

**ENVIRONMENTAL IMPACT ASSESSMENT FOR  
THE PROPOSED UPGRADING OF THE  
STELLENBOSCH BULK WATER SUPPLY**

**Scoping Phase Study**

***BACKGROUND  
INFORMATION  
DOCUMENT***

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## ABBREVIATIONS USED IN THIS DOCUMENT

BID	Background Information Document
CCA	Crowther Campbell and Associates
CNC	Cape Nature Conservation
CSIR	CSIR Ematek
DEAT	Department of Environment Affairs and Tourism
EIA	Environmental Impact Assessment
GLS	Geustyn Loubser Streicher
I&APs	Interested and affected parties
IEM	Integrated Environmental Management
STC	Stellenbosch Town Council

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# STELLENBOSCH MAIN WATER SUPPLY SYSTEM

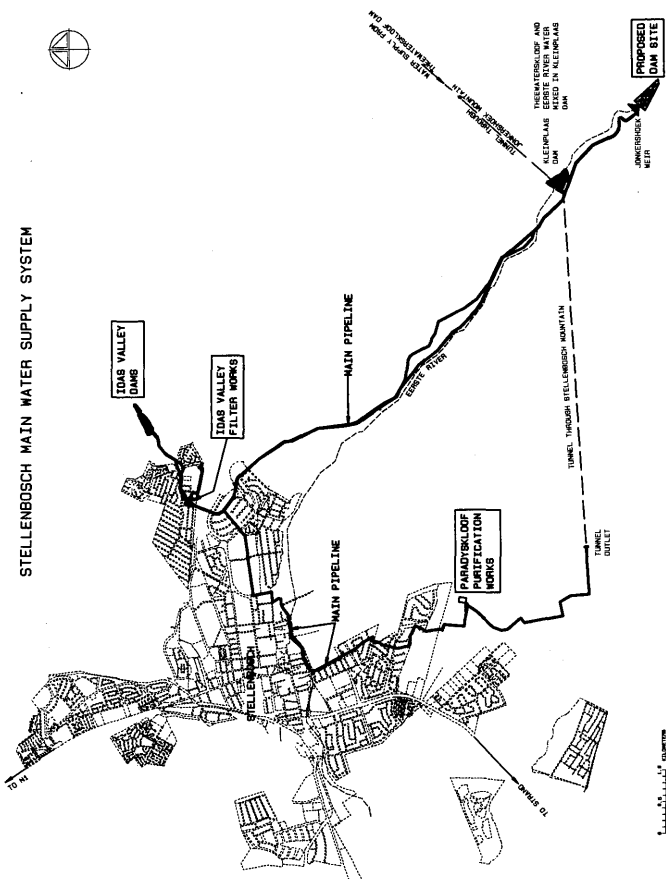


FIGURE 1

## 1. INTRODUCTION

An environmental impact assessment (EIA) has been initiated by the Stellenbosch Town Council for the proposed upgrading of the Stellenbosch Bulk Water Supply.

As the first step in the EIA, Crowther Campbell & Associates (CCA) has been commissioned to undertake the Scoping Phase Study. An independent consultant Dr Allan Heydorn has been appointed as the review consultant for the Scoping Phase Study.

### Why is the EIA required?

Stellenbosch obtains its water from two sources, namely the Eerste River and Theewaterskloof system. Distribution of the Eerste River water occurs through the Idas Valley Filter Works while that from the Theewaterskloof system, via the Kleinplaas Dam and Stellenbosch tunnel, is distributed through the Paradyskloof Purification Works. A simplified distribution system is illustrated in Figure 1.

In 1993 a firm of consulting engineers Geustyn Loubser Streicher Inc (GLS) were appointed by the Stellenbosch Municipality to undertake a Master Plan study with respect to the water distribution system of Stellenbosch. The study found that there were certain shortcomings with this water delivery rate from the Idas Valley and Paradyskloof works into the water distribution system. The most important of these were:

- there is a "bottle-neck" in the delivery of water from the Idas Valley storage dam to the Idas Valley Filter Works with the result that during the summer months there is a shortage of water delivered from the filter works into the distribution system, and
- that the Paradyskloof Purification Works reaches capacity during the summer peak water demand period and must be urgently extended to meet the future summer peak water requirements.

In light of the above GLS was appointed late in 1993 to undertake a further water supply study as a supplement to the Water Master Plan. This report was to address the following aspects:

- investigate the capacity of the Idas Valley Filter Works;
- investigate the delivery capacity from the Idas Valley storage dam to the filter works;
- a comparison of supply from the Eerste River with that from Theewaterskloof system; and
- a cost analysis with regards to the optimal utilization from the two sources.

In this study it was found that upgrading of various aspects of the existing water distribution system would be needed to meet the future water demands of Stellenbosch.

The proposed alternatives that were identified to meet the future demand include a combination of the following (see Figure 1):

- the construction of a new dam in the Jonkershoek Valley;
- upgrading of the existing Idas Valley storage dam;
- a supply transfer scheme from the Eerste River to the Theewaterskloof supply; and
- upgrading of both the Idas Valley and Paradyskloof treatment works.

Further details of the proposed alternatives are provided in Section 4 of this document.

Due to the potential environmental effects of the proposed alternatives and the need to have input from interested and affected parties in the selection of alternative options, the Stellenbosch Town Council have initiated this Scoping Phase Study as the first step of an environmental impact assessment for the proposed upgrading of the Stellenbosch Bulk Water Supply.

#### **Has an upgrading scheme been decided upon?**

No decision has been taken by the Stellenbosch Town Council with regards to the findings of the Water Supply Study undertaken by GLS. A decision to implement any combination of the alternative options will only be taken on completion of the EIA.

#### **What are the Terms of Reference for the Scoping Phase study?**

The Scoping Phase Study is to meet the following objectives:

- to follow a *formal public consultation* process - which includes involvement of all interested and affected parties (I&APs), recording of all concerns raised and identification of key issues to be addressed in the EIA; and
- to obtain *closure on key issues and alternatives* at the end of the scoping phase.

#### **What is the purpose of this document?**

The purpose of this document is to:

- outline the proposed process to be followed in the EIA;
- inform the interested and affected parties of how they can be involved;
- outline the roles to be played by various members of the Scoping Phase Study Team; and
- provide some information on the alternative water supply options that have been identified to date.

## 2. APPROACH TO THE EIA

### What process is going to be followed?

The EIA is to follow the principles of Integrated Environmental Management (IEM) developed by the Department of Environment Affairs and Tourism (Department of Environmental Affairs, 1992). The process to be followed consists of three phases:

- Phase 1: Scoping to identify issues to be addressed in the EIA
- Phase 2: Specialist studies to gather additional information required
- Phase 3: Integration of information and compile impact assessment

An open, participative approach is being followed. The interested and affected parties (I&APs) are invited to participate in the process and provide inputs at various stages.

The EIA process is illustrated on the flow diagram in Figure 2a-2c.

### Phase 1: Scoping

The aim of the Scoping Phase is to:

- ensure that all relevant I&APs have been identified and contacted;
- ensure that the process being followed is acceptable to I&APs;
- share available information on the proposed bulk water supply alternatives; and
- identify issues, concerns and alternatives for investigation in the following phases of the EIA.

The Scoping Phase involves inviting all interested and affected parties (I&APs) to submit their issues, concerns and alternatives to the Scoping Phase Study Team. A wide range of I&APs have been identified, including government and local authorities, business and industry, recreation organisations, environmental groups, the Stellenbosch Discussion Forum and affiliated organisations, and the media (see Appendix 1).

Based on the inputs from the I&APs, key issues and alternatives are identified for investigation in the following phases of the EIA.

If there are additional I&APs who you believe should be involved in the Scoping Phase Study, please inform the study team in this regard.

### Phase 2: Specialist studies

On completion of the Scoping Phase, specialist studies will be commissioned to assess the key issues which have been identified. Specialist studies will address key issues for all viable alternatives identified.

### Phase 3: Integration and impact assessment

The impact assessment phase integrates the information from the scoping and specialist studies phases into the Draft Environmental Impact Report (Draft EIR). The potential impacts of the various alternatives will be assessed and recommendations will be made to reduce any negative impacts or enhance positive impacts. An assessment of the residual impacts following the implementation of effective management actions, will also be provided.

The results of the Draft EIR will be presented to the I&APs and general public at an "open day" and remain on display in Stellenbosch for public review during the comment period. A three week period will be provided for comment on the Draft EIR.

Following the incorporation of comments from the I&APs, the Final EIR will be submitted to the client. The Final EIR will provide sufficient environmental information on the key alternatives to enable an informed decision to be taken by the Stellenbosch Town Council.

### **What are the roles of the members of the Scoping Phase Study Team?**

A cooperative, teamwork approach is being followed by the members of the Scoping Phase Study Team who are working in close consultation with Stellenbosch Town Council. The responsibilities of each member are listed below:

- **Crowther Campbell & Associates** will be responsible for the overall management and undertaking of the Scoping Phase study. CCA is to maintain a neutral and independent role during the scoping phase.
- **Geustyn Loubser Strelcher** are to provide technical and specialist input.
- **CSIR** will play an observer role throughout the scoping phase study and will comment on the various documentation produced.
- **Dr Allan Heydorn** is the independent review consultant for the Scoping Phase study.
- **Stellenbosch Town Council**, as the client, will attend project team meetings and the workshop meetings where necessary.

### **3. HOW YOU CAN BE INVOLVED**

#### **Do you want to register as an I&AP?**

Telephonic contact has been made with most I&APs identified thus far, to invite them to participate actively in the EIA process. If you still want to register as an I&AP contact Jonathan Crowther at the telephone number listed below.

#### **What meetings are planned?**

Information sharing meetings are planned to take place in January 1995. The times and venues for these meetings are:

- Workshop 2: Government authorities and Jonkershoek Environmental Forum  
Wednesday 18 January 1995  
14h00 at the Stellenbosch Library Hall
- Workshop 3: Other I&APs  
Wednesday 25 January 1995  
14h00 and 17h30 at the Stellenbosch Library Hall

#### **Is there another way to contribute to the scoping phase?**

Comments can be submitted in writing to the Scoping Phase Study Team at the address listed below. You can also telephone Jonathan Crowther at the number listed below with your concerns.

#### **Will results of the scoping phase be open for comment?**

The results of the scoping phase will be compiled into a Draft Scoping Report. This will be available for comment, and the comments compiled into a short comment report. A final Scoping Document will be compiled and made available to I&APs.

#### **Who should you contact?**

##### **Jonathan Crowther**

Scoping Phase Study Team  
c/o Crowther, Campbell and Associates  
3 Roeland Terrace  
Off Roeland Street  
CAPE TOWN  
8001

Tel (021) 461-1118  
Fax (021) 461-1120



## 4. ALTERNATIVE WATER SUPPLY OPTIONS

GLS investigated various alternatives for the upgrading of the water supply to Stellenbosch in their report "Stellenbosch Waterbronnestudie" of September 1994. Both sources, i.e. the Eerste River and Theewaterskloof, serve defined sections of the town's distribution system, but have shortcomings and need to be upgraded urgently. Altogether 13 alternatives were investigated, which fall into three broad schemes. These are listed below:

- A scheme where the expansion of the Theewaterskloof source, via the Paradyskloof purification works, is kept to an absolute minimum, with the deficit being made up by **additional storage of Eerste River water** and pumped transfer of this water to the Theewaterskloof section of the town's distribution system.
- A scheme where just enough additional storage of Eerste River water is provided for the Eerste River section of the town's distribution system, and just enough additional capacity is created at the Paradyskloof purification works for the Theewaterskloof section of the town's distribution system.

In these schemes, where storage of Eerste River water is required, two options were considered, namely, enlargement of the existing Idas Valley earth dam and a new dam in the Jonkershoek Valley.

- A scheme where **no further storage of Eerste River water is provided**. The deficit in supply from the Eerste River is made up by additional purchasing and purification of Theewaterskloof water, and pumped transfer of this water to the Eerste River section of the town's distribution system.

Based purely on technical and financial considerations the GLS study found that:

- Schemes which made maximum use of Eerste River water were more economical. Despite the initial capital outlay for storage of Eerste River water, large savings would be made in the running costs which would be lower than that of purchasing and purification of Theewaterskloof water.
- A new dam in Jonkershoek is preferable to the enlargement of the Idas Valley dam, since there is a limit to the extent by which the Idas Valley dam can be enlarged. In addition, about 12 km of main pipeline would have to be installed at high cost to ensure that the enlarged Idas Valley dam can be filled during the winter months.

## Appendix 1 List of I&APs

Note: If there are additional I&APs who you believe should be involved in the EIA, please send the names of the organisations, contact names, addresses, telephone and fax numbers to Jonathan Crowther at the address on the cover of this document.

<p><b>CLIENT</b> Stellenbosch Town Council</p> <p><b>CONSULTING TEAM</b> Crowther Campbell and Associates Geustyn Loubser Streicher CSIR Ematek</p> <p><b>INDEPENDENT REVIEW CONSULTANT</b> Dr Allan Heydorn</p> <p><b>AUTHORITIES</b> Dept of Environment Affairs and Tourism Dept of Water Affairs and Forestry Dept of Land Affairs Dept of National Health and Population Development Dept of Environment, Nature Conservation and Tourism (WC Region) Western Cape RSC (local) Western Cape RSC (regional) CEA Cape Nature Conservation Stellenbosch Town Council National Monuments Council Cape Town City Council Eerste River Irrigation Board</p> <p><b>BUSINESS AND INDUSTRY</b> Boland Chamber of Commerce Boland Chamber of Industries Stellenbosch Publicity Association Winelands Regional Development Association Weskaapse Landbou Unie Stellenbosch Sakekamer Stellenbosch Farmers Winery Gilbeys Dennis Moss Associates Stellenbosch Chamber of Business</p> <p><b>RECREATION ORGANISATIONS</b> Cape Piscatorial Society Mountain Club of SA Cape Bird Club WP Canoe Association Stellenbosch Hiking Club Berg en Toer Klub - Stellenbosch Universiteit</p>	<p><b>ENVIRONMENTAL GROUPS</b> Botanical Society of South Africa Southern African Nature Foundation (WWFSA) Wildlife Society Earthlife Africa Habitat Council Environmental Monitoring Group Cape Wetlands Trust Jonkershoek Environmental Forum Green Coalition National Botanical Institute</p> <p><b>STELLENBOSCH DISCUSSION FORUM</b> African Christian Democratic Party African National Congress Democratic Party Eikestad Residents Association Freedom Front Jamestown Area Committee Jamestown Action Group Jamestown Civic Association Johannesdal Management Committee Kaya Mandi Town Council Klapmuts Steering Committee Klapmuts Civics Kylmore Management Committee Kylmore Ratepayers and Residents Association National Party Pan African Congress of Azania SA National Civics Organisation Stellenbosch Housing Action Committee Stellenbosch Ratepayers Association</p> <p><b>MEDIA</b> Eikestadnuus Die Burger Argus Cape Times Sunday Times Metro SABC Radio News</p>
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## **Appendix 2 List of key references relevant to the EIA**

These references provide an overview of the information on the upgrading of the Stellenbosch Bulk Water Supply. They will be available for review at the information sharing meetings and at the Stellenbosch Municipal Library.

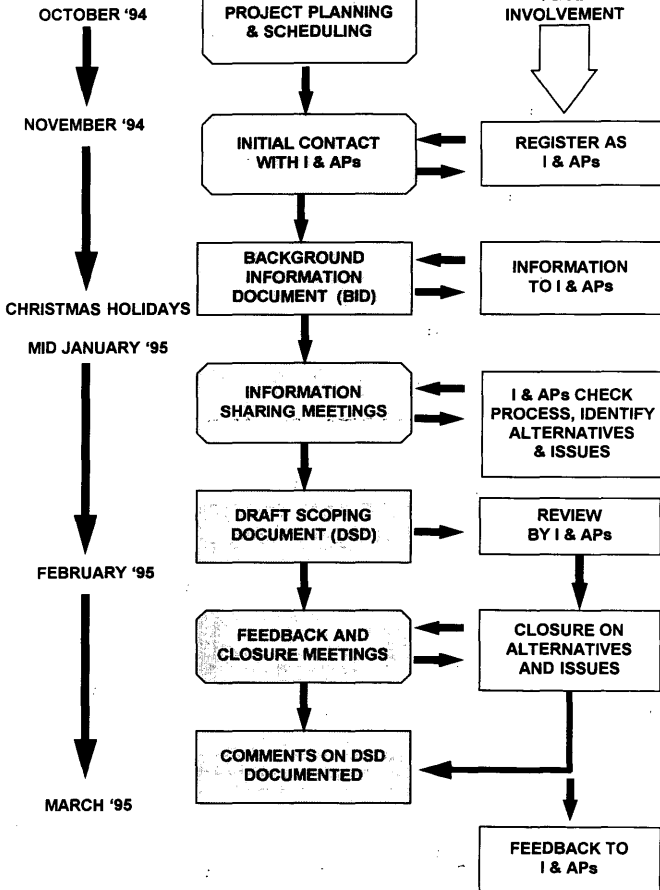
- Stellenbosch Munisipaliteit: Rekenaar-analise en Meesterbeplanning van Waterverspreidingsstelsel. Geustyn Loubser Streicher, June 1993.
- Stellenbosch Munisipaliteit: Waterbronnestudie. Geustyn Loubser Streicher, September 1994.
- Riviersonderend-Bergrivier Staatswaterskema: Watervoorsiening Stellenbosch Munisipaliteit. Department of Water Affairs and Forestry. August 1975.
- Department of Environmental Affairs, 1992. The Integrated Environmental Management procedure.

# STELLENBOSCH BULK WATER SUPPLY EIA PROCESS FLOW DIAGRAM

## PHASE 1: SCOPING



I & AP  
INVOLVEMENT



KEY: **PROCESS** **PRODUCT**

FIGURE 2A

# STELLENBOSCH BULK WATER SUPPLY EIA PROCESS FLOW DIAGRAM

PHASE 2:  
SPECIALIST  
STUDIES



I & AP  
INVOLVEMENT

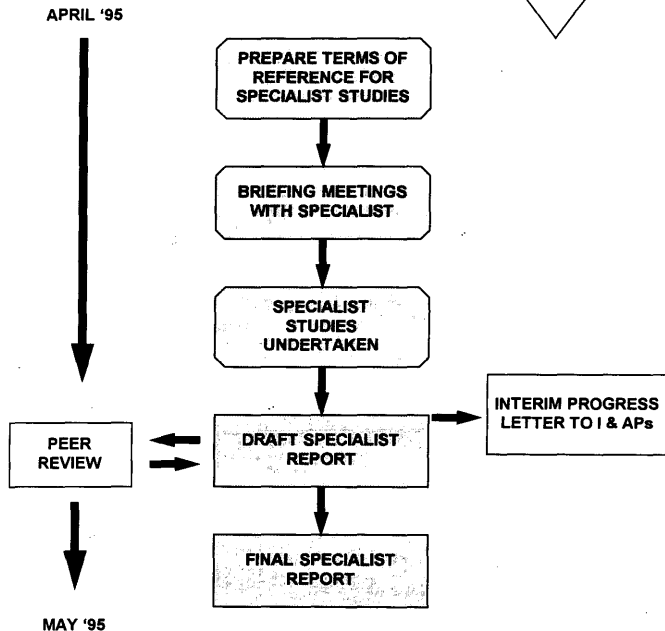


FIGURE 2B

