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Internal Reference: 20240802\_M

Date: 14 August 2024

Attention: Iyanda Witbooi  
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## WATER AND SANITATION CAPACITY ANALYSIS FOR THE PROPOSED DEVELOPMENT ON ERF 65238-RE KENILWORTH

### **Background**

Nadeson Consulting Services has been appointed determine civil engineering services requirements and to apply for the necessary capacities for the proposed development on erf 65238 Kenilworth. The proposed development entails the construction of Padel and Soccer courts and Clubhouse, which include ablution facilities and amenities - approximately 120 m<sup>2</sup>.

This letter provides an overview of the existing water and sewer infrastructure near the development, the capacity of both complete systems to service it as well as associated conditions that would apply. The information provided is based on City of Cape Town master plan model as well as comments from relevant branches of the department.

**Table 1: Estimated water demand and sewer flow for the proposed development**

Description	Potable Water Demand*				Sewer Flow**	
	Quantity (Units/Area/ No. people)	Total AADD (kℓ/d)	Peak Flow (ℓ/s) (PF=3.0)	Fire Flow (ℓ/s)	Total ADWF (kℓ/d)	Peak Flow (Dry weather) (ℓ/s) (PF=2.5)
Clubhouse (Ablution facility & Amenities)	120 m <sup>2</sup>	0.46	0.01	40.0 ℓ/s	0.36	0.01
<b>Total</b>	<b>120 m<sup>2</sup></b>	<b>0.46 kℓ/d</b>	<b>0.01 ℓ/s</b>		<b>0.36 kℓ/d</b>	<b>0.01 ℓ/s</b>

**Notes:**

\*Based on a water demand of 380ℓ/100m<sup>2</sup>

\*\*Based on a 80% sewer flows according to the design criterion (as per the W&S Tariff Policy)

**Water Reticulation****Distribution zone**

The proposed development is situated within the "Newlands" water distribution zone.

**Present situation**

There is an existing 225mmØ water main along Rosmead Avenue which supplies the existing buildings on the subject property. This main has a peak and static head ranging of between 65-70m and 75-80m respectively with a relatively low velocity of 0.71m/s at a peak flow of 29l/s.

There is sufficient capacity in the surrounding network to accommodate the proposed development. The developer is however to provide evidence of water saving initiatives that will be incorporated in the development.

See figure 1 attached for water reticulation layout.

**Bulk Water**

No infrastructure under the control of the City of Cape Town's Bulk Water Branch exists in the immediate vicinity of the proposed development shown in the application.

The City of Cape Town's bulk supply system has sufficient water resource, treatment, bulk storage and conveyance capacity to supply the estimated average daily demand of **0.46 kℓ/d** of the proposed development.

**Sewer Reticulation****Drainage area**

This site is situated in the sub-catchment of the Cape Flats Wastewater Treatment Works. The development gravitates in an southerly direction towards to 300mmØ collector sewer along Rosmead Avenue which gradually increases to a 1295mmØ bulk sewer along Strandfontein Road before reaching the treatment works.

**Present situation**

There is an existing 150 mmØ sewer main within the racecourse precinct which serves the existing structure. This main discharges to the 300mmØ along Rosmead Avenue. This main and the downstream network has sufficient hydraulic spare capacity to accommodate the proposed effluent generated from the site.

See figure 2 for sewer reticulation layout.

**Wastewater**

The anticipated wastewater flow from the proposed development has been calculated to be **0.36 kℓ/d**.

This proposed development is situated within the catchment of the Cape Flats Wastewater Treatment Works (WwTW). This treatment works has sufficient unallocated capacity to accommodate the anticipated discharge from this development.

**Conclusion**

The existing water and sewer reticulation networks have sufficient capacity to accommodate the proposed development.

**Conditions**

The development can proceed if the following conditions are implemented:

1. Subject to building plan approval

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2. All costs relating to service connections, alterations to or provision of new water and sewerage services will be for the account of the applicant.
3. Water saving measures to be incorporated into the development.

#### **Additional Technical Requirements**

4. The water and sewer capacities allocated according to this document, if not taken up, shall not be reserved beyond the lesser of 5 years or the approved development period.
5. The owner is responsible for application for the new water metered connection at the standard tariff to the Reticulation Regional Operations Manager. If an existing water meter is not accessible, this will include for the repositioning of the meter.
6. Water and Sanitation municipal service designs to be designed according to Departmental Service Standards and be approved prior to construction.

#### **General/ Disclaimer**

Information provided is based on best available data. The infrastructure as-built information referred to and used in the hydraulic models are based on the GIS asset records, while modelled pressures, flows, velocities, capacities and volumes are based on hydraulic models of current land use and demands. Where appropriate, future land use and demands are considered and the impact of a development compared to that currently planned for the same land and surroundings.

Yours faithfully

*M. Adonis*  
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Mckaylin Adonis  
Date: 2024.08.14 21:39:28  
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On behalf of

**Zolile Basholo**

**DIRECTOR: TECHNICAL SERVICES, WATER AND SANITATION DIRECTORATE**

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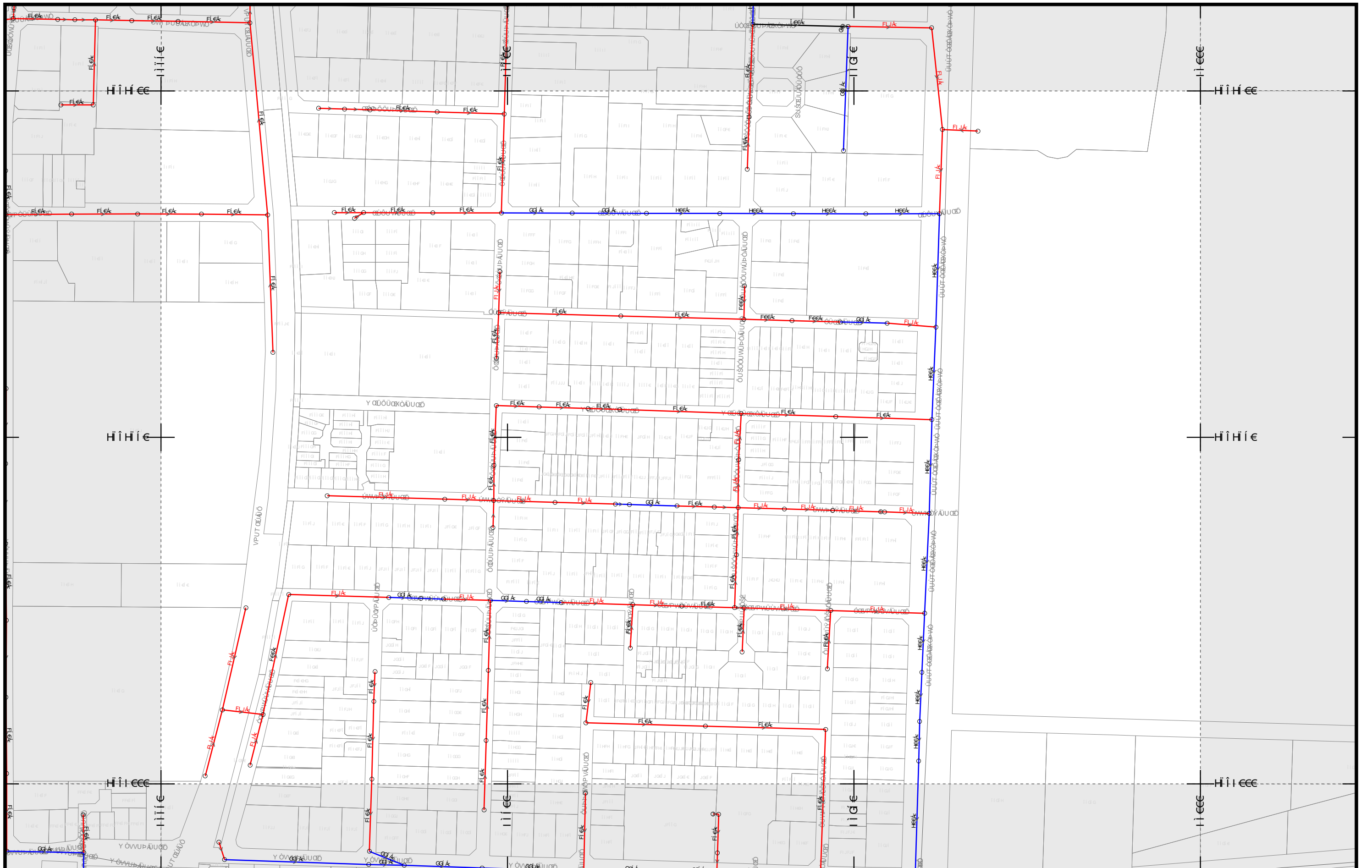
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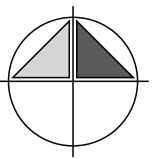


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