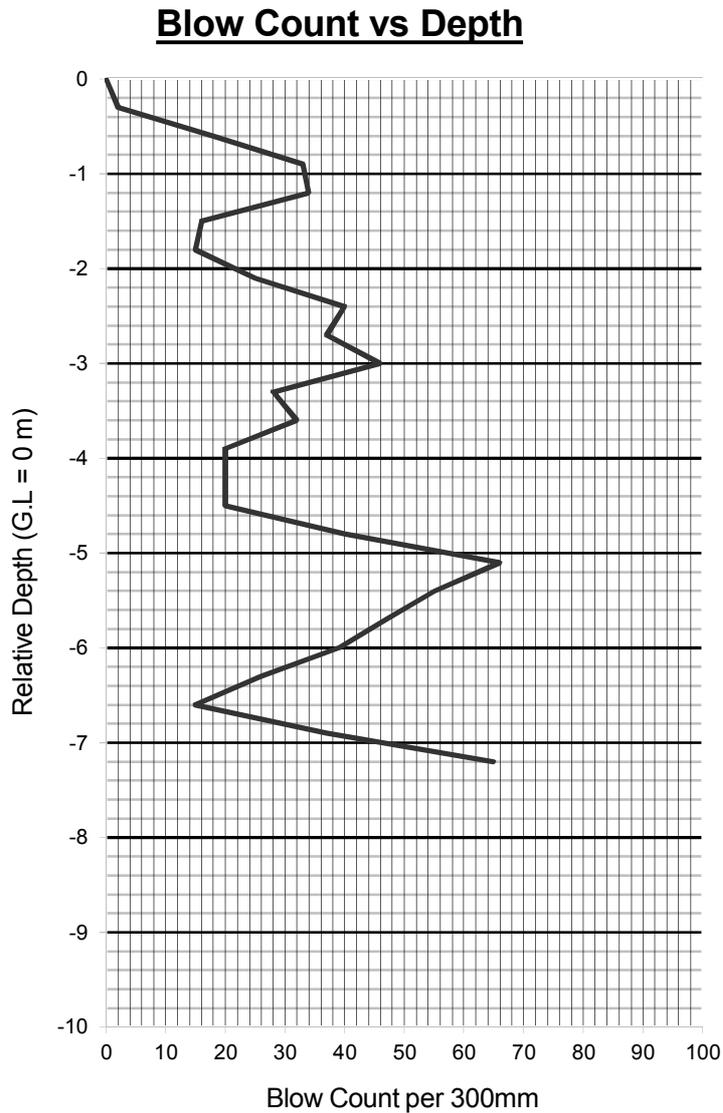
Drennan Maud & Partners.

Dynamic Cone Penetrometer

Test No. : 2

Project : Beachwood Golf Course
Client : SiVest
Date: 20.11.2013 Remarks: -
Test Location: -
Date of Test: 20.11.2013 Depth Interval (m) : 0.3

Depth (m)	Count Blows/0.3m
0	0
-0.3	2
-0.6	18
-0.9	33
-1.2	34
-1.5	16
-1.8	15
-2.1	25
-2.4	40
-2.7	37
-3.0	46
-3.3	28
-3.6	32
-3.9	20
-4.2	20
-4.5	20
-4.8	40
-5.1	66
-5.4	55
-5.7	47
-6.0	39
-6.3	26
-6.6	15
-6.9	37
-7.2	65
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-



Reference No. : 24414

Drennan Maud & Partners.

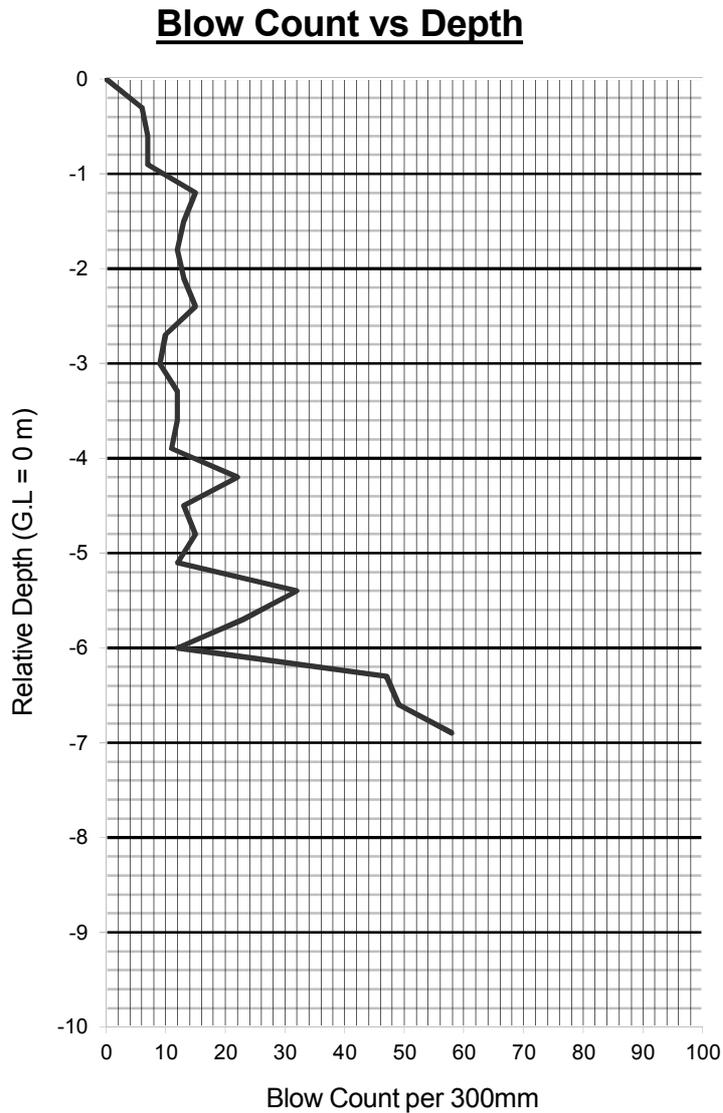
Fig. No. 4

Dynamic Cone Penetrometer

Test No. : 4

Project :	Beachwood Golf Course	
Client :	SiVest	
Date:	20.11.2013	Remarks: -
Test Location:	-	-
Date of Test:	20.11.2013	Depth Interval (m) : 0.3

Depth (m)	Count Blows/0.3m
0	0
-0.3	6
-0.6	7
-0.9	7
-1.2	15
-1.5	13
-1.8	12
-2.1	13
-2.4	15
-2.7	10
-3.0	9
-3.3	12
-3.6	12
-3.9	11
-4.2	22
-4.5	13
-4.8	15
-5.1	12
-5.4	32
-5.7	23
-6.0	12
-6.3	47
-6.6	49
-6.9	58
-	
-	
-	
-	
-	
-	
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Reference No. : 24414

Drennan Maud & Partners.

Fig. No. 6

Virginia Airport Annexure 2.2

Pavement Design Report

Roads Provision Department
Pavement & Geotechnical Engineering Branch
Pavement Design Report

Project Name Virginia Airport - Aircraft Parking
Designed By T.N. Govender
Date 11/06/2019
Reference No. 2019/70
Works Order No.

Scope:

The Durban Virginia Airport is a general aviation airport which is located approximately 10 km north east of Durban, at 29° 46' 29.7" S and 31° 3' 19.21" E. This report presents a concrete pavement design for the the new parking facility for light aircraft at the Virginia Airport.

Structural design life 20 years (eThekweni Roads Provision Dept. requirement)
Analysis period Not applicable
Pavement Design Method The M10 manual (1995) / Low-volume concrete roads (BD Perrie)

Traffic Analysis

Estimated initial aircrafts per day	10
Growth rate	0%
Estimated E80's per aircraft	0.57
Cumulative E80 loading	0.042 x 10 ⁶ E80's
Design traffic class	ES 0.1

Environment Wet climatic region

Subgrade Analysis (See attached materials reports)

Material depth (Table 15)	500mm
insitu material classification	G7
Subgrade design CBR (@95% Mod.AASHTO)	> 15
Subgrade CBR classification (Table 16)	SG1
Selected layer-works and subgrade (as required):	See table below

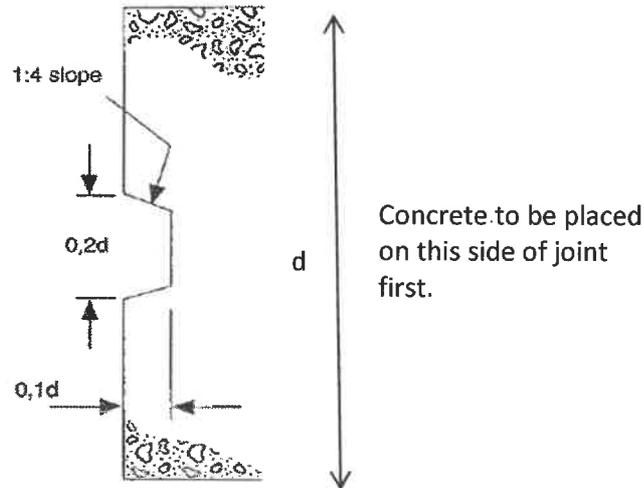
Unreinforced Concrete Pavement

Subgrade Preparation	
Construction Action	Insitu Subgrade Material Classification (G7)
Undercut	No undercut required
Insitu Re-work	Rip & re-compact 150mm insitu G7
Imported Material	Nil

The aim of this subgrade preparation is to provide uniform support over the design life of the pavement. Uniform slab support is of utmost importance as a slab with a void underneath cannot accommodate loading and will result in cracking. It was noted that there may also be areas underlain with potentially collapsible soil profiles, in cases where these materials fall within the subgrade at material depth, they may be adequately treated by rolling with a heavy vibratory roller at a suitable moisture content.

Notes

1. The insitu material should be of at least G9 quality within 500mm of the finished concrete surface.
2. Concrete flexural strength should be 3.8 MPa. This equates to a concrete compressive strength of approximately 40Mpa.
3. Concrete should be cast in alternate panels with construction joints being formed both longitudinally and transversely.
(Should saw cut joints be used (not recommended for minor road-works), a large nominal aggregate size (26.5mm or 37.5mm) should be utilised as the predominant aggregate size in the concrete mix to facilitate load transfer at the joints).
4. Panels should be kept as square as possible with the length:breadth ratio being kept below 1.2.
5. Transverse joints to be keyed (but not dowelled) as detailed below.



6. Longitudinal joints to be keyed and tied. Tie bars should be Y10 (deformed bars), 500mm in length @ 750mm intervals. Key dimensions should be as detailed above. Tie bars can be excluded if edge restraints in the form of stand-alone kerbing is cast along either edge of the concrete road.
7. Non-rectangular panels or panels encompassing manholes should be reinforced with Mesh Ref. 395. Manholes etc. should be separated from the concrete panel with an isolation joint through the full depth of the panel.
8. The surface of the wet concrete should be finished with a burlap drag on shallow gradients. On steeper gradients, the surface should be roughened with a light pass of a stiff bristled broom applied transversely across the width of the road to create striations of about 1.5mm to 3.0mm in depth.

Pavement Layerworks:

Layerworks Description	Unreinforced Concrete Pavement	
Wearing Course	150 JCP (3.8 Mpa)	Formation Level
Base Course		
Subbase	125mm G4	
Subgrade	150mm Insitu Rip & Recompact	

Due to the nature of the subgrade material (G7), a graded crushed stone and gravel material (G4) has been selected as the subbase for ease of construction and workability. The final layout of the parking facility together with the jointing details must be reviewed by the Pavement and Geotechnical Engineering branch prior to construction.

Material Descriptions and Compaction Specifications

JCP	Jointed Concrete Pavement	Unreinforced jointed concrete (no transverse joint dowels). Flexural strength 3.8MPa (~40MPa compressive strength)	-
G4	Graded crushed stone and gravel	CBR @ 98% Mod.AASHTO > 80%	98% MDD
G7	Natural gravel or soil	CBR @ 93% Mod.AASHTO > 15%	95% MDD
G9	Natural gravel or soil	CBR @ 93% Mod.AASHTO > 7%	93% MDD

1. Material specifications as defined in TRH 14:1985.

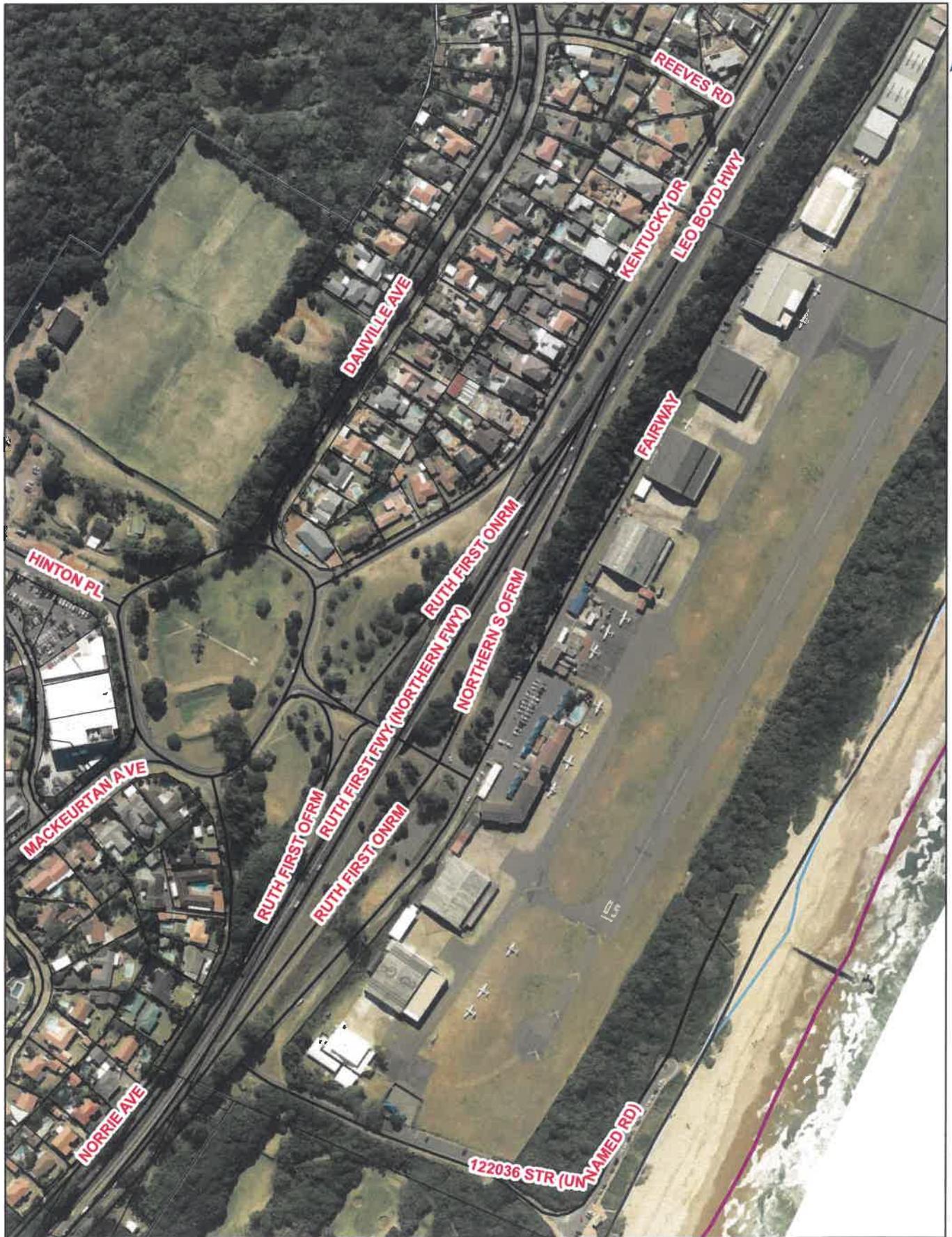
Designed:  Date: 12/06/2019

Approved:  Date: 12/6/2019

ANNEXURE ONE

Locality Plan

VIRGINIA AIRPORT



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ANNEXURE TWO
Geology

VIRGINIA AIRPORT



ANNEXURE THREE

Test results

Roads Provision Department

Pavement & Geotechnical Engineering
Soil Classification - TMH 1 Method A1(a), A2, A3, A4, A5

Ref. No. : 2019/070

WO No. : 0

Sampled By : Lab

Project : Virginia Airport

Contract No. : 0

Date Sampled : 23-05-2019

Source : Virginia Airport

Layer :

Results To : Tasha Govender

Location : Auger 1

Depth (mm) : 25-1500

Address : Roads Provision

Soil Description : POORLY GRADED SAND

Sample No. : 189

In situ moisture content :

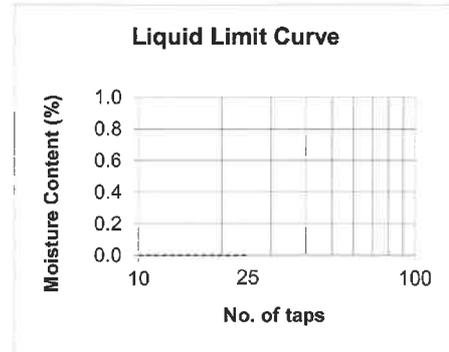
Pan no. : 23
Mass of pan + wet material (g) : 1393.50
Mass of pan + dry material (g) : 1362.50
Mass of pan (g) : 253.10
Moisture content (%) : 2.8

Grading :

Sieve Size (mm)	Sieve Size (mm)	% Passing
Old	New	
75.0	75.0	100
63.0	63.0	100
53.0	50.0	100
37.5	37.5	100
26.5	28.0	100
19.0	20.0	100
13.2	14.0	100
4.750	5.000	100
2.000	2.000	100
0.425	0.425	75
0.250	0.250	31
0.150	0.150	4
0.075	0.075	2

Atterberg Limits :

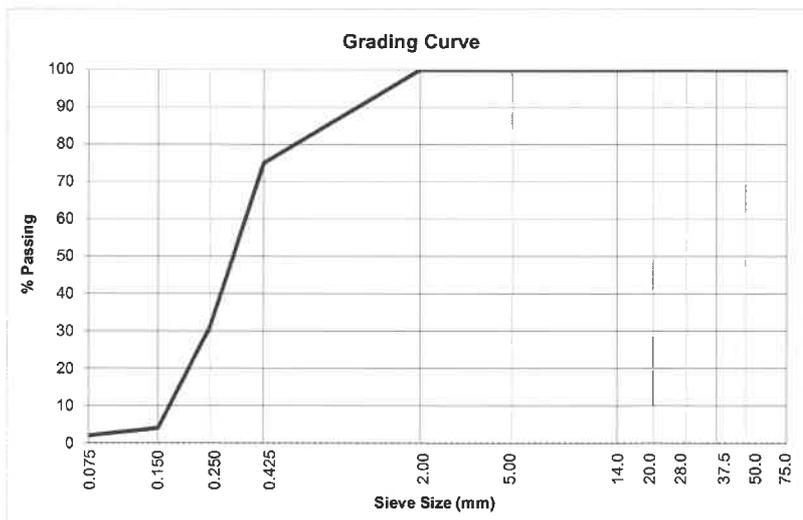
	Bottle number	Mass of bottle (g)	Bottle + wet sample	Bottle + dry sample	Number of taps	Moisture content (%)
Liquid Limit			N/P			
Plastic Limit						



Linear Shrinkage Measured shrinkage (mm) : 0.0
No. of liquid limit taps at time of sampling :

Classification Summary :

Liquid Limit : NP
Plastic Limit : NP
Plasticity Index : NP
Linear Shrinkage : 0.0
Grading Modulus : 1.2
Group Index : 0
Cu : 2.1
Cc : 1.0
MOD : -
OMC : -
CBR @ 90% M.AASHTO : -
CBR @ 93% M.AASHTO : -
CBR @ 95% M.AASHTO : -
CBR @ 98% M.AASHTO : -
CBR @ 100% M.AASHTO : -
% Swell @ 100% M.AASHTO : -



Unified Classification : SP Poorly graded sand
AASHTO Classification : A-3 (0)
TRH14 Classification : (G6 or worse)

Remarks :

Signed : *Z.M. Luthuli*

Materials Tester : Z.M. Luthuli

Tested By : R.C. Guma

Roads Provision Department

Pavement & Geotechnical Engineering
Soil Classification - TMH 1 Method A1(a), A2, A3, A4, A5

Ref. No. : 2019/070

WO No. : 0

Sampled By : Lab

Project : Virginia Airport

Contract No. : 0

Date Sampled : 23/05/2019

Source : Virginia Airport

Layer :

Results To : Tasha Govender

Location : Auger2

Depth (mm) : 30 - 1500

Address : Roads Provision

Soil Description : POORLY GRADED SAND

Sample No. : 190

In situ moisture content :

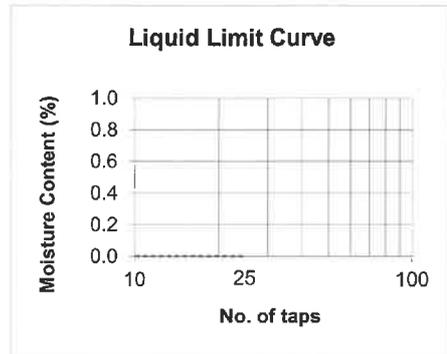
Pan no. : 15
Mass of pan + wet material (g) : 1799.60
Mass of pan + dry material (g) : 1763.50
Mass of pan (g) : 539.60
Moisture content (%) : 2.9

Grading :

Sieve Size (mm)	Sieve Size (mm)	% Passing
Old	New	
75.0	75.0	100
63.0	63.0	100
53.0	50.0	100
37.5	37.5	100
26.5	28.0	100
19.0	20.0	100
13.2	14.0	100
4.750	5.000	100
2.000	2.000	100
0.425	0.425	62
0.250	0.250	18
0.150	0.150	1
0.075	0.075	1

Atterberg Limits :

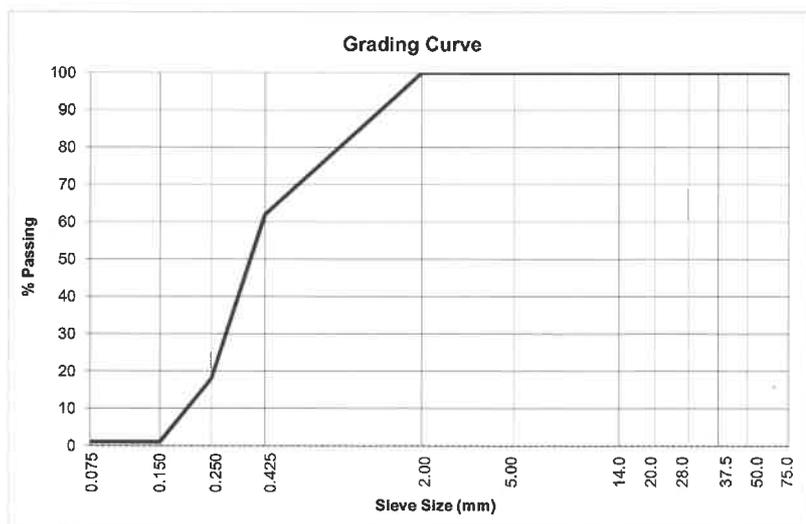
	Bottle number	Mass of bottle (g)	Bottle + wet sample	Bottle + dry sample	Number of taps	Moisture content (%)
Liquid Limit			N/P			
Plastic Limit						



Linear Shrinkage Measured shrinkage (mm) : 0.0
No. of liquid limit taps at time of sampling :

Classification Summary :

Liquid Limit : NP
Plastic Limit : NP
Plasticity Index : NP
Linear Shrinkage : 0.0
Grading Modulus : 1.4
Group Index : 0
Cu : 2.1
Cc : 1.0
MOD : -
OMC : -
CBR @ 90% M.AASHTO : -
CBR @ 93% M.AASHTO : -
CBR @ 95% M.AASHTO : -
CBR @ 98% M.AASHTO : -
CBR @ 100% M.AASHTO : -
% Swell @ 100% M.AASHTO : -



Unified Classification : SP Poorly graded sand
AASHTO Classification : A-3 (0)
TRH14 Classification : (G6 or worse)

Remarks :

Signed : *[Signature]*
Materials Tester : Z.M. Luthuli
Tested By : R.C. Guma

Virginia Airport Annexure 2.3

Geology

**Virginia Airport Annexure 3
Rapid Environmental Risk
Assessment**

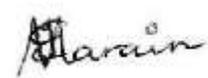
Proposed Decommissioning and Redevelopment of the Virginia Site (existing Virginia Airport)

Rapid Environmental Risk Assessment

2 April 2019

Prepared for: South African Development Consultants and Planners
(SADC)
Contact: Mr Trivi Arjunan
Email: trivi@sadc-plan.com

Document history and change record

Revision	Issue date	Description of change / Approval
00	02/04/2019	Initial Issue
Prepared by	Manogrie Chetty (Pr.Sci.Nat) & Tarryn Edwina Narain	 
Reviewed & Approved by	Manogrie Chetty Pr.Sci.Nat	
	Leena Ackbar Pr.Sci.Nat	

ECA Consulting

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Environmental Impact Assessments
Environmental Management Programmes
Carbon Footprints
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Disclaimer

The information in this report is based on information supplied by the client, South African Development Consultants and Planners (SADC). All information is given in good faith, however, no physical testing or chemical analyses were performed by ECA Consulting during the course of this assessment.

Although every effort was made to request and obtain all pertinent information for this assessment ECA Consulting cannot be held accountable or accept responsibility for any discrepancies in this information or for the disclosure or review of information which has not been presented to the consultant. All reports presented to the consultant for review have been referenced.

As per the NEMA EIA regulations herewith the expertise of the EAP to carry out an environmental impact assessment;

Details of EAP

Leena Ackbar	MANAGING DIRECTOR & LEAD ENVIRONMENTAL CONSULTANT
Qualification:	BSc (Hons) Biological Science MSc Environmental Science
Experience:	11 years
Registration:	Registered with SACNASP, Accredited Green Star SA Professional (GBCSA), Level 1 Carbon Footprint Analyst (GCX)
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Manogrie Chetty	OPERATIONS DIRECTOR & LEAD ENVIRONMENTAL CONSULTANT
Qualification:	BSc (Hons) Biological Science MSc Environmental Science
Experience:	11 years
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Contact:	Cell: 061 799 6531; email: manogrie@ecaconsulting.co.za
Tarryn Edwina Narain	SENIOR ENVIRONMENTAL CONSULTANT
Qualification:	BSc. Geological Sciences (Environmental and Engineering Geology)
Experience:	3 years
Registration:	N/A
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Expertise of EAP

ECA Consulting is headed by Leena Ackbar (Managing Director) and Manogrie Chetty (Operations Director). Leena Ackbar holds a Master of Science degree in Environmental Sciences with a focus on sustainable bioenergy crop cultivation in Angola. The study was further extended throughout sub-Saharan Africa by COMPETE, which is an international research organisation funded by the European Union focussing on sustainable bioenergy crop expansion in sub-Saharan Africa. Leena is not only a qualified environmental scientist but is also suitably qualified environmental assessment practitioner. Manogrie Chetty also holds a Master of Science Degree in Environmental Sciences and has academically specialised in Environmental Impact Assessments in KZN.

In addition to holding a tertiary qualification in environmental sciences both our lead consultants are registered Professional Natural Scientists with SACNASP; Leena is also accredited with the Green Building Council of South Africa and the Global Carbon Exchange.

To date Leena and Manogrie have handled and project managed between 50 to 80 EIAs, BARs, EMPs, EMF/SEA, ECO sites, Water Use License Applications, etc. and other environmental management related areas. Leena has been the technical advisor and lead consultant on several complex projects including, strategic environmental work for the northern KZN region, mining EIAs, and management of ECOs on large construction

sites. Leena and Manogrie have extensive environmental legal knowledge regarding not only the EIA process and requirements but also with regard to all other relevant environmental legislation at a national, provincial and local level and how these affect environmental management issues.

Leena Ackbar has been trained by the Global Carbon Exchange on the Greenhouse Gas Protocol and has duly completed a number of carbon footprint assessments during her training. She has also set up the GHGEI collection for the King Shaka International Airport, Cargo Terminal for Dube Tradeport.

Some of our notable contributions include a presentation at the 2011 Mining Conference hosted by the International Institute Research of South Africa, which is now run from its head office, Informa Middle East, located in Dubai. We have also provided comment, as part of the environmental panel for the Durban Chamber of Commerce on the National Treasury Paper on Carbon Tax.

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Acronyms

CBA	Critical Biodiversity Area
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Environmentally Sensitive Area
GA	General Authorisation
GIS	Geographic Information System
IWWMP	Integrated Waste and Water Management Programme
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Area
SDF	Spatial Development Framework
WUA	Water Use Authorisation
WULA	Water Use License Application

1. Brief

ECA Consulting was appointed by South African Development Consultants and Planners (SADC) on behalf of the applicant, eThekweni Municipality (Economic Development and Planning Sector) to undertake a rapid environmental risk assessment for the Virginia Site (existing Virginia Airport site) located east of the M4 along Fairway Road and west of the Virginia Beach within Durban North (Refer to Figure 1). The site is being screened for redevelopment which will include the rezoning of the site. A portion of the site is located within 100m of the high water mark.



Figure 1: Map Showing Location of the Virginia Site (highlighted in red) (Google Earth, 2019)

This report serves to advise the SADC of any possible environmental requirements for the decommissioning and redevelopment of the Virginia Site based on current environmental legislation and environmental best practise. Please note that this is only a screening and risk assessment report and no physical testing or specialist assessment was undertaken.

The scope of works for the environmental rapid risk assessment is:

- 1 Undertake an environmental rapid assessment of the Virginia Site in terms of its potential for redevelopment. This includes project familiarisation, desktop research, and a brief desktop environmental evaluation of the identified site;
- 2 Outline the environmental process for decommissioning of the existing airport and redevelopment of that site in terms of the regulations;
- 3 Identify the legislative requirements for the proposed decommissioning and redevelopment of that site including bulk infrastructure provision;
- 4 Identify and provide a cost estimate for all required specialist studies; and
- 5 Provide timeframes for the required processes and studies.

2. Project Proposal

The following activities are proposed for the decommissioning, redevelopment of the Virginia Site and construction of a new airport:

- Decommission the existing Virginia Airport.
- The site will be redeveloped and will include the following:
 - Construction of revetments / breakwater structures;
 - Bulk Electricity HV sub-station off site (90m x 90m) with 6m reticulation corridor – approximately 15km in total;

- Upgrade the Virginia Reservoir by 5ML;
- Upgrade of Reticulation to WWTW;
- Upgrade of M4 Road, including widening of roads within the road reserve;
- Construction of a waste transfer station on-site; and
- Redevelopment of the old airport site into one of the following:
 1. Construction of residential and /or office complexes occupying a total developable area of 9.8Ha, where bulk infrastructure will not occupy more than 99 470m² of area.
 2. Beachwood coastal estate proposed a residential land use mix of a Hotel and luxury dwellings/apartments that occupy a total developable area of 109 500 m².
 3. Approximately 306 870 m² of the site will be developed and consist of commercial, retail, residential, leisure and educational components. It is proposed part of the 138 500 m² residential development would include an affordable housing component as well as the usual high-end residential apartments. This will allow people of different working grades to co-exist in a socially and economically mixed precinct.
 4. Combination of the above scenario 1 and 2 and / 2 and 3.
- Construction of new airport (Location to be confirmed).

3. Desktop Assessment of the Virginia Site

3.1. Land Use

The Virginia site is currently zoned for use as an airport and is located within an urban area.

3.2. Vegetation

According to the SANBI mapping system, the site is located within the Indian Ocean Coastal Belt, Azonal Vegetation and the Zonal and Intrazonal Forest biome. The vegetation types consist of the KwaZulu-Natal Coastal Belt, subtropical seashore vegetation and KwaZulu-Natal Dune Forests (Refer to Figure 2). The KwaZulu-Natal Dune Forests is an Indigenous Forest Patch. The KwaZulu-Natal Dune Forests and subtropical seashore vegetation is of a critical biodiversity status as an irreplaceable area (SANBI, 2019).



Figure 2: Map Depicting Vegetation Associated with the Virginia Site (SANBI, 2019)

3.3. Biodiversity

According to the SANBI mapping system, the site is located within the Durban Metropole North Coast Grassland and the Northern Coastal Grasslands which are on the National List of threatened terrestrial ecosystems (SANBI, 2019). The eastern portion of the site is included in the Durban Metropolitan Open Space

System (D'MOSS) (refer to Figure 3) indicating that the site is of high biodiversity and ecological significance. The eastern portion of the site is considered to be a critical irreplaceable biodiversity area (Refer to Figure 4).



Figure 3: Map depicting D'MOSS areas surrounding the Virginia site (eThekweni GIS, 2019)

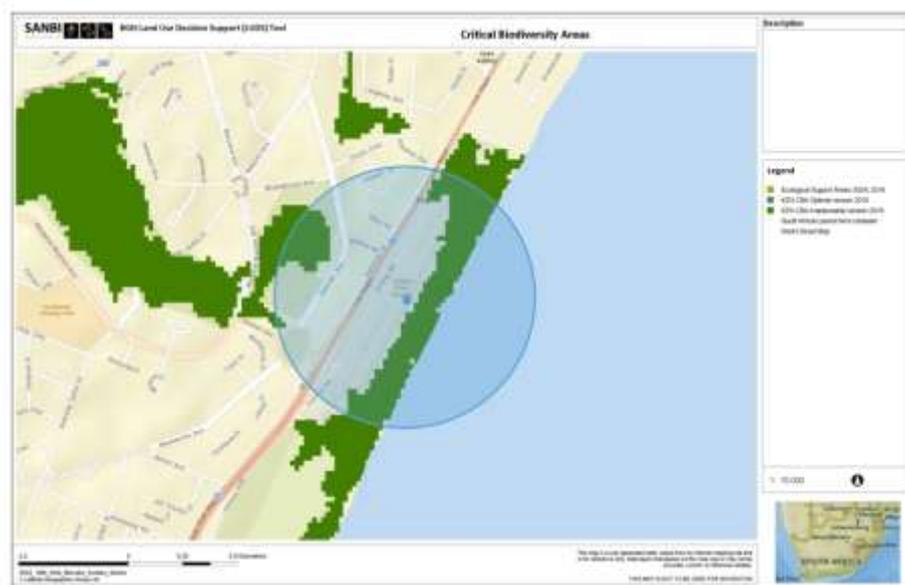


Figure 4: Map depicting CBA Areas Surrounding the Virginia Site (SANBI, 2019)

3.4. Rivers and Wetlands

Based on the aerial imagery review, the Virginia stream and an unknown stream were noted to be flowing through the Virginia site leading to the Virginia Beach (refer to Figure 5). There may be wetlands located within 500m of the Virginia site; however this can only be confirmed when a site visit is undertaken. There are no NFEPA wetlands or rivers located within 500m of the Virginia site (refer to Figure 6).



Figure 5: Map depicting watercourses surrounding the Virginia site (eThekweni GIS, 2019)



Figure 6: Map depicting NFEPA wetlands and rivers within 500m of the Virginia site (SANBI, 2019)

4. Legislative Framework and Findings

Based on the information provided above, the following legislation has been considered for the Virginia Site in terms of the decommissioning and its potential for redevelopment. The legislation for the development of a new airport has also been included.

Legislation	Possible trigger(s)
National Environmental Management Act (107 of 1998): 2014 EIA Regulations (as amended 2017)	<p>Decommissioning of the Virginia Airport Listing Notice 1 (GNR 327): Activity 31: <i>The decommissioning of existing facilities, structures or infrastructure for—</i></p> <p>(iv) any activity regardless the time the activity was commenced with, where such activity:</p> <ol style="list-style-type: none"> a. is similarly listed to an activity in (i) or (ii) above; and b. is still in operation or development is still in progress; <p>Redevelopment of the Virginia Site (Please note that the activities relating to the bulk infrastructure is only anticipated to trigger activities from listing notice 1, however this can only be confirmed once the exact thresholds</p>

	<p><i>have been confirmed)</i></p> <p><u>Listing Notice 1 (GNR 327): Activity 19A:</u> <i>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—</i></p> <p><i>(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</i></p> <p><u>Listing notice 3 (GNR 324): Activity 12:</u> <i>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.</i></p> <p><i>In KwaZulu-Natal</i></p> <p><i>(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;</i></p> <p><u>Listing notice 3 (GNR 324): Activity 14:</u> <i>(ii) The development of—</i> <i>infrastructure or structures with a physical footprint of 10 square metres or more;</i></p> <p><i>In KwaZulu-Natal</i></p> <p><i>Inside urban areas:</i></p> <p><i>(cc) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined.</i></p> <p><u>Listing Notice 2 (GNR 325): Activity 26:</u> <i>Development—</i></p> <p><i>(i) in the sea;</i> <i>(ii) in an estuary;</i> <i>(iii) within the littoral active zone;</i> <i>(iv) in front of a development setback; or</i> <i>(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;</i> <i>in respect of —</i></p> <p><i>(c) inter- and sub-tidal structures for entrapment of sand;</i> <i>but excluding the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</i></p> <p>Development of the new Airport</p> <p><u>Listing Notice 2 (GNR 325): Activity 8:</u> <i>The development of—</i> <i>(i) airports;</i></p> <p>*The development of the new airport may trigger activities from Listing Notice 3. This is dependent on the proposed location.</p>
National Water Act (Act 36 of 1998)	<p>Decommissioning of the Virginia Airport and the Redevelopment of the Virginia Site. The development will require a water use license in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998).</p> <ul style="list-style-type: none"> • Section 21 (c) - Impeding or diverting the flow of water in a watercourse (Watercourses within 500m). • Section 21 (i) - Altering the bed, banks, course or characteristics of a watercourse (Watercourses within 500m).

	<p>Development of the new Airport.</p> <p>The development will require a water use license in terms of the following water uses in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998). The water uses to be applied for will be dependent on the proposed location of the new airport.</p>
National Environmental Management: Waste Act, Act 59 of 2008	<p>Decommissioning of the Virginia Airport N/A</p> <p>The Redevelopment of the Virginia Site <u>Category C Waste Management (Does not require any licenses, however the EDTEA must be notified)</u> 1. <i>The storage of general waste at a facility that has the capacity to store in excess of 100m² of general waste at any one time.</i></p> <p>Development of the new Airport. <u>Category A Waste License</u> 1. <i>The recycling of general waste at a facility that has an operational area in excess of 500m².</i> 2. <i>The sorting, shredding, grinding, crushing, screening or bailing of general waste at a facility that has an operational area in excess of 1000m².</i></p> <p><u>Category C Waste Management (Does not require any licenses, however the EDTEA must be notified)</u> 1. <i>The storage of general waste at a facility that has the capacity to store in excess of 100m² of general waste at any one time.</i></p>
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	<p>Decommissioning of the Virginia Airport and the redevelopment of the Virginia Site N/A</p> <p>Development of the new Airport. <u>Air Emissions License</u> <i>As per Subcategory 2.2: Storage and Handling of Petroleum Products.</i></p>
National Environmental Management: Biodiversity Act (Act 10 of 2004).	<p>Decommissioning of the Virginia Airport N/A</p> <p>Redevelopment of the Virginia Site A biodiversity permit may be required due to the sensitivity of the site.</p> <p>Development of the new Airport. A biodiversity permit may be required. This is dependent on the proposed location.</p>
National Heritage Resources Act 1999	<p>Decommissioning of the Virginia Airport, redevelopment of the Virginia Site and development of a new airport <u>A heritage impact assessment will be required for:</u> <i>(c) any development or other activity which will change the character of a site— (i) exceeding 5 000 m² in extent</i></p>
Minimisation of shadows on beaches policy for eThekweni: shadow impacts on beach and residential amenity (2008)	<p>Redevelopment of the Virginia Site According to the policy, new coastal development must not result in shadows before 3pm in mid winter on all beaches and before 4pm in mid winter on swimming beaches. A shadow impact Assessment will be required.</p>
Sustainable Development Framework (2017)	<p>Redevelopment of the Virginia Site All new buildings within the coastal zone will be required to undertake a shadow impact assessment.</p>
eThekweni Municipality – Beaches bylaw (2015)	<p>Decommissioning of the Virginia Airport and redevelopment of the Virginia Site Approval from Municipality will be required for the development within the beach and beach reserve.</p>

5. Description of Processes (Approach to Addressing Scope of Works)

The role of ECA Consulting is as the independent EAP, and as such cannot guarantee a favourable Environmental Authorisation. However, in order to facilitate a positive EA, ECA Consulting will commence the process with a pre-application meeting with the relevant competent authorities. This is to ensure that the EA requirements are understood and communicated to the applicant. This will be followed up with a formal record in writing submitted to the competent authority as confirmation of the process requirements. The EAP will play an advisory role to the applicant throughout the process to achieve environmental compliance for all project activities. The EAP will be in constant communication with the competent authorities ensuring that legislative environmental requirements and environmental best practice is being adhered to.

5.1. Basic Assessment Process

The Basic Assessment process will strictly follow the requirements of GNR 326, NEMA EIA Regulations (2014, as amended). In summary, the following steps will be taken:

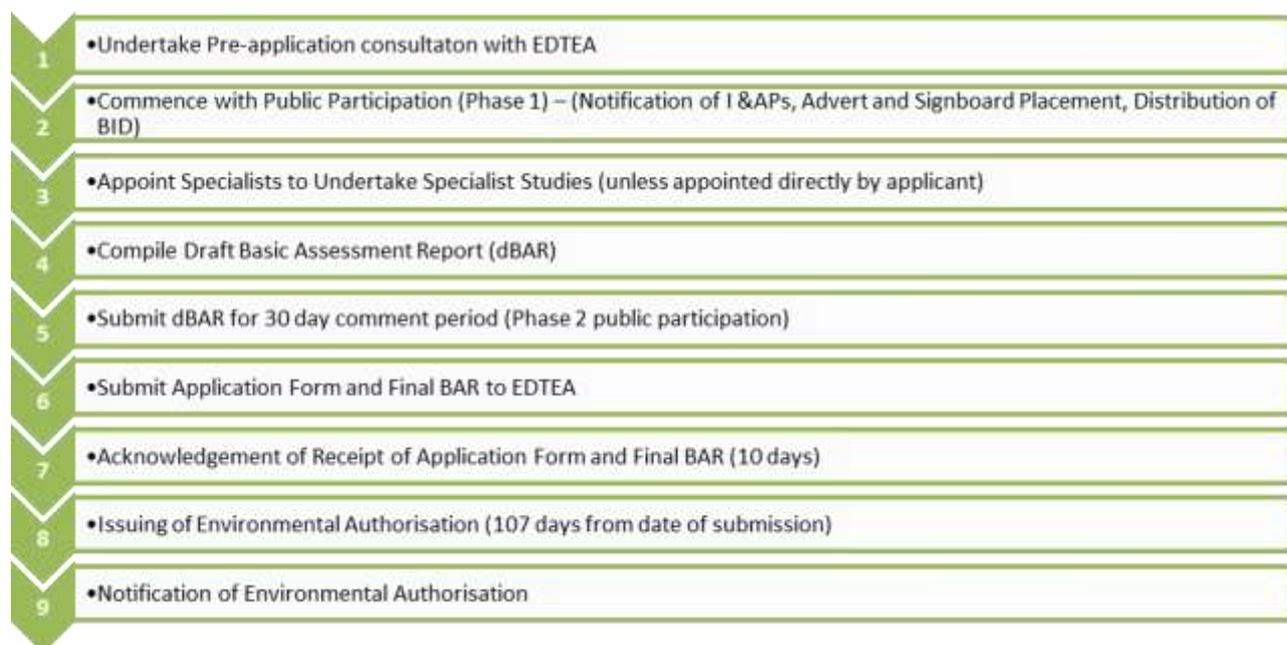


Figure 7: Basic Assessment Process

The competent authority for the Basic Assessment process is the KZN Department of Economic Development, Tourism and Environmental Affairs (EDTEA). The Basic Assessment process is a legislated process and takes on average 6 to 8 months; however shorter timelines can be achieved with timeous receipt of project information from client. EDTEA will have 107 days from date of submission of the application form to issue a decision, however if additional information is required, then a maximum of 50 days will be added on to the timeline. Should the application form be submitted at the beginning of the process, the EAP and applicant have 90 days within which to submit the final report to EDTEA for review and approval / comment.

5.2. Scoping and EIR Process

The Scoping and EIR process will strictly follow the requirements of GNR 326, NEMA EIA Regulations (2014, as amended). In summary, the following steps will be taken:

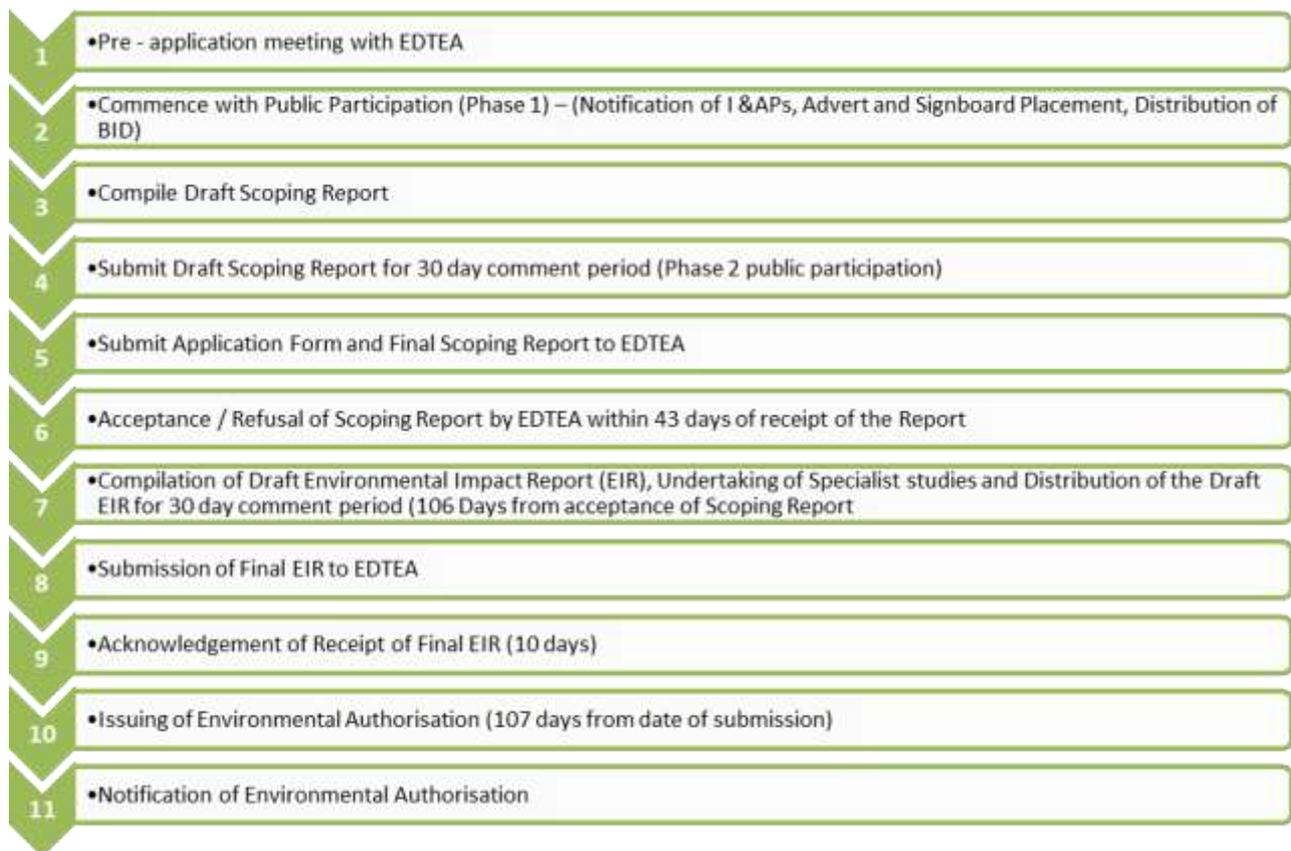


Figure 8: Scoping and EIR Process

The Scoping & EIR process will strictly follow the requirements of GNR 326, NEMA EIA Regulations (2014, as amended 2017). Figure 1 summarises the steps to be taken:

- The Scoping and EIR process is a legislated process and takes on average 12 - 18 months
- The Draft Scoping Report will be prepared and submitted for 30 day commenting period.
- The application form will be compiled and the Scoping Report will be finalised for submission to EDTEA
- The Draft Environmental Impact Report (EIR) will be prepared and submitted for a 30 day commenting period. It must be noted that the timeframe for compilation will be dependent on the receipt of all specialist and engineering information.
- The Final EIR will be submitted to EDTEA
- EDTEA have 107 days from date of submission of the EIR to issue a decision.
- Approval or rejection of Environmental Authorisation.
- All I&APs must be notified of the decision of the Environmental Authorisation within 10 – 14 days.

5.3. Public Participation Process

Public participation will be undertaken in strict accordance to Chapter 6 of the 2014 NEMA: EIA Regulations (as amended, 2017).

A key part of the environmental assessment process is public participation, whereby authorities, residents, neighbours and any organisation that may be interested in or affected by the proposed activity, are notified of the proposal so as to provide an opportunity for expression of comments/concerns throughout the environmental assessment process. Public participation is a legislated requirement according to the EIA Regulations, 2014. As the independent Environmental Assessment Practitioner (EAP), ECA Consulting is required to involve the public in the following way (as per Chapter 6 of the EIA Regulations, 2014, as amended 2017):

- Provide written notice to adjacent occupiers of the site, the municipal ward councillor, ratepayers association, and any organ of state having jurisdiction in respect of any aspect of the activity;
- Place an advert in one local newspaper, and at least one provincial or national newspaper if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken;
- Fix a notice board (minimum size 60cm x 42cm) at a place conspicuous to the public at the boundary or on the fence of the site or any alternative site mentioned in the application.

Further to the public notification, the public may register as an I&AP to obtain further information and partake in the BA process by way of comment.

Any comment / concern / query received from an I&AP and/or authority will be addressed and considered in the environmental assessment process

5.4. Environmental Management Programme (EMPr)

The EMPr will be prepared to address at minimum the following key issues:

- Define roles and responsibilities,
- Solid and hazardous waste management,
- Sensitive environmental areas (including protected vegetation),
- Watercourse management i.e. wetlands, drainage lines etc,
- Spillages and spill contingency,
- Duty of care and emergency procedures,
- Erosion,
- Stormwater management,
- Environmental Awareness,
- Site layout and construction camp,
- Material management,
- Social impacts,
- Safety and Security,
- Storage areas,
- Cultural environment,
- Air quality and dust control,
- Establish compliance and performance assessments, and
- Management of environmental impacts.

In addition the following tasks will be undertaken:

1. Review all specialist studies for the EMPr.
2. Compile a report and tabulate all conditions of the EMPr and completed specialists studies.
3. Brief the client team on the requirements of the EMPr.
4. The EMPr will also provide areas a map illustrating the no-go areas (i.e. sensitive areas) as well as areas for the location of construction camps, haulage roads and other working areas.
5. The final EMPr will be submitted to the client team for review and approval. The document will be finalised taking into consideration any changes recommended by the client team.
6. The final EMPr will be submitted to the relevant authority for approval.

5.5. Water Use Authorisation (WUA) Process

The WUA process will strictly follow the requirements of the National Water Act (36 of 1998). It is an application in terms of Section 21 of the Act. The figure below summarises the steps to be taken:



Figure 9: Water Use Authorisation (WUA) Process

The National Water Act (36 of 1998) defines water use in terms of Section 21 of the Act as follows:

- (a) Taking water from a water resource;
- (b) Storing water;
- (c) Impeding or diverting the flow of water in a watercourse;
- (d) Engaging in a stream flow reduction activity contemplated in Section 36;
- (e) Engaging in a controlled activity identified as such in Section 37(1) or declared under Section 38(1);
- (f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- (g) Disposing of waste in a manner which may detrimentally impact on a water resource;
- (h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- (i) Altering the bed, banks, course or characteristics of a watercourse;
- (j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- (k) Using water for recreational purposes.

6. Preliminary Programmes

6.1. Basic Assessment Programme

The Basic Assessment process (in accordance with the 2014 EIA Regulations as amended) is a legislated process and takes on average 6-8 months; however shorter timelines can be achieved with timeous receipt of information from the client. The different steps of the process will adhere to the following proposed timeline:

Timeline	Week	Comment	Responsible person(s)
Inception Meeting with applicant team	Week 1	A meeting will be held with the client within the first week of receiving the appointment letter.	Project Manager: Leena Ackbar / Manogrie Chetty
Site visit and visual survey. Pre-application meeting with EDTEA. Identification of specialist studies required.	Week 2	A pre-application meeting will be held with EDTEA to confirm the triggers and process to be followed.	EAP: Manogrie Chetty, Leena Ackbar & Tarryn Narain
Public participation 1: Notification	Weeks 1 to 2	Involves door to door notification of	Public Participation

Timeline	Week	Comment	Responsible person(s)
of I&APs and Authorities and placement of newspaper adverts & site notices		neighbours and placing of at minimum two A2 signboards around the site	Facilitators: Manogrie Chetty &, Nicole Naicker
Public Participation 2: Registering of I&APs and distribution of BID to I&APs.	Weeks 2 to 4	Allow 21 days from notification for I&APs to register	Administration: Nicole Naicker, Tarryn Narain
Appoint and undertake specialist studies (in line with variation process)	Week 2 – 9		Quality Review: Manogrie Chetty / Leena Ackbar
Prepare Draft BAR & Environmental Management Programme (EMPr)	Week 8 – 10	-	
Prepare and Submit Application Form	Week 10	Submit application form to competent authority	
Distribute Draft BAR	Week 11	Distribute report to I&APs and authorities for a 30 day comment period.	
Draft BAR 30 day comment period	Weeks 11 - 15	-	
Final BAR Collate comments and responses	Week 16	Final BAR can be prepared in a week provide no significant amendments require to the draft BAR.	
Submit Final BAR to EDTEA	Week 17	Final BAR is submitted to competent authority for authorisation. Allow 14 days for competent authority to acknowledge receipt of report.	
Decision from EDTEA	Week 33	Competent authority has 107 days to provide a decision.	
Notify I&APs of outcome	Weeks 34	Notify I&APs within 12 days of receipt of EA, allow 20 days for I&APs to respond should there be any appeals.	

6.2. Scoping and EIR Programme

The Scoping & EIR process (in line with the 2014 EIA Regulations as amended) is a legislated process and takes on average 300 days from commencement to receipt of environmental authorisation. The different steps of the process will adhere to the following proposed timeline:

Timeline	Week	Comment	Responsible Person
Site visit and Baseline Assessment	Week 1	-	Project Manager: Leena Ackbar / Manogrie Chetty
Public participation 1: Notification of I&APs and Authorities and placement of newspaper adverts & site notices	Weeks 1 to 2	Involves door to door notification of neighbours and placing of at minimum two A2 signboards around the site	EAP: Manogrie Chetty, Leena Ackbar & Tarryn Narain
Public Participation 2: Registering of I&APs and distribution of BID to I&APs.	Weeks 2 to 4	Allow 14 days from notification for I&APs to register	Public Participation Facilitators: Manogrie Chetty &, Nicole Naicker
Public Participation 3: Public Meeting (only if requested)	Week 5	Meeting to be held with registered I&APs to discuss the project and potential issues.	Administration: Nicole Naicker, Tarryn Narain
			Quality Review:

Appoint and undertake specialist studies	Week 2 – 10		Manogrie Chetty / Leena Ackbar
Compile Scoping Report	Week 8 to 10		
Distribute Draft Scoping Report for 30 day comment period	Week 10 to 14	I & APs have 30 days to provide comment on the draft scoping report.	
Submit final Scoping Report to I & AP for 2 week comment period	Week 15	I & APs have 14 days to review the final EIR and provide comment.	
Submit final Scoping Report and Application Form to EDTEA	Week 15	EDTEA have 43 days to accept or reject the Scoping Report.	
Prepare Draft EIR & Environmental Management Programme (EMPr)	Week 20 – 22	-	
Distribute Draft EIR and EMPr	Week 23	Distribute report to I&APs and authorities for a 30 day comment period.	
Draft EIR and EMPr 30 day comment period	Weeks 23 -27	-	
Final EIR and EMPr Collate comments and responses	Week 28	Final EIR can be prepared in a day or two provide no significant amendments require to the draft BAR.	
Submit Final EIR to EDTEA	Week 28	Final EIR is submitted to EDTEA for authorisation. Allow 14 days for EDTEA to acknowledge receipt of report.	
Decision from EDTEA	Week 48	EDTEA has 107 days to provide a decision.	
Notify I&APs of outcome	Weeks 49	Notify I&APs within 12 days of receipt of EA, allow 20 days for I&APs to respond should there be any appeals.	

6.3. Water Use Authorisation Programme

The following timeframe will apply to the WUA in terms of the current legislation:

Tasks	Duration
Inception Meeting with client	Week 1
Arrange pre-consultation meeting with DWS	Week 1
Undertake Specialist studies and commence with public participation	Week 2 – Week 10
Compile WUA Report (GA / IWWMP)	Week 11 – 13
Submit WUA to client team for review	Week 14
Submit WUA to DWS acknowledgement and review	Week 15
DWS have 300 days to review the application and either accept or reject the application as the current timeframe for review and approval of the WULA is not legislated.	

Please note that mining activities can only commence once the environmental authorisation, water use license and permit application has been received (following the 21 day allowance in the event of any appeals).

The above timeline assumes completion of specialist studies within 6 – 8 weeks from appointment. Specialist studies may be completed earlier, in which case the above timeline can be reduced.

Timelines for the water use license are not fixed – the license can be granted anywhere between 3-12 months. However, ECA Consulting will commence the water use license application process together with the BA process and endeavour to expedite where possible.

ECA Consulting offers a professional and timeous service and will endeavour to provide at minimum monthly updates to you regarding progress of your project.

7. Specialist Studies

The completion of specialist studies takes on average 6 – 8 weeks from date of appointment. Specialist studies may be completed earlier, in which case the timeframe can be reduced.

The following **specialist studies** may be required for the **decommissioning and redevelopment phase**:

- a. Visual Impact Assessment
- b. Sea Level Rise Assessment
- c. Stormwater Management Plan
- d. Wetland and Ecological Assessment
- e. Heritage Impact Assessment
- f. Geohydrological Assessment
- g. Groundwater Contamination Assessment (Decommissioning Phase only)
- h. Floodline Assessment
- i. Shadow Impact Assessment
- j. Coastal Dune Assessment
- k. Social Impact Assessment

It is assumed that all technical information, layout plans, engineering information, geotechnical assessment and traffic assessment will be provided by the client team and has not been included in the estimated pricing schedule below.

The following **specialist studies** may be required for **a new airport**:

- a. Visual Assessment
- b. Air Quality Assessment
- c. Sea Level Rise
- d. Stormwater Management Plan
- e. Wetland and Ecological Assessment
- f. Heritage Impact Assessment
- g. Geohydrological Assessment
- h. Floodline Assessment
- i. Major Hazard Installation Risk Assessment
- j. Shadow Impact Assessment
- k. Coastal Dune Assessment
- l. Noise Assessment
- m. Social Impact Assessment

It is assumed that all technical information, layout plans, engineering information, geotechnical assessment and traffic assessment will be provided by the client team and has not been included in the estimated pricing schedule below.

8. Estimated Pricing Schedule

Task	Cost (ex VAT)
DECOMMISSIONING OF THE OLD VIRGINIA AIRPORT:	
BASIC ASSESSMENT (BA)	R95,000.00
SPECIALIST STUDIES	R350,000.00
SUB-TOTAL (EX VAT)	R445,000.00
REDEVELOPMENT OF VIRGINIA SITE:	
SCOPING AND EIR	R225,000.00
SPECIALIST STUDIES	R450,000.00
BIODIVERSITY PERMIT	R35,000.00
WATER USE AUTHORISATION (FOR DECOMMISSIONING AND REDEVELOPMENT)	R75,000.00
SUB-TOTAL (EX VAT)	R785,000.00
DEVELOPMENT OF NEW AIRPORT:	
SCOPING AND EIR	R225,000.00
WATER USE AUTHORISATION	R75,000.00
SPECIALIST STUDIES	R750,000.00
WASTE MANAGEMENT LICENSE	R85,000.00
AIR EMISSIONS LICENSE	R75,000.00
SUB-TOTAL (EX VAT)	R1 210,000.00

9. Gaps, Assumptions & Limitations

- It is assumed that all technical, engineering, geotechnical and traffic information will be provided by the client team.
- The exact thresholds for the bulk infrastructure was not available at the time this assessment and as such the exact triggers can only be confirmed for the sub-station and WWTW reticulation at a later stage, however it is assumed for the type of redevelopment proposed, the activities will not exceed the thresholds provided for in Listing notice 1.
- The requirements are based on the current legislation promulgated at the time of the issuing of this report.
- The revetments will require that a scoping and EIR be undertaken, however, should there be no other triggers from listing notice 2, then the redevelopment application can be downgraded to a Basic Assessment Process.
- Please also note that the competent authority can upgrade any process should they deem necessary and if required this will be for the clients account.

10. Summary of Environmental Processes Required

10.1. Decommissioning Phase

The development of the new airport will require the following authorisations and/or licenses:

- Environmental Authorisation (EA) will be required subject to a Basic Assessment process, as per Listing Notice 1 (GNR 327).
- A Water Use Authorisation (WUA) in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998).

10.2. Redevelopment Phase

The redevelopment of the site including the provision of bulk infrastructure will require the following authorisations and/or licenses:

- EA will be required subject to a Scoping and EIR as per activity 26 of Listing Notice 2 (GNR 325) and Basic Assessment process, as per Activities 19A of Listing Notice 1 (GNR 327) and Activities 12 and 14 of Listing Notice 3 (GNR 324). *Additional activities may be added for the bulk infrastructure; however this can only be confirmed once the exact thresholds have been confirmed.*

- A WUA in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998).
- The activity may also require a biodiversity permit in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004).

10.3. Development and Relocation of New Airport

The development of the new airport will require the following authorisations and /or licenses:

- A scoping and Environmental Impact Report as per Activity 8 of Listing Notice 2 (GNR 325). The development may further trigger activities from Listing notice 3 (GNR 324) depending on the proposed location.
- A Waste Management License for Category A activities of the National Environmental Management: Waste Act, Act 59 of 2008.
- An Air Emissions License (AEL) for Subcategory 2.2 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004).
- A WUA in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998).

Virginia Airport Annexure 4

GBCSA Guidelines



**GREEN
BUILDING
COUNCIL**
SOUTH AFRICA



**ETHEKWINI
MUNICIPALITY**

eThekweni Municipality Proposal

09 March 2021

Green Building Council South Africa Overview

The construction and on-going operation of buildings consumes 40% of total energy usage worldwide and generates a third of all carbon emissions. The transformation of the built environment and property sector value chain is integral to South Africa's transition to a green economy. With the aim to transition to a low carbon, resilient, resource efficient and equitable economy and society, whilst protecting biodiversity and essential ecosystem goods and services.

As a result, green buildings are becoming increasingly mainstream with the environmental, social and economic benefits of green buildings beyond dispute. Green building is a major part of the solution to mitigating climate change, resource scarcity, ecosystem degradation and enhancing resilience.

Established in 2007, The Green Building Council South Africa (GBCSA), a non-profit organisation, has led and continues to lead the transformation of the South African property industry to ensure that all buildings are designed, built and operated in an environmentally responsible way to reduce adverse environmental and social impacts. The integration of sustainable building practices, allows South Africans to work and live in a healthy, efficient and productive built environment.

The transition to a green economy and sustainable built environment is well supported by the national policy and regulatory framework, inclusive of the: Constitution: Bill of Rights, National Development Plan 2030, National Climate Change Response White Paper, Draft Climate Change Bill, Draft Carbon Tax Bill, Draft Carbon Tax offset regulations, Energy performance certificates (SANS 1544), Energy Efficiency in Buildings (SANS 204) amongst others.

Furthermore, at an international level Green buildings contribute to the achievement of the Paris agreement and sustainable development goal objectives. The World Green Building Council has committed to advancing net zero globally with the aim to support the implementation of the globally recognized targets of net zero new buildings by 2030, and all (inclusive of new and existing buildings) buildings net zero by 2050.

Capacity development is an enabler integral to the effective implementation of green buildings. One of the GBCSA's core mandates is to build awareness and increase the knowledge around green buildings by offering education and training to enable the scaling up of green building implementation in the public and private sector, through accredited in-house and public training courses.

The certification processes governed by the GBCSA involve certification of buildings using the Green Star, Net Zero, EWP, EDGE rating tools. Our suite of rating systems offers tools for almost any type of building. Certification creates a universal platform for credible and objective measurement of green buildings. Each tool recognises and rewards environmental leadership and is a recognised symbol of sustainability achievement.

This document provides an overview of the GBCSA rating tools, the benefits of certification and guidelines to assist eThekweni municipality incorporate green principles in the Terms of Reference for property development and refurbishments tender documents. The business case for green certified buildings and training recommendations have also been included.

Starting the Green Building Journey

1. Portfolio Assessment
 - a. Identify property portfolio silos
 - i. precincts, new build, existing buildings
 - ii. commercial, retail, residential, public facilities
 - b. Assess each silo identifying properties ready for certification
 - c. Create a certification strategy for each silo.
 - d. Appoint an experienced practicing Accredited Professional/s
 - e. Review properties for certification with AP and gather relevant data
2. Awareness at all levels
 - a. Engage Key stakeholders and tenants in journey
 - b. Engage staff, service providers and contractors in journey
 - c. External Marketing
3. Training
 - a. Train internal teams and relevant service providers
 - b. Ensure all developers and commercial contractors received relevant training
 - c. Regularly evaluate training needs
4. Interventions
 - a. Align all Terms of Reference and tender documents to the green building goals of the municipality
 - b. Update procurement and maintenance policies to comply with sustainability goals and green star tool
 - c. Install interventions where required
5. Project Registration
 - a. Obtain pricing for bulk registrations
 - b. Register projects for certification
6. Reporting
 - a. Publish commitment to the green building journey
 - b. Set 5 year targets, e.g. Certification and Energy & Water targets
 - c. Highlight green building support of SDG's

Business Case for Green Star Rated Buildings

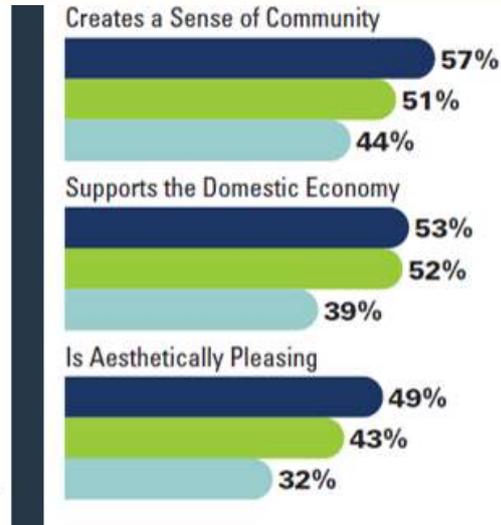
- Higher returns on assets
- Future proofing of assets - more resistant to external disruptions e.g. power cuts, droughts etc.
- Ability to attract and retain tenants
- Opportunity to engage the ESG Investor community
- Access to preferential interest rates linked to green / eco loans from major financial institutions

- Efficiencies resulting in decreased operating & maintenance costs
 - up to 30% on energy, water and waste saving
- Potential for increased office staff productivity
- Integration of a building management tool for continual improvement
- Alignment of business practices and design to a set of best practice green building standards
- Reduction in property rates – once promulgated
- Market differentiator

There is a great opportunity for eThekweni Municipality to promote Durban as an eco-friendly holiday destination, showcasing its Sustainable Precincts that boast Green Star and EDGE rated buildings. Existing features such as the beach front promenade can be complemented by green initiatives like waste separation facilities for recycling, low energy and low water public facilities to name but a few options.

Social Case for Green Buildings - The World-GBC Metric Framework





Sustainable Development Goals

Green Buildings addresses 9 of the 17 Sustainable Development Goals. Relevant categories can be used in reporting by municipality, developers and property owners who have obtained Green Star and Sustainable Precinct ratings.



Technical Guidelines

Precinct Development and Green Star Ratings

Green Star Rating Tools

The GBCSA offers a range of certification tools spanning different building lifecycles as well precinct and neighborhood scale. The certification processes governed by the GBCSA involve certification of buildings using the Green Star, Net Zero, EWP, EDGE rating tools. Our suite of rating systems offers tools for almost any type of building. Certification creates a universal platform for credible and objective measurement of green buildings. Each tool recognises and rewards environmental leadership and is a recognised symbol of sustainability achievement.

GBCSA certification tools offer a robust technical framework for what to consider when going green on a built environment project. Targeting and achieving a formal certification through the GBCSA offers several market differentiation benefits and assures external stakeholders that no greenwashing has occurred.

GBCSA launched the Green Star Sustainable Precincts tool in 2016, in response to the growing recognition and call from industry that green buildings require integrated and sustainable planning and urban design.

The vision and focus of the Green Star Sustainable Precincts tool is to create more sustainable neighbourhoods, precincts and communities by focusing on five critical components of urban planning, design and construction. The tool provides a framework for neighbourhood scale projects to align themselves to, and obtain third party validation of their sustainable development credentials, according to international best practice that is locally relevant.

In response to the local government request that the development includes *“sustainability principles in the design and have a green star rating if possible”* the GBCSA would recommend that the Centrum proceeds according to the following two steps:

- Ensure that the professional team uses the Green Star Sustainable Precincts tool framework and principles to inform the design and construction of the project
- Aims to target a minimum 4-star Green Star Sustainable Precincts certified rating

Green Star Sustainable Precincts tool framework – informing design and construction from first principles

In order to inform the design and construction of the Centrum Development with the Green Star Sustainable Precincts tool framework, the following range of sustainability initiatives and associated objectives, where appropriate to the project site, context and budget, can be considered.

The developer and professional team, in consultation with the local government, will need to select which initiatives are most appropriate to the site. This will be informed by the overarching project goals, client drivers and desired level of sustainability performance.

The Green Star Sustainable Precincts tool framework assesses projects against a holistic set of distinct social, environmental, and economic categories, and an innovation category. The key categories are called:

- Governance
- Liveability
- Economic Prosperity
- Environment
- Innovation

The aim of the initiatives associated with the Governance, Liveability, Economic Prosperity and Environment categories are outlined below in more detail, as a guide to what the Centrum Development can consider for inclusion, as appropriate to the project and agreed with eThekweni authorities.

GOVERNANCE:

The purpose of the Governance category is to encourage and recognise developers and projects that demonstrate leadership within the sector, by the establishment and maintenance of strong governance practices. The category promotes engagement, transparency, and community and industry capacity building. It also seeks to ensure that community projects are resilient to a changing climate.

Initiative	High level objective
Industry capacity building	To recognise projects that engage a Green Star SA Accredited Professional to support the Green Star SA Sustainable Precincts certification process.
Design Review	To encourage and recognise projects that undertake a design review process designed to facilitate sustainable urbanism.
Engagement	To encourage and recognise projects that develop and implement a comprehensive, project specific stakeholder engagement strategy early in the planning process.
Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.
Corporate Responsibility	To encourage and recognise projects with a project applicant that has corporate responsibility as a core value.
Sustainability Awareness	To encourage and recognise those projects that enhance knowledge and understanding of its sustainability attributes.

Community Participation and Governance	To encourage and recognise projects that establish mechanisms for community participation in management arrangements for facilities and programs.
Environmental Management	To encourage and recognise the adoption of formal environmental management practices.

LIVEABILITY:

The purpose of the Liveability category is to encourage and recognise developments that deliver safe, accessible and culturally rich communities. The category encourages the development of healthy and active lifestyles, and rewards communities that have a high level of amenity, activity, and inclusiveness.

Initiative	High level objective
Healthy and Active Living	To encourage and recognise projects that promote healthy and active living.
Community Development	To encourage and recognise projects that engage in and facilitate the development of the project’s community.
Sustainable Buildings	To encourage and recognise projects that deliver sustainable buildings and energy efficient homes designed and constructed to meet the changing needs of occupants across their lifetime.
Culture Heritage and Identity	To encourage and recognise projects that celebrate and incorporate the heritage, culture and historical context of the project site, supporting communities and places with the development of a sense of place and identity.
Walkable Access to Amenities	To encourage and recognise projects that celebrate and incorporate the heritage, culture and historical context of the project site, supporting communities and places with the development of a sense of place and identity.
Access to Fresh Food	To encourage and recognise projects where occupants have access to fresh food within walking distance of where they live or work.
Safe Places	To recognise projects in which the activity of planning and detailed design for land use, development and redevelopment takes into consideration designing out crime principles.

ECONOMIC PROSPERITY:

The purpose of the Economic Prosperity category is to encourage and recognise projects that promote prosperity and productivity. The category encourages affordable living and housing, investment in education and skills development, and the facilitation of community capacity building.

The Economic Prosperity category also promotes greater productivity via emerging opportunities in the digital economy.

Initiative	High level objective
Community Investment	To encourage and recognise those projects that make optional investments in infrastructure for the benefit of the community
Affordability	To encourage and recognise projects that deliver affordability strategies for or as part of housing and/or business premises
Employment and Economic Resilience	To encourage and recognise projects with local and diverse employment opportunities
Education and Skills Development	To encourage and recognise projects that have access to further education and/or provide a skills and industry capacity development opportunities
Return on Investment	To encourage and recognise holistic methods to assess the return on investment in response to the sustainability goals for the project
Incentives Programmes	To encourage and recognise projects that provide incentives to encourage sustainable practices that reduce the cost of living and working
Digital	To encourage and recognise projects that use digital infrastructure to create greater efficiencies in the connection of individuals with other people, goods, services, and information.
Peak Electricity Demand	To encourage and recognise projects that reduce peak demand load on the electricity network infrastructure

ENVIRONMENT:

The purpose of the Environment category is to reduce the impact of urban development on ecosystems. It encourages resource management and efficiency by promoting infrastructure, transport, and buildings, with reduced ecological footprints. The Environment category seeks to reduce the impacts of projects on land, water, and the atmosphere.

Initiative	High level objective
Integrated Water Cycle	To encourage and recognise best practice sustainable urban water management.
Greenhouse Gas Strategy	To encourage and recognise projects that include a greenhouse gas strategy that reduces greenhouse gas (GHG) emissions due to energy use on the project site.

Materials	To reward the reduction of the environmental impacts of construction materials for the site wide works over their life cycle
Sustainable Transport and Movement	To encourage and recognise integrated responses to transport and movement that encourage a people-focused hierarchy.
Sustainable Sites	To encourage projects that avoid or minimise impacts on environmentally sensitive sites while recognising projects that reuse previously developed land and reclaim contaminated land using best practice remediation.
Ecological Value	To encourage and recognise projects that enhance the ecological value or biodiversity of the project site
Waste Management	To encourage and recognise projects that reduce the environmental impact of waste.
Heat Island Effect	To encourage and recognise projects that implement measures to reduce heat island effect.
Light Pollution	To encourage and recognise projects that minimise the adverse impact of light emissions.

eThekweni Sustainability Guidelines

Target a minimum 4-star Green Star Sustainable Precincts certified rating

In the event of targeting a Green Star Sustainable Precincts certified rating, the following high level overview of tasks and the certification process are to be considered and incorporated into the project programme. This list is not exhaustive – please consult an Accredited Professional for more detailed guidance.

Finding a Green Star AP (Accredited Professional)

An independent Green Star AP must be appointed by the project developer at market related rates to collate and submit the documents to GBCSA for review and certification. Green Star AP are third-party professionals whose fees will be directly negotiated with the project developers and not set by GBCSA. A list of Sustainable Precinct APs is available on the GBCSA Hub for download.

When appointing consultants to undertake certification related consulting services, the GBCSA recommend the following, especially where a client does not yet have experience of working with green building consultants:

- Obtain at least 2 or more proposals to ensure a comparison can be made between services and pricing offered
- Provide the same outline of the scope of services required to all consultants providing prices to ensure consultants are pricing for the same scope of services
- Preferably appoint a green building consultant with past experience of a successful certification, or somebody that will partner or receive support from a consultant with past experience of a successful certification – the GBCSA encourages growth and mentorship of young emerging companies, and thus would encourage clients to explore such collaborations with green building consultants.
- Clearly understand what is required for the certification, and what is offered as over and above value add

Because of South Africa's Competition Board, the GBCSA is not allowed to publish recommended fees that consultants should charge, and instead GBCSA has published typical scope of services. The breakdown of typical scope of services is provided below.

Green Star AP Consulting scope

The scope of service typically includes the following, but is not limited to (not all of which are required for certification purposes):

- Assisting the client to register the project
- Green Star Initial Certification rating submission (within 3 years of project registration)
- Green Star Recertification rating submission (once every five years after Initial Certification or at a time period otherwise agreed by the GBCSA)
- Calculations and modelling if performance pathways are adopted (depending of strategy and number of points being targeted)
- Sustainable design consulting (value add consulting service to advise on sustainable design solutions throughout project)

The services and scope of work would generally include the following at various typical project stages:

Project planning and Inception phases

- Clarify scope of works, fees, documentation programme and sign appointment letter with client
- Confirm/review project eligibility
- Work with project team to develop the Green Star strategy, to determine which points will be targeted and what star rating will be targeted, and what the order of magnitude costs will be for these (each professional or QS responsible for determining the cost of various initiatives), including a buffer of points beyond the rating threshold – this is typically done through an initial workshop with the project team.
- Identify risks and mitigation plans for credits at risk of being achieved
- Registration of the project with GBCSA: signed certification agreement and pay GBCSA registration fees
- Incorporate management and planning of targeted credits

Design phases

- Work with the design team in identifying the areas that will be targeted to achieve certification goals, feeding them with relevant Green Star criteria and documentation requirements that they will need to meet in the various areas of their design responsibility, for example, the architect will be given a list of all the credits and all the credit criteria, and all the documentation that he/she will be responsible for if the project wishes to achieve those credits.
- Providing templates to the various project team members for documentation/reports that they will need to prepare as part of the projects intent to achieve a Green Star rating, including where specifications or drawings need to be prepared in line with Green Star criteria
- Keeping track of the overall Green Star strategy and guiding the project team in terms of requirements to meet these objectives
- Attending various project design meetings to allow regular engagement with the project team on the above items

Documentation & Procurement for Initial Certification and subsequent Recertification's

- Collation of documentation for design stage submittal from the project team (each team member remains responsible for compilation of their documented evidence for Green Star). The AP must make use of the submission templates available from the GBCA website.
- Working with the contractor to ensure they are fully aware of their responsibility on various credits
- Attending specific, limited meetings during construction, to keep track of the overall Green Star strategy and to guide the project team in terms of any revised requirements to meet these objectives
- Collation of all relevant TCs and CIRs prior to submission
- Collation and submission of the round 1 documentation to the GBCSA
- Feedback to the project team on round 1 results and corrections needed to be made by all project team members in preparation of round 2 submission
- Review of round 2 documentation
- Collation and submission of the round 2 documentation to the GBCSA
- Round 2 results shared with project team and explained

In most cases projects will take 2 rounds to achieve the desired rating, but in some cases it will take only 1 round – discuss and agree in the scope of services agreement what the fee implications of this are, if any.

It should be mentioned here that the amount of documentation required from the project team is significant, and typically more than what they would typically spend time on documentation, especially for project team members that have not worked on Green Star projects.

It is essential that the project team and contractor are appointed and contractually required to submit documentation for the Green Star submission, so that they can be held to account for their part in the project achieving a Green Star rating.

Some green building consultants also offer additional advisory services that extend beyond the certification collation scope of services and modelling. These scope of services can vary significantly from one consultant to another, depending on their experience. The GBCSA recommend clients explore these services with their consultants, as they often unlock additional value to delivering a greener, better precinct. The GBCSA advise that clients ensure that the additional services are specifically described for each project stage by consultants. The GBCSA has not described these services here, because they vary so much between consultants. These could include things like:

- Sustainability masterplanning on large urban scale development
- Developing a detailed project sustainability strategy and advising on design solutions
- Water strategy
- Energy strategy
- Waste strategy
- Advising the project on all material selection
- Detailed façade thermal and energy analysis
- Life Cycle Analysis of selected design solutions

Confirming project eligibility

It is the responsibility of each project team to check the most current Eligibility Criteria at the time of registration and to ensure that their project(s) is eligible. Whenever unsure, project teams can request an eligibility confirmation from the GBCSA by forwarding a brief description of the project to the GBCSA Zendesk.

Register the Project with GBCSA for Green Star Certification

You or your selected Green Star AP will submit the project details to the GBCSA. Registration establishes a connection with the GBCSA and gives the project access to essential information and assistance with the submission process. Registration and project certification is only available to projects that meet the eligibility criteria for Green Star Sustainable Precincts.

Preparing the submission

Once your project is registered and your Green Star certification strategy has been agreed between Client and professional team, the project team should prepare documentation, drawings and calculations to satisfy the Green Star Sustainable Precincts credit requirements. If appointed, the Green Star Accredited Professional should take responsibility for the quality of submission. It is important to ensure that documentation for all claimed credits adheres to the Documentation Requirements outlined in the Green Star Sustainable Precincts Submission Guidelines and Technical

Manual as there are only two rounds of Assessment and one opportunity for resubmission (Appeal) available.

Initial certification assessment:

The project AP will issue the Round 1 submission to the GBCSA, who will then conduct an independent third party assessment. The Assessment Panel, containing one or more third-party Assessors will review the submission. Recommendations will then be made to the GBCSA. The GBCSA will forward the results of the Round 1 assessment to the project contact and the applicant. The project may accept the results as the final rating or request to resubmit Documentation for credits 'to be confirmed' for a Round 2 assessment, which is typically the case. The Round 2 assessment follows the same process as the Round 1. Thereafter, assuming that all credits are approved in Round 2, the project is awarded a certified rating.

Green Star and Sustainable Precinct Training

It is advisable for all eThekweni Municipality staff involved in the precinct developments or that is part of any new or existing building projects and all facilities management teams receive training in green building principles or one of the Green Star tools.

Encouraging all developers and contractors working on precinct developments or municipal properties, will be beneficial. Knowledge of green building principles and or Green Star requirements will equip them to support eThekweni to achieve its certification and sustainability goals.

Overview of GBCSA Courses

Introduction to Green Building Workshop

The Introduction to Green Building Workshop is a high level overview of green buildings and the green building industry of South Africa.

Who should attend?

This workshop is designed for anyone who is interested in learning about green buildings and starting their green building journey.

This course can also be provided to contractors and sub-contractors working on green star projects to ensure they comply to the certification requirements.

Accredited Professional (AP) Courses

Pre-requisite Qualifications

The trainee is required to hold an appropriate tertiary level qualification or demonstrate a minimum of 2 years work experience in the industry.

How to become an Accredited Professional (AP)

In order to become a fully Accredited Professional (AP) registered with the GBCSA the following is to be fulfilled per training package:

Our three-part training courses will now be conducted completely online:

- Complete an online course (12 modules, approximately 10 hour input within a two-week period first
- Attend training webinar hosted by the GBCSA and a faculty member
- Online assessment

The trainee will be fully accredited for all the courses included in the chosen package, provided the relevant online course, webinar and assessment is completed.

The online course have to be completed before attending the webinar, once both have been completed the trainee will be eligible for the assessment.

AP Accreditation Benefits

- Recognition as a professional with a greater understanding of environmental issues related to the built environment and the property industry, with an understanding of how to apply sustainable development and integrated building design principles.
- Equipped with the knowledge to guide a project team in the implementation of green initiatives during the urban planning, design, construction and operational phases of a project.
- Recognised and registered as an Accredited Professional with the GBCSA.
- Act as an AP, guiding the project team through the certification process, collating documentation and submitting to the GBCSA for assessment
- Receive Continuing Professional Development (CPD) points.
- Ability to inform procurement specifications/ requirements for built environment projects.
- Become a part of the AP community to exchange ideas and experiences.
- Support implementation of green building and sustainable development policies.
- Opportunity to become certification assessors and training faculty.

CPD Points

The GBCSA training programmes are validated by the following professional bodies for CPD points

- Consulting Engineers South Africa (CESA)
- South African Institute of Architects (SAIA)
- South African Facilities Management Association (SAFMA)

eThekweni Bespoke Accelerated Precinct Training

It would be beneficial to identify key individuals involved in precinct development projects and that will continue supporting future developments to attend a bespoke Green Star Accelerated Training course focusing on SUP training.

Similar accelerated packages can be offered for groups wanting to focus on any of the other Green Star tools

Green Star Accredited Professional Accelerated Training Package

- Initial GS AP online learning content (video, downloadable GBCSA Tools and technical Manuals, other resources, eBooks, Quizzes).
- Bespoke workshops for your enrolled delegates on a date to be confirmed (post completing online learning),
 - THREE live workshops for a simulated GBCSA Project Registration and Certification Process for enrolled delegates on a date to be confirmed.
 - A suitable building/precinct/development will be identified for this simulation and can be one of eThekweni's planned Sustainable Precincts.
 - Enrolled delegates will work in teams for the simulated Registration and Certification exercise
 - Delegates will be required to submit practical exercises (in.pdf format) at least 1 week in advance of each live workshop.
- Delegates will submit final practical exercise within 4 weeks of final live workshop.
- These accelerated programme workshops will be facilitated by a specialist GBCSA AP who is also an experienced GBCSA Project Assessor
- Minimum 8 delegates
- Cost: R 12 000.00 per person

We look forward to working with eThekweni Municipality to support you in achieving your Green Building goals. It is with the support of our members and industry leaders that we are able to pioneer the way to a better built environment for people and planet.

For further information or to arrange suitable training dates, please contact:

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