



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

# **Case ID 70357961**

Erf/Farm 1552,  
Cape Road,  
Duinefontein

**Development Management**

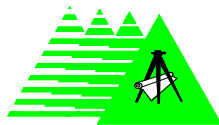
**APPLICATION FOR THE  
REZONING OF A PART OF  
THE  
FARM DUYNEFONTEIN NO 1552  
KOEBERG FOR THE EXTENSION OF  
THE PARKING AREA AT KOEBERG  
NUCLEAR POWER PLANT**

**REGISTRATION DEVISION  
CAPE ROAD**

**City of Cape Town Blaauwberg  
District B**

Prepared by:

**CK RUMBOLL & PARTNERS**



**JUNE 2017**

**CONTENT**

	<b>PAGE</b>
1. INTRODUCTION.....	1
2. PURPOSE.....	1
3. PROPERTY DESCRIPTION .....	1
3.1 Locality and extent .....	1
3.2 Property details .....	4
4. EXISTING ZONING AND SURROUNDING LAND USES.....	5
5. SPATIAL DEVELOPMENT FRAMEWORKS .....	8
6. TERRAIN CHARACTERISTICS AND SPECIALIST STUDIES .....	16
6.1 Geology, topography and soils .....	16
6.2 Climate.....	16
6.3 Physical Aspects and Land Capability .....	16
6.4 Vegetation.....	19
6.5 Heritage .....	20
7. PROPOSED DEVELOPMENT .....	21
8. INFRASTRUCTURE.....	23
9. ASSESSMENT CRITERIA .....	25
10. LUPA/SPLUMA.....	28
11. SUMMARY .....	30

**ANNEXURES**

- Power of Attorney
- Land Use Management Application Form
- Pre Application Consultation Meeting Minutes
- Locality
- Title Deed & Diagram
- Proposed Development Registration and Information Sheet for Hazard Disaster Risk
- Extract from Koeberg Management Plan
- Comments from Cape Nature
- Botanical Survey
- Heritage Impact Assessment
- Comment from Heritage Western Cape
- Site Development Plan
- Rezoning Plan
- Responses on Comments in Final BAR
- Traffic Impact Assessment

## 1. INTRODUCTION

CK Rumboll and Partners was appointed by Advisan, Wolseley Parsons Group, as a sub-consultant for Eskom, as the owner of the Farm Duynefontyn 1552, Koeberg in the Registration Division of Cape RD, to handle all town planning actions for the proposed rezoning of a specific area on the farm from Agricultural Zone to Risk Industry Zone to accommodate the additional parking area. Copy of the Power of Attorney signed by Eskom Holdings SOC Limited as owner of the subject property is attached.

## 2. PURPOSE

The purpose of this application is to apply for:

- The **Rezoning** of a part of approximately 1.3ha, of the Farm Duynefontyn no 1552, Koeberg, Registration Division Cape Rd in terms of **Section 42(a) of the City of Cape Town Municipal By-Law**, from **Agricultural Zone** to **Risk Industry Zone**, for the proposed extension of the parking area next to the Koeberg Nuclear Plant.

Completed Application forms are attached.

***The following comments will also be obtained as part of the application:***

- Provincial and National Department of Agriculture.
- Provincial Department of Roads.

A pre-consultation meeting was also held on the 22<sup>nd</sup> of May 2017 with various officials from the District B of the City of Cape Town's offices in Milnerton, with the minutes of this meeting attached.

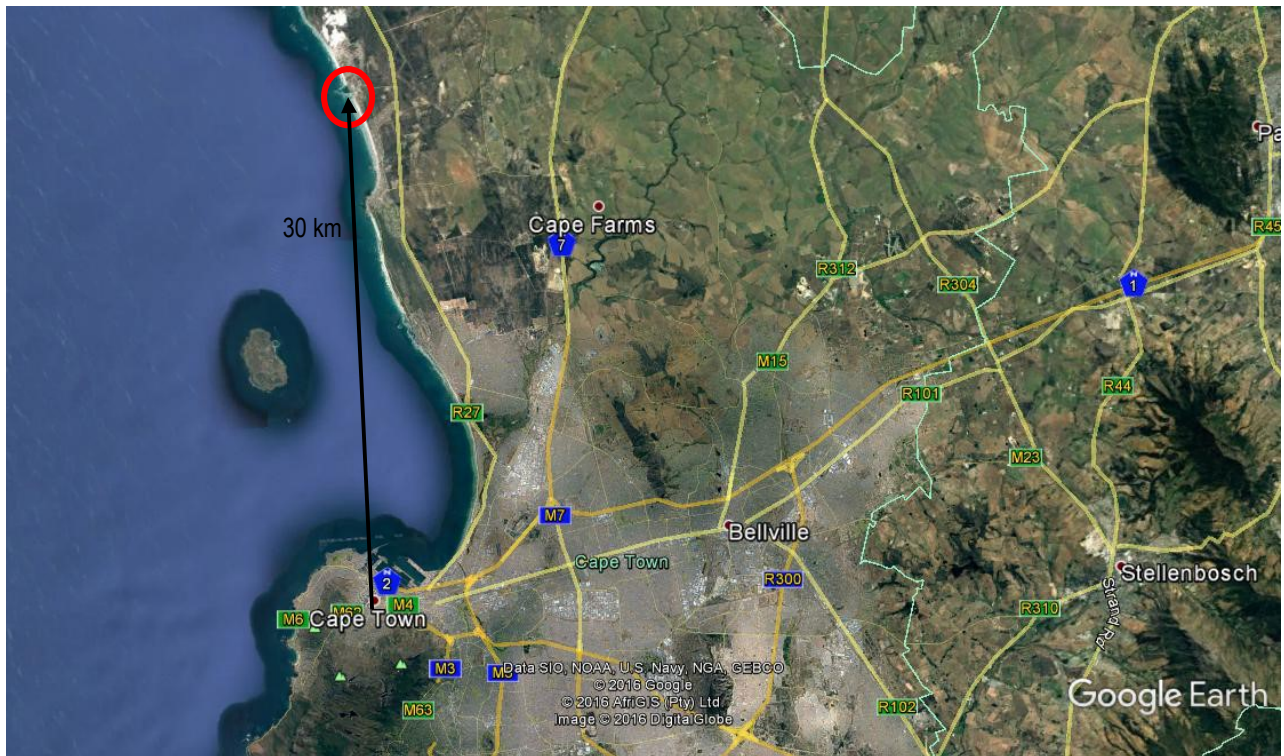
## 3. PROPERTY DESCRIPTION

### 3.1 Locality and extent

The property that is applicable to the application is:

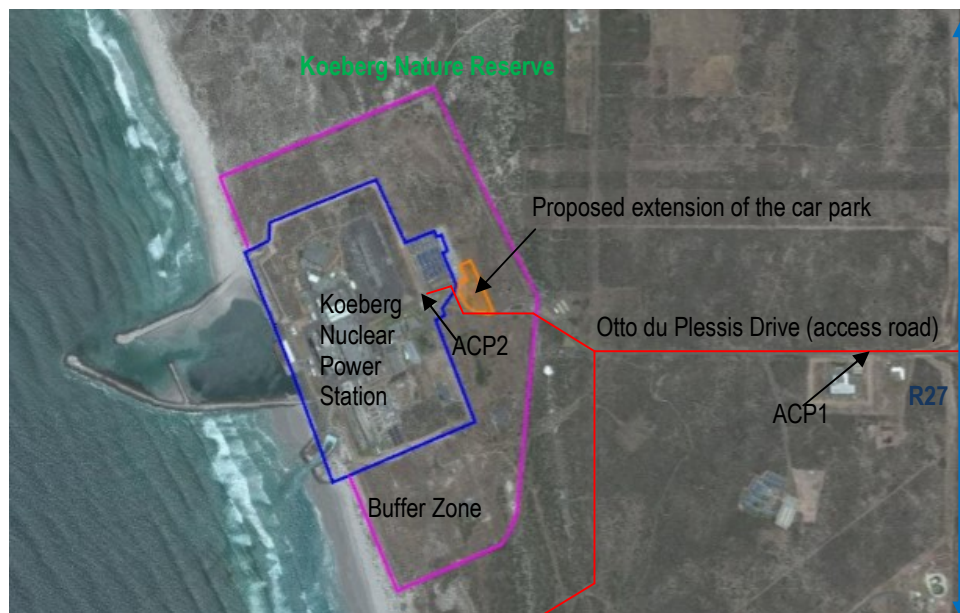
- **Farm Duynefontyn no 1552**, of approximately 1294.45ha in extent;

The subject property is located to the north of the city bowl, along the West Coast coastline in sub-district 5 of the City of Cape Town Blaauwberg District B. The Koeberg Nuclear Power Station (KNPS) is located on the western portion of the subject property with the remainder farm forming part of the Koeberg Nature Reserve. Locality plan attached.



**Figure 1:** Locality of the Koeberg Nuclear Power Plant in term of Cape Town

Various other related uses to the Koeberg Power Station such as training centres, conference centre, administration offices, weather station, environmental survey laboratory, visitor centre, substation, storage facilities and transport depot, also occur on the subject property.



**Figure 2:** The locality of the proposed extension within the buffer zone surrounding the Koeberg Nuclear Power Station on the subject property.

The property is accessed off the R27, which is also known as the West Coast Road, linking Cape Town with Atlantis and the West Coast region. Otto du Plessis Drive is the main access road off the



R27, with an alternative access via Otto du Plessis Drive from Duynfontein on the southern boundary. Due to the high security measures in and around Koeberg an access control point exist along the access road just off the R27 known as Access Control Point 1 (ACP1) as well as another control point just before Nuclear Power Plant known as Access Control Point 2 (ACP2). The proposed car park extension, which is the purpose of this application, will be located immediately adjacent to and on the south-eastern side of the existing parking areas in the buffer zone just before the ACP2.



(Source: Heritage Impact Assessment)

**Photo 1:** View towards the south across the area where the proposed extension is planned, toward the south, with the existing car park located on the left of the photo.



(Source: Heritage Impact Assessment)

**Photo 2:** View towards the north with the existing power lines from the Koeberg Power Plant just to the north of the subject development area.



(Source: Heritage Impact Assessment)

**Photo 3:** View from the new proposed extension area towards the existing car park in the north.



(Source: Heritage Impact Assessment)

**Photo 4:** View towards the southwest across the southern part of the development site.

### 3.2 Property details

The following table lists the information as per title deeds and diagrams of **Cape Farm Duynefontyn no 1552**, which are attached.

There are no conditions in the title deed that prevent the proposed rezoning of a portion of the subject area from Agriculture Zone to Risk Industry Zone to provide for an additional parking area.

**Table 1: Property details**

Description	Cape Farm Duynefontyn no 1552	
Title Deed No	[REDACTED]	
Owner:	Eskom Holdings Ltd	
Extent:	1 294,4529ha	
Registration Division:	Cape Rd	
Diagram S.G	No 2827/2014	
Local Authority	Milnerton, Blaauwberg District City of Cape Town	
Zoning according to City of Cape Town Development Management Scheme.	Risk Industry (RI)	Koeberg Power Plant
	General Industry (GI1) with Consent for Place of Instruction	Weather Station, Koeberg Testing Station, Training Centre, Edusec Centre, Fire training Centre, Bulk Stores Building
	General Business (GB1)	Visitor Centre, Access Control Point 1, Transport Depot, Administration Offices, Environmental Survey Laboratory, Conference Centre and Estate Manager offices.
	Utility	City of Cape Town Substation and Dynefontein Substation
	Agricultural Zone (AG)	Remaining part of the farm <b>which include the development site on the farm.</b>

<b>Land Use</b>	No formal agricultural activity – the remaining part of the farm form part of the Koeberg Nature Reserve.
<b>Servitudes:</b>	
<b>Pipeline servitude:</b>	A 7 meter wide pipeline servitude in the north eastern portion of the site as identified by <b>figure a b c d e f g</b> on the S.G diagram 2827/2014
<b>Servitude area</b>	Servitude area identified as <b>figure l m n p</b> on the S.G diagram 2827/2014 represents a servitude area.
<b>Adjoining properties and uses</b>	
<b>NORTH</b>	Remainder of Farm Kleine Springfontein 33 – part of Koeberg Nature Reserve.
<b>EAST</b>	Portion 6 of the Farm Bakke Fontein 32 (175ha) - Delta 200 Airstrip and Skydive Cape Town and Portion 1 of Farm Bakke Fontein 32 (502 ha).
<b>SOUTH</b>	Duynfontyn residential area and Portions 16, 17 and of Klein Zoute Rivier1063 (small holdings with bush pub located on Portion 16).
<b>WEST</b>	Atlantic Ocean

The Title Deed of the subject properties contain no constrains that will prohibit the proposed rezoning of the subject property to Risk Industry Zone to allow for the extension of the parking area. An existing parking area already exists on the subject farm adjoining the proposed extension. Copies of the title deeds are attached.

#### 4. EXISTING ZONING AND SURROUNDING LAND USES

The subject property has different zonings applicable according to the different land uses that occur on the subject property. The property contains the following zonings according to the City of Cape Town Development Management Scheme:

- Agricultural Zone (AG) – Nature reserve area surrounding the different uses related to the Nuclear Plant;
- Risk Industry (RI) - Koeberg Nuclear Power station;
- Utility (U) – Duynfontein substation and Cape Town substation
- General Business (GB1) - Edusec Centre, New Training centre, access contraol, Administrative the Environmental Survey Laboratory, and Conservation offices and Koeberg Conference Centre and Estate Manager's Offices.
- General Industrial (GI)– Weather Station, Koeberg Testing Station, Fire Training Centre and Bulk Storage.



The area applicable to this application for the extension of the parking area is located within the Agricultural zone directly adjacent to the Koeberg Power plant that is located within the Risk Industry Zone.



**Figure 3:** Zoning applicable to the subject area surrounding Koeberg Nuclear Power Plant that is applicable to this application with the proposed area to be rezoned indicated in pink.

The Agricultural Zoning (AG) promotes and protects agriculture on farm as an important economic, environmental and cultural resource. Limited provision is made for non-agricultural uses to provide owners with an opportunity to increase that economic potential of their properties, without causing a significant negative impact on the primary agricultural resource. Primary uses under this zone include agriculture, intensive horticulture, dwelling house, riding stables, environmental conservation use and environmental facilities.

The subject area applicable to the application is currently vacant and is not being used for any agricultural uses. The proposed development site form part of the Development zones for Facilities of the Koeberg Nuclear Power Station and related uses on the property and not part of the identified Conservation zone. The proposed development area is located within the identified Buffer Zone around the Noxious Industrial Development Zone, as the main Nuclear Power Station is identified in the Management Plan for the Koeberg Nature Reserve.

MANAGEMENT PLAN FOR THE KOEBERG NATURE RESERVE

Chapter 4  
Revision: 0  
Page: 14 of 21

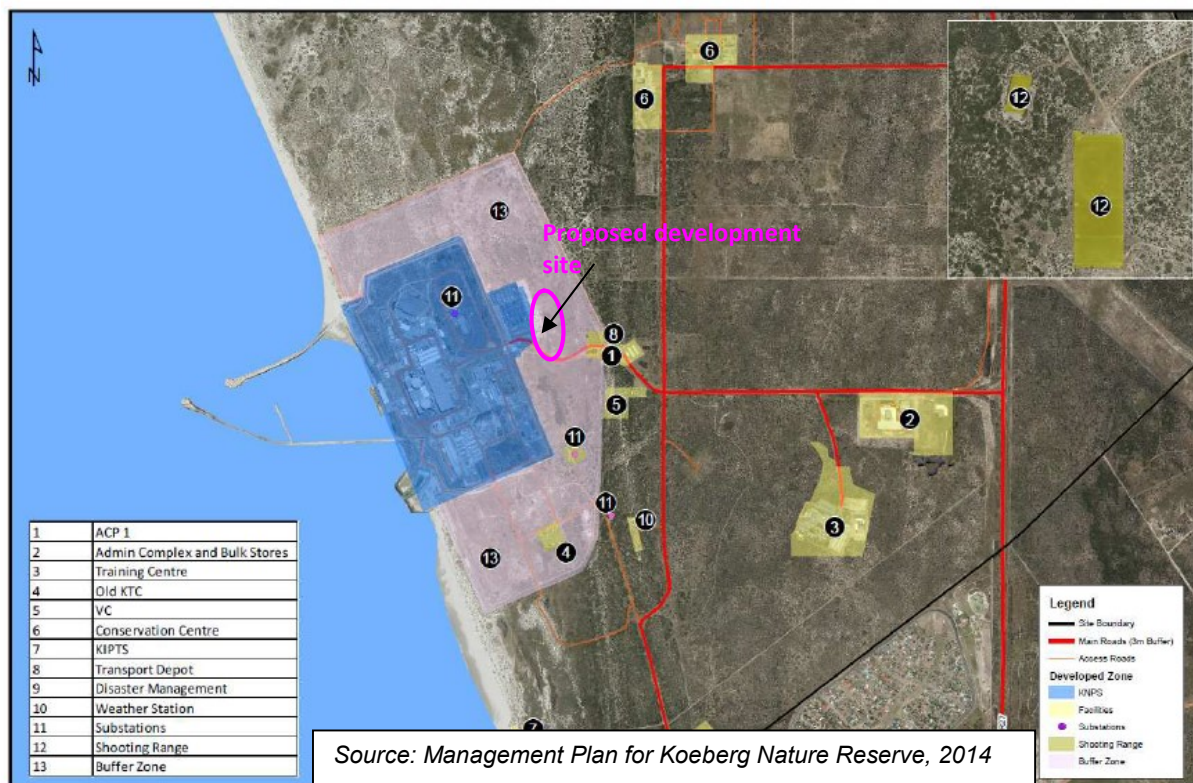


Figure 4-7 Developed Zone – Facilities

**Figure 4:** The proposed development site in relation to the Development Zones within Koeberg.





SUB-DISTRICT 5: WEST COAST - Changes to land use and form		Development Proposals at Koeberg Nuclear Power Plant: Rezoning of small portion to allow for the expansion of the car park adjoining the nuclear power plant.
Spatial Development Objectives	Supporting Land Use Guidelines	
a) Ensure the development aligns with the safety requirements of the Koeberg Emergency Plan and relevant legislation applicable to the Koeberg Nuclear Power Station (KNPS).	<p>1. All development within the KNPS Precautionary Action Zone (PAZ) areas within 5 km radius of the Koeberg Nuclear reactors must conform to the following restrictions necessary to ensure the viability of the KNPS.</p> <p>No new development is permissible within the PAZ other than the development that directly relate to the siting, construction, operation and decommissioning of the KNPS.</p>	<p>Proposed extension of the parking area to serve the Koeberg power plant - located directly adjacent of the Nuclear Power plant is located within the 5km PAZ area. <b><i>The proposed extension of the car park is directly related to the operation of the KNPS.</i></b> This car park expansion project relates mainly to the need for the creation of the additional parking areas required during outage periods.</p> <ul style="list-style-type: none"> <li>As the power plant has aged and the maintenance and refurbishment requirements have increased, the associated parking needs have also increased, making the current parking areas at the main power plant inadequate during major outages. Given that even greater outage work scope has been identified in future at the KNPS the parking shortage issue will intensify. The need for additional parking areas during outages has also been exacerbated due the need for irregular working hours of the staff which means many of the staff is unable to use public transport and require the use of their cars and safe parking spaces in close proximity to the nuclear plant.</li> <li>To accommodate shift hand-over, there is overlapping that takes place so for a short period of time a doubling of the car parking is required.</li> </ul>

		<ul style="list-style-type: none"> <li>The power station has also increased the number of staff to prepare for a new build programme with job training required at the power station that requires additional parking spaces.</li> </ul> <p>After the consideration of alternatives areas and possible linking with parking in other related development areas it was decided by Eskom that the need, purpose and timing of the different developments are very different and as such the parking proposed at the proposed future expansion of the Training Campus and Administrative Centre is not a suitable alternative for the new proposed car park at the power station.</p> <p>The requirement for additional staff by Eskom for maintenance and refurbishment at the KNPS form part of their planning, with the staff to be fully educated in the health and safety procedure on the site and within the PAZ as required by the operation of the nuclear power station. Procedure on the KNPS site will continue to be in accordance with the City of Cape Town: Koeberg Nuclear Emergency Plan: Traffic Evacuation model and the Koeberg Nuclear Emergency Plan.</p> <p>During construction of the parking area a total of 35 construction workers will on site with the relevant forms relating to the proposed development registration and information sheet for development within the Formal Emergency Planning Zone completed and included in.</p>
b) Manage the rural interface with conservation areas to reinforce	1. Activities in the Buffer 2 areas edging the BCA should reinforce the	The subject development area for the extension of the Parking area is included in the Noxious industry zone and not in any Buffer 2 area.

conservation proposals.	conservation initiative and may include activities such as environmental education, conservation tourism activities and agricultural uses.	Relevant Basic Assessment Application in terms of NEMA is in process for the development of the subject area for extension of the Parking area.
c) Maintain the rural and agricultural character of the non-urban areas.	<ol style="list-style-type: none"> <li>1. Applications in rural areas must be guided by Western Cape PSDF: Rural Land Use Planning and Management Guidelines.</li> <li>2. Protect historical farmsteads that form part of the Koeberg Farms cultural landscape.</li> </ol>	<p>Although the area is located in the Agricultural Zone the area is not currently used for any agricultural activity, but form part of the property on which the Koeberg Nuclear Power Station and all associated uses are located. The areas on the property that is not directly associated with the power plant form part of the Koeberg Nature Reserve, which is included in a stewardship agreement with Cape Nature. Within the Koeberg Management Plan the proposed development site is located in the Buffer Zone surrounding the nuclear power station, with the Buffer Zone a category within the Facilities Development Zone. The objectives of this Development Zone are the operation, maintenance and development of facilities to support the operation of the nuclear power station. The Buffer Zone consist of a restricted access area within the Koeberg Nature Reserve which is fenced off and only permits access to authorised visitors. The Buffer Zone includes facilities to support the operation of the nuclear power station and is management for safety and security of the power station, which includes vegetation management. Copy of the section in the Koeberg Management Plan is attached.</p> <p>There are also no historical farmsteads that form part of the cultural landscape that will be impacted by this application.</p> <p>In effect the rural character of the area surrounding the facilities within</p>



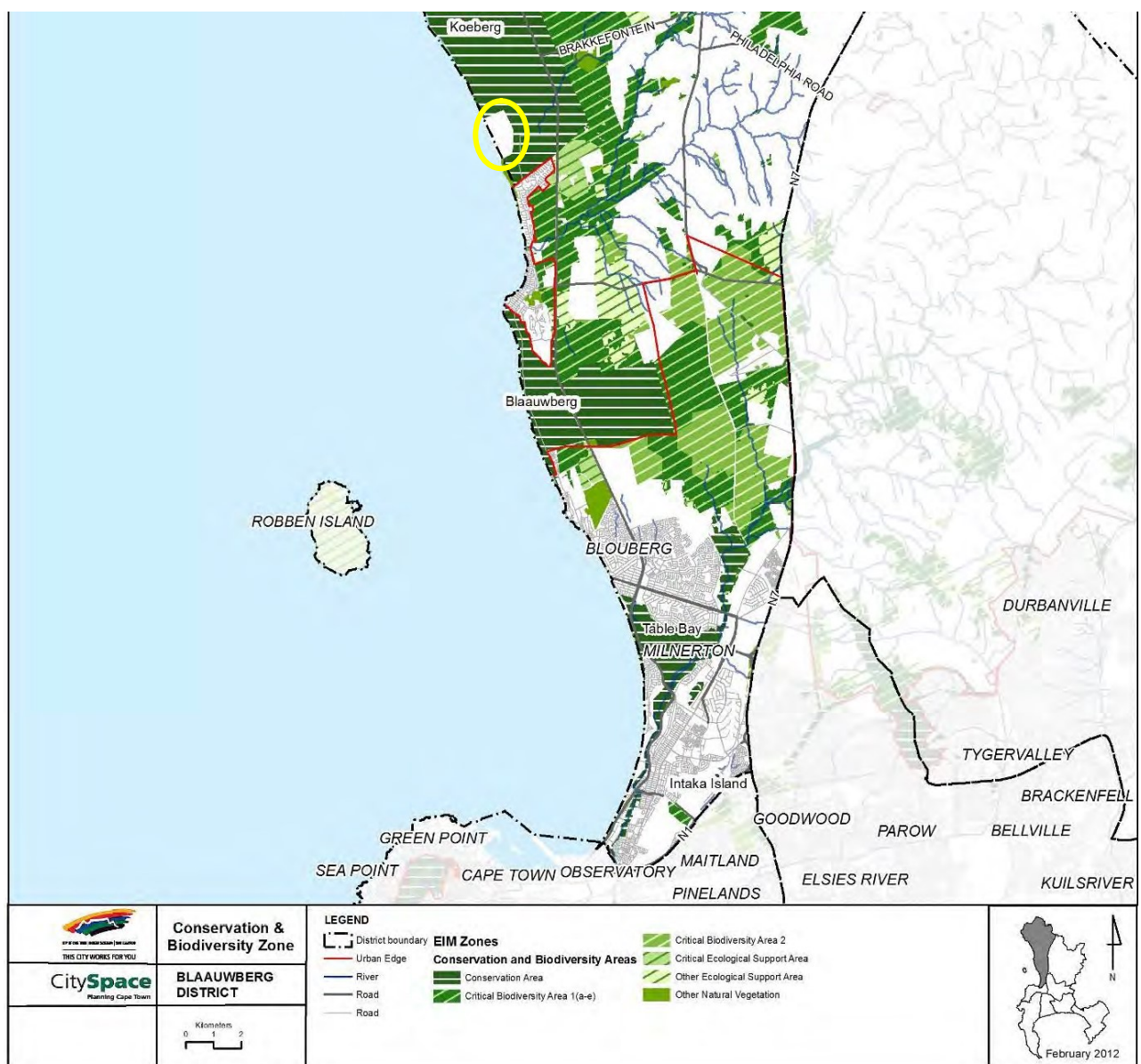
		the Koeberg Power Plant is protected by the Koeberg Nature Reserve, which will not be impacted by the proposed extension of the parking area that form part of this application.
d) Ensure rural activities do not compromise environmentally sensitive areas.	<p>1. Applications in rural areas must be guided by Western Cape PSDF: Rural Land Use Planning and Management Guidelines.</p> <p>2. Rural activities to be informed by the contents of the EMF.</p>	As previously stated although the development area is located within the Agricultural Zone the area is not used for any agricultural uses. The proposed development area is located in the Buffer Zone of the nuclear power station, with the Buffer Zone a category within the Development Zone – Facilities, for which the objectives are the operation, maintenance and development of facilities to support the operation of the nuclear power station. The affected development area is listed as No Natural according to the Biodiversity Network of the City of Cape Town. The natural vegetation occurring within the area is Cape Flats Dune Strandveld which is listed as Endangered with a botanical study done to confirm the vegetation types on the proposed development area. The botanical specialist study conducted as part of the Basic Assessment Report concluded that the development area is highly disturbed, with only common, disturbed tolerant species present with the entire shrub cover removed. Cape Nature has no objection to the proposed extension of the parking area subject to the approval of a stormwater management plan. Refer to Comments from Cape Nature in and the Site Development Plan that are attached
e) Protect proposed future airport location.	1. Manage surrounding land uses so that the possible accommodation of a future airport site in this location is not compromised.	The proposed future airport is not affected by the proposed expansion of the parking area and the location will therefore not be compromised by the application.

f) Protect proposed future landfill site locations.	1. Manage surrounding land uses so that the possible accommodation of a future landfill site in the proposed location is not compromised, until a decision has been taken by DEADP on preferred location of site.	The proposed future landfill site is not affected by the proposed expansion of the parking area and the location will therefore not be compromised by the application.
<b>Koeberg Nuclear Power Station Safety Zones:</b> <b>Koeberg Precautionary Action Zone (PAZ) - (0-5km)</b>	<p>All development within the KPNZ Precautionary Action Zone (PAZ) areas within 5 km radius of the Koeberg Nuclear reactors must conform to the following restrictions necessary to ensure the viability of the KNPS.</p> <p>No new development is permissible within the PAZ other than the development that is directly relate to the siting, construction, operation and decommissioning of the KNPS or that is as a result of the exercising of existing zoning rights.</p> <p>New development in the UPZ may only be approved subject to demonstration that the proposed development will not compromise the adequacy of disaster management infrastructure required to</p>	<p>Proposed extension of the parking area is to serve the Koeberg power plant, with the parking area located directly adjacent of the Nuclear Power plant within the 5km PAZ area. <b><i>The proposed extension of the car park is directly related to the operation of the KPNS and is therefore allowed for within this zone.</i></b> This car park expansion project relates mainly to the need for the creation of the additional parking areas required during outage periods at the KNPS.</p>

	ensure the effective implementation of the Koeberg Nuclear Emergency Plan.	
<b>Conservation and Biodiversity Zone</b>	<p>The West Coast region includes some of the most important unpreserved lowland sites within the Cape Floristic Region, which have been identified as a conservation priority and are of international significance. The Blaauwberg District contains some of the remaining tracts of two of South Africa's rarest vegetation types, namely Sand Fynbos and Renosterveld.</p> <p>The management priorities is to:</p> <ul style="list-style-type: none"> <li>• Enhance and restore;</li> <li>• Monitor and manage impacts;</li> <li>• Educate.</li> </ul>	<p>As previously stated the development area for the proposed expansion of the parking area is located the footprint of the development zone of the Koeberg power plant, with this area excluded from the Conservation and Biodiversity Zones. The area surrounding the different uses of the Koeberg Power plant is however included in an identified Conservation area known as the Koeberg Nature Reserve, which is included in a stewardship agreement with Cape Nature.</p> <p>The Koeberg Nature Reserve Management Plan identified the potential development and conservation areas on the subject property and manages enhance and restore the different areas accordingly under supervision of Cape Nature.</p> <p>The Koeberg facility also provided for a Conservation centre where conservation related training and management take place, thereby also addressing one of the environmental management priorities in the Conservation and Biodiversity Zone by monitoring, restoring and providing environmental education.</p> <p>The proposed extension of the car park will not impact on the Koeberg Nature Reserve with the development not to take any of the land within the identified reserve, but restricting the expansion of the car park to the development zone that does in effect not form part of the identified conservation area.</p>

The proposed rezoning of a small portion of land within the identified Facilities Development Zone for the expansion of the car park is allowed for within Koeberg according to the SDF as developments that are related to the operation of the power plant. It is also clear from the above table that the development of the car park will have no additional impact on the conservation area since it is located outside of the identified conservation area within the development zone on the subject property.

The proposed rezoning of a small part of the property will still maintain and support the proposed uses that are proposed in the development framework, and will allow for more effective functioning within the operation of the Koeberg plant. The Basic Assessment application in terms of NEMA has also addressed all the relevant potential environmental triggers effectively.



**Figure 6: Conservation and Biodiversity Zones in Blaauwberg District, SDF, July 2012**

## 6. TERRAIN CHARACTERISTICS AND SPECIALIST STUDIES

### 6.1 *Geology, topography and soils*

According to the Botanical Survey the subject study area supports deep calcareous sands of marine origin. The study further concluded that the terrain surrounding the development areas of the KNPS comprises of stabilized parabolic dunes with the proposed parking extension area probably supported low dunes prior to development to the areas as these characterize the immediate surrounds.

### 6.2 *Climate*

The region has a Mediterranean climate with cool wet winters and hot dry summers, with rainfall occurring mainly between May and August during winter. The summer temperatures range from a mean summer high of 29°C in February to a low of 7°C during July. The area is also known for frequent coastal fog blowing in from the sea during winter.

### 6.3 *Physical Aspects and Land Capability*

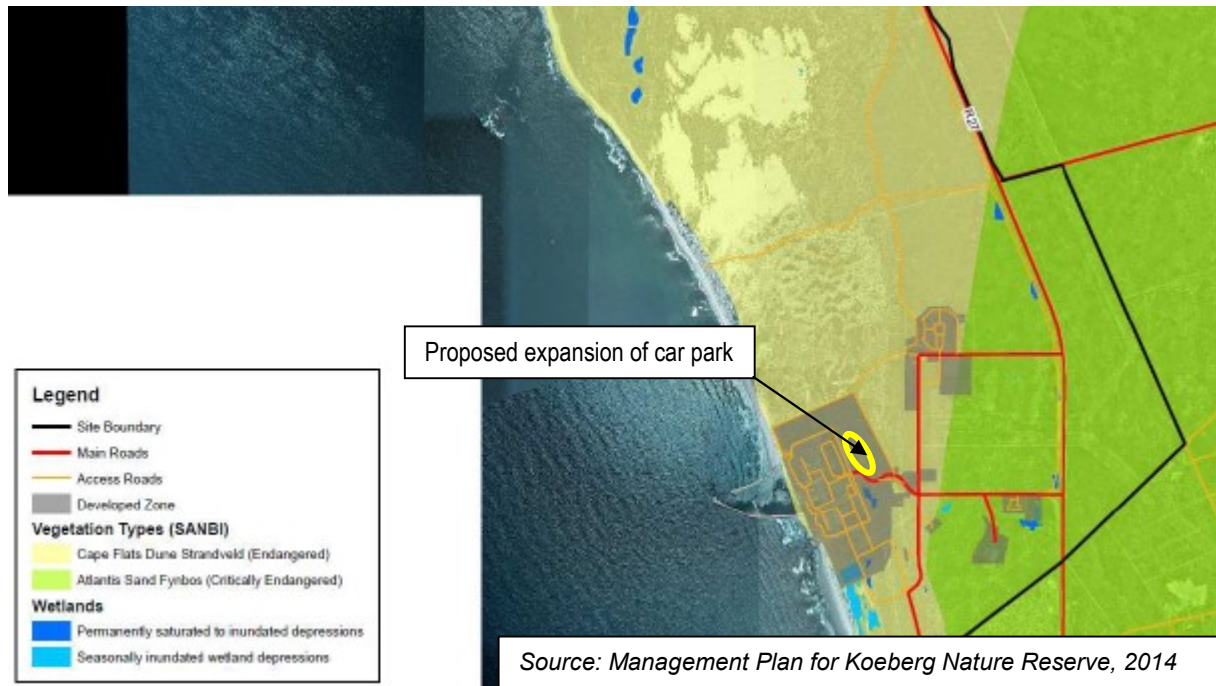
The subject property is located along the West Coast coastline with different locations on the larger property earmarked for uses related to the Koeberg Nuclear Power plant. The remaining areas not forming part of the development areas and zones on the property that has been earmarked for existing and potential future uses form part of the Koeberg Nature Reserve.



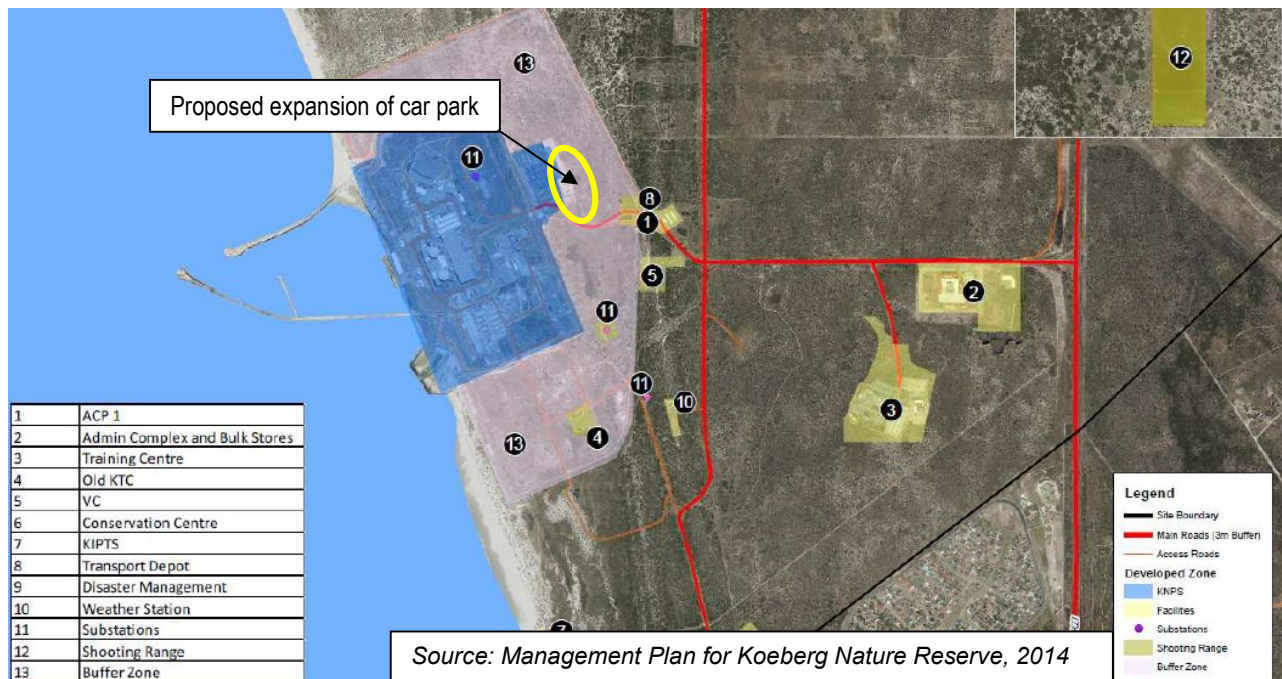
**Figure 7:** Conservation Zone in the Koeberg Nature Reserve with subject development area for the expansion of the car park identified.



A Management Plan has also been developed for the Koeberg Nature Reserve by which the reserve is effectively managed and where the different zones have been defined. Figure 7 identifies the conservation zone within the Koeberg Nature Reserve, with the conservation zone including all natural undeveloped and /or disturbed/transformed areas in the reserve. It can be seen on the Figures 7 and 8 that the proposed expansion of the car park is located outside of the conservation zone and within the identified Development zone on the subject property.



**Figure 8: Special Management Overlay for sensitive ecosystems**



**Figure 9: The identified Development Zones – Facilities on the subject site.**



The proposed expansion of the car park is located in area 13 of the Development zones for facilities with this zone identified as a buffer zone surrounding the Nuclear Power Plant.

The land is relatively flat with a slope of under 5°, with the design of the car park that will divert the stormwater to a existing attenuation pond approximately 20m to the west of the proposed development. This area is known for its very sandy soil with the agricultural potential seen as marginal according to the Western Province Department of Agriculture.



**Figure 10:** Land Capability according to Western Cape Department of Agriculture

It is evident from the land capability maps that the agricultural potential of the area is moderate with the area not well suited for agriculture. The area is better suited for conservation with the creation of the Koeberg Nature Reserve that support biodiversity conservation in the area surrounding all the related uses to the Koeberg Power Station.

Considering the above information we can conclude that this site **is not** located on land that is the most suitable land for extensive cultivation and farming, which resulted in the establishment of the Koeberg Nature Reserve to focus on conservation of the Cape Flats Dune Strandveld and Atlantis Sand Fynbos. As previously stated the proposed extension of the car park is located in the

Facilities development zone that has been earmarked for the development of supporting facilities to the power station with the zone objective identified in Figure 11. The development of the extension of the car park at the power station is in support of the zone objectives since it will support the operations of the KNPS. Due to the increased maintenance and refurbishment requirements of the power plant as well as the increased personnel required during major outages due to the greater outage work scope the extension of the car park was required. The shortage in parking has also been exacerbated in outages by need for irregular working hours, which does not allow the staff to make use of public transport. Although various alternatives were considered this location was the most appropriate.

Zone	Zone Objective	Characteristics	Visitor Activities	Facilities / Infrastructure	Visitor Access	Management Guidelines
Developed Zone – Noxious Industrial	Operation and development associated with KNPS.	Area zoned noxious industrial. The KNPS is fenced off with strict security control.  Area with extensive development, partial degraded or transformed land.	No nature reserve visitors are allowed. Only authorised visitors to the KNPS.	KNPS and its parking areas as per Table 4-3 and Figure 4-6	No unauthorised public access to the KNPS.	Possible negative impacts on Conservation Zone to be minimised.
Developed Zone – Facilities	The operation, maintenance and development of facilities to support the operation of the KNPS.	All facilities, infrastructure and buffer areas associated with the operation of the KNPS and the Nature Reserve  Areas with existing degraded or transformed footprints.  Some facilities are fenced off and have limited access to the general public.	No nature reserve visitors are allowed. Only authorised visitors.	As listed in Table 4-4	No unauthorised public access.	Possible negative impacts on Conservation Zone to be minimised

Source: Management Plan for Koeberg Nature Reserve, 2014

**Figure 11: Koeberg Nature Reserve Zone Objectives and Management Guidelines**

#### 6.4 Vegetation

A Botanical Survey was done by Paul Emms in association with Bergwind Botanical Survey, as part of the Basic Assessment Report with the study attached. The study determined that the study area has historically supported Cape Flat Dune Strandveld but currently the ecological condition of the vegetation generally improves with increasing distance from the KNPS. The study found that the perimeter surrounding the power station and parking area, specifically the landward sides and the area west of the existing parking area at ACP 2, were cleared in the past for security purposes. The study further determine that the parabolic dunes, which would have characterized the KNPS footprint prior to its development, appear to have been noticeably altered and that the

soils at the proposed development site have been altered due to movement of excavated material during the initial construction of the KNPS.

The Botanical survey also confirmed that the site does not fall within the City of Cape Town Biodiversity Network. The Impact Assessment of the survey concluded that if the site were to be developed the overall impacts are expected to be Low Negative, which is largely due to the poor ecological conditions since the area is already highly degraded. The study found that the mitigation would not reduce the overall impact significance rating, but if the development is approved the following best practice mitigation should be adhered to:

- *Strict site control – the construction area need to be cordoned off and monitored by an Environmental Control Officer (ECO) during construction so that no damage occurs to adjacent vegetation falling outside the intended construction area.*

No indirect impact were identified by the study, with the cumulative impact equating to a loss of 1.36ha or 0,007% of the remaining near natural to natural habitat of the ecosystem. The cumulative loss of vegetation would therefore result in Very Low Negative impact.

The study concluded that the proposed parking extension would result in a loss of only highly degraded Cape Flats Dune Strandveld resulting in a **Low Negative impact** on any natural vegetation. The study also found that the site is the most appropriate location for the new parking area and the development of this site is therefore supported by the botanical survey.

## **6.5 Heritage**

A Heritage Impact Assessment (HIA) was done by Dr Jayson Orton of ASHA Consulting with a copy of the study attached. The study found that the entire study area was covered in material excavated from the power station reactor area in the 1970's and as such there was nowhere on the site where the original surface was visible and it was therefore not possible for the survey to access any archaeological and or paleontological resources that might be present with the exception of fossil bones contained within the dumped material, which despite their secondary context, was found to be of some significance.

A program of test excavation by the survey has shown that the dumped material is thick enough to protect the subsurface deposits from the disturbance over the bulk of the site. The study also did not find any sign of sensitive Langebaan Formation sediments with only very rare isolated bones and a single stone artefact noted and because of their low density the materials were found to have a low cultural significance.

The HIA concluded that no significant impacts to heritage resources are likely to occur and there are no fatal flaws in terms of heritage. The HIA found that the thick layer of *ex situ* material across the bulk of the site renders it of low sensitivity and recommended that the car park construction proceed subject to the following recommendations:

- Briefing session to the ECO and project staff prior to the commencement of earthworks to allow for any isolated fossils seen during construction can be collected and retained.
- Should any substantial archaeological or paleontological material of human burials be uncovered during the course of development, all work in the immediate area should be halted and the find reported to the heritage authorities to determine further actions required.

In their final comments Heritage Western Cape (HWC) supported the findings and recommendation from the consultant in the HIA and indicated that they have no objection to the proposed development. The final comment from HWC is attached.

## 7. PROPOSED DEVELOPMENT

The proposal includes the following applications;

- The **Rezoning** of a part, of approximately **1.3ha**, of the Farm Duynefontyn no 1552, Koeberg, Cape in terms of **Section 42(a) of the City of Cape Town Municipal By-Law, from Agricultural Zone to Risk Industry Zone**, for the proposed extension of the parking area next to the Koeberg Nuclear Plant.

The application for the rezoning of an area of approximately 1.3ha to Risk Industry Zone is to allow for the expansion of the car park on an area within the buffer zone surrounding the Koeberg Nuclear Power Plant for the creation of 418 additional parking areas for the employees of Koeberg. Refer to the Site Development Plan and Proposed Rezoning Plan of the car park extension that are attached.

As previously mentioned the car park expansion project relates mainly to the need for additional parking during outage periods. As the power plant age and the maintenance and refurbishment requirements have increased, the associated parking needs have also increased. The current parking area is inadequate for their needs, especially during major outages. Koeberg management have identified an even greater work scope for during outages in future, which will intensify the parking shortage issue.

Although the alternatives as listed by City of Cape Town during their comments to the NEMA process were considered by Eskom, they found that from the possible alternatives listed the only location that has adequate area for the expansion is at the Training Centre and Administration Complex (TCAC). Refer to Comments and Responses in the Final BAR attached. Eskom however indicated that the purpose of the proposed future expansion of the TCAC was to cater for the training and accommodation of an expanded nuclear programme and to re-locate non essential staff from the power station to the new development. Due to various reasons only the first Phase of the TCAC development has been completed, with the parking in this area only to support the first phase. Eskom will also only develop the remaining phases of the TCAC when and if the nuclear programme requires this and if adequate funding is made available. The timing of the need for additional parking at the power station and TCAC centre is different. The next major outages are in 2018, which will be the biggest outage in KNPS's history with the following outage in 2012 that will be even bigger. The TCAC programme on the other hand is only likely to be developed in line with the timing and funding of the nuclear expansion programme. Eskom therefore concluded that the need, purpose and timing of the two developments are very different and as such the parking proposed at the TCAC is not a suitable alternative for the new car park at the power station. Eskom also considered a multi-storey car park at ACP2. This was however rejected due to the high cost of the multi storey building and the fact that a large portion of the existing car park at ACP2 is covered by overhead power lines making a multi-storey car park unfeasible.

The proposed parking expansion is located just before ACP2 to the Nuclear Power Plant, within the buffer zone surrounding the power plant. The new extension is located to the south east of the existing car park, immediately to the north of the entry road to ACP2. A new access point will be created off the entry road to the new parking area, with a link road also provided between the existing parking area and the new parking area. The new access point for the additional 418 parking spaces will ensure the easy movement to and from the new parking area limiting the potential of a bottle neck if the new expansion is also accessed off the single access point to the existing parking area. The design also allows for the continued safe internal movement of pedestrians between their cars and the Koeberg power plant. A pedestrian link with the existing pedestrian crossing over the main access road to the Koeberg Power Plant is also provided from the new parking area.

The proposed extension of the parking area with a total area of  $\pm 1.3$ ha consists of:

- 202 paved parking area ( $\pm 5500\text{m}^2$ ) on the northern side, next to the existing parking areas, and

- 216 gravel parking area ( $\pm 5000\text{m}^2$ ) on the southern side of the new proposed parking expansion area along the access road.
- New access point to the new parking area off the access road, with the access area to be paved.
- Paved pedestrian walkway from the parking area to link with the existing pedestrian road crossing across the access road. This will link up with the existing pedestrian walkway to the power plant.

The proposed expansion of the parking area fits well into the existing landscape and links with the existing parking areas provided. The fact that the site has been historically disturbed by earth works related to the construction of the nuclear power station, the conclusion by the specialist studies that the impact will be low and the fact that the SDF zones support the uses in this zone, support this as a viable location for the proposed expansion of the parking area. The design forms a natural expansion along the access road and is located in the development zone, which provides development areas for related facilities to the KNPS. The proposed expansion of the parking area is therefore supported by the different specialist studies, SDF and the Koeberg Nature Reserve Management Plan of 2014.

## 8. INFRASTRUCTURE

The following provide a summary of the service infrastructure to be provided as part of the extension of the car park.

### **Stormwater**

According to the existing KNPS stormwater management system the storm water originating from the western part of the existing car park is discharged into the power station's underground storm water system which discharges into the sea. The eastern part of the existing car park, which was added at a later stage, has a separate storm water system that discharges into an attenuation pond just south of the car park. The proposed new car park extension will be constructed higher than the natural ground level. The stormwater from the new extension area will be collected and directed to an existing attenuation pond about 20m west of the proposed development. The water in the attenuation pond is allowed to infiltrate into the sandy soil.

A stormwater management on the new car park extension project will be done according to the stormwater design on the Site Development Plan, which is explained below:



- Stormwater runoff generated from the car park extension (which will be constructed higher than the natural ground level) shall consist of an underground collection system;
- The collected stormwater shall be channelled through a gravel / oil trap into the existing storm water attenuation pond located approximately 20m east of the proposed development. The discharge system shall ensure that no erosion of soil occurs at the point of discharge where the flow rate is highest;
- Surface water in the attenuation pond will be allowed to infiltrate into the permeable sandy soil below; and
- The overflow channel linked to the existing attenuation pond will ensure that high volumes from extreme storm events can be channelled to the wetland to the south. The proposed car park extension project is not expected to increase the flow volume to this wetland by more than 10%. The wetland is some distance away from any buildings and situated at a lower level than surrounding buildings (flooding of buildings is highly unlikely).

### **Water**

There are two possible sources of non potable water at the location. One is the use of ground water available at the site and the other is the use of treated effluent from the City's Melkbosstrand Waste Water Treatment Works (WWTW). Currently the power station has a water authorization that allows the use of the treated effluent for irrigation purposes and also the use of ground water for the power plant use. A number of boreholes have been established to extract ground water. It is likely that ground water will be used as the preferred option should the water restrictions still be in-force. Should this not be possible then alternatives will be sought. Water will mainly be used during the construction phase.

### **Access**

The property is accessed off the R27, which is also known as the West Coast Road, linking Cape Town with Atlantis and the West Coast region. Otto du Plessis Drive is the main access road off the R27 to the KNPS and also provide for an alternative access from Dunyefontein in the south. Due to the high security measures in and around Koeberg an access control point exist along the access road just off the R27 known as Access Control Point 1 (ACP1) as well as another control point just before Nuclear Power Plant known as Access Control Point 2 (ACP2). The proposed car park extension, that is the purpose of this application, will be located immediately adjacent to and on the south-eastern side of the existing parking areas in the buffer zone just before ACP2. A new access point off Otto du Plessis Drive will be created to the new car park extension.

A Traffic Impact Assessment (TIA) was completed by HHO Africa Infrastructure Engineer during April 2017 for the proposed extension of the carpark. The scope of the TIA extends beyond a traffic statement with the analysis of the main intersection to the site and the traffic flow increase associated with the increased parking activity. The report investigated the traffic impact associated with the extension of the main parking area at Koeberg Nuclear Power Station to provide for an additional 418 bays, in order to accommodate a surplus demand for parking during outage periods. The Traffic Impact Assessment is attached.

The performance of the intersection has been assessed in terms of current situation and during projected long duration outages, with the results virtually identical because the incremental additional demand during peak periods is so limited (2626 vs 2576). From the results it is also unlikely that alternative intersection controls will be required to accommodate traffic operations during outage periods.

The final analysis of the TIA indicated that the net impact of the expansion of the parking area on peak hour traffic operations at the main access intersection with the R27 will be negligible and the current intersection control has sufficient capacity to accommodate the limited increase in traffic demand. A safety consideration might require the lowering of the speed limit from 120km/hr in the vicinity of the Koeberg Access, regardless of the capacity available to accommodate limited traffic flow increases.

## **9. ASSESSMENT CRITERIA**

The criteria for the assessment of applications as per the City of Cape Town Municipal Planning By Laws are addressed as follows:

- ***Cape Town Development Management Scheme***

The subject development area is currently zoned as Agricultural Zone according to the City of Cape Town Development Management Scheme, with the existing uses not relating to any agricultural activity. The SDF and Koeberg Nature Reserve Management Plan respectively identify the development site as located within the Precautionary Action Zone (PAZ) areas within 5 km radius of the Koeberg Nuclear reactors and the Buffer Zone Development Zones – Facilities respectively which allows for development that directly relate to the siting, construction, operation and decommissioning of the KNPS. The proposed expansion of the car park is infrastructure that directly relate to the operation of the KNPS with the rezoning of this area (1.2ha) from Agriculture to Risk Industry Zone, which is better suited to the proposed use.

- ***Desirability of the proposed development***

***Economic Impact***

The proposed expansion of the car park was required during outage periods.

- As the power plant has aged and the maintenance and refurbishment requirements have increased, the associated parking needs have also increased, making the current parking areas at the main power plant inadequate during major outages. Given that even greater outage work scope has been identified in future at the KNPS the parking shortage issue will intensify. The need for additional parking areas during outages has also been exacerbated due the need for irregular working hours of the staff which means many of the staff is unable to use public transport and require the use of their cars and safe parking spaces in close proximity to the nuclear plant.
- To accommodate shift hand-over, there is overlapping that takes place so for a short period of time a doubling of the car parking is required.
- The power station has also increased the number of staff to prepare for a new build programme with job training required at the power station that requires additional parking spaces.

The specific alternatives as discussed has been considered with the most viable and cost effective option the expansion of the car park as proposed as part of this application.

***Social Impact***

The car park will provide the employees with irregular working hours adequate and safe parking areas close to their work place, especially during major outages.

***Scale of capital investment***

The type of parking provided is the most cost effective options that have been considered to effectively provide adequate and safe additional parking areas to the staff at the KNPS.

***Compatibility with surrounding uses***

The proposed expansion of the car park is located next to an existing car park of KNPS. The specialist studies including the botanical and heritage survey identified the potential impact as low and supported the proposed location as a viable option for the car park extension.

***Impact on the external engineering services***

The stormwater run off from the new car park will be accommodated within the existing storm water system. The proposed car park extension will be constructed higher than the natural ground level. The stormwater from the new extension will be collected and directed to an existing attenuation pond about 20m west of the proposed development. The water in the attenuation pond is allowed to infiltrate into the sandy soil. The potential use of existing non potable water sources during the construction phase have been discussed under the services.

***Impact on safety, health and wellbeing of the surrounding community***

The provision of the car park extension is for the safety and benefit of the employees of Eskom – to allow them safe parking areas close to the KNPS - especially during outages when they do not have normal working hours and cannot make use of public transport.

The relevant forms were also completed for the proposed development registration and information sheet for developments within the Emergency Planning Zone (EPZ) of the Koeberg Nuclear Power Plant attached. The extension of the parking area will result in the temporary employment of 35 construction workers during the construction phase.

***Impact on heritage***

The Heritage Impact Assessment concluded that no significant impacts to heritage resources are likely to occur and there are no fatal flaws in terms of heritage. The HIA found that the thick layer of *ex situ* material across the bulk of the site renders it of low sensitivity and recommended that the car park construction proceed subject to certain recommendations, which was also supported by Heritage Western Cape.

***Impact on the biophysical environment***

The development area is located in a buffer zone that was earmarked for the development of facilities related to the KNPS. The development site also forms part of an area that is not included in the Koeberg Nature Reserve. The Botanical study that was done as part of the Basic Assessment Report concluded that the proposed parking extension would result in a loss of only highly degraded Cape Flats Dune Strandveld resulting in a **Low Negative impact** on any natural vegetation. The study also found that the site is the most appropriate location for the new parking area and the development of this site is therefore supported by the botanical survey.

***Traffic impacts, parking, access and other transport related considerations***

The property is accessed off the R27, which is also known as the West Coast Road, linking Cape Town with Atlantis and the West Coast region. Otto du Plessis Drive is the main access road off the R27 to the KNPS. Due to the high security measures in and around Koeberg an access control point exist along the access road just off the R27 known as Access Control Point 1 (ACP1) as well as another control point just before Nuclear Power Plant known as Access Control Point 2 (ACP2). The proposed car park extension, that is the purpose of this application, will be located immediately adjacent to and on the south-eastern side of the existing parking areas in the buffer zone just before ACP2. A new access point off Otto du Plessis Drive will be created to the new car park extension. The proposed parking extension is to provide the necessary relief to the increased demand for parking for employees during power outages when maintenance and upgrading at the KNPS takes place. A Traffic Impact Assessment was also done as part of the application that concluded that the net impact of the expansion of the parking area on peak hour traffic operations at the main access intersection with the R27 will be negligible and the current intersection control has sufficient capacity to accommodate the limited increase in traffic demand.

***Can the imposition of conditions mitigate an adverse impact of the proposed land use***

Refer to the specialist studies and the proposed mitigation measures as proposed.

**10. LUPA/SPLUMA**

The following land use planning principles as included in Chapter VI Section 59 of the Land use Planning Act, 2014 (Act 3 of 2014) and Chapter 2 Section 7 of the Spatial Planning Land Use Management Act, 2013 (Act 16 of 2013), should be used as a guide regulating land use and the development of land:

**Spatial Justice**

The proposed rezoning of a portion of land adjoining the Koeberg Nuclear plant for the provision of additional parking area for employees support the optimum utilisation of land within the Development Zone for facilities that occur directly around the Koeberg Power plant. The proposed extension of the carpark is located in the KNPS Precautionary Action Zone (PAZ) areas within 5 km radius of the Koeberg Nuclear with no new development that is permissible within the PAZ other than the development that directly relate to the

siting, construction, operation and decommissioning of the KNPS. The proposed extension of the carpark is a facility that directly relates to the operation of the KNPS and is therefore supported in the Spatial Development Plan of the Blaauwberg District, SDF.

### **Spatial Sustainability**

The proposed development represents a spatially compact carpark extension that fully considered the opportunities provided by the site and addressed the potential impacts and that was identified by various specialist studies. The required environmental application under NEMA also considered the potential environmental impacts and effective management of impacts. The proposed development will allow for the proposed extension of the car park close at the Koeberg Power Plant to allow more employees parking facilities especially during outages and maintenance of the power plant during which times more people will be present at the plant. The development does not impact on any productive agricultural land and also does not present unsustainable provision of infrastructure and social services, since it is for the extension of a carpark adjoining an existing parking area that will require very limited additional infrastructure.

### **Efficiency**

The proposed development will optimise the use of an area within the defined development zone for facilities that is identified around the Koeberg Nuclear Plant. The proposed extension of the car park is a proposed use that is directly related to the operations of the plant and will further support the effective working of the plant.

### **Principles of good Administration**

Various provincial and national departments will be afforded an opportunity to comment or consider the application. The public will be afforded the same opportunity. The relevant comments will ensure an integrated approach to land use and land development to allow for an informed decision to be taken.

### **Spatial resilience**

The proposed car park extension is located in the Development Zone: Facilities as included in the Management Plan for Koeberg Nature Reserve of 2014, which allow for the development of facilities supporting the KNPS. This plan therefore supports the proposed extension of the car park since this facility will support the operation of the Koeberg plant especially during increased outages at the plant.



## 11. SUMMARY

As can be seen from the above the proposed development will not have any adverse effect on the surrounding area. The application for the rezoning of a portion of the Farm Duynefontyn 1552 to Risk Industry Zone to allow for the extension of the car park at the Koeberg Nuclear Power Plant is supported since:

- The proposal is allowed for by the Blaauwberg District Plan and the Koeberg Management Plan.
- The rezoning will allow for the better utilisation of the development zone for facilities by allowing for the extension of the car park as a supporting facility.
- The proposed will not in any way result in loss of agricultural land since the land is not used for agricultural purposes or will be used for any agricultural uses as it form part of the Koeberg Nature Reserve and an area identified for Noxious Industries.
- The development will support the more effective use of this land adjoining the Koeberg Power Plant and will allow for the effective maintenance of the plant by providing for adequate supporting facilities.

This office supports the proposed rezoning of a portion of 1.2ha of the Farm Duynefontyn 1552, Koeberg in the Registration Division of Cape RD, from Agricultural Zone to Risk Industry to allow for the expansion of the car park to support the increased demand for staff parking at the Koeberg Nuclear Power Plant. In light of the motivation and supporting documentation we hereby request Cape Town Municipality to consider this application in a positive light.

Iana Jordaan

For *CK RUMBOLL EN VENNOTE*

*June 2017*