

## Adél Groenewald

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**From:** Morne Theron <Morne.Theron@capetown.gov.za>  
**Sent:** Tuesday, 06 June 2017 12:10 PM  
**To:** Annei Kloppers  
**Cc:** Barry Wood; Pierre Maritz; Peter Flower; Deon Jeannes; Bulk Water Info; Kevin Balfour; Adél Groenewald  
**Subject:** Farm Duynfontein No 1552, Melkbosstrand: Hardened water reservoir at Koeberg Nuclear Power Station: Draft BAR \_ Eskom request to fill the proposed new Hardened water reservoir  
**Attachments:** CFM 1552 KNPS\_Hardened Water Tanks\_DBAR\_ City comment.pdf; Figure 1\_CTN-R51.pdf; NSC-007-17\_Permission to store water\_Koeberg.pdf

Dear Ms Klopper

I acknowledge receipt of your letter (NSC-007-17), dd 14 March 2017, that you directed to the City of Cape Town's Bulk Water department, as a result of the attached City comment on the abovementioned EIA process.

It is this Branch's understanding that receipt of your letter has already been acknowledged by City of Cape Town's Bulk Water department (Mr Barry Wood) on 2 June 2017 and is receiving attention. I'm however of the opinion that you do not necessarily require an upfront approval letter from the Bulk Water department for inclusion to the final BAR in order to finalize the EIA process.

The Bulk Water department already indicated, via the attached City comment, that the City will avail available capacity for this strategic Koeberg Nuclear Power Plant facility. The comment you therefore need to reflect in the final Basic Assessment Report (BAR) is merely that the timing of When the Hardened water reservoir is filled, requires timeous upfront application directly to City of Cape Town's Bulk Water department. Your comment in the final BAR should also note that filling of the reservoir shall not comment prior to the approval being received from City of Cape Town's Bulk Water department.

I've taken the liberty to copy all the relevant City Bulk Water personnel, as well as the EIA Environmental Assessment Practitioner, into this correspondence to ensure that everyone is on the same page.

I trust the above is useful.

Regards

**Morné Theron Pr. Plan A/1965/2014**

Senior Environmental Practitioner: Environmental & Heritage Management  
Environmental Management Department

Milnerton Civic Building  
87 Pienaar Street, Milnerton, 7435

**T:** 021 444 0601  
**F:** 021 444 0605  
**M:** 084 222 1410

**E:** [morne.theron@capetown.gov.za](mailto:morne.theron@capetown.gov.za)

**W:** [www.capetown.gov.za/environment](http://www.capetown.gov.za/environment)



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**From:** Annei Kloppers [<mailto:KloppeA@eskom.co.za>]  
**Sent:** 05 June 2017 03:14 PM  
**To:** Morne Theron  
**Subject:** Permission to store water at Koeberg Power Station

Good day Morné Theron,

As per your comment number 4 on the CAPE FARM 1552 DUYNEFONTEIN: KOEBERG NUCLEAR POWER STATION PROPOSED HARDENED WATER RESERVOIR AND ASSOCIATED PIPING – DRAFT BASIC ASSESSMENT [City reference: B21/1/2/2/13S] please find attached our request for permission to store water at Koeberg Power Station.

Please can you acknowledge receipt of this letter for our records.

Kind Regards  
Annei Kloppers  
Koeberg Operating Unit  
Nuclear Project Management  
Strategic Projects  
Koeberg Southern Office Complex Building  
T +27 (0)21 522 3838 Pax 3838  
M +27 (0)73 076 9333  
E-mail [Kloppea@eskom.co.za](mailto:Kloppea@eskom.co.za)



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## Morné Theron

Senior Environmental Professional  
Environmental & Heritage Management Branch  
Environmental Management Department

T + 27 21 444 0601  
E morne.theron@capetown.gov.za

29 May 2017

Doug Jeffery Environmental Consultants (Pty) Ltd  
P O Box 44  
KLAPMUTS  
7625

**Attention: Ms Adél Groenewald**

[e-mail: Adel@dougjeff.co.za]

Dear Madam

**CAPE FARM 1552 DUYNEFONTEIN: KOEBERG NUCLEAR POWER STATION PROPOSED HARDENED WATER RESERVOIR AND ASSOCIATED PIPING – DRAFT BASIC ASSESSMENT REPORT**  
**[City Reference: B21/1/2/2/13S]**  
**[DEA Reference: 14/12/16/3/3/1/1759]**

The abovementioned draft Basic Assessment Report (DBAR), dated April 2017, refers

1. City of Cape Town: TDA: Environmental & Heritage Management Branch
  - 1.1 Section 10(e) of the Executive (page 27) incorrectly refers to the car park development. Whilst an EIA (DEA reference 14/12/16/3/3/1/1736) is currently being conducted for the on-site car park expansion it is unclear why the car park, instead of the Hardened Water reservoir, is being discussed in this section? This must be corrected.
  - 1.2 Section 13: Water Use (page 34) of the DBAR states that the reservoir will be filled with municipal water. In this section please include the following:
    - 1.2.1 Stipulate the amount of water required (cross-reference this with page i of the Executive Summary);
    - 1.2.2 Clarify how and from where the water will be transported to the reservoir.
    - 1.2.3 Given the current drought and pressure on the City of Cape Town's potable water supply, it is questioned why the reservoir cannot be filled from the on-site borehole supply?
  - 1.3 The preferred location appears to be adjacent to the proposed Weskusfleur substation (DEA 14/12/16/3/3/2/508), the new Koeberg-Dassenberg 132KV powerline (DEA 12/12/20/2557) and the new Transient Interim Fuel Storage Facility (DEA 14/12/16/3/3/2/947). Yet the Layout Plan (Appendix A2) is unclear as to how the proposed hardened water reservoir will be spatially located in relation to the aforementioned structures/facilities. The need for a composite map is therefore required.
  - 1.4 Annexure A of the HIA refers to a Palaeontological Assessment that is not attached to the document, this must be provided.
  - 1.5 The site is located in an area of known high archaeological and palaeontological sensitivity and range from local to international significance.
  - 1.6 However the recommendations by the heritage specialist on pages 6-7 of the HIA are deemed appropriate and therefore supported. It is noted that the said recommendations by the heritage specialist are included on page 46 of the EMPr.

2. City of Cape Town: Specialised Environmental Health: Air Quality Management

Dust mitigation, is to be strictly enforced during all phases of development of proposal, i.e. any site clearing/preparation, the excavations grading, bulldozing, compaction, loading, hauling, stockpiling, etc. during the construction phase of the project in order to prevent dust emission from causing a nuisance to the surrounding environment.

- 1.1 In this regard, the conditions stipulated in the National Dust Control Regulations (GN. 36974) dated 1 November 2013 must be adhered to at all times during the development process.
- 1.2 Should it be deemed necessary by the Air Quality Management office during the development of the site, a more detailed site specific dust management plan may be requested which is to be submitted to the Head: Specialised Environmental Health at 246 Voortrekker Road, Vasco.
- 1.3 Considering the fact that water restrictions may be on-going for some time, dampening of soil with potable water is to be avoided and alternative means of dust control is to be implemented, which may include the use of non-potable water.
- 1.4 Please note that the City's Air Quality Management by-law has been amended and reference to the 2.10 by-law (page 34 of the report) must be amended to reflect the City of Cape Town Air Quality Management By-law, 2016.

3. City of Cape Town: TDA: Land Use Management

The proposed preferred location and alternative location of the reservoir are being positioned within the area zoned for Risk Industry and as such a primary land use right.

4. City of Cape Town: Utility Services, Water & Sanitation

Bulkwater

No infrastructure under the control of the City of Cape Town's Bulk Water Branch exists in the immediate vicinity of the proposed hardened water reservoir 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 9500 kl of potable water of the combined two tanks required for a once off filling. **In light of the current drought restrictions the filling shall be limited to off-peak demand periods, and shall be subject to prior discussion and agreement with the Bulk Water Branch.**

Water Reticulation

There is water supply to the southern boundary of the Cape Farm 1552 by means of the existing 400mm water supply located off Otto du Plessis Street (refer to the Water Distribution system plan, Drawing No: CTN-R51, attached Figure 1).

The peak pressure in the 400mm water main is about 74m. The 400mm supply is capable of delivering 144 l/s maximum. In practice this means it will take about 18,5 hrs to fill the reservoir.

[Note: There is also a 500mm water main along the Westcoast Road however the 500mm water main is dedicated to the far north (i.e. Atlantis , Pella and Mamre) and not suitable to draw from]

Sewerage

Sewerage is not affected nor required due to the nature of this project.

5. City of Cape Town: TDA, Assets & Maintenance

It is mentioned in the report that the total footprint will be 2 000m<sup>2</sup>, however it is unclear whether this will be all hard surfaced. Stormwater run-off from a 2 000m<sup>2</sup> area will be negligible, yet irrespective of the aforementioned uncertainty, the report should address how stormwater run-off will be managed.

The abovementioned comment must be included in the final BAR. Kindly submit the final Report (once available) to this office in the form of 1 x hard copy and 1 x CD / flash disk version.

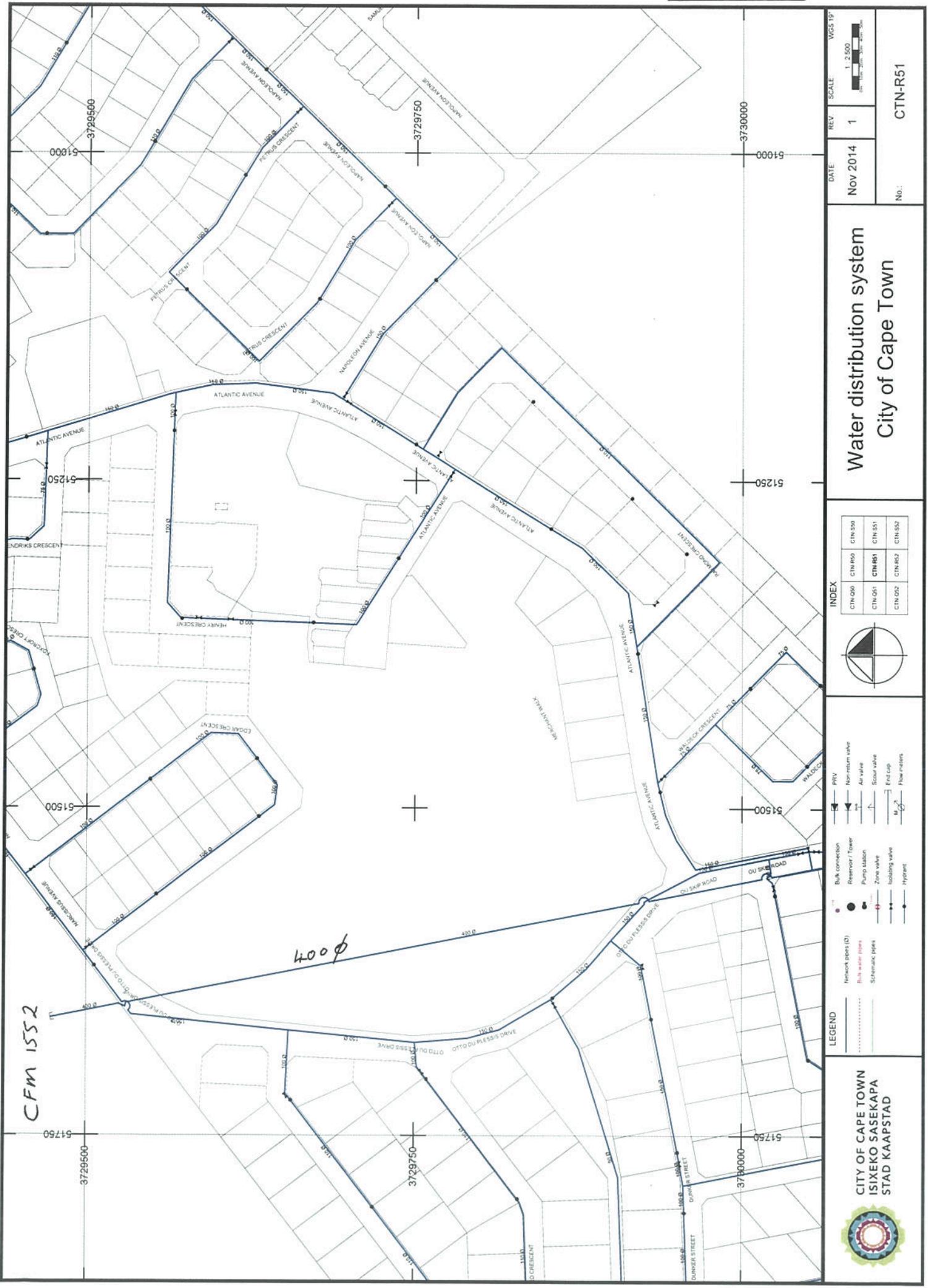
Yours faithfully



Pat Titmuss

**Regional Manager: Environmental & Heritage Management – Northern Region**

FIGURE 1



Water distribution system  
City of Cape Town

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CTN-500	CTN-501	CTN-502	CTN-503	CTN-504	CTN-505
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CTN-548	CTN-549	CTN-550	CTN-551	CTN-552	

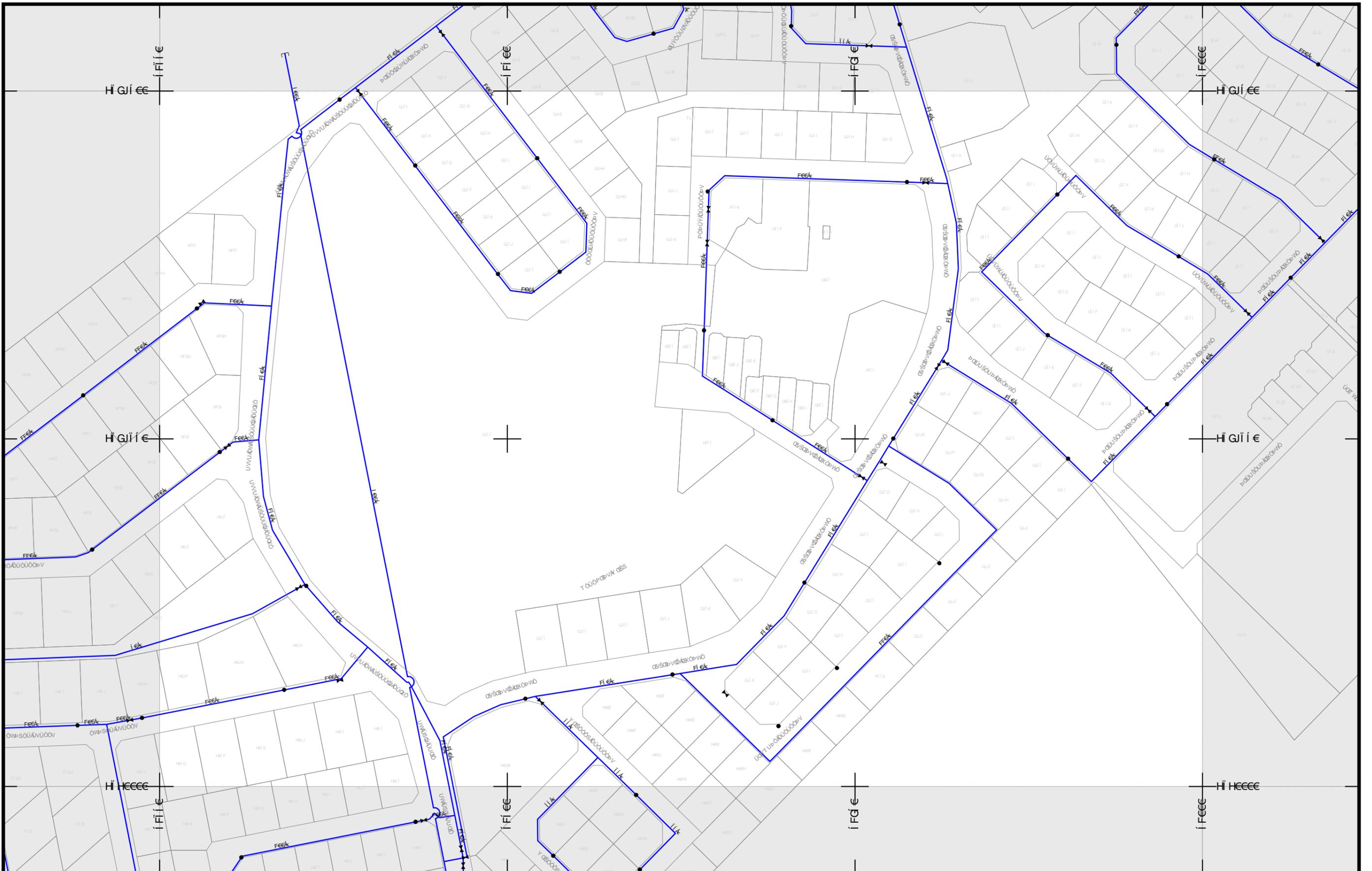


- LEGEND
- Bulk connection
  - Reservoir / Tower
  - Pump station
  - Zone valve
  - Isolating valve
  - Hydrant
  - Network pipes (D)
  - Bulk water pipes
  - Schematic pipes
  - Non-return valve
  - Air valve
  - Scour valve
  - End cap
  - Flare meters

CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

DATE: Nov 2014  
REV: 1  
SCALE: 1:2500  
WGS 1984

No.: CTN-R51

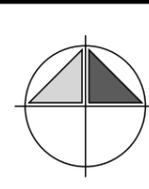


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Mr Peter Flower  
Director: Water and Sanitation  
City of Cape Town  
Civic Centre  
12 Hertzog Boulevard  
CAPE TOWN

Date:  
14 March 2017

Enquiries:  
Deon Jeannes  
Tel +27 21 550 5027

Ref: NSC-007-17

Dear Sir

**Koeberg Nuclear Power Station: Permission to store water in terms of section 53(2) of the water by-law**

I, Velaphi Ntuli, duly authorised as the Power Station Manager at Koeberg Nuclear Power Station (KNPS) request permission to store water in accordance with section 53(2) of the water by-law in a new emergency related water tank at the power station.

Section 53(2) states that "no person may without the written consent of the Director cause or allow a tank, buried or placed in the ground, to be used for reception or storage of water supplied by the City".

It is not clear if tanks built above or on the ground need written permission since the by-law indicates that this is limited to tanks "buried or placed in the ground".

Nevertheless, permission is sought should this be required.

**Background of need**

The seismically induced accident at Fukushima Daiichi, emphasised the importance of long-term cooling water to a nuclear power station in a beyond design basis event. If KNPS were to be confronted with a similar scenario, the conventional and existing emergency cooling water supplies are limited, and could be destroyed by an external event. Given a beyond design basis seismic event and/or tsunami it is likely that the hardened water supply being created by this project will be the only source of potable water, within 7 days of the event. Due to the critical nature of this hardened water source, as the only seismically protected medium-term water source in a beyond design basis event, all efforts should be taken to ensure its availability in a Station Black-out, and its resilience against external hazards, such as beyond design basis earthquakes, tsunamis, and severe weather events.

## Proposal

Eskom proposes to develop two hardened water supply reservoirs and associated piping at the Koeberg Nuclear Power Station (KNPS) located on Cape Farm Duynfontein No.1552 in the City of Cape Town near Melkbosstrand.

The purpose of the proposed hardened water supply reservoirs are to ensure that there is adequate water inventory at the KNPS to provide core cooling and spent fuel make-up, to cope with an extended (more than 7 days) beyond design basis Loss of Ultimate Heat sink and/or Station Black-out, which could be precipitated by an extreme seismic and/or flooding event(s).

## Tank Description

The activity involves the construction of two reservoirs, with a total usable volume of approximately 9 500 cubic metres of potable water, with an elastomeric lining. The two individual reservoirs will be approximately 27 metres in diameter; and will cover a footprint area of approximately 1953 square meters (63 m X 31 m). The tanks will be installed above ground. The tanks will be connected to the City's water supply.

If you require more information, please do not hesitate to contact us.

Yours sincerely



Velaphi Ntuli  
**POWER STATION MANAGER: KOEBERG**