



Terra Geotechnical

**ADDENDUM TO ENGINEERING GEOLOGICAL
INVESTIGATION**

**AALWYNDAL HOUSING DEVELOPMENT
ERF 21244 - MOSSEL BAY
WESTERN CAPE – SOUTH AFRICA**





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AALWYNDAL HOUSING DEVELOPMENT ERF 21244 - MOSSEL BAY

Conducted for:

Great Karoo Eco Investments

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A handwritten signature in black ink, appearing to read 'E. van der Walt'.

Document History and Distribution

Title:	Addendum to Aalwyndal Housing Development – Erf 21244
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Name	Institution	Date	Document nr	Status
Jaco van Rensburg	Roadlab Mosslab JV (Pty) Ltd	24/07/2019	1.0	Final Report
Jaco van Rensburg	Roadlab Mosslab JV (Pty) Ltd	12/08/2019	1.1	Final Report Amended
Kobus Steyn	Hennie Bekker Trust	19/02/2020	1.2	Addendum

Attention: Mr Kobus Steyn

Subject: Addendum to the Engineering Geological Report – Aalwyndal Housing Development.

References:

1. Engineering Geological Investigation Aalwyndal Housing Development. Prepared by Terra Geotechnical, dated 12/08/2019 (Project nr GT-19-104).
2. Wetland Study, Aalwyndal, Mossel Bay, Western Cape. Prepared by Reinier F. Terblanche, dated 09/01/2020.
3. Floodline Review for the Proposed Aalwyndal Development. Prepared by Fraser Consulting Civil Engineers CC, dated 26/11/2019. Reference AF997.

Dear Mr Steyn:

In accordance with your request, we prepared this addendum letter to the referenced geotechnical report dated August 12, 2019 to provide additional analyses. We prepared our addendum subsequent to the detailed study of two specialist studies within the investigated area.

Background

The initial geotechnical investigation was undertaken according to the standard requirements to assess the suitability of the site for the specific development. (SANS 634: Phase 1 Geotechnical Investigations for Township Development).

During the investigation and subsequent report, it was depicted by available topographic maps, that a non-perennial stream intersects the north western portion of the site. The site was zoned accordingly during the zonation phase of the project, with a large segment of the north western portion, deemed to be potentially affected by the drainage channel. This area Zone D, was graphically depicted in Figure 6 and indicates the inferred location of the channel.

The geotechnical report expressed the need to determine the exact extent and influence of the non-perennial stream through further studies. Subsequently, both wetland and flood line studies were conducted.

According to SANS 634; *where complex topographic conditions exist supplementary work requiring additional input or subsequent supplementary investigations can be anticipated.* As such, the determination of flood lines and extent of the marshy areas by competent professionals would more clearly define the exact extent of the drainage feature on Figure 6.

Wetland Study

The Wetland Study Report compiled by Mr Terblanche in January, 2020 had the aim of determining the presence of any wetland or associated structures within the study area. Our focus for this addendum was specifically the area influenced by the non-perennial stream, to more accurately delineate the extent and influence thereof.

In conclusion, Mr Terblanche states; *Wetlands such as floodplain wetlands, channelled valley-bottom wetlands, unchannelled valley-bottom wetlands, wetland depressions (pans), seeps and wetland flats appear to be absent at the site. In conclusion **no wetlands are found at the site.***

Flood Line Study

The Floodline study undertaken by Fraser Consulting Civil Engineers summarized their study by stating; *Aalwyndal is well above any possible floodlines in the area*

Geotechnical Site Classification

These specialist studies have clearly defined the extent of the flood lines and marshy areas, proving that the inferred non-perennial stream indicated on Figure 6 of the Geotechnical report, does not intersect the site as previously indicated and as such the **investigated site does not pose any risk of being exposed to elevated volumes of surface water runoff, that could lead to localized flooding**. There is however a localized depression in the north western corner, that could lead to ponding of surface water.

Due to these specialist studies, changes to the zoning of the site (specifically Zone D) will occur. The following changes are deemed to more accurately define the on-site conditions and should be accepted as correct.

The major change that these findings bring to the geotechnical report is the shifting of the indicated non-perennial drainage feature. Through the evidence provided it can now be assumed that this drainage does not intersect or have any influence on the investigated area. The minor depression in the north western corner will lead to ponding of surface water during high rainfall. Surface drainage measures needs to be implemented as described in the original report.

Please refer to the updated table 5 and Figure 6 below, for the updated geotechnical zoning of the site.

The conclusions, recommendations, and opinions presented in this report addendum are based on evidence provided by the specialist studies. Terra Geotechnical carries no liability for the changes made due to the specialist input. Except as modified herein, the conclusions and recommendations presented in our previous report dated August 12, 2019 also apply to this report addendum.

Table 5: Site Zonation and Geotechnical Character

Development Potential Zone	NHBRC Site Classification	Partridge, Wood and Brink (1993) Classification	Excavation Class	Slope Stability
Zone A	H1/S1	<p>2C- Moderate soil Heave</p> <p>2C- Moderate soil Compressibility</p> <p>2F- Difficulty of excavation to a depth of 1.5 m with between 10 and 40% of the material deemed to be hard rock excavation</p>	Soft Conditions to depths of approximately 1.0 m.	Stable- and gentle slopes
Zone B	H1/S1	<p>2C- Moderate soil Heave</p> <p>2C- Moderate soil Compressibility</p> <p>2I- Localized areas with slopes between 6 and 12 degrees</p>	Soft Conditions to a depth of 1.8 m	Stable- with localized steep slopes
Zone C	H3/S2	<p>3C- High soil Heave</p> <p>2C- High soil Compressibility</p> <p>2I- Large portions of the site with slopes between 6 and 12 degrees</p>	Soft Conditions to a depth of 1.7 m	Stable- and steep slopes
Zone D	H3/S2	<p>3C- High soil Heave</p> <p>2C- High soil Compressibility</p> <p>2I- Localized area of the site with slopes less than 2 degrees (leads to ponding of surface water)</p>	Soft Conditions to a depth of 2.8 m	Stable- with very gentle to gentle slopes

