

# PROPOSED CONSTRUCTION OF A SEWAGE TREATMENT PLANT AT CAPE POINT, TABLE MOUNTAIN NATIONAL PARK

## FULL SCOPING AND EIA PROCESS

### SCOPING REPORT EXECUTIVE SUMMARY

#### 1 INTRODUCTION

SANParks proposes, as a key element of a wider infrastructure upgrading scheme for the Cape Point precinct, the installation of new sewage treatment plant to meet the demands of the growing numbers of visitors to the site. The proposed plant will be designed to treat approximately 20 000 m<sup>3</sup> of effluent per month and therefore exceeds the threshold listed in the NEMA EIA Regulations as requiring environmental authorisation. Procedurally the NEMA EIA Regulations stipulate that a full Scoping and EIA process must be undertaken. SANParks has appointed Nick Steytler to undertake the full Scoping and EIA Process. Owing to the fact that the proposed development is located in a National Park the National Department of Environmental Affairs and Tourism (DEAT) is the appropriate authority delegated with making decisions in respect of environmental applications.

#### 2 FULL SCOPING AND EIA PROCESS

##### 2.1 Legal and Procedural Framework

The NEMA EIA Regulations provide the legislative framework regulating developments that may detrimentally affect the environment. For the proposed development there is an applicable listed activity that requires that a full Scoping Study and EIA<sup>1</sup> be undertaken. The applicable activity is as follows:

1. *The construction of facilities or infrastructure, including associated structures or infrastructure, for –*
  - (p) *The treatment of effluent, waste water or sewage with an annual throughput of 15 000 cubic metres or more*

The full Scoping and EIA process is currently at the Scoping Phase. The overall aim of the Scoping Phase is to determine those environmental issues and impacts associated with the proposed development that require further investigation in an EIA.

#### 3 DESCRIPTION OF AFFECTED ENVIRONMENT

Cape Point is located within the Cape of Good Hope section of Table Mountain National Park (TMNP, see Figure 3.1). The proposed site for the new sewage treatment plant is immediately adjacent and to the west at the parking area that serves the restaurant, shops and funicular at Cape Point.

<sup>1</sup> Activities listed in GN 387 are required to follow the procedures for a Scoping study and EIA as described in Sections 37-36 of the NEMA Regulations.

Most of the site comprises tarred paving which is bordered with natural stone finishes. Buildings within the Cape Point precinct include the following:

- A visitors Information Centre/TMNP staff office/concessionaire office combined into one building which is located to the north west of the parking area;
- A restaurant which is located to the north of the parking area (the roof of which is at the same level as the parking area);
- A small shop which is located to the east of the parking area; and
- Ablutions which are located to the south east of the parking area (the roof of which is also at the same level as the parking area).

All buildings are of a similar design with flat planted roofs and plastered with aggregate to minimize their visual intrusion in the landscape. A paved walkway extends to the south east which provides access to the funicular which transports tourists to viewing sites nearer the point and the site of the old lighthouse. Bordering the transformed zone is natural vegetation comprising mostly dense thicket vegetation.

As the site is situated within TMNP the predominant land use is nature conservation. Being situated on the southernmost tip of the Cape Peninsula the site is virtually surrounded by the Atlantic Ocean. Beyond the boundary and to the north west of the Cape of Good Hope section of TMNP lie several privately-owned farms including the Cape Point Ostrich Farm which is a popular tourist attraction. The nearest human settlements to Cape Point are Simons Town, Red Hill Informal Settlement and Scarborough with Simons Town being the largest town. The Cape Town CBD is located at the northern-most extreme of the Cape Peninsula, some 50 km away.

#### 4 MOTIVATION FOR AND DESCRIPTION OF ACTIVITY

##### 4.1 Motivation

Cape Point is the most frequented visitor site in all national parks in South Africa with annual visitor numbers in the 2007/2008 year being reported as 855 739 with this number rising steadily from year to year. Many visitors make use of the facilities at Cape Point which include the ablutions which generate significant volumes of sewage. Added to this is the operation of a restaurant which is very popular with visitors to Cape Point, which also generates significant volumes of liquid effluent. To date this effluent has been directed via a gravitational reticulation system to a system of conservancy tanks and soak-aways. This system is effective in treating effluent and disposing the treated liquid by-product ("treated effluent") at relatively low volumes. However when volumes of effluent generated increase then more "advanced" methods of effluent treatment and disposal become necessary and this is the case at Cape Point.

Based on visitor number projections, effluent estimates indicate that the capacity of the current system will be exceeded in the short-term and therefore an improved system is urgently required. The new proposed "package" sewage treatment plant has a proven track record, has capacity to treat greater volumes of effluent and has the ability to treat the effluent to meet the standard required by the Department of Water Affairs and Forestry in permitting the disposal of the treated effluent in the environment. SANParks considers the "package" plant as the most appropriate means of treating effluent at Cape Point, particularly given the space constraints and sensitivity of the potentially affected environment.

#### 4.2 Description of the Proposed Activity

The proposed development will entail the construction of the new package treatment plant and associated infrastructure (vehicular access ramp for servicing, planted roof, etc) in an area of 20 X 20 m. The existing reticulation system and system of conservancy tanks and soak-aways will remain unchanged.

The proposed sewage treatment plant will be designed to treat approximately 20 000m<sup>3</sup> of sewerage per annum with a maximum flow estimated at 44 Kl/day. The treatment process is the activated sludge method, common with many large sewage treatment works, with the exception that the various components of this system are contained within a package plant.

### 5 ALTERNATIVES

In terms of the NEMA EIA Regulations the applicant is required to demonstrate that reasonable alternatives have been described and investigated in sufficient detail. In addition to the preferred alternative as described above (i.e. package sewage treatment plant), the following additional alternatives are being considered in this EIA process:

- The "No-Go" or "No Development" alternative;
- Connecting to the municipal sewerage reticulation system;
- Two site alternatives within the Cape Point precinct.

#### 5.1 The "No-Go" alternative

The "No-Go" or "No Development" alternative assumes that the current system of effluent treatment, the system of conservancy tanks and soak-aways, will remain in place. The assessment of the "No-Go" alternative is particularly informative as it demonstrates the merits of upgrading the effluent treatment system at Cape Point.

#### 5.2 Connecting to Municipal Network

A logical alternative to constructing a new sewage treatment plant is the option of connecting to the Municipal sewerage network. This will then allow the effluent generated at Cape Point to be treated at one of the City of Cape Town's large Wastewater Treatment Works (WWTW). This option would necessitate the construction of a new sewerage pipeline from the Cape Point precinct to the nearest connection point in the Municipal reticulation, assumed to be at either Scarborough or Simon's Town some 20 km away by road. As it is common practice to align services in road reserves one can assume that approximately 20 km of new pipeline would be required. Also, owing to local topographic conditions, gravitational feed would not be

possible along the entire length of the pipeline therefore necessitating one or more pumpstations.

#### 5.3 Site Alternatives

In selecting the preferred site immediately west of the existing parking area, SANParks considered two additional alternative sites within the Cape Point precinct. Both are located within the existing footprint of the parking area. This being the case both options would entail siting the proposed plant beneath the paved surface. Site alternative A, located in the northern extreme of the parking area, would necessitate a reconfiguration of the precinct's sewerage reticulation and would also require the relocation of the system of conservancy tanks and soak-aways from their current location approximately 100 m due south west of the parking area to a site to the north of the access road and parking area (so as to allow treated effluent to feed by gravity). Site alternative B is located near the preferred site with the difference that it is at a slightly higher elevation and would be situated underneath the paved parking surface. Utilising this site would not require a major reconfiguration of the precinct's sewerage reticulation but effluent generated at the ablutions further to the south west would need to be pumped up to this point owing to the elevations. Site alternative A would also be situated beneath the paved parking surface.

### 6 PUBLIC PARTICIPATION PROCESS

Table 1 provides a summary of the PPP activities.

**Table 1: Schedule of PPP activities undertaken to date**

Activity	Date
Advertisement of the process in the regional and local media	25 September 2008
Placement of on-site notice	25 September 2008
Circulation of Executive Summary to IAPs	25 September 2008
Release of RAP Scoping Report for comment	25 September – 25 October 2008

IAPs have been asked to submit written comment on or before **25 October 2008**. All comment received will be responded to. A full record of the comments and responses will be included in a Comments and Responses Report (Scoping phase) which will be submitted along with the Scoping Report to DEAT. As a result the comment will be considered by DEAT in deciding whether or not to approve the Scoping Report (and Plan of Study for EIA).

### 7 POTENTIAL ENVIRONMENTAL IMPACTS

The following potentially significant impacts associated with the proposed construction of the sewage treatment plant have been identified by the EAP and project team:

- Construction phase impacts:
  - Flora and Fauna impacts;
  - Heritage impacts; and
  - Nuisance impacts (including noise, dust and traffic congestion).

- Operational phase impacts:
  - Soil and groundwater contamination; and
  - Visual impacts.
- Closure and decommissioning phase impacts:
  - Soil and groundwater contamination; and
  - Nuisance impacts (including noise, dust and traffic congestion).

### 7.1 Construction phase Impacts

Construction activities in sensitive environments need to be carefully managed or they may lead to significant environmental impacts. Immediately abutting the parking area and restaurant complex at Cape Point is pristine indigenous vegetation. The Point is also known as being a site of heritage significance. Construction activities, particularly site clearing and excavations, can lead to damage and/or destruction of flora and displace fauna. Stone-age artefacts could be unearthed and damaged. Also associated with construction sites are nuisance impacts such as noise and dust. Given the high number of tourists visiting Cape Point and their high sensitivity (as tourists) these potential nuisance impacts would have to be well-managed. A comprehensive Environmental Management Plan (EMP) which focuses on managing construction phase-related impacts should suffice in managing the potential construction phase impacts.

### 7.2 Operational phase Impacts

Two potentially significant impacts have been identified as being associated with the operational phase. These are as follows:

- Soil and groundwater impacts; and
- Visual impacts.

Soil and groundwater contamination is typically associated with the disposal of treated effluent via soak-away systems. This system of treated effluent disposal has been used at Cape Point since the first ablutions came into operation. The efficacy of the soak-away system is however only as effective as the method of treatment associated with it and until now this has only involved a simple system typically associated with the combination of the conservancy tank and the soak-away which is regarded as effective for relatively low volumes of effluent and is deployed at numerous lodges and accommodation facilities in protected areas throughout South Africa. The ongoing use of the system at Cape Point, given the number of visitors, would eventually become ineffective thereby resulting soil and groundwater contamination. The proposed installation of a new sewage treatment plant designed on the basis of the activated sludge treatment process would be far more effective and would produce a higher quality treated effluent that could still be discharged into the environment via the soak-away system. In this way the proposed development can be regarded as generating a positive impact.

The potential visual impact associated with the proposed development is arguably the most significant impact that could arise. This is primarily due to a number of factors including the following:

- The high sensitivity of the viewers, most of whom are foreign tourists who are visiting the area for sight-seeing purposes;
- The high visual sensitivity of the receiving visual landscape which is a national park characterised by open spaces of pristine vegetation and unspoilt rock formations; and

- The visual exposure of the site, particularly since it is located on the uppermost part of the striking rock formations of Cape Point.

Given the above a detailed assessment of the potential visual impact associated with the proposed development will be undertaken in the EIA phase.

### 7.3 Closure and Decommissioning phase Impacts

Closure and decommissioning impacts are likely to be similar to the construction phase impacts and therefore should also be satisfactorily accommodated in the EMP. Note that the proposed plant should provide sufficient capacity for a number of years in the future and should the capacity be exceeded then it can be upgraded to well beyond its current capacity. It is therefore highly unlikely that the system will be decommissioned and closed in the foreseeable future.

## 8 PLAN OF STUDY FOR EIA

### 8.1 Description of EIA phase

The proposed process for the EIA phase will only take place in a single phase as no specialist studies are deemed necessary. As such the EIA phase will effectively comprise the preparation of the EIR and its review by IAPs. In this only phase the following will be undertaken:

- Identification and assessment of environmental impacts based on the results of the specialist studies. This will entail an assessment of the duration, extent, probability and intensity of the impacts to assess their significance;
- Identification of mitigation measures and recommendations for environmental management of the proposed project;
- Collation and drafting of the above information into an Environmental Impact Report (EIR);
- Compilation of an EMP based on the recommended mitigation measures;
- Circulation of the draft EIR (incorporating the EMP) for a 30 day comment period among registered IAPs only;
- Compilation of an EIA phase Comments & Responses Report;
- Submission of documentation to DEAT (EIR, EMP, Comments & Responses Report, etc) for a decision<sup>2</sup>; and
- Notification of DEAT Record of Decision (RoD) and appeal process.

### 8.2 Assessment of Impacts

The significance of the project's impacts will be assessed and rated using detailed impact assessment methodology. Simply stated the **significance** of an impact is defined as a combination of the **consequence** of the impact occurring and the **probability** that the impact will occur. A detailed set of criteria will be applied to determine the consequence ratings of potential impacts. Impact significance will be rated both before and after mitigation so as to demonstrate the efficacy of the proposed mitigation measures in minimising the potential impact.

<sup>2</sup> If as a result of the public participation process the documentation released for public review has to be substantially revised then additional public participation activities may be required.

### 8.3 Comparison of Alternatives

Each alternative will be assessed in a similar level of detail using the methodology described above. Thereafter a comparison of the environmental acceptability (i.e. whether the impacts are acceptable or not) of the various alternatives will be undertaken with the environmentally preferred alternative being indicated. This will include a brief synopsis motivating the choice of preferred alternative. A comparison between the “no development” alternative and the proposed development alternatives will form part of this analysis.

### 8.4 Public Participation and Review

The activities and provisional timetable for the EIA phase and its public participation component are summarised in the table below. The EIA Phase of the project will take approximately 3 months to complete. The competent authority will be engaged with at several stages as reflected in the shaded rows of the table below.

Task	Start	Finish
<b>SCOPING PHASE (will be completed)</b>	<b>September 08</b>	<b>end October 08</b>
Submission and Approval of Scoping Report and Plan of Study	early November 08	Mid December 2008
<b>EIA PHASE</b>	<b>Mid Dec 08</b>	<b>March 09</b>
Draft EIR	mid Dec 2008	mid Jan 2009
Release EIR to public	Mid Jan 2009	
Public Comment Period	±15 Jan 2009	±15 February
Submission of EIR to DEAT	Early March 2009	
Record of Decision by DEAT	Late June 2009 (assuming DEAT takes 105 days)	

## 9 KEY FINDINGS & WAY FORWARD

### 9.1 Key Findings

The key findings of the Scoping Study are as follows:

- Based on forecasts which show the number of visitors to Cape Point increasing, SANParks has identified a need to upgrade the sewage treatment capacity at Cape Point.
- The current system is inappropriate for the projected volumes of sewage that will be generated in the near future and therefore a new package sewage treatment plant is proposed.
- The plant, operating according to the activated sludge treatment process, will treat effluent to meet the standards required in terms of the National Water Act (Act 36 of 1998) that are considered acceptable for discharging treated effluent into water courses and via irrigation.
- The site for the new plant will form part of the parking area and restaurant complex a Cape Point which is previously disturbed. The area surrounding the site is environmentally sensitive.
- Several alternatives have been considered including:
  - Not commencing with the proposed upgrade;
  - Connecting to the municipal sewerage network;
  - Two alternative sites both within the parking and restaurant complex.

- The proposed development may generate a suite of potentially significant environmental impacts. These are associated with the construction, operational and decommissioning and closure phases of the proposed activity.
- All the construction phase-related impacts can be effectively mitigated through the effective implementation of a construction phase EMP.
- Owing to the improved quality of treated effluent that will continue to be discharged in the same manner as at present, the likelihood of contamination of soils and groundwater in the vicinity of the soak-away system will be significantly reduced. Therefore the only potentially detrimental operational phase impact is the potential visual impact associated with the structure that will house the new sewage plant. This will be assessed in detail in the EIA phase.
- Potential impacts associated with the decommissioning and closure phase, should this ever occur, will also be addressed in the EMP.

### 9.2 Way Forward

This Executive Summary of the Scoping Report has been sent to all the potential IAPs. The Executive Summary notifies registered IAPs of the availability of the Scoping Report on the SANParks website. It also informs IAPs of the opportunity to register on the project database and to submit comments. Should IAPs either register and/or submit comment within the combined registration and comment period then they will be registered on the database and will be engaged further in the EIA process. Failure to register and/or submit comment by 25 October 2008 will result in the IAP being omitted from any further involvement.

Written requests for registration and/or comment must be submitted on or before **25 October 2008** to:

Mr Nick Steytler  
 Nick Steytler EAP  
 PO Box 22761  
 Scarborough, 7974  
 Fax 021 – 783 4565  
 email: nicksteytler@telkomsa.net

Should additional issues and concerns be raised that are not adequately reflected and/or addressed in the Scoping Report then the report may have to be revised and re-issued for IAP review. Should this occur then a further opportunity for IAPs to engage in the Scoping process may be provided. If not, the report along with the comments received by IAPs, will be submitted to DEAT for a decision regarding whether or not to accept the Scoping Report and the Plan of Study for EIA. Should DEAT accept the Scoping Report and Plan of Study for EIA then the EIA process will move into the second phase, the Impact Assessment phase, in accordance with the Plan of Study for EIA.

Upon request, electronic copies of the documentation can be emailed to IAPs (free of charge) and hard copies of the Scoping Report can also be mailed at a cost of R300 (incl VAT). Note costs are merely to cover the time and expenses associated with producing additional copies.

**NICK STEYTLER EAP**

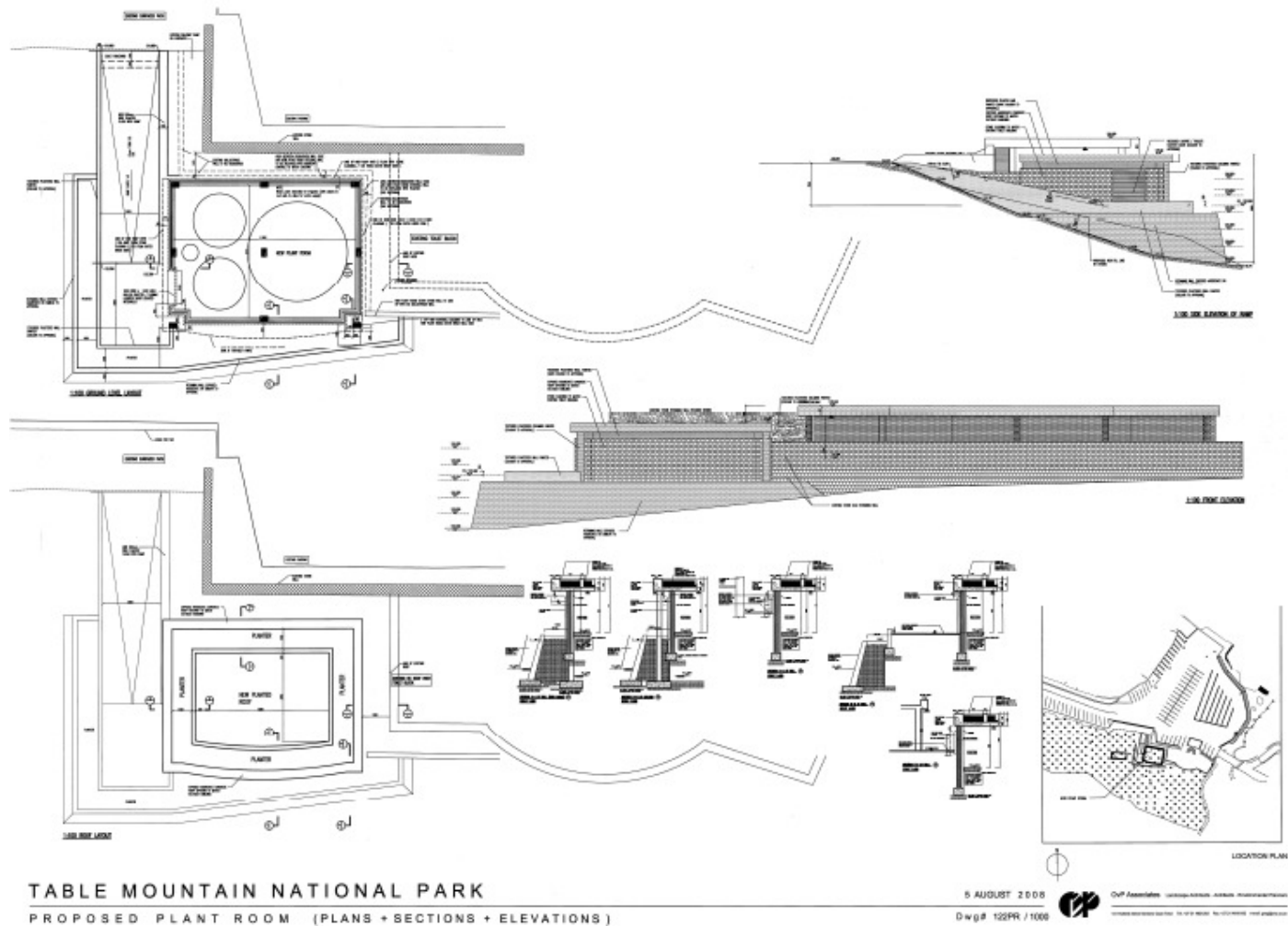


Figure 1: Engineering drawings showing the proposed sewage treatment plant