

06 July 2022

Ref:Sinakho/S222150-07

The Municipal Manager
 Roads Branch
 Buffalo City Municipality
 P.O. Box 134
 East London
 5200

Attention: Mr A van der Merwe

Dear Sir

NAHOON VALLEY DEVELOPMENT – ROADS AND STORMWATER INFRASTRUCTURE DESIGN FOR APPROVAL

We confirm that we have been appointed by Redline Group for the provision of Civil Engineering Services for a new private town housing complex consisting of 39 erven in Nahoon Valley Ridge on Erf 76533 and 76533, the location is indicated on the attached Locality Plan and the Site Layout is indicated on the attached Architects Layout Plan. The erven are in the process of being consolidated and we have completed the design of the Roads and Stormwater Drainage for the development.

The BCMM Roads Branch *Road Design Guidelines* have been used as the basis of the design of the relevant water infrastructure required for this development.

1. Design Parameters

The relevant design parameters used have been summarised in Table 1 below.

Table 1: Design Parameters

Description	Unit	Value
Min Width of Access Road	m	505
Turning Circle Radius and Return Curve Radius	m	10.0
Bellmouth Radii For Minor Roads	m	10.0
Sidewalk Width	m	2.0
Min Diam of Stormwater Pipes	mm	450
Min Gradient of Stormwater Pipes	%	1.0

Description	Unit	Value
Minimum cover to pipelines under: General	m	0.6
Minimum cover to pipelines under: Roadways	m	0.9

We take pleasure in submitting the following drawings of the of the Roads and Stormwater Drainage for your consideration and approval:

Locality Image	Setplan Image showing location of Erven
2022-AR-DES-0001	Essential Dimensions Site Layout Plan
S222150-RDL-01	Road Layout
S222150-RDL-02	Roadway Long Sections Sheet 1 of 2
S222150-RDL-03	Roadway Long Sections Sheet 2 of 2
S222150-SWRL-01	Stormwater Layout
S222150-SWRL-02	Stormwater Long Sections Sheet 1 of 2
S222150-SWRL-03	Stormwater Long Sections Sheet 2 of 2
S222150-SWD-01	Stormwater Kerb Inlet Details
S222150-SWD-02	Stormwater Manhole Details
S222150-CD-01	Pipe Trench Details
C002-03-003Z	Roads and Stormwater Layout Plan – as built for Nahoon Valley Ridge Development

1. STORMWATER DRAINAGE

The stormwater from the site currently drains from the South Eastern side of the site towards the North Western side of the site. All the new roads would be constructed to accommodate and stormwater runoff. The Stormwater would be accommodated on the surface where possible and piped where required based on the design.

Our understanding is that the original Nahoon Valley Ridge Development contributed towards the upgrade of Stormwater Drainage within Nahoon Valley and that this compensated for the need of Stormwater Detention on the site. Currently the area to the north of the site is a valley and all stormwater has been designed to be discharged into this valley. No allowance has therefore been made for on site containment of stormwater, with the exception of the provision of rainwater tanks at each site.

Table 2 provides the specifications for the materials for the construction of the stormwater drainage pipes.

Table 2: Specifications for Stormwater Materials

Materials	Specification
Pipes	Precast interlocking joint pipes to SABS 677

MANAGE DESIGN AND PROCURE

DL de Wet, Pr.Eng. BSc (Eng) MSc (Eng)
Member of Imvusa Trading 797cc ta Sinakho Consulting
Reg No. 2005/036498/23



Materials	Specification
Bedding for Pipes	Class C to SABS 1200 LB, compacted to 90% MOD AASHTO
Compaction of Backfilling	95% MOD AASHTO
Compaction of Backfilling under Roads	98% MOD AASHTO
Manholes out of road reserve	Combinations of Concrete and Brick, plastered with medium duty covers
Manholes within road reserve	Combinations of Concrete and Brick, plastered with heavy duty covers
Minimum cover to pipes under roads	300mm

2. ROADS

The proposed site will connect to an existing internal road on site to the North West of our development. All radii of the roads have been designed to allow motor vehicles to move safely without experiencing any difficulties due to turning etc. All roads have been designed in accordance with the red book and Standard Specifications in terms of COLTO. The roads would be constructed to ensure control of stormwater and also to ensure vehicle access to all the erven. Table provides the specification for the construction of the roads.

Table 2: Specifications for Road Materials

Layer	Specification
In-situ sub-grade	150mm ripped and compacted to 95% of modified AASHTO density
Sub-base	150mm G7 material compacted to 95% of modified AASHTO density
Base Coarse	150mm G5 material compacted to 98% of modified AASHTO dens
Surfacing	150mm Thick Concrete Roadway
Kerbing	Fig 3 and Fig 10 edge kerbs and Fig 14 Channel Kerbs

We trust that you are satisfied with the above design and are happy to meet and discuss the matter further should this be necessary. Please let us know if you have any queries relating to the drawings or above clarification input.

Yours faithfully



D L de Wet Pr.Eng.

MANAGE DESIGN AND PROCURE

DL de Wet, Pr.Eng. BSc (Eng) MSc (Eng)
Member of Imvusa Trading 797cc ta Sinakho Consulting
Reg No. 2005/036498/23

