



**STELLENBOSCH**  
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MUNISIPALITEIT • UMASIPALA • MUNICIPALITY

# CEMETERY FEASIBILITY STUDY

STELLENBOSCH MUNICIPAL AREA

## Consultative Draft 1

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# 1 GENERAL BACKGROUND

The provision and maintenance of cemeteries, funeral parlours and crematoria is a function vested in local government in terms of Schedule 5 (Part B) of the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996). In fulfilling its local government responsibility regarding cemeteries the Stellenbosch Municipality recognised the need for an integrated cemetery planning approach. In order to prevent a future shortage of burial space the Municipality embarked on a feasibility study to identify possible sites for new cemeteries and the upgrading of existing cemeteries.

The Municipality has therefore appointed Dennis Moss Partnership during January 2006 to undertake a desktop study to identify possible municipal land, determine the feasibility of developing individual sites as cemeteries and to formulate general development and management proposals.

## 1.1 PURPOSE OF THIS DOCUMENT

The primary purpose of this document is:

- a) Drafting a spatial plan, based on a desktop study of the inventory of municipal land and associated documentation, of municipal land suitable for development of new cemeteries and expansion of existing cemeteries;
- b) Identifying site options through a *Strategic Environmental Assessment* (SEA) of suitable municipal land;
- c) Evaluate individual sites by making use of site-specific criteria in order to determine the suitability of each site from a social, economic, environmental and aesthetic perspective; and
- d) Formulate general development and management proposals.

## 1.2 WHAT IS STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)?

Although there are at present limited legislative support for Strategic Environmental Assessments (SEAs) and therefore little incentive for municipalities to implement it, it is becoming an accepted and widely used instrument for integrating environmental issues into the formulation of plans and programmes. SEAs can add value to municipal



Integrated Development Plans (IDPs) required in terms of the Municipal Systems Act, (Act 32 of 2000) by providing a practical guide to integrating the concept of sustainability into the planning process.

The Department of Environmental Affairs and Tourism (2000) define SEAs as a process of integrating the concept of sustainability into strategic decision-making. It is also seen as a '*structured, proactive process to strengthen the role of environmental issues in strategic decision-making*' (Tonk and Verheem, 1998) and aims to integrate environmental (biophysical, social and economical) considerations into the earliest stages of policy, plan and programme development (Sadler, 1995).

### 1.2.1 KEY CONCEPTS UNDERPINNING A SEA

The approach to performing SEA's should be:

- a) **Context-specific:** The process for a SEA should be informed by the context, (e.g. the political, institutional, social and biophysical environment) in which the plan or programme is being developed. The SEA should therefore be adapted to local requirements for decision-making.
- b) **Integrative:** The integrative approach aims to avoid the duplication of processes. The focus is on adding value to existing procedures and minimising the need for additional human and financial resources. The principles and key elements should therefore be integrated into current procedures for the formulation of policies, plans and programmes. This integration will assist in moving towards sustainability at the strategic level.
- c) **Sustainability-led:** This ensures that the concept of sustainability is included into plan and programme formulation from the beginning. This approach to SEA aims to facilitate local definitions of sustainability, as well as the formulation and implementation of strategies to achieve this.

## 2 GENERAL CONTEXT INFORMING CEMETERY FEASIBILITY STUDY

### 2.1 WHAT CONSTITUTE A CEMETERY AND WHAT IS ITS VALUE?

#### 2.1.1 DEFINITION OF A CEMETERY

A cemetery is defined by the Oxford dictionary as *an area of land used for burying dead people, especially one that is not beside a church*. The Stellenbosch Municipality Burial Park By-Law (P.N. 109/1983) makes provision for a *burial ground* and defines it as *land on which the Council has established a burial park and which has been set aside as such by resolution of Council*.

Cemeteries, or burial grounds or parks, not only provide vital connections to our deceased loved ones, but are also an important part of any community's heritage. It is important to see cemeteries in context of one of the most important human needs, namely to be remembered. It is therefore necessary for the municipality to provide not only a basic service of *establishing, conducting and controlling cemeteries*, but to create and maintain an environment that will treat all of our ancestors with the necessary dignity and respect they deserve.

It has been said that the *dignity shown to humans even centuries after their death can contribute more than any scientific enquiry to the advancement of human civilisation and to the enhancement of the respect in which human beings hold each other* (Chief Rabbi of York – England, 1998). Graves and burial grounds, with specific reference to ancestral graves, royal graves and graves of traditional leaders, graves of victims of conflict, and historical graves and cemeteries form part of our national estate protected in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999). However, if we, as a society, do not respect those who are dead, despite who they might have been, we may weaken our respect for living people and for their beliefs and customs. Our cemeteries, which act as proof of us being here and playing a role in forming our society, should be important to us as part of our community's history.

The cemeteries and burial grounds of Stellenbosch Municipality should therefore form part of our national estate in terms of section 3(3) of the National Heritage Resources Act, 1999

(Act 25 of 1999) due to the fact that it has cultural significance or other special value because of:

- a) its importance in the community;
- b) its potential to yield information that will contribute to an understanding of South Africa's (or more specific Stellenbosch's) cultural heritage;
- c) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; and its
- d) significance relating to the history of slavery in South Africa and specifically the Stellenbosch municipal area.

## **2.1.2 CEMETERY COMPONENTS AND THEIR HERITAGE VALUES**

All cemeteries have social and historic values and most have a greater or lesser degree of aesthetic and scientific values<sup>1</sup>. In order to promote and maintain our cemeteries and burial grounds as part of not only our national estate, but as part of our community's history, the Municipality should strive to promote, enhance, protect and / or establish these components and values.

### **2.1.2.1 HISTORICAL VALUES**

A cemetery is an historic record of a particular society, e.g. Stellenbosch community. Through its establishment and use, a cemetery documents earlier settlement patterns and the development and growth of a community. The graves and monuments provide important demographic data about a community. Cemeteries often contain monuments that commemorate significant events in a local community such as a war or epidemic. Cemeteries can also have historical significance by virtue of the graves of noted individuals who have made important contributions to the community.

### **2.1.2.2 SOCIAL VALUES**

Cemeteries have an important commemorative function within a community. The community often attaches attitudes and values to the graves such as respect or reverence. Many cemeteries hold a special significance for individuals or communities as a result of

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<sup>1</sup> The various *Cemetery Components and Their Heritage Values* are quoted from the National Trust of Australia's (NSW) *Guidelines for Cemetery Conservation* ([www.nsw.nationaltrust.org.au/cemsvalue.html](http://www.nsw.nationaltrust.org.au/cemsvalue.html))

personal sentiment and / or attachment to those buried within the cemetery. War graves are an example of graves that are often considered socially significant to the whole community, e.g. historic De Novo cemetery (refer to Section 3.6).

### **2.1.2.3 RELIGIOUS VALUES**

Cemeteries reflect the religious beliefs and customs of different sections of the community. These are demonstrated in the customs and rituals associated with burial and commemoration (refer to the traditions of, amongst others, the communities of Kylemore, Pniel, Lanquedoc and Klapmuts). Religious adherence and beliefs can change over time, and this is often reflected in the monuments and layout of the cemetery. Certain sections of a cemetery may also have significance for particular religious groups and also for individual, e.g. Jewish cemetery as part of Papegaaiberg-cemetery. It may contain chapels or perhaps burials of a particular religious group.

### **2.1.2.4 GENEALOGICAL INFORMATION**

Nearly all monuments record genealogical information. Some headstones provide further biographical information such as personal history and cause of death. Grouping of monuments often indicates family connections and consequently grave markers should not be considered in isolation.

### **2.1.2.5 ARTISTIC, CREATIVE AND TECHNICAL ELEMENTS**

Many cemeteries reflect both the changing attitude of the community towards death and developments in architectural and artistic style and theory. Artistic values can be found in the landscape design and layout of the cemetery, and in the monument styles, grave surrounds and grave furniture.

### **2.1.2.6 SETTING AND LANDSCAPE DESIGN**

A cemetery is often significant on account of its relationship to the natural or built environment. It may be a prominent feature of the landscape or it may be located adjacent to a church or form a significant element within a townscape. Sometimes several cemetery components (such as its setting, vegetation and monuments) may combine to

give it a nostalgic or restful quality that is appreciated by a particular group, while overall landscape quality is determined by the combined effect of setting, landscape design and botanical elements.

#### **2.1.2.7 BOTANICAL AND LIFE-SUPPORT ELEMENTS**

Cemeteries could contain significant remnants or indications of the original natural vegetation, while early burial grounds often contain a variety of plantings which are no longer evident elsewhere. Extant evergreen trees, bulbs, roses and other original grave or landscape plantings should therefore contribute to the cemetery's visual and nostalgic quality. Cemeteries could therefore provide a valuable resource as a botanical collection or as a source of rare specimens of indigenous plants. The abundance of botanical life may also attract certain animal species.

#### **2.1.2.8 HUMAN REMAINS**

The human remains in a cemetery are not generally visible but they comprise a major element of heritage significance. Reasons for their importance include archaeological and scientific potential, issues of religious belief, their meaning to relatives and general community respect for our ancestors. These issues should remain relevant for unmarked graves and for burial areas cleared of previous monuments, as well as marked grave sites.

## **2.2 LOCAL GOVERNMENT RESPONSIBILITY REGARDING CEMETERIES**

The establishment, conduct and control of cemeteries and crematoria serving the area of a local municipality only, e.g. Stellenbosch municipal area (refer to Figure 1 on page 9), is in terms of Schedule 5 Part B of the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996), a shared function between national government and provincial government, district and local municipalities.

The establishment, conduct and control of cemeteries and crematoria serving the area of a major proportion of municipalities in a district are a function that the District Municipality must perform (Section 84[1] of Act 108 of 1996). This function can however be divided between Category C and Category B municipalities (Section 154[3][c]). According to the



Municipal Demarcation Board (2003) the establishment, conduct and control of cemeteries is a function of high importance and must therefore be delivered. The performance of functions that is to be shared between local and district municipalities may be adjusted after taking into consideration any capacity constraints in the administration. With this in mind, the responsibilities as summarised in Table 1 are applicable with regard to the establishment, conduct and control of cemeteries and crematoria.

**Table 1: Responsibilities of provincial government, district and local municipalities with regard to the shared function regarding cemeteries and crematoria**

<b>PROVINCIAL RESPONSIBILITY</b>	<b>DISTRICT RESPONSIBILITY (Cape Winelands District Municipality)</b>	<b>LOCAL RESPONSIBILITY (Stellenbosch Municipality)</b>
<p>1) The provincial legislature has the power to pass legislation with regard to any matter within the functional areas listed in Schedules 4 and 5. A provincial government must therefore:</p> <p>a) Determine if existing legislation does exist and its current applicability and constitutionality;</p> <p>b) Determine the need for a review of such legislation or the drafting of new legislation;</p> <p>c) Build capacity of municipalities to perform this function;</p> <p>d) Monitor performance of the municipality in exercising its executive and legislative authority pertaining to this function;</p> <p>e) Ensure that the performance of this function is addressed in the municipality's IDP; and</p>	<p>1) Must exercise any power concerning, or incidental to, the effective performance of this function in so far as the district performs the function in a major portion of municipalities in the district.</p> <p>2) Must develop an overall strategy and plan for the district as a whole to perform this function, taking into account geological formations, ground water conditions and any other factor relevant to the environment and health issues.</p> <p>3) Determine a service delivery mechanism for the performance of the function (internal or external).</p> <p>4) If performed internally, develop or maintain the capacity to perform the function.</p> <p>5) Make provision for the function in the IDP.</p>	<p>1) Must exercise any power concerning, or incidental to, the effective performance of this function in the area of the local municipality.</p> <p>2) Determine a service delivery mechanism for the performance of the function (internal or external).</p> <p>3) If performed internally, develop or maintain the capacity to perform this function.</p> <p>4) Make provision for the function in the IDP.</p> <p>5) Make provision for this function in the operating budget.</p> <p>6) Include indicators in the performance management system.</p> <p>7) May make and administer bylaws in terms of section 156(2) of Act 108 of 1996.</p> <p>8) Perform the function for the district if authorized by the MEC of the Province.</p>

<p>f) Adjust the performance of the function to a local municipality if there is a lack of capacity and if the Municipal Demarcation Board so recommends, and <i>visa versa</i>.</p>	<p>6) Make provision for this function in the operating budget.</p> <p>7) Make and administer bylaws in terms of 156(2) of Act 108 of 1996.</p> <p>8) To build the capacity of the local municipalities in its area to perform the local function where capacity is lacking.</p> <p>9) Perform this function in the District Management Area as per the responsibilities listed here for the local municipalities.</p> <p>10) To refine this function if authorized by the MEC for the Province or legislation is enacted.</p>	<p>9) Ensure coordination with related functions such as traffic, parking, parks and recreation.</p>
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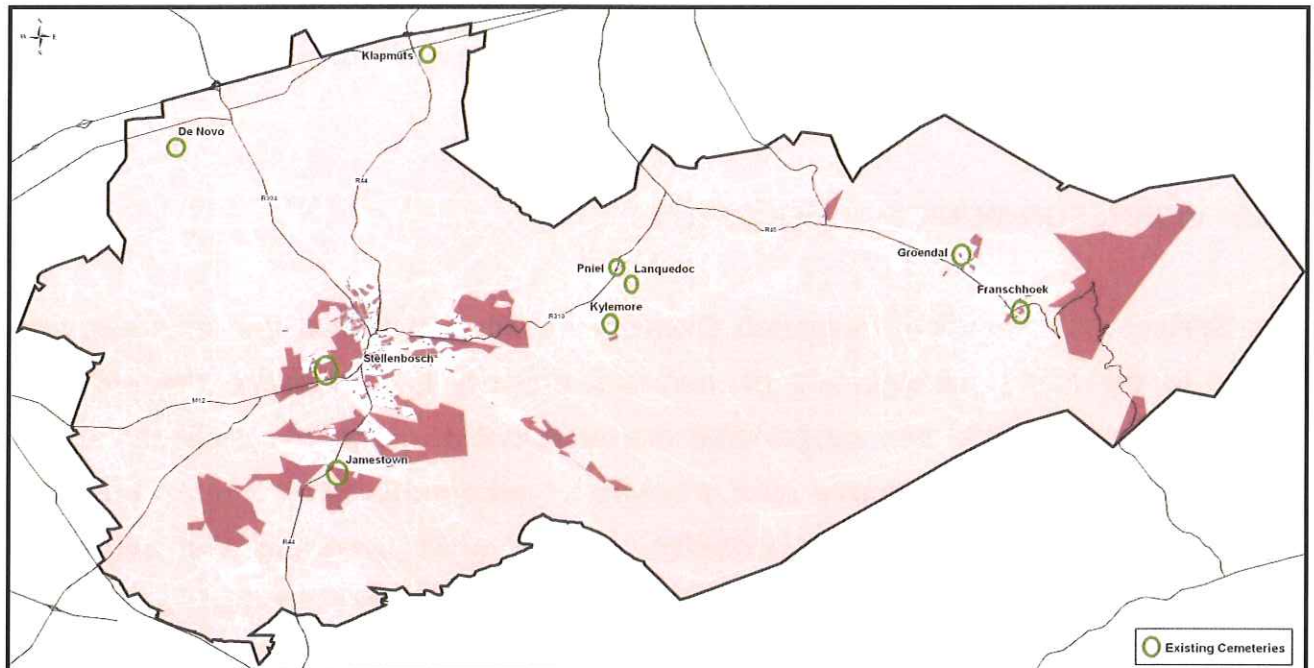
### 2.3 STELLENBOSH MUNICIPALITY BURIAL PARK BY-LAW

The Stellenbosch Municipality drafted the *Burial Park By-Law* (P.N. 109/1983) in order to fulfil their function with regard to the provision, conduct and control of cemeteries for their jurisdictional area in terms of Schedule 5 Part B of the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996). All the cemeteries and burial parks under the control of the Stellenbosch Municipality are managed in terms of this by-law (refer to Annexure 2).

The by-law lays down specific guidelines regarding internments, memorial work, memorials for cremations and the general behavioural rules and regulations. The municipal staff dedicated to the maintenance and management of the various cemeteries and burial parks does however not always enforce this. In proposing management guidelines regard should therefore be had to the guidelines set out in the *Burial Park By-Law*.

## 2.4 STELLENBOSCH MUNICIPAL PROPERTY PORTFOLIO

It is important to note that the cemeteries and burial parks forms part of the Stellenbosch Municipality's property portfolio. The cemetery feasibility study should therefore also take note of what is envisioned for the Municipality's property with regard to how it should be managed.



**Figure 1: Existing cemeteries (green circles) in context of Stellenbosch Municipality's properties (properties with brown shading).**

The Stellenbosch Municipality's property portfolio consists of approximately 1800 properties (refer to Figure 1) and include lease farms, service delivery properties (e.g. offices, depots, clinics, libraries, sport facilities, cemeteries, etc.), housing properties (e.g. low cost houses) and vacant land.

### 2.4.1 WHAT CONSTITUTES MUNICIPAL PROPERTY

Municipal property refers to immovable land and buildings registered in the Deeds Office in the name of Stellenbosch Municipality as well as property vested in the Municipality by virtue of its status as public streets, public places, public servitudes, public engineering infrastructure and any other immovable property deemed to vest in the Municipality in terms of the Municipal Ordinance, 1974 (Ordinance 20 of 1974).

Municipal property is also described in terms of its role in service delivery, its various forms of acquisition and ownership, and in terms of its role as a tradable asset. In terms of the role of municipal property in service delivery it is important to note that these properties has a key role to play in providing accommodation for the range of activities involved in delivering municipal service, with specific reference to cemeteries, crematoriums and funeral parlours. Managing municipal properties from this perspective implies that strategic issues such as policy formulation and long-term needs assessment together with operational issues such as maintenance, security and best use must be addressed by the Municipality.

## 2.4.2 VISION FOR MUNICIPAL PROPERTY

The Stellenbosch Municipal Integrated Development Plan state that the main aim with regard to the future management of municipal property is to ***‘ensure the efficient, equitable, accountable and sustainable management of municipal property’*** and to ***‘provide and maintain effective infrastructure of acceptable quality in an efficient, affordable and environmentally sensitive manner’*** while ***‘ensuring that economic development is stimulated and employment opportunities are created to eradicate poverty...’***.

With due recognition of the above guiding aims the identified aspirations and needs of the municipality and community, and the identified place-specific environment, social and economic constraints and opportunities, the following vision and mission was proposed for the Stellenbosch Municipal Land Management Plan, namely (Hills, 2004):

### VISION

*We, the elected representatives and officials of the Municipality of Stellenbosch, hereby acknowledge our responsibility as custodians of immovable property held in trust on behalf of our community and recognise the worth of such property as a value-gaining asset and as a resource in pursuing objectives of sustainable development for current and future generations.*

### MISSION

*We undertake to approach the management of our public property with due regard to the need to fairly, justly, efficiently and effectively balance objectives of social upliftment, economic development and conservation in a sustainable manner, and to do so in consultation with the community at large.*

A number of objectives, fundamental values and principles with regard to the achievement of the stated vision and subsequent future management of municipal property have been identified. The Stellenbosch Municipality has therefore committed itself to:

- a) Accountable, transparent and open administration;
- b) Responsiveness to community needs and inclusive involvement of stakeholders;
- c) Efficient and effective management based on best practice;
- d) Integration with Integrated Development Plan and other relevant policies and objectives;
- e) Pro-active planning for appropriate social, economic and spatial development;
- f) Efficient and effective accommodation of service delivery operations;
- g) Capitalise on benefits obtainable through advantageous partnerships;
- h) Environmental sustainability of programs and projects; and
- i) Protection and enhancement of asset portfolio.

## **2.5 IDENTIFICATION OF POSSIBLE SITES FOR EXPANSION OR CITING OF NEW CEMETERIES**

The ever-increasing rate of urbanisation, the steady occurrence of informal settlements and the impact of HIV/AIDS on communities, contribute to the increase of indiscriminate placing of cemetery sites. Cemeteries also form an essential part of a community's tradition and culture and it is imperative that appropriate burial space should be provided within an acceptable distance to a particular community (e.g. 2,5 km for rural communities and between 5 km to 20 km for urban communities). The need for a strategic approach towards cemetery provision is thus critical for the Stellenbosch Municipality.

Due to the fact that the acquisition of suitable land from private entities or individuals could become an unnecessary expensive exercise this study focussed mainly on portions of land owned by the Stellenbosch Municipality. The entire Municipal Property Portfolio was extensively investigated during the desktop study of all municipal land and associated documentation.

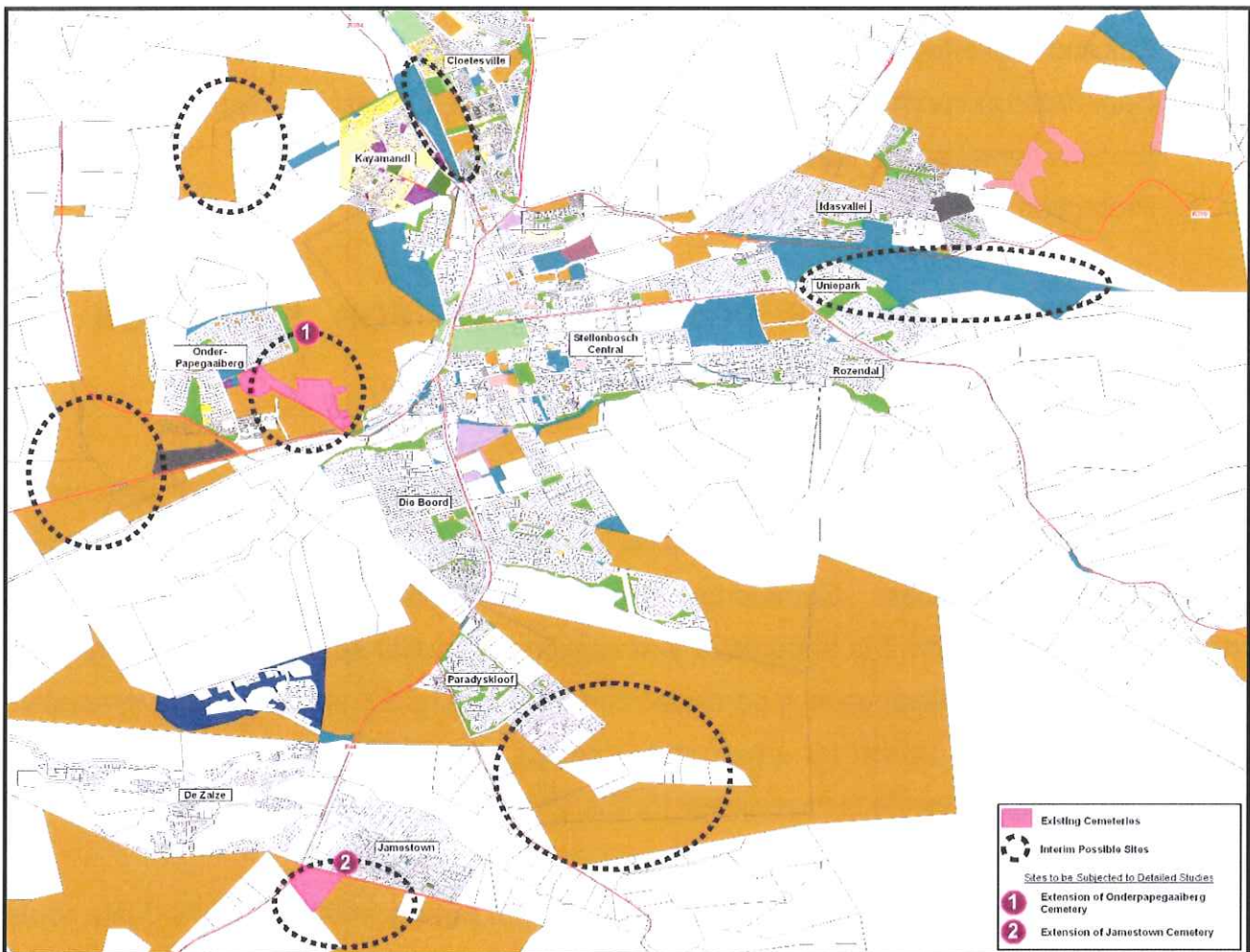
The basic criteria used in the desktop study for identifying potential cemetery sites included the following:

- a) Zoning of municipal property;
- b) Current land use and whether it is leased;



- c) Location in relation to existing cemeteries;
- d) Location in terms of people to be served; and
- e) Land to be transferred to Stellenbosch Municipality by various government institutions.

The result of the desktop study was the preliminary identification of 21 potential sites within the Stellenbosch municipal area. Seven possible sites were identified within the town of Stellenbosch (refer to Figure 2).



**Figure 2: Potential Sites identified during the desktop study of municipal properties in Stellenbosch.**

In the Dwarsriver Valley four possible sites were identified of which one was located in Kylemore, two in Pniel and one at the intersection of the R310 and the R45 (refer to Figure 3). Eight sites were identified in Franschhoek and environs. Two sites are situated at the intersection of the R45 and the Wemmershoek Road, three sites have been identified near the La Motte and Maasdorp Villages and the remaining three sites are located in the town of Franschhoek (refer to Figure 4).

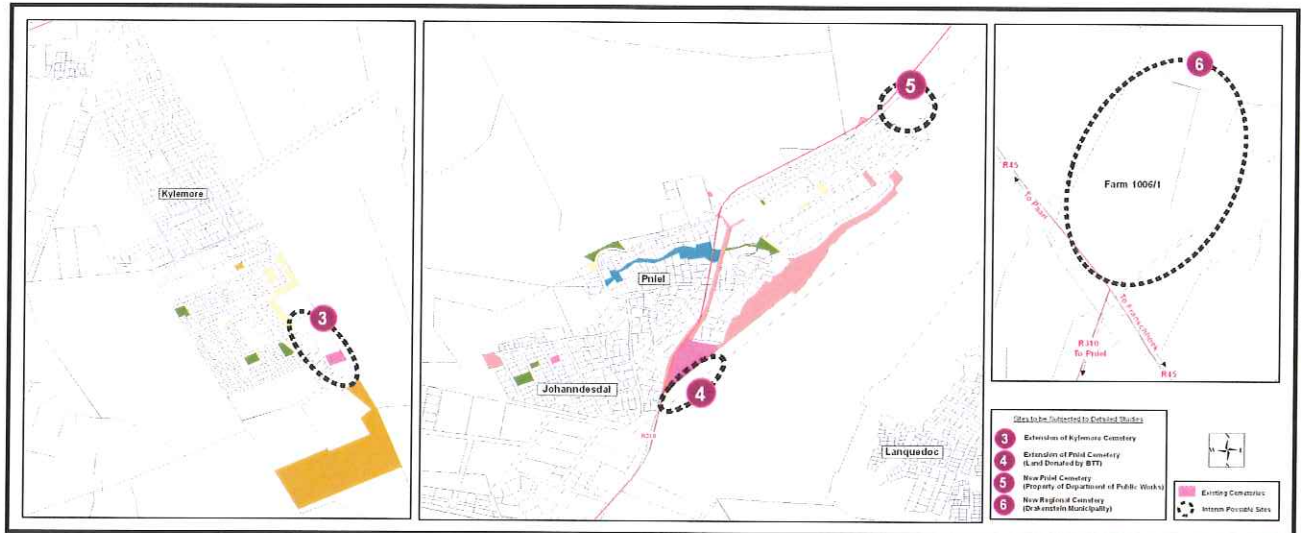


Figure 3: Potential Sites identified in the Dwarsriver Valley.

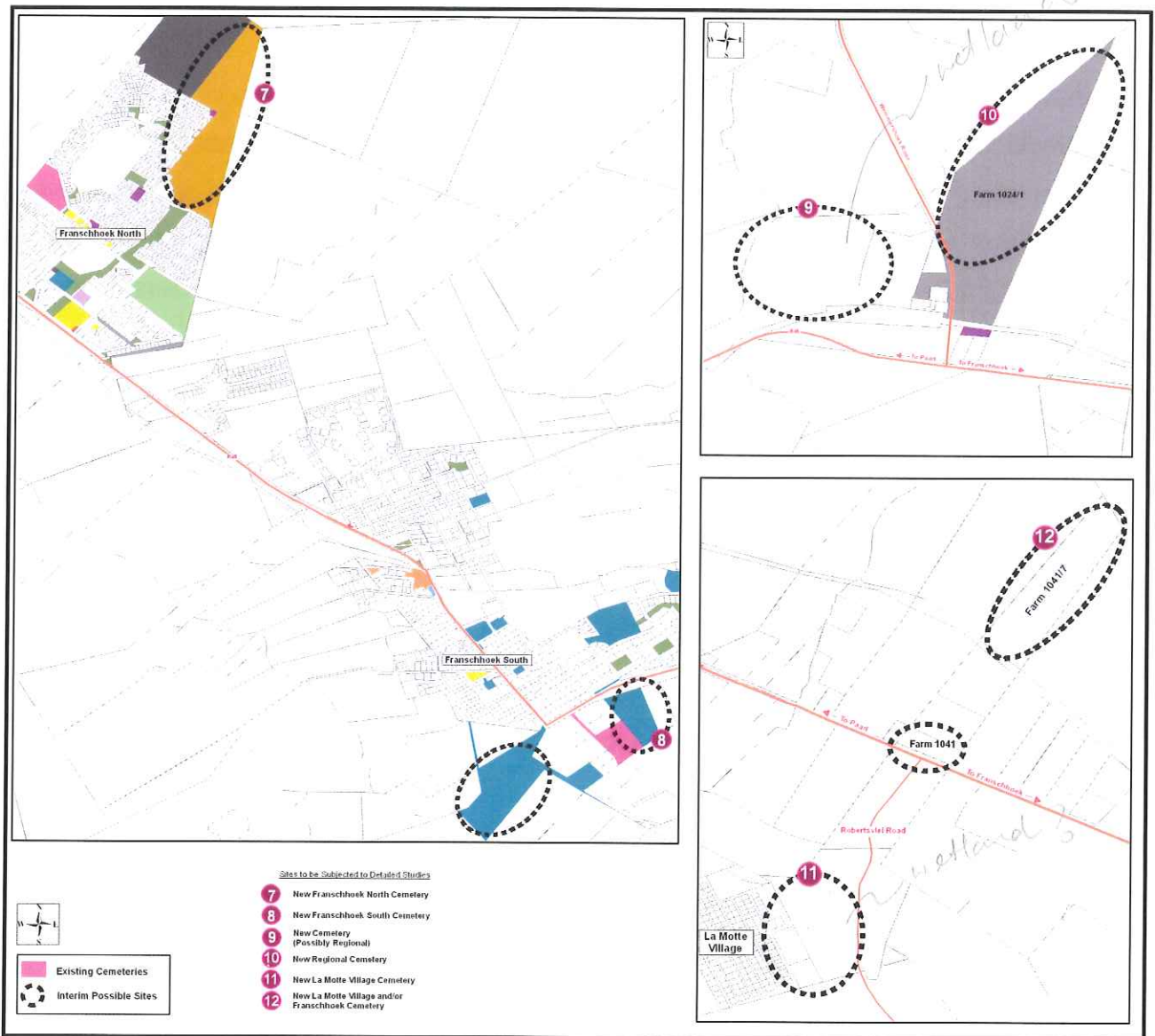


Figure 4: Potential Sites identified in the Franschhoek Environs.



The remaining two sites were identified in De Novo and Klapmuts (refer to Figure 5).



**Figure 5: Potential Sites identified in De Novo and Klapmuts.**

Site visits revealed a number of aspects regarding strategic importance of particular sites with specific reference to municipal service delivery. These strategic land portions were therefore eliminated as possible cemetery sites. Fourteen potential development sites remained that were subjected to detailed site-specific studies in order to determine the suitability of each site from a social, economic, environmental and aesthetic perspective.

The fourteen potential development sites that were subjected to detailed site-specific studies are indicated on Figures 2 – 5 and numbered #1 to #14.

### 2.5.1 EVALUATION CRITERIA

The identification and evaluation of each possible site was undertaken in accordance with a basic code of environmental ethics and a system of values. In this regard, each aspect or land portion was evaluated in accordance with the following basic questions:

- |    |                             |  |
|----|-----------------------------|--|
| a) | <b>Intrinsic Value –</b>    | <i>What is the good of the particular land portion?</i>                                |
| b) | <b>Instrumental Value –</b> | <i>What is the particular land portion good for?</i>                                   |
| c) | <b>Systemic Value –</b>     | <i>What is the contribution of the portion of land to the health of the ecosystem?</i> |
| d) | <b>Current Status –</b>     | <i>What is the current status of the particular portion of land?</i>                   |

- e) **Vision –** *What could the portion of land look like if it was restored to pristine form?  
(What did the portion look like in its pristine form?)*

Potential cemetery sites must, in order to ensure performance, adhere to a number of technical and environmental criteria, especially pertaining to ground and surface water pollution, and impact on ecological and heritage resources. **It is important to note that a comprehensive site investigation which focus on aspects pertaining to geology, pedology, hydrology and environmental specifications and conditions will be required as part of the Environmental Impact Assessment before a particular site will be rezoned for cemetery purposes** (refer to Annexure 3 for a summary of detailed aspects requiring proper investigation). The criteria listed below were therefore applied to determine and evaluate the overall feasibility of the potential sites and any general environmental constraints:

- (i) General geo-hydrological aspects
- (ii) Topography
- (iii) Occurrence of indigenous plant and animal habitats
- (iv) Conservation importance of ecological systems and habitats
- (v) Potential for ecological rehabilitation
- (vi) Accessibility
- (vii) Land availability in context of competing uses, opportunity cost and acquisition feasibility with regard to ownership

#### 2.5.1.1 CEMETERY SUITABILITY CATEGORIES

The information provided by detailed site visits were synthesised into three broad site categories, providing guidance in respect of the **suitability** of the various sites for cemetery purposes and the **feasibility** of any form of cemetery use on such sites. The three categories illustrated by the *Development Suitability Plan* (refer to Plan 1 on pg 18) are the following:

- No Development Zone
- Conditional Development Zone
- Development Zone

**a) NO DEVELOPMENT ZONE**

This zone constitutes areas that are not suitable for cemetery development due to general **environmental constraints** and the fact that these sites currently have **high intrinsic and systemic value** (i.e. very high to high conservation value), including the following:

- (i) Poor subsurface conditions, comprising either a high water table or clay layers which result in either grave surface flooding or perched water tables.
- (ii) Surface slopes exceed acceptable gradient (e.g. 9° are generally recommended as the maximum gradient).
- (iii) Adequate surface drainage is difficult due to flat topographical features of site.
- (iv) Absence of a basal buffer zone, which essentially forms a barrier between the source of pollution (the grave) and the water table.
- (v) Too close to domestic water sources and drainage features.
- (vi) Site has high potential for occurrence of indigenous plant and animal habitats.
- (vii) Sites form part of sensitive ecological corridors associated with streams, drainage systems, and wetlands.
- (viii) Accessibility of the sites in terms of communities to be served is problematic.

The presence of any drainage feature on or near potential cemetery sites immediately makes these areas unsuitable for such development. Research has shown that poorly sited cemeteries pose as great a threat to groundwater pollution as does conventional waste-disposal sites<sup>2</sup>. The nature of pollution emanating from a cemetery site differs from that produced by conventional waste-disposal sites primarily because cemetery leachates pose a greater health hazard due to a variety of pathogenic organisms being released during the decomposing process. Such sites should therefore not be developed for conventional cemetery purposes (burials). Memorial parks constituting only walls of remembrance should be considered.

**b) CONDITIONAL DEVELOPMENT ZONE**

This category comprises areas that are not ideally suitable for cemetery development due to general **environmental constraints** and the fact that these sites currently have **moderate intrinsic and systemic value** and **potentially high instrumental value** (e.g. strategic importance of particular sites with specific reference to municipal service delivery

<sup>2</sup> [www.geoscience.org.za/divisions/eemg/cemetery.htm](http://www.geoscience.org.za/divisions/eemg/cemetery.htm).



render them unsuitable for any other use). The development of cemeteries on these sites could however be considered under certain conditions, including the following:

- (i) Any potential detrimental impacts of the development of a cemetery must be effectively mitigated. For example, effective drainage systems to prevent groundwater or surface water pollution must be developed (probably at great expense);
- (ii) Only certain forms burials could be accommodated due to great expenses associated with the development of the cemetery;
- (iii) Any significant stands of rare endemic plants must be protected from development; and
- (iv) Effective ecological rehabilitation should be undertaken by including individual plants of rare endemic species that occur on a site designated for cemetery development into the landscaping of the cemetery.

This category includes the following:

- Areas characterised by a flat topography;
- Areas where the possibility of a medium to high water table exist;
- Sites that form an integral part of ecological corridors;
- The occurrence of streams, drainage systems and wetlands on or near potential sites; and
- The occurrence of indigenous plant and animal habitats.

The development of cemeteries within this zone should only be considered if the 'development zone' described below is of insufficient extent or nature to accommodate the need of the municipality. If the municipality are not certain that they can finance the responsibilities associated with the conditions set for the development of this zone the development thereof by the municipality should be reconsidered. The development of for example a memorial park that is financed by a private entity could be considered.

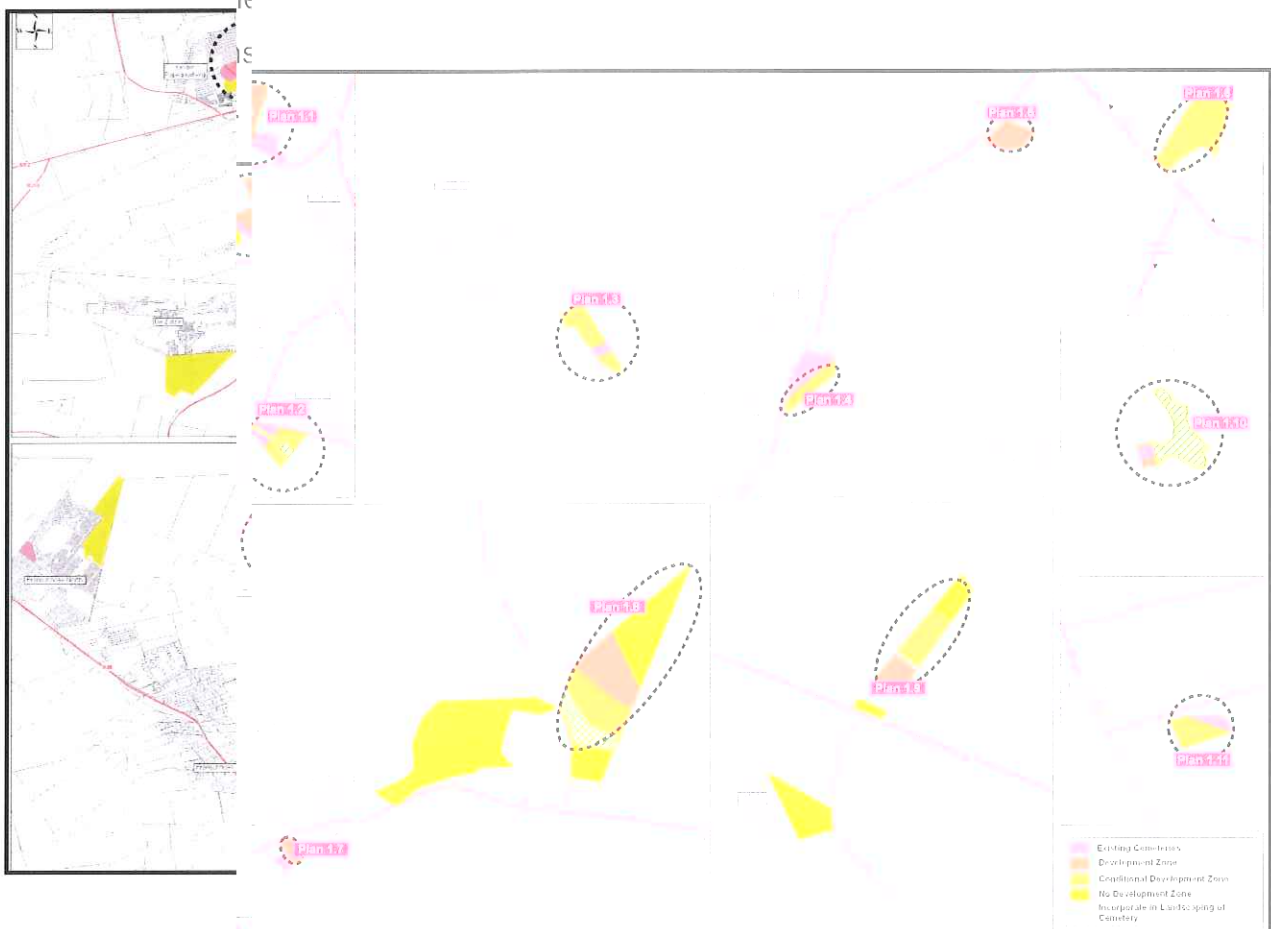
### c) **DEVELOPMENT ZONE**

Sites with high quality soils should first and foremost be considered for the development of cemeteries. The structure, density, permeability and moisture content of such soils are ideal for the development of especially general cemeteries, i.e. cemeteries that caters for burials. Competing land uses such as agriculture may therefore be seen as more viable in

that especially generated by leasing such property. It is however important to remember cemeteries on high groundwater pollution can only be effectively prevented by developing high quality soils.

Substantial portions are infested with alien vegetation. Some of the suggested sites are lying fallow at the moment and landscaping occurred. These areas, when developed as a cemetery and after increasing the aesthetic quality of the landscape, could be included into the open space system of the municipality,

The sites which are highly suitable for the development of cemeteries will therefore form part of this category as indicated by Plan 1 below. Development or extension of existing cemeteries on these sites should therefore be considered being the most feasible and more comprehensive site investigations (refer to Annexure 3) should be undertaken as soon as possible.



Plan 1: Cemetery

Development Suitability Plan (A larger scale copy is attached under Annexure 1).

It is important to note that sites deemed to be unsuitable for the development of a cemetery (i.e. designated as a No Development Zone) are not discussed in Section 3.

### 3 CURRENT REALITIES AND PROPOSALS

Currently there are five (5) cemeteries under the jurisdiction of the Stellenbosch municipality, namely Papegaaiberg, Jamestown, Pniel, Groendal and Franschhoek (refer to Figure 6 below).

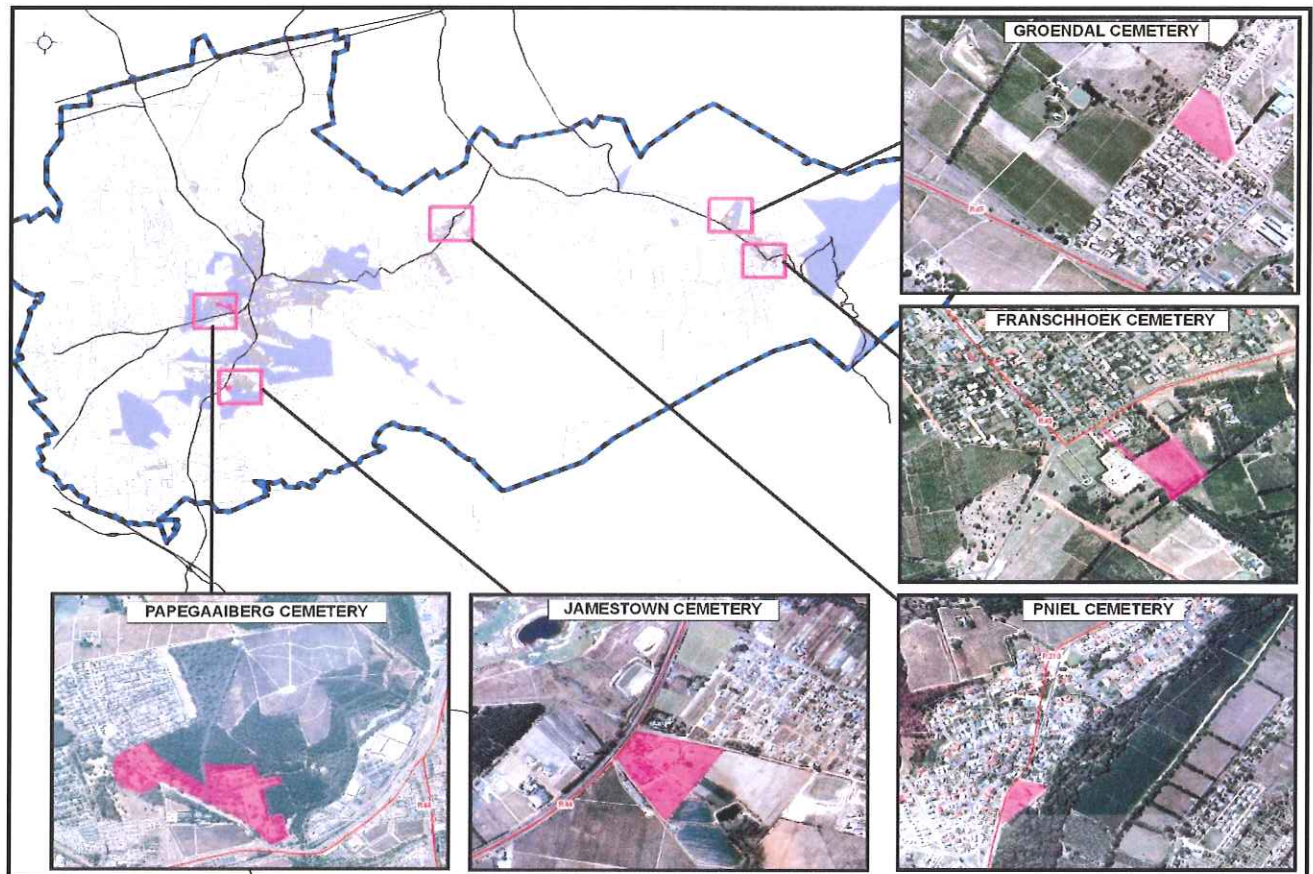


Figure 6: Existing cemeteries under the jurisdiction of the Stellenbosch Municipality.

Simondium cemetery, which falls under the jurisdiction of the Cape Winelands District Municipality accommodated burials from the rural areas. However, the amalgamation of the various urban and rural areas resulted that funerals from these rural areas must now be accommodated in Stellenbosch (Jamestown cemetery). This has led to additional workload on the existing workforce (Stellenbosch Municipality, 2002).

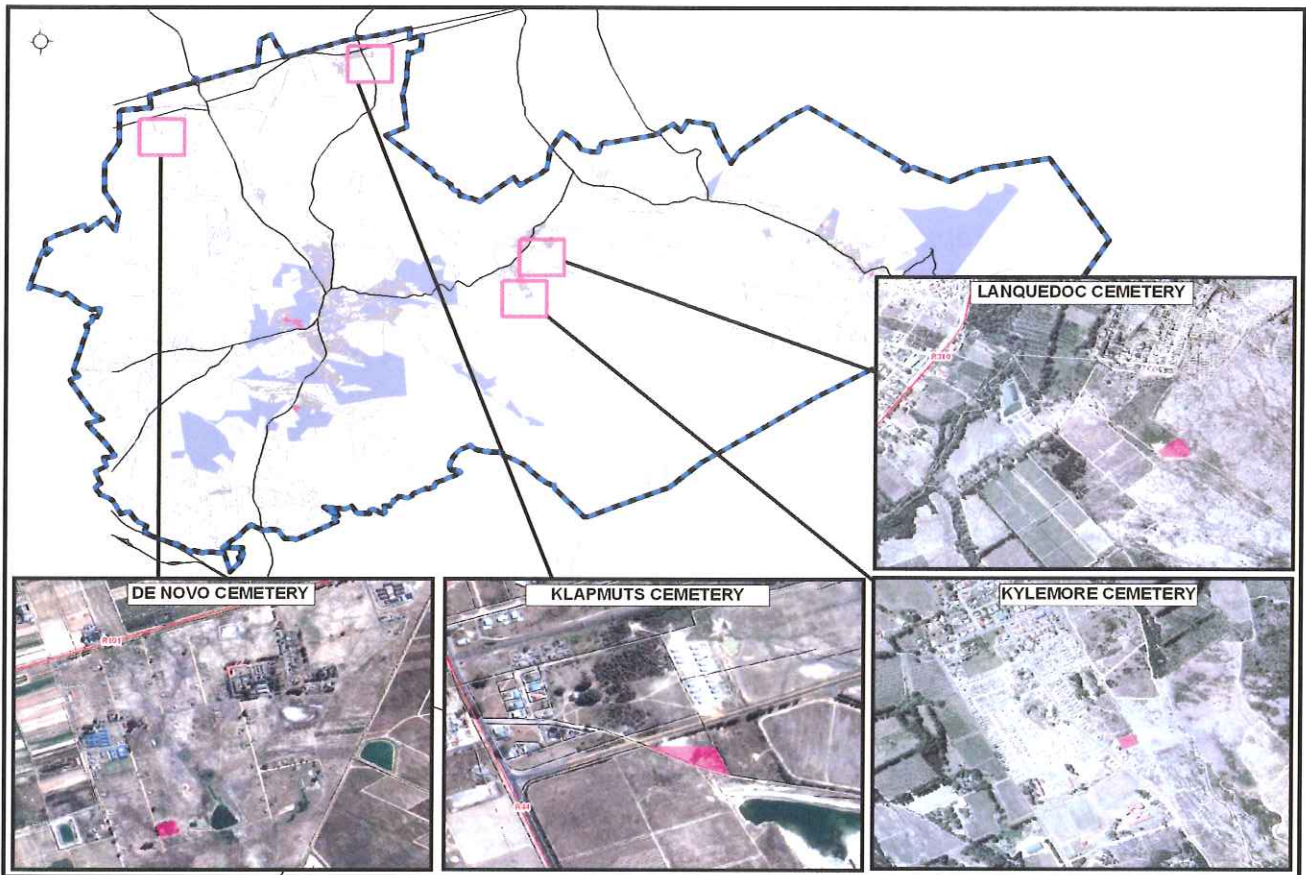
The Klapmuts, Kylemore, Lanquedoc and De Novo cemeteries are managed by the community although the De Novo and Lanquedoc cemeteries are not used for burials on a regular basis anymore (refer to Figure 7 below).

*possibility 3*

*should be de se app...*

*why red?*





**Figure 7: Existing cemeteries under the jurisdiction of the community.**

The cemeteries under the jurisdiction of Stellenbosch Municipality are generally in a neglected state. Although the current state of the cemeteries was also mentioned in the Stellenbosch Integrated Development Plan<sup>3</sup>, no specific project was identified to manage these municipal properties better.

*\* check capital budget 09/10 + re-distribute money to address these issues*

The work-force responsible for the digging of graves as well as the general maintenance of cemeteries used to consist of only ten laborers, which was situated in Stellenbosch. There was no staff dedicated to the Pniel and Franschoek cemeteries. This implied that some members of the Stellenbosch workforce have to be transported to either Franschoek or Pniel to render the necessary services and maintenance (Stellenbosch Municipality, 2002). The general neglect of cemeteries could be attributed to the fact that no staff was dedicated to maintain a specific cemetery. This situation was however reviewed and every cemetery under the jurisdiction of the Stellenbosch Municipality now have a number of staff members dedicated to the general maintenance thereof.

<sup>3</sup> Under *Environmental Health (No. 3.08)* the community identified the better management of cemeteries as a definite need (*n-3.08.003*) and mentioned that it is *neglected, dirty and homeless people tend to sleep there*. The community further identified the need for a crematorium (*n-3.08.020*).



## 3.1 PAPEGAAIBERG CEMETERY

### 3.1.1 BACKGROUND INFORMATION

The Onder-Pagegaaiberg cemetery was established in the late 19<sup>th</sup> century, probably between 1870 to 1880 (Malan, 2006)<sup>4</sup>. This cemetery, originally referred to as the *Nieuwe Kerkhof (Steenbrug)* (Vos, 2002)<sup>5</sup>, is one of various cemeteries established in Stellenbosch during the latter era, including the D'Ouwe Werf cemetery established during 1685-1710 around the old 1687 church, the cemetery established during 1719-1850 around the 1722 church, and the Kromme River burial grounds established during 1848-1900.

Throughout its existence, the cemetery included burial grounds for various church denominations, including Dutch Reformed, Presbyterian, Roman Catholic, Lutheran and Jewish. The Jewish cemetery dates back to 1904 and comprises approximately 150 marked graves and a number of unmarked graves (Zettler, 2002)<sup>6</sup>. The cemetery also shows evidence of Muslim burials. However, the exact location of many such graves has been lost, partly due to tomb-markers having been made of wood which perished over time.

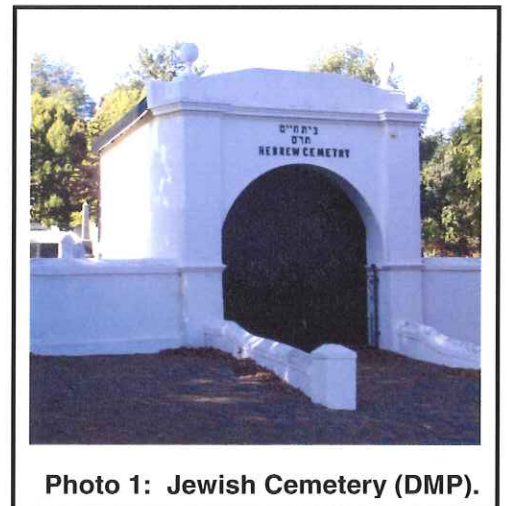


Photo 1: Jewish Cemetery (DMP).

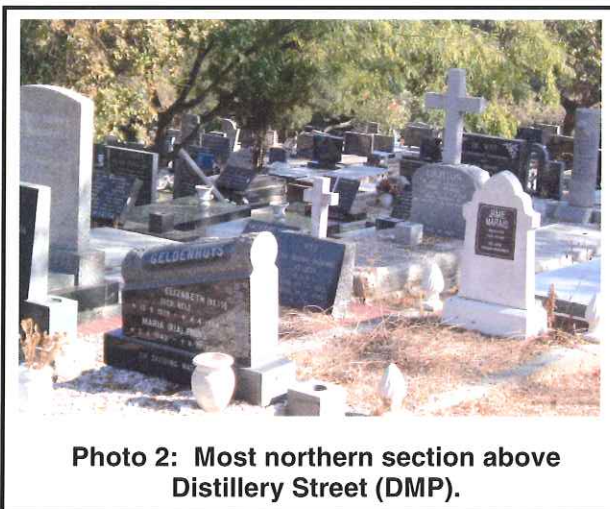


Photo 2: Most northern section above Distillery Street (DMP).

A number of well-known and interesting people were laid to rest in the cemetery. These include Dr. DF Malan (former prime minister of South Africa), Dr. TE Dönges (a well-known politician), and Dr. Paul Louis Röntgen (nephew of the inventor of X-rays, Dr Wilhelm Röntgen).

<sup>4</sup> Dr OG Malan: Personal telephone interview – 22 September 2006. Stellenbosch

<sup>5</sup> H Vos 2002: Bosman's Crossing - Stellenbosch: A survey of its historical context. ARCAPE.

<sup>6</sup> <http://www.jewishgen.org/cemetery/africa/southafrica.html>



It is estimated that approximately 6 000 graves are located in the cemetery. A large number of these graves are unmarked and have no tombstones. The descendants of a large number of those people buried at this cemetery still live in Stellenbosch. The cemetery, furthermore, provides a wealth of information to genealogical societies that research the family histories and heraldries of South Africans. Consequently, the cemetery is a valuable cultural treasure which is highly conservation-worthy.

The Dutch Reformed Church maintained the cemetery until 1965 after which the Stellenbosch Municipality took over the responsibility for managing the cemetery. As mentioned above the cemeteries under the jurisdiction of Stellenbosch Municipality are generally in a neglected state with Papegaaiberg being no exception.



**Photo 3: General littering in Papegaaiberg cemetery (Red circles indicates graves) (DMP).**



**Photo 4: Vagrants resting place in Papegaaiberg cemetery (DMP).**



**Photo 5: North western section of Papegaaiberg Cemetery located above Flamingo Street (DMP).**

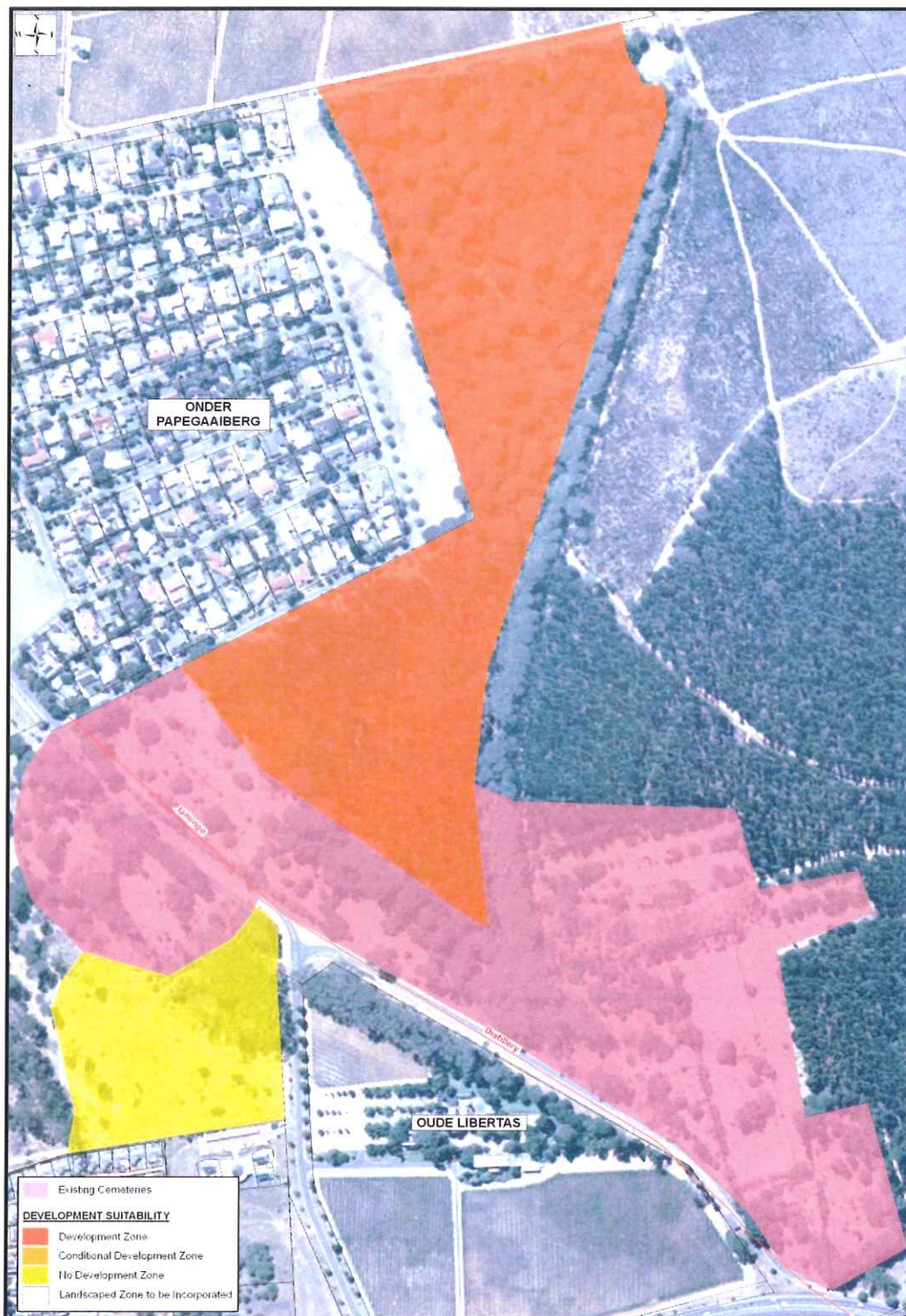


**Photo 6: Western Section of Papegaaiberg Cemetery located below Flamingo Street (DMP).**



### 3.1.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

The Onder-Papegaaiberg cemetery of approximately 20 ha has reached its full capacity, with the exception of a number of reserved plots. The site-specific study revealed that it is highly feasible to extent the existing cemetery due to excellent soil conditions and a relatively accommodating slope (refer to Plan 1.1).



Plan 1.1: Development Suitability of Site 1 (refer to Figure 2, pg. 12).



Due to the important role that cemeteries play in a community it is imperative that cemeteries should be located within an acceptable distance to the community it serves. Within an urban area the size of Stellenbosch, where it can be assumed that most of the inhabitants make use of private transportation or have access to public transportation, it is proposed that a 5 km service area is acceptable. The proposed extension to the Papegaaiberg cemetery is therefore a sensible and practical option due to the fact that it is ideally located to serve the whole population of Stellenbosch.

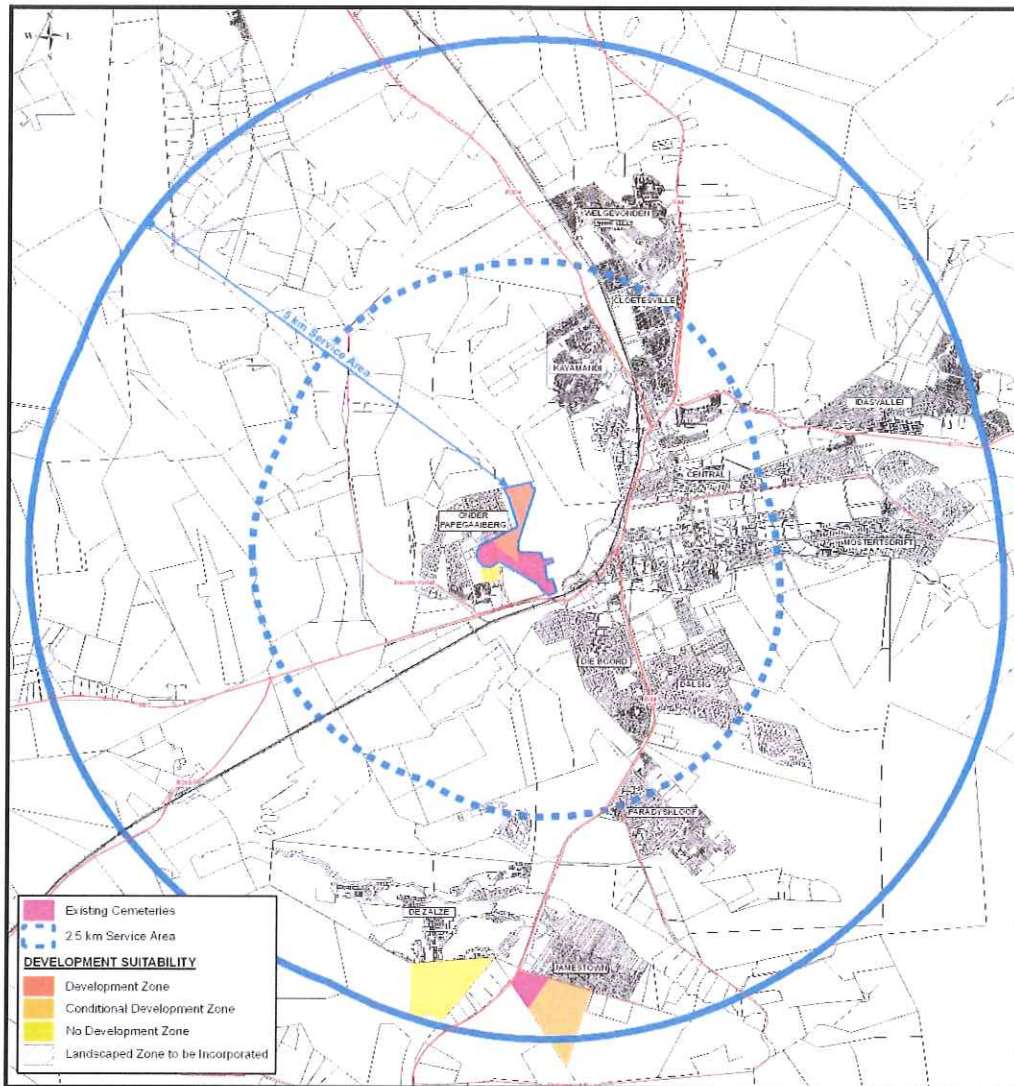


Figure 8: 5 km Service Area of the Proposed Papegaaiberg Cemetery.

### 3.1.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) The general neglected stated of the Papegaaiberg Cemetery should be rectified as a matter of urgency, especially in the western section located below Flamingo Street and the north-western section above Flamingo Street (refer to Photo's 3 to 6



on page 22). The removal of rubble and litter and the cutting of grass should be priority after which all alien vegetation must be removed.

- ii) Unmarked graves, especially in the sections above and below Flamingo Street, should be made visible. The graves could be framed (cement structures used as kerbs) and numbered by placing a small cement block with a number at the foot of the grave (refer to Photo 7 and Photo 8 below). The making of such structures could be outsourced as an empowerment project initiated by the Stellenbosch Municipality.



**Photo 7: Windhoek Cemetery (DMP).**



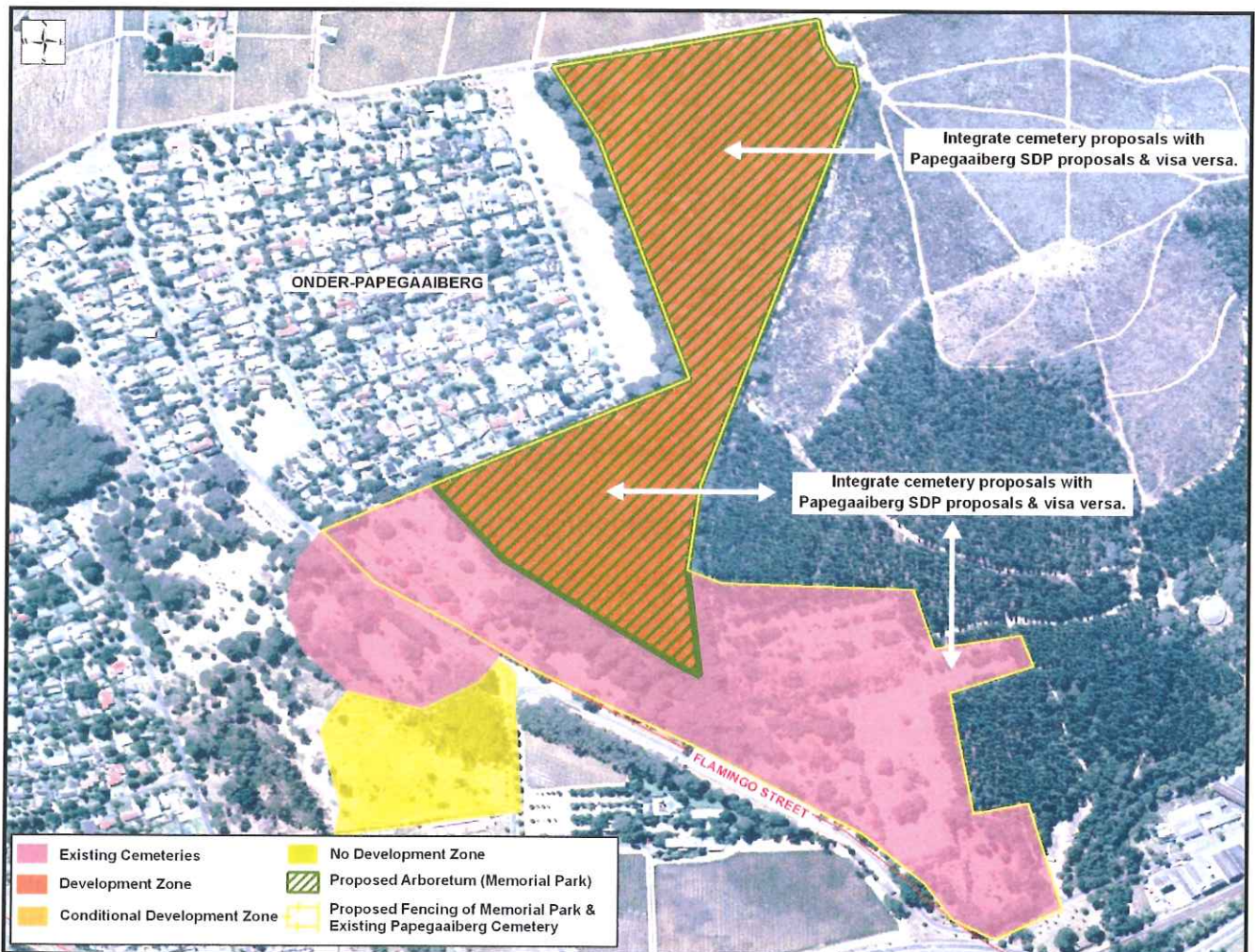
**Photo 8: Framing and Marking of graves in Windhoek Cemetery (DMP).**

- iii) Papegaaiberg contains significant remnants of indigenous natural vegetation. By integrating proposals for Papegaaiberg (i.e. establishing an indigenous arboretum) with a memorial park envisaged for the proposed cemetery expansion site, a valuable botanical resource for rare indigenous plant species can be created (refer to Figure 9 on the following page). A memorial park does not necessarily imply a landscaped garden containing grass and plants dependent on water and requiring constant attention. The Papegaaiberg Memorial Park can, in an exemplary manner, create a tranquil environment by integrating local indigenous fynbos species with hard landscaping (e.g. pathways and low boundary walls). It is imperative that the specific site conditions and materials available should direct any landscape proposals (refer to Photo's 9 and 10 on the following page).





**Photo 9 & Photo 10: The Windhoek Cemetery is a good example of cemetery that incorporated local climate and site conditions into its design (DMP).**

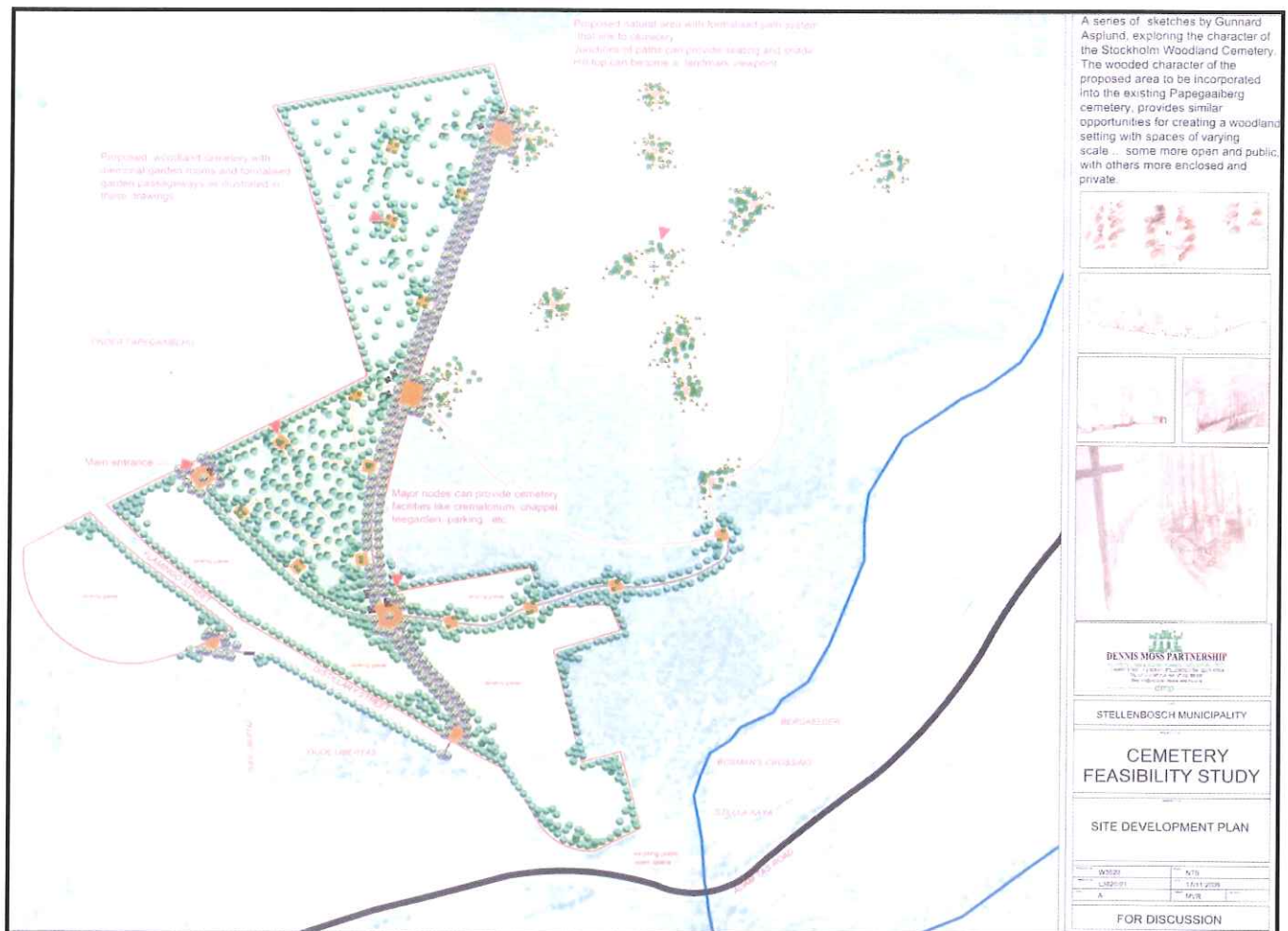


**Figure 9: Proposed expansion of Papegaaiberg Cemetery.**

- iv) A management plan containing development and landscape proposals should be drafted for the existing cemetery indicating, for example, the phases for alien



clearing, general landscaping and grave identification, framing and numbering, the appropriate fencing of the cemetery and the building of a boundary wall at specific areas. No cemetery expansion without a detailed site development plan should occur (refer to Figure 10).



**Figure 10: Draft proposals for the development of the Papegaaiberg Memorial Park (A larger scale copy is attached under Annexure 1).**

- v) The historical and genealogical information provided by the Papegaaiberg Cemetery should be researched and documented in the form of, for example, a brochure or information booklet. This could provide residents and tourists with some insight into the history and value of Stellenbosch and its environs, including its cemeteries.

## 3.2 JAMESTOWN CEMETERY

### 3.2.1 BACKGROUND INFORMATION

The Jamestown cemetery was officially proclaimed in 1976. However, the first burial only commenced on 15 December 1999 after the amalgamation of various urban and rural areas lead to the fact that the Simondium cemetery, which accommodated burials from rural areas, was not available for burials from the Stellenbosch environs anymore. Since 1999, the cemetery has been used by the Jamestown community and people of other settlements in the Stellenbosch Municipal area.



**Photo 11: Jamestown Standard Cemetery (DMP).**



**Photo 12: Jamestown Burial Park (DMP).**



**Photo 13: General beautifying of cemeteries lacking (DMP).**

The cemetery comprises a standard cemetery (refer to Photo 11) and a burial park (refer to Photo 12). Jamestown cemetery is a municipal cemetery and is therefore, just as Papegaaiberg, managed in accordance with the Stellenbosch Municipality Burial Park By-Law (P.N. 109/1983). Due to the fact that the Jamestown cemetery is at present the only municipal cemetery in the Stellenbosch area used for burials, the general maintenance of the area is of a higher standard. It is, however, characterized by a lack of general beautifying and uniformity, especially the standard cemetery (refer to Photo 13).



### 3.2.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

Approximately fifty percent (50 %) of the Jamestown cemetery ( $\pm 9$  ha) has been used for burials. Although the obvious and most practical choice would be to extend the Jamestown cemetery as the Stellenbosch Municipality owns the adjoining property to the east, the site-specific study revealed that more detailed geohydrological studies are necessary to determine to a certain degree the feasibility of extending the cemetery. Due to the presence of a non-perennial stream, which links with the Blouklip River in the north-west, the site is therefore deemed to be a *Conditional Development Zone*.



Plan 1.2: Development Suitability of Site 2 (refer to Figure 2, pg. 12)

As stated in Section 2.5.1.1, par. (b) the development of cemeteries within the *Conditional Development Zone* should only be considered if sites designated as *Development Zones* are not within close proximity thereof or are of insufficient extent or nature to accommodate the need of the municipality. It is therefore important to note that the proposed extension of Papegaaiberg cemetery is characterized as being highly feasible.



Together with the fact that Jamestown cemetery is located on the periphery of the town of Stellenbosch, implying that the 5 km service area only reaches Stellenbosch central, (refer to Figure 11) it is proposed that the Municipality must focus on the development of the envisaged Papegaaiberg Memorial Park as an immediate long-term option for the urban area's burial needs and that the extension of the Jamestown cemetery should be a secondary option.

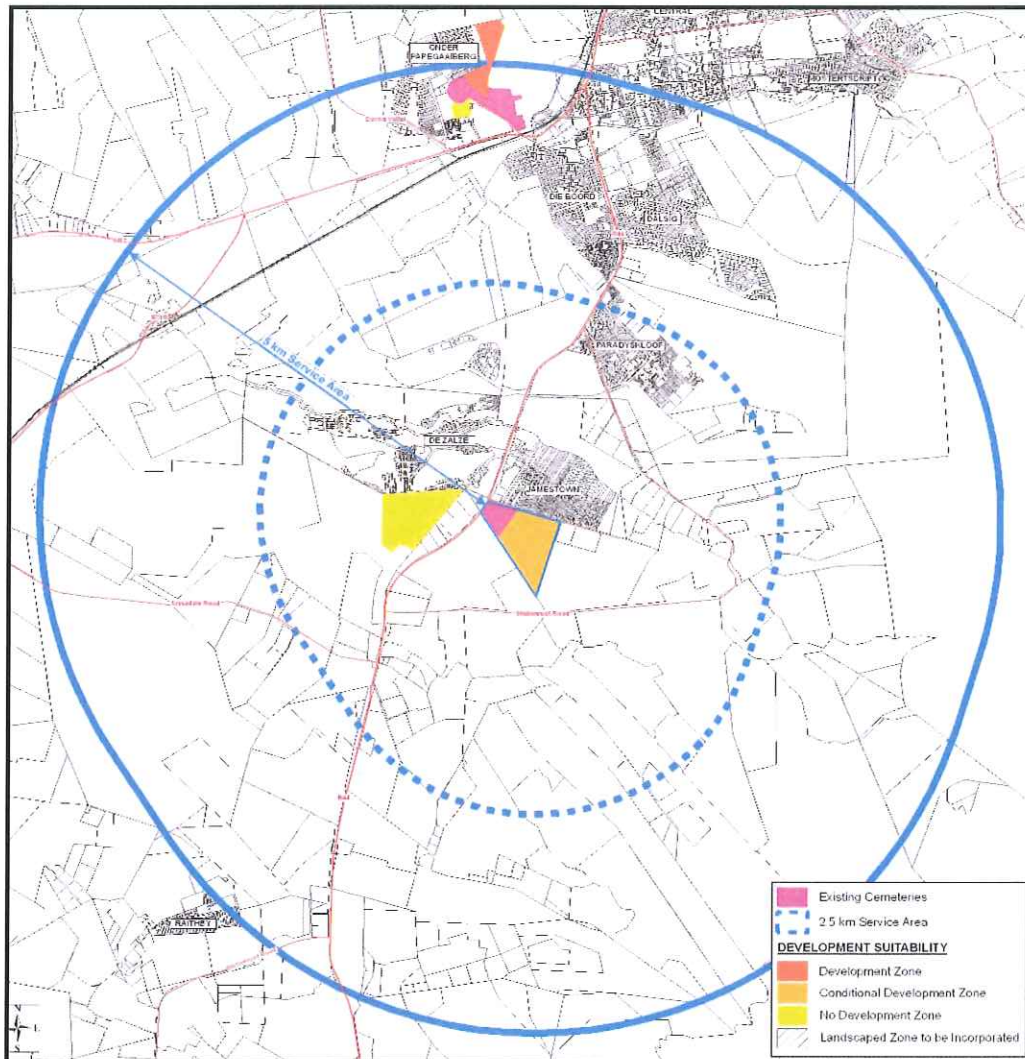


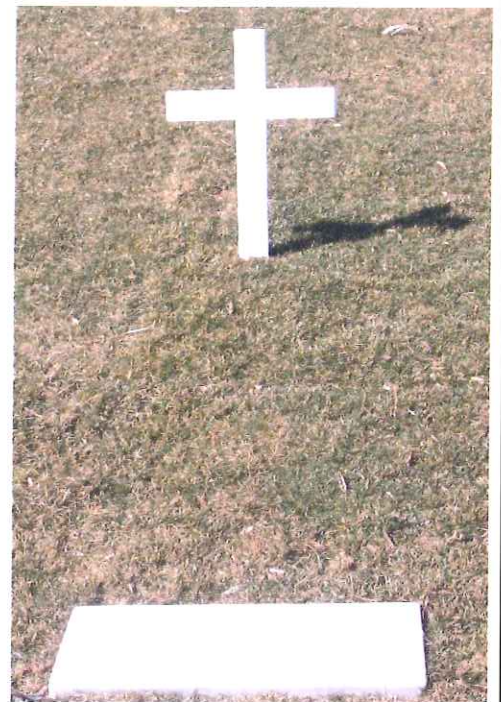
Figure 11: 5 km Service Area of the Proposed Jamestown Cemetery.

### 3.2.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) Any unmarked graves should be identified and made visible.
- ii) Section 4 of the Stellenbosch Municipality Burial Park By-Law (P.N. 109/1983), which specifically deals with memorial work, must be enforced more strictly in especially the Jamestown cemetery in order to create an overall sense of



uniformity. This does not imply that a financial burden will be placed on families that cannot afford the prescribed memorial work. Ample opportunity exist for the Stellenbosch Municipality to initiate a project (e.g. empowerment initiative or SMME) whereby unemployed people who are skilled craftsmen / -women are employed to create simple and affordable memorial works that are available at a lower cost to those who cannot afford or wish to erect expensive head stones (refer to Photo's 14 & 15 below as well as Photo's 7 & 8 on pg. 25).



**Photo 14 (above):** By making use of simply and affordable memorial works (Photo 15 – right) a sense of overall uniformity can be created (Source: Arlington National Cemetery [USA] - SWJ vd Merwe).

- iii) The canal which flows through the existing cemetery should be monitored on a regular basis during winter months. The canal should be upgraded and rehabilitated as part of the general landscaping and management of the cemetery to form a corridor that links up with the Blouklip River. Ensure that an effective drainage system exists in order to prevent groundwater or surface water pollution due to the fact that the area has a relatively high water table.
- iv) If the development of a cemetery on the proposed site is considered, no burials may take place before a detailed management plan containing development and landscape proposals are approved by the municipality. The dam in the south-western section of the potential site should be incorporated into the landscaping of the proposed extension and should link with the existing canal.



### 3.3 KYLEMORE AND LANQUEDOC CEMETERIES

#### 3.3.1 BACKGROUND INFORMATION<sup>7</sup>

The Kylemore communal cemetery evolved as the town of Kylemore expanded from its establishment in 1898. Throughout the existence of Kylemore members of the various dominations, including Anglican, Presbyterian, New Apostolic, Old Apostolic, Apostolic Union en United Reformed Church (better known as *Verenigde Gereformeerde Kerk [VGK]*) were adamant that the tradition of being buried in their respective church cemeteries should be continued. Although this tradition still exist the various denomination's church cemeteries has reached full capacity, with the exception of the Apostolic and Anglican church's graveyards, which has limited space left. The communal cemetery is therefore utilised more often by the community of Kylemore. → who manages?



**Photo 16: Kylemore Communal Cemetery (DMP).**

The communities of the Dwars River Valley (Kylemore, Johannesdal, Pniel and Lanquedoc) attaches specific attitudes and values towards their respective cemeteries and to them their burial rituals and traditions are an invariable part of their cultural heritage. The ritual of placing one heavy stone at the head and another at the foot of a grave, reminiscing a historic Khoi tradition, is unique to the Kylemore community and reflects the importance of the Khoi heritage in the Valley (refer to Photo 16). It is important to note that a number of funeral traditions followed by the Kylemore community, e.g. burying loved ones on Sundays, does not conform to the Stellenbosch Municipality Burial Park By-Law.

<sup>7</sup> Mr Dawie Carolissen: Personal interview – 27 September 2006. Boschendal.



The Kylemore communal cemetery is currently managed by a number of organisations unique to Kylemore, e.g. a charity organisation known as the 'Losie', which has an organisation constitution dating back to 1915, a Funeral Organisation ('*Begrafnisgenootskap*') and the Association of the Dead ('*Doodsgenootskap*').



**Photo 17 & Photo 18: Various views of Kylemore Communal Cemetery (DMP).**

The Lanquedoc<sup>8</sup> cemetery dates back to almost a hundred years. The funeral rites and rituals that are prevalent within the Lanquedoc community are very similar to the traditions of Pniel and Kylemore, e.g. the placing of headstones facing eastwards, symbolizing that the dead will always be in the light of the rising sun. Although the Anglican Church managed the Lanquedoc cemetery in the past, no organisation is currently responsible for it.



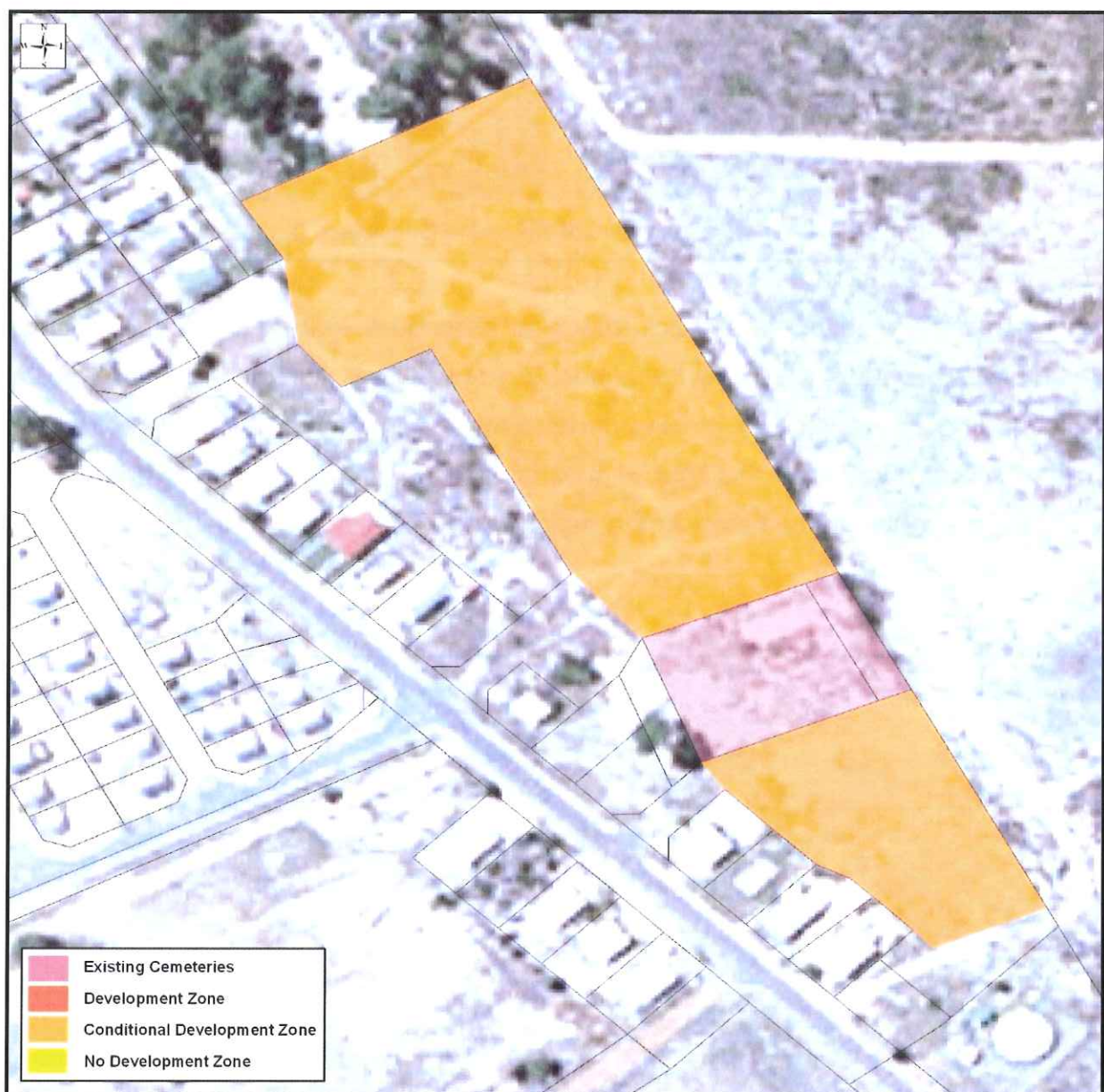
**Photo 19: Lanquedoc Cemetery (DMP).**

<sup>8</sup> Mr Neil & Me Mona Kleinsmith: Personal telephone interview – 27 September 2006. Stellenbosch



### 3.3.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

The communal cemetery in Kylemore of approximately 2 000 m<sup>2</sup> is reaching its full capacity and a proposed site for its expansion must be finalized as a matter of urgency. Although the Stellenbosch Municipality does not own suitable property in Kylemore, they have indicated that *Site 3* (refer to Figure 3 on pg. 13) should be investigated as a possibility for expansion. After the site-specific study *Site 3* was designated as being a *Conditional Development Zone*, due to its rocky soils (refer to Plan 1.3).



**Plan 1.3: Development Suitability of *Site 3* (refer to Figure 3 on pg. 13).**

With the Lanquedoc cemetery at its full capacity, provision for the Lanquedoc community must also be made in the Kylemore communal cemetery. The proposed extension of the communal cemetery of about 1,4 ha are located between 2 and 3 km from Lanquedoc, implying a service area just acceptable to rural areas (refer to Figure 12).

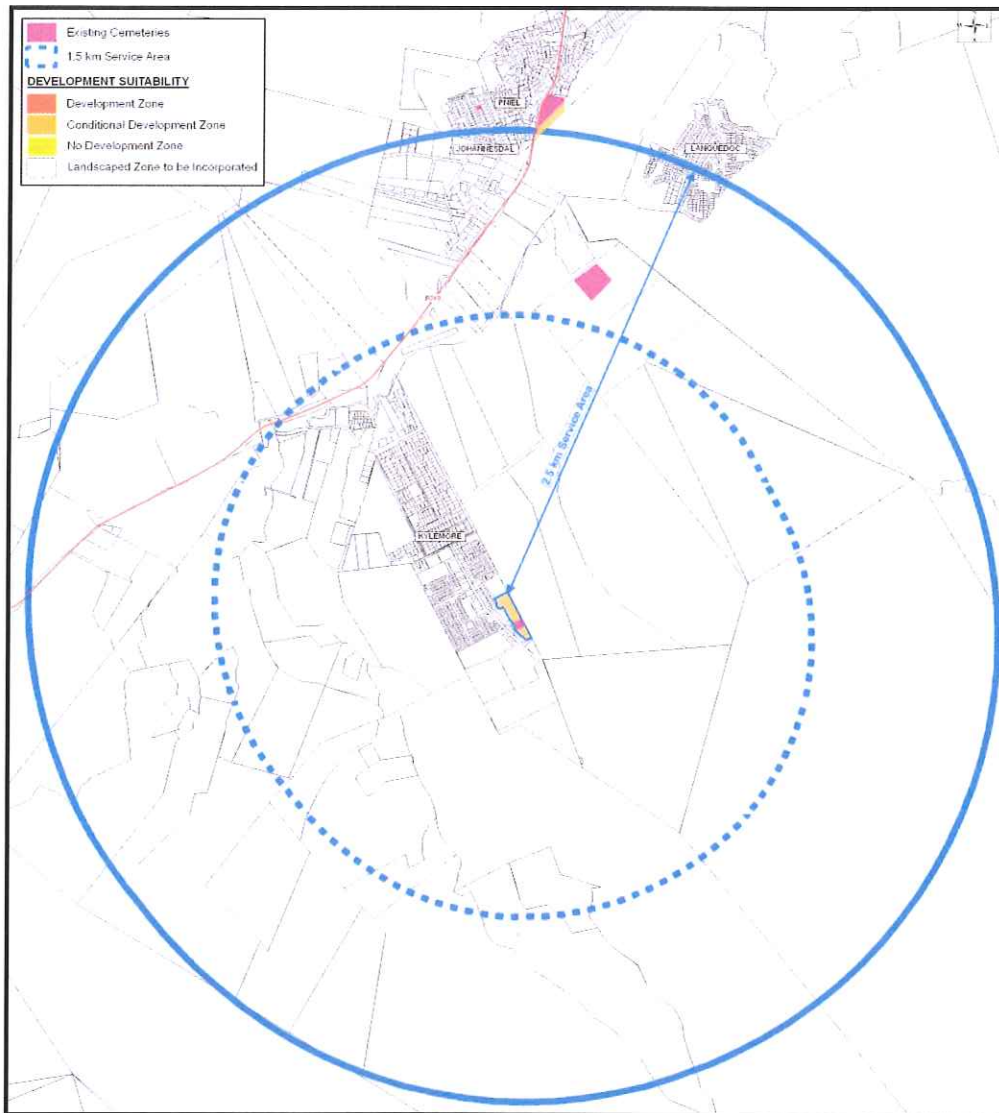


Figure 12: 2,5 km Service Area of the Proposed Kylemore Cemetery.

### 3.3.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) With the critical shortage of burial space in Kylemore, Lanquedoc and Pniel, it is advised that suitable site(s) for the development of a communal cemetery for the exclusive use of the communities of the Dwars River Valley must be identified as a matter of urgency (refer to Section 3.4.3, par. [i] for more detail).

- ii) The Stellenbosch Municipality should consider transferring the management of the existing communal cemetery to an appropriate association within Kylemore in order to ensure that their rituals and traditions can be given practical effect to without contravening any municipal regulations.
- iii) The Stellenbosch Municipality should, however, consider assisting the community with the overall management of its cemetery, e.g. financial donation, alien clearing, etc.
- iv) Although the Kylemore cemetery is generally free of litter and alien vegetation some sort of burial and landscaping structure are lacking, e.g. appropriate boundary wall, grave identification, framing and numbering (refer to Photo's 7 & 8 on pg. 25 and Section 3.1.3, par. [ii]) and general landscaping and beautifying.
- v) Any unmarked graves in Kylemore and Lanquedoc should be identified and made visible. A study into the possibility of the existence of a historic graveyard south west of the existing Lanquedoc cemetery should be initiated.

## **3.4 PNIEL CEMETERY**

### **3.4.1 BACKGROUND INFORMATION<sup>9</sup>**

The establishment of the Pniel cemetery dates back to 1843 when the town of Pniel came into existence. The first burial, however, only took place in 1846. Pniel is a close-knit community and the church, the United Congregational Church, plays an immensely important role in the daily activities of the community. A funeral is seen as an integral part to promote community solidarity and closeness. At present, only individuals residing in Pniel and/or those who are members of the United Congregational Church may be buried in the Pniel Cemetery. It therefore comes as no surprise that the death of a community member and their funeral results in a number of unique rituals and traditions. Again, it is important to note that a number of these traditions, e.g. funerals take place only on Sundays and burying methods such as the digging of ones own grave, does not conform to the Stellenbosch Municipality Burial Park By-Law.

<sup>9</sup> Mr Matthew Cyster: Personal telephon interview – 27 September 2006. Stellenbosch.





Photo 20 & Photo 21: Pniel Cemetery (DMP).

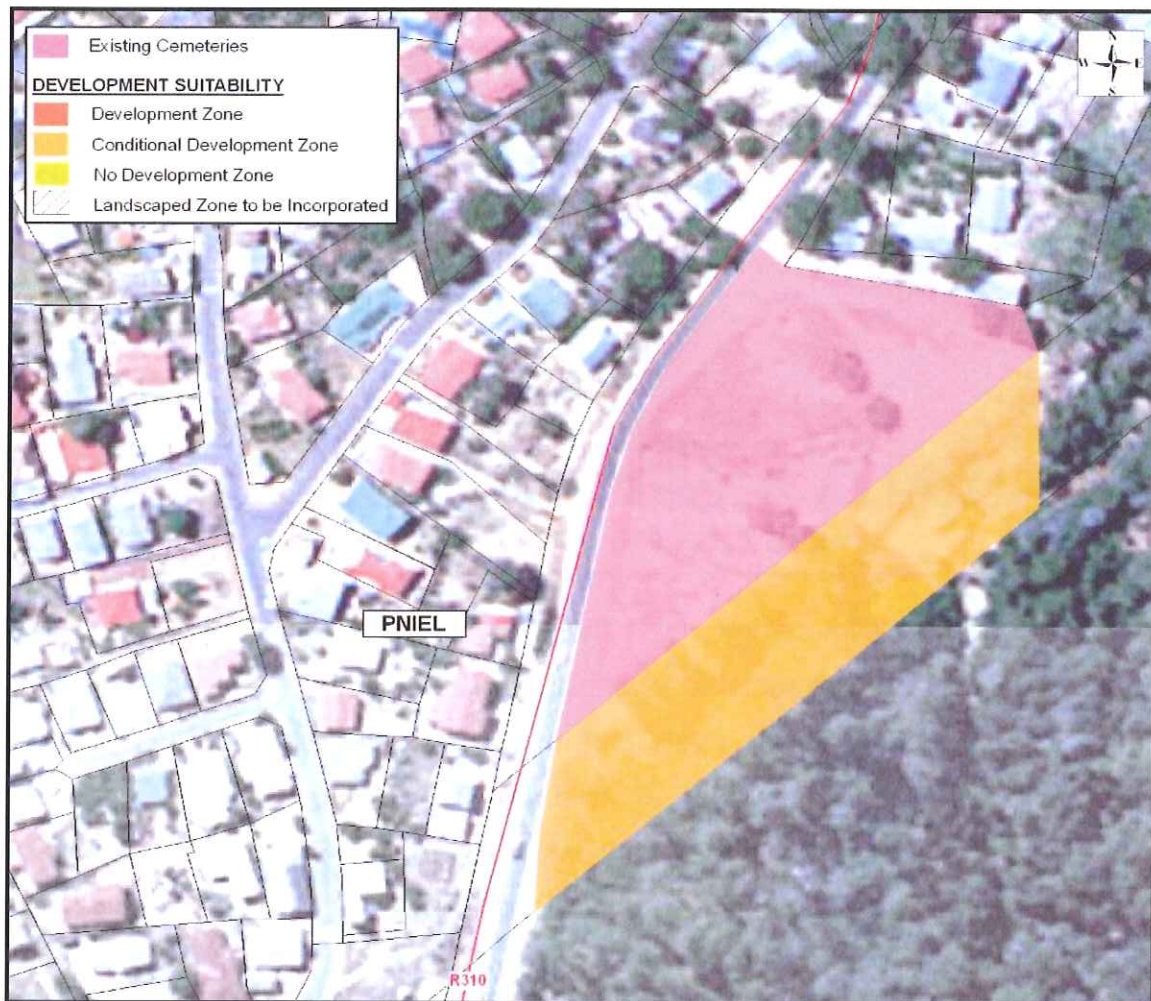
An event unique to the Pniel community is the marching of the entire Pniel community to the cemetery on days with special meaning to the inhabitants, e.g. 24<sup>th</sup> of December (Christmas Eve), 31<sup>st</sup> December (New Years Eve), Easter or birthdays. On these occasions the graves are cleaned and adorned with flowers (especially Hydrangeas) and flower bouquets transforming the cemetery into a vibrant array of colours, scents and textures. On Resurrection Day, it is institutional that the community places flowers on the most recent graves to honor and revere the dead.

The Stellenbosch Municipality currently maintains the cemetery although the United Congregational Church maintained the cemetery for the most part of its existence. The Pniel community is very adamant to take over the management of their cemetery since they strongly believe that it belongs to the community and is part of their local history and heritage.

### 3.4.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

The Pniel cemetery has reached full capacity. The investigation into the feasibility of developing municipal property as cemeteries coincided with the urgent need for burial space that developed in Pniel, which was subsequently identified by the Stellenbosch Municipality for priority action. The desktop study which was done as part of the first phase (refer to Section 2.5.1) indicated that none of the municipal property in Pniel was suitable for burial purposes. It was therefore necessary to investigate the possibility of acquiring private property for this purpose.





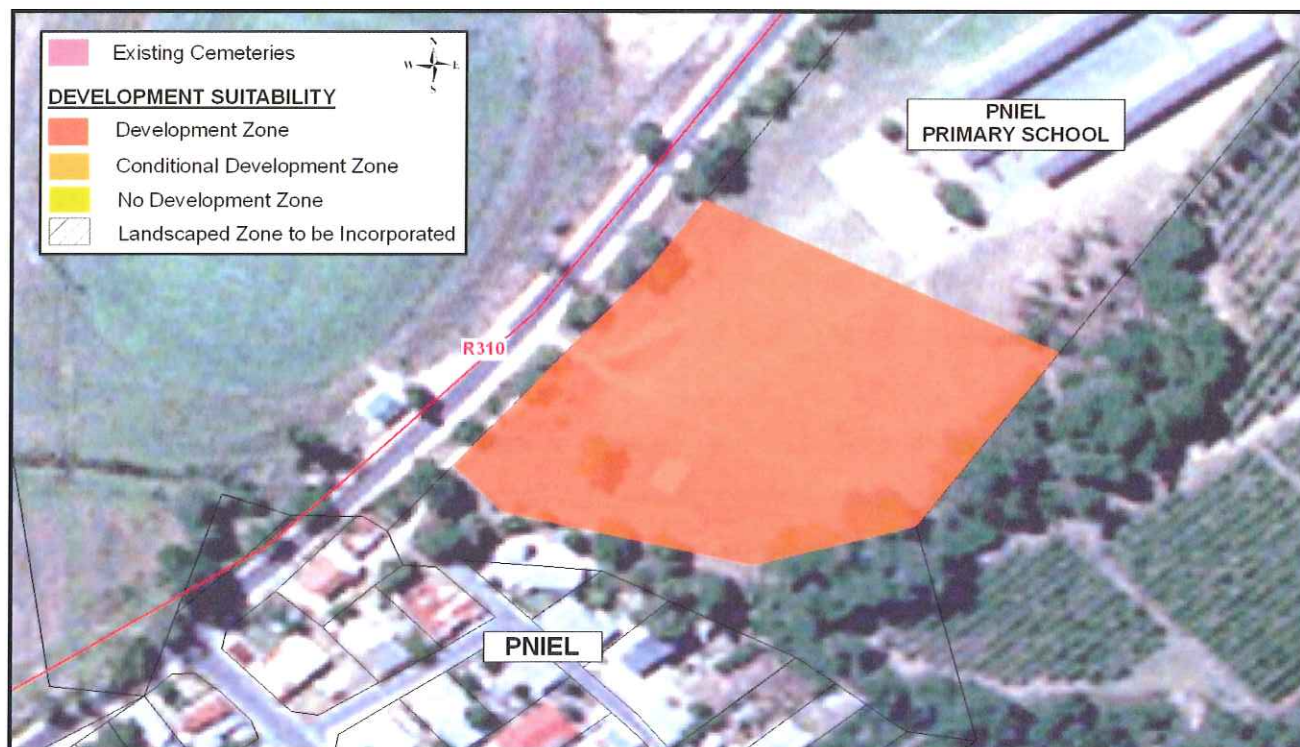
**Plan 1.4: Development Suitability of Site 4 (refer to Figure 3 on pg. 13).**

The site-specific study, which was undertaken in this case in close collaboration with the community and the municipality, indicated that a portion of the property of Anglo Landholdings that adjoins the existing cemetery is suitable for burial purposes. It was subsequently suggested that approximately 1 ha of Site 4 (refer to Figure 3 on pg. 13) (i.e. Portion 2 of Farm Boschendal No. 1647) be designated for the extension of the existing Pniel cemetery (refer to the Plan 1.4 above). This land forms part of the Anglo Landholdings that have been allocated to the Boschendal Treasury Trust (BTT) as part of the Boschendal Sustainable Development Initiative (SDI). The BTT was requested to consider the allocation of this land for the extension of the Pniel cemetery and the request was granted.

It is however important to note that the detailed site-specific study indicated the property as a *Conditional Development Zone*. This is mainly due to the excessive slope on the south-eastern portion of the property and the close proximity of the Dwars River.



An alternative site (*Site 5* – Figure 3 on pg. 13) of approximately 1 ha has been identified. *Site 5* is the property of the Department of Public Works and is currently used by the Pniel Primary School (refer to Plan 1.5). The site-specific study revealed that, except for ownership, the property is highly feasible for the development of a new cemetery



**Plan 1.5: Development Suitability of *Site 5* (refer to Figure 3 on pg. 13).**

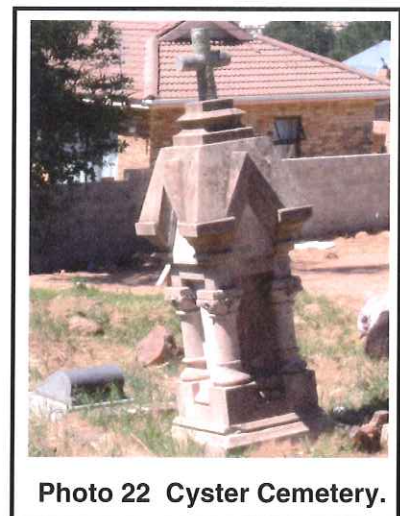
Although it was stated in Section 2.5.1.1, par. (b) that the development of cemeteries within the *Conditional Development Zone* should only be considered if sites designated as *Development Zones* are not within close proximity thereof or are of insufficient extent or nature it is important to note that in this specific instance the identification of appropriate alternative sites by the community, municipality and landowner(s) and the process of acquiring, subdividing and rezoning such property may be in the order of two to three years. This is however not acceptable due to the fact that burial space is needed as a matter of urgency. The acquisition, subdivision, consolidation and rezoning of *Site 4* should therefore be considered priority.

### 3.4.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) A portion ( $\pm 1$  ha) of Portion 2 of Farm Boschendal No. 1647 must be subdivided from Portion 2 of Farm Boschendal No. 1647 and consolidated with the existing

Pniel cemetery, thereby becoming the property of the Stellenbosch Municipality. The municipality will be responsible for the subdivision, consolidation and rezoning of the property after which it will be officially transferred to the Pniel community. Ownership will then vest within the United Congregational Church in order to ensure that their rituals and traditions can be given practical effect to without contravening any municipal regulations, e.g. burials on a Sunday.

- ii) The municipality and the community in collaboration with an environmental specialist must determine the exact area that is suitable for burial purposes. The designated area should be rezoned by the Municipality to make provision for burials and all other activities associated with it.
- iii) Although the church tried to keep record of every person buried, a number of graves remained unknown. Presently human remains that are found which nobody can claim are reburied to honour the unknown individual. Any unmarked graves should therefore be identified and either made visible (appropriate headstones) or a memorial should be erected at the existing Pniel cemetery in their honour.
- iv) The stormwater furrow running through the cemetery is not capable to deal with the amount of water flowing towards the river, especially during winter. In order to prevent further erosion it is imperative that the furrow be upgraded to a proper stormwater canal, with retaining walls on either side. The Stellenbosch Municipality must address this matter as a matter of urgency. NB
- v) The general neglected state of the historic Cyster cemetery should be rectified, especially since it forms an integral part of the Pniel community's history. The removal of rubble and the cutting of grass should be priority. The Stellenbosch Municipality should assist the Pniel community in registering the Cyster cemetery as a National Monument (refer to Photo 22).
- vi) Appropriate site(s) for the development of a communal cemetery for the exclusive use by the communities of Pniel, Johannesdal, Lanquedoc and Kylemore should be

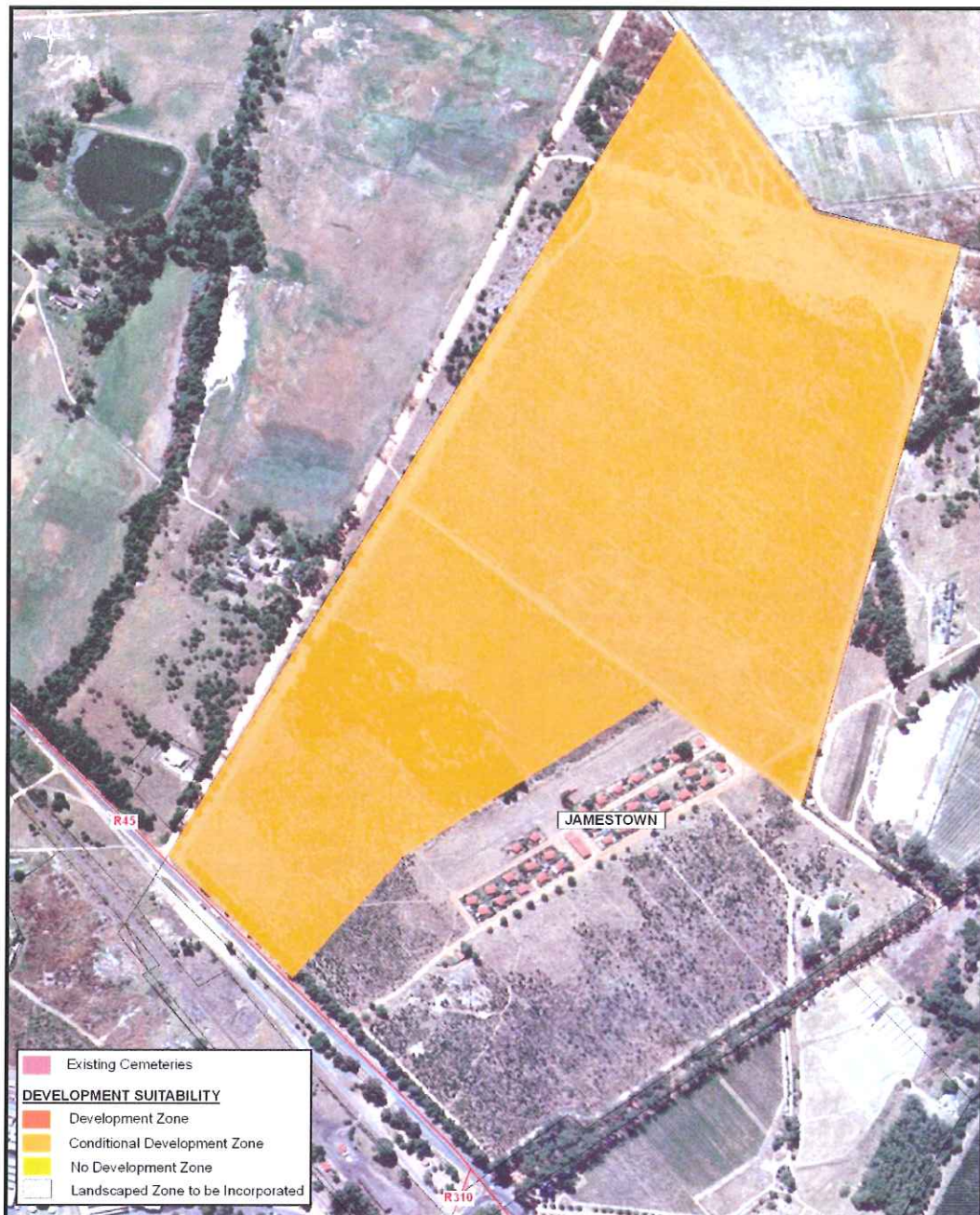


**Photo 22 Cyster Cemetery.**



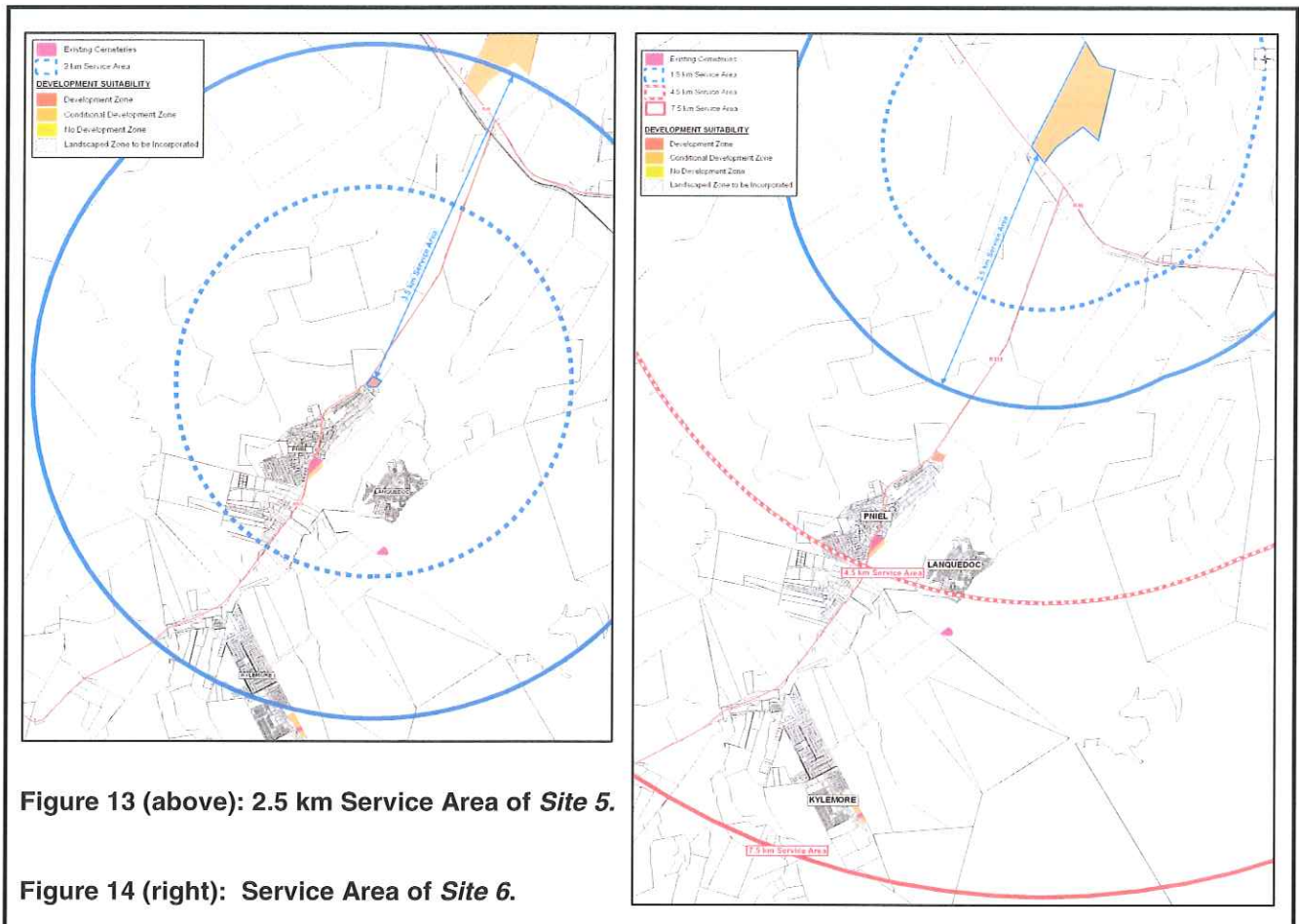
identified by the municipality in close collaboration with the respective communities as a priority.

The Stellenbosch Municipality proposed that *Site 6* should be analysed for the development of a regional cemetery (refer to Plan 1.6 above). The site-specific study indicated the site as being a *Conditional Development Zone*, primarily due to the rocky soils and the relative close proximity of the Dwars River.



**Plan 1.6: Development Suitability of *Site 6* (refer to Figure 3 on pg. 13)**

It is imperative that the communal cemetery for the Dwars River Valley be located within an acceptable distance to the respective villages, especially if the tradition of the funeral procession which takes places on foot is considered. A distance of approximately 2,5 km is assumed to be an acceptable distance.



Site 5 (refer to Plan 1.5) is more ideally located than Site 6, i.e. Site 5 is approximately 2,5 km from Kylemore, while residents from Kylemore will have to travel more than 7 km if Site 6 where to be the communal cemetery. If the communities of the Dwars River Valley do not approve of the proposed sites it is imperative that any other possible property must be centrally located in order to satisfy the needs of Kylemore, Pniel, Johannesdal and Lanquedoc.



## 3.5 FRANSCHHOEK AND GROENDAL CEMETERIES

### 3.5.1 BACKGROUND INFORMATION

A number of historic cemeteries are found in Franschhoek and its rural hinterland. Two cemeteries dating back as far as the early 1800's are situated in Franschhoek, with the oldest graveyard (dating back to the early 1700's) located on La Motte Estate. These cemeteries all contain graves of the French Huguenots whose descendants are still present in the Franschhoek Valley.

The municipal cemetery of approximately 2 ha was established in 1980 and are situated next the Dutch Reformed Church's cemetery (established during the 1980's) (refer to Photo 23).



**Photo 23: Dutch Reformed Church's Cemetery (DMP).**



**Photo 24: Memorial Work in Franschhoek Municipal Cemetery (DMP).**



**Photo 25: No enforcement of the Municipal Burial Park By-Law's section on memorial work (DMP).**

The Groendal cemetery (Franschhoek North) was established in 1979 and the first recorded burial took place on 7 November 1979 (refer to Photo 26). Member of various church denominations are buried here with the exception of the Dutch Reformed Church.

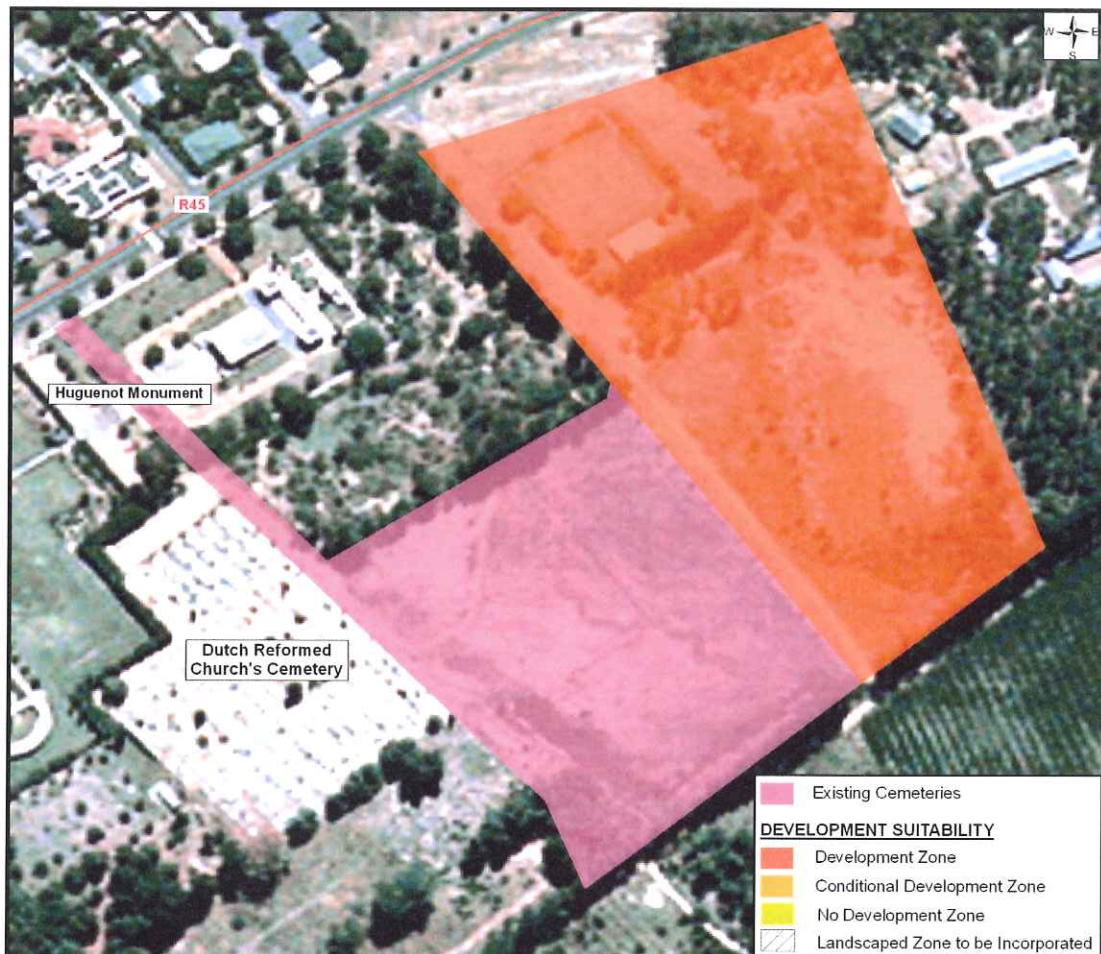




Photo 26: Groendal Cemetery (DMP).

### 3.5.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

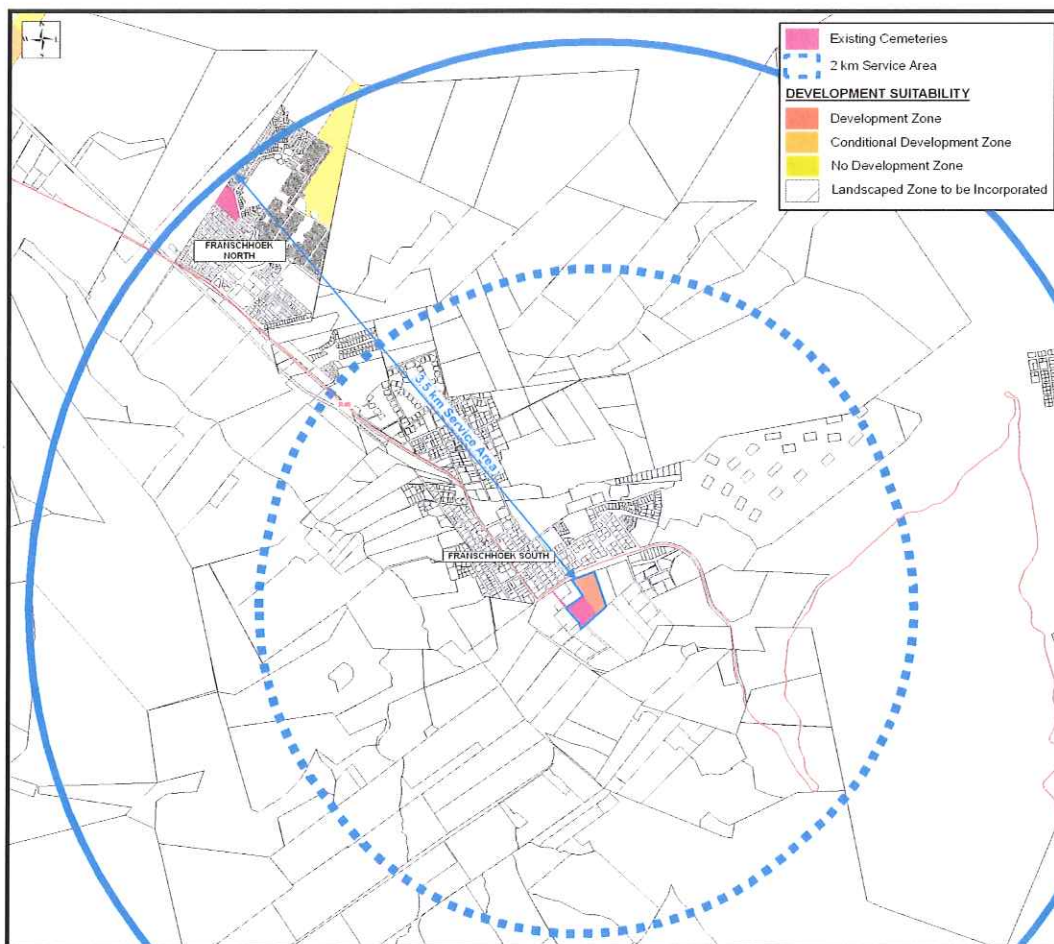
At present only about a 1 000 m<sup>2</sup> of the municipal cemetery in Franschoek South have been used for burials and there are also space left in Groendal cemetery. There is therefore no urgent need for additional burial space in Franschoek. It is however important to identify land for burial purposes as a precaution.



Plan 1.7: Development Suitability of Site 7 (refer to Figure 4 on pg. 13)

The site-specific study indicated that *Site 7* (refer to Figure 4 on pg. 13) is not suitable for burial purposes due to excessive slope. The study however revealed that it is highly feasible to extent the existing Franschoek South cemetery north eastwards (refer to Plan 1.7 above).

Although most of the rituals and traditions associated with the Dwars River Valley are not specifically part of the rural community of Franschoek, they do however wish to be buried close to their respective hamlets and/or villages. The service area of Site 8 therefore becomes an important criterion. The proposed extension of the Franschoek South Municipal cemetery are approximately 3,5 km from Franschoek North (Groendal), which is an acceptable distance in urban areas due to the fact that public transportation is readily available.



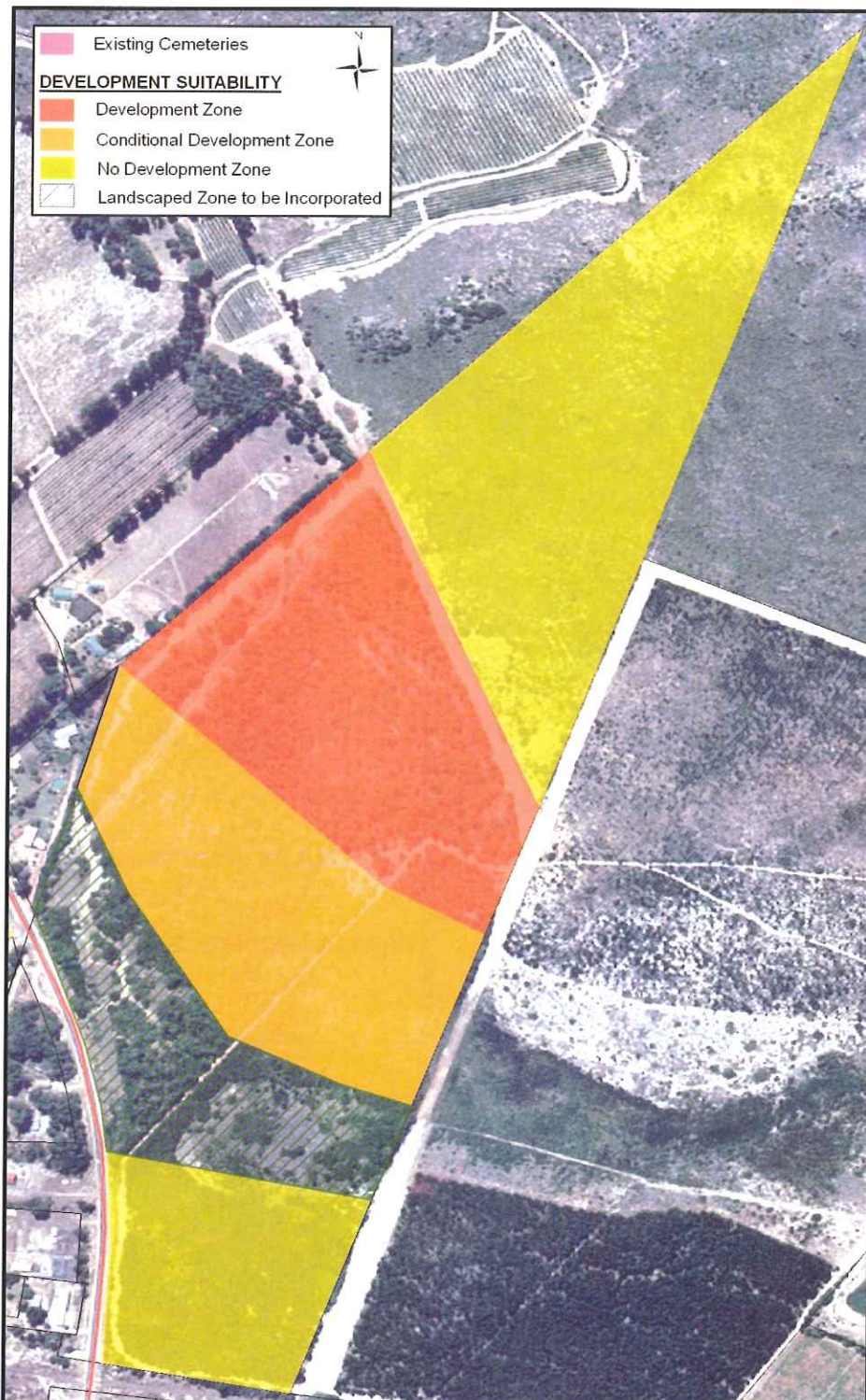
**Figure 15 (above): 3.5 km Service Area of Site 8.**



### 3.5.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) The Franschhoek and Groendal cemeteries are managed by the Stellenbosch Municipality. Section 4 of the Stellenbosch Municipality Burial Park By-Law (P.N. 109/1983), which specifically deals with memorial work, is therefore also applicable to them. These regulations should be enforced more strictly by the Municipality in order to ensure an overall sense of uniformity. As mentioned under in Section 3.2.3, par. (ii) this does not necessarily imply that an additional financial burden will be placed on families that cannot afford expensive memorial work. Ample opportunity exists for the Municipality to create simple and affordable memorial works which could be provided to such families. It is imperative that the Stellenbosch Municipality gives priority to the Franschhoek and Groendal cemeteries in this regard as they are relatively new.
- ii) A strict inventory of burials should be kept, indicating all relevant information in order to ensure that a situation similar to that at Papegaaiberg cemetery does not occur.
- iii) The Stellenbosch Municipality must consider drawing up a management plan containing development and landscape proposals for both cemeteries. It is important to note that no cemetery expansion should occur without a detailed site development plan. *define*
- iv) A number of potential sites (*Sites 9 to 12* – Figure 4 on pg. 13) have been identified by the Stellenbosch Municipality for the establishment of regional cemeteries. The site-specific study indicated *Site 9* and *Site 11* as *No Development Zones*. These sites are unsuitable for the development of cemeteries mainly due to the presence of wetlands and marshes.
- v) Site 8 has the potential to be developed as a regional cemetery (refer to Plan 1.8 below). The site-specific study designated the northern and southern portions as *No Development Zones* and indicated that approximately 9 ha are highly feasible for the development of a cemetery. Some 8 ha to the south of the property is subject to conditional development. The area indicated as *Landscaped Zone to be*

*Incorporated* is not suitable for the development of a cemetery but could be integrated as part of the landscaping of the proposed cemetery.

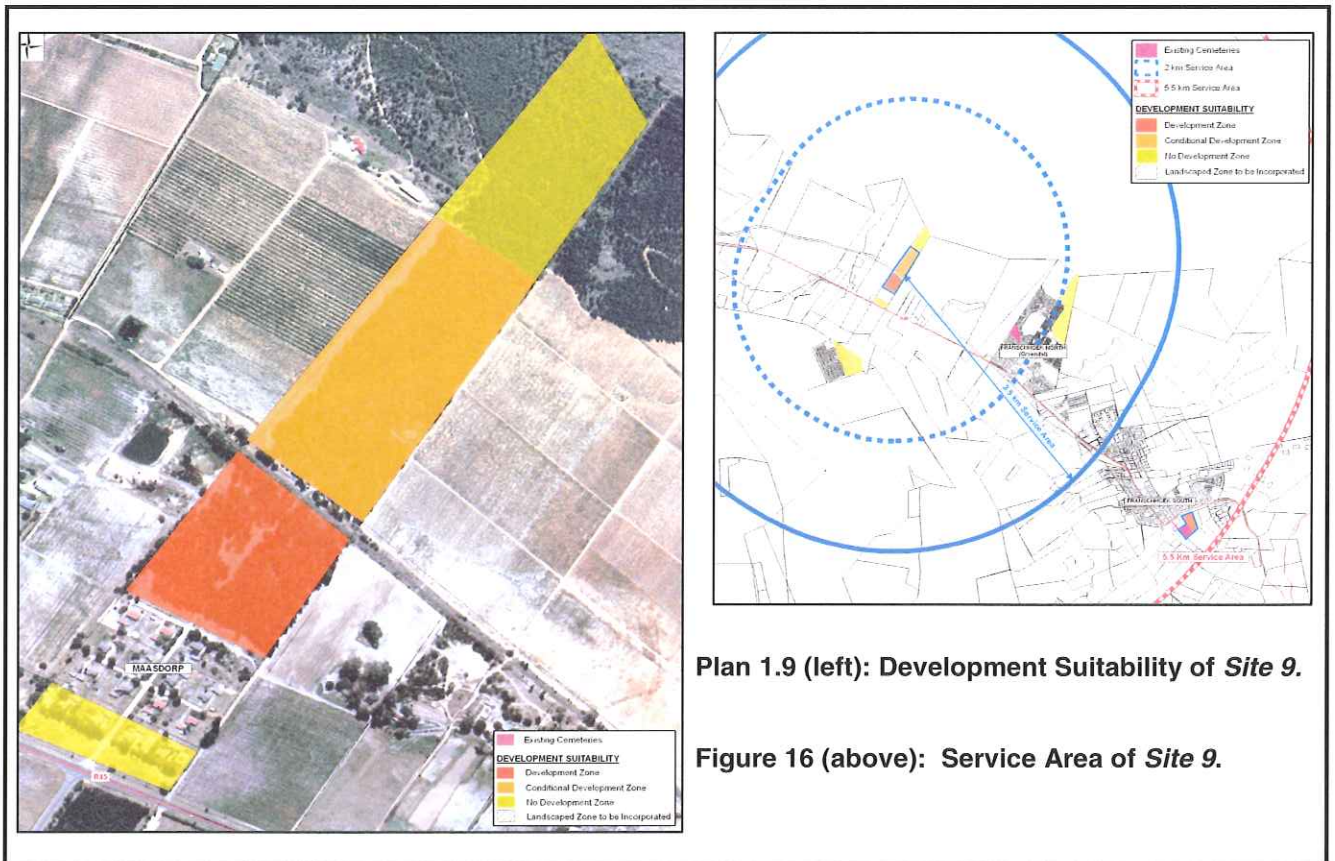


**Plan 1.8: Development Suitability of Site 8 (refer to Figure 4 on pg. 13)**

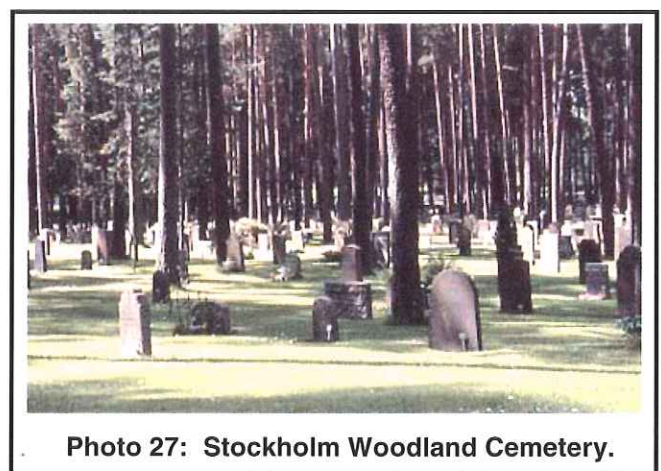
Site 8 is more or less centrally located in context of the Stellenbosch Municipality with the site being approximately 7 km from Franschhoek, ± 10 km from the Dwars River Valley, and between 15 km to 20 km from Stellenbosch.



- vi) The site-specific study indicated that portions of Site 9 are highly feasible for the development of a cemetery (refer to Plan 1.9) due to its gentle slope and the existing pine trees. It is proposed that Site 9 should not be considered as a cemetery serving the entire municipal area. It should rather be utilized by Franschhoek and its rural hinterland (refer to Figure 16).



The site indicated as *Development Zone* is ideal for the establishment a woodland cemetery (refer to Photo 27). The existing pine trees should remain with the exception of those that need to be removed for structural purposes (e.g. location of future graves).



- vii) It is important to note that no cemetery development without a detailed site development plan should occur.

## **3.6 DE NOVO CEMETERY**

### **3.6.1 BACKGROUND INFORMATION**

The De Novo settlement was initially founded as a worker colony in 1941. At the end of 1945, some of the coloured soldiers and veterans of the Second World War (WWII) and their families were also settled at De Novo. In 1971 the Rehabilitation Centre for substance abusers was established.

The cemetery, surrounded by blue gum trees, was probably established in the early 1940s. None of the historical graves are clearly marked and the genealogical information is not well documented, if at all. What is however known is that the people buried at the De Novo cemetery were residents of the worker colony and WWII soldiers. The last burial took place approximately two years ago. *2004.*

### **3.6.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY**

There are no formal communal burial facilities at or near De Novo. The community has indicated that they wish to extend the historic cemetery to make provision for a formal cemetery. The site-specific study indicated no reason why the historic cemetery cannot be extended as proposed by the community (refer to Plan 1.10 on the following page). It should however be noted that a marsh, which are conservation worthy, is in close vicinity to the site.

### **3.6.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS**

- i) The De Novo community in collaboration with Stellenbosch Municipality, the South African Genealogical Society, Mibisa Archive Project (project initiated Military Burials in South Africa) and Heritage Western Cape should identify the rehabilitation of and research into the history De Novo cemetery as a pilot project. The history of the De Novo cemetery should be confirmed in writing and a memorial should be erected for fallen soldiers and civilians alike.
- ii) The Stellenbosch Municipality should assist the De Novo community in the planning and development of the proposed extension. Burials may only take place after the



approval, by the Stellenbosch Municipality, of a detailed management plan containing development and landscape proposals.

- iii) The marsh located to the west of the potential site should be incorporated in the landscaping of the proposed extension and should link with any open space system identified in the environmental management plans of the municipality.



Plan 1.10: Development Suitability of *Site 13* (refer to Figure 5 on pg. 14)

## 3.7 KLAPMUTS CEMETERY

### 3.7.1 BACKGROUND INFORMATION

The establishment of the Klapmuts cemetery is uncertain, but local residents believe it can be older than 50 years. The Klapmuts cemetery is a communal cemetery and is managed by the Full Evangelic Church of God (*Volle Evageliese Kerk van God*). Most of the funeral rituals are similar to those practiced by the communities of Pniel and Kylemore.

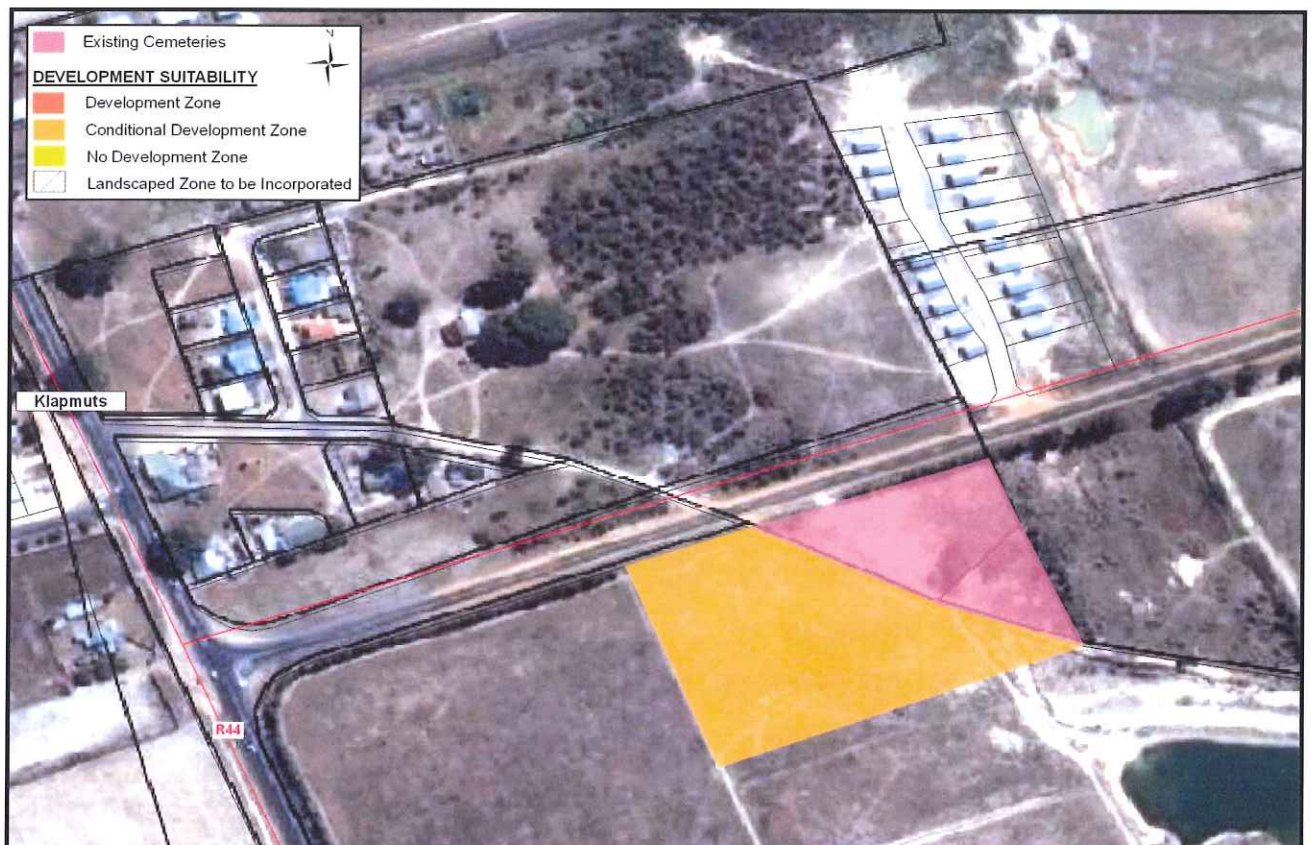


### 3.7.2 SITES IDENTIFIED AND DEVELOPMENT SUITABILITY

The Klapmuts cemetery of approximately 7 000 m<sup>2</sup> has reached full capacity. The tragic incident in which 12 residents of Klapmuts passed away in a motor vehicle accident just made it clear how extremely important it is to make provision for burial space in the long term.

The Stellenbosch Municipality does not own any property suitable for burial purposes in and around Klapmuts. Mr Tymen Bouma of Anura Estate kindly made available a portion of his property adjoining the existing Klapmuts cemetery subject to the final approval of his development application (refer to Annexure 4). The site-specific study indicated that more detailed geoghydrological studies are necessary to determine to a certain degree the feasibility of extending the cemetery. Due to the presence of a non-perenical stream, flowing from the existing dam on the adjoining property, the site is therefore deemed to be a *Conditional Development Zone*.

NB



Plan 1.11: Development Suitability of Site 14 (refer to Figure 5 on pg. 14)

### 3.7.3 GENERAL DEVELOPMENT AND MANAGEMENT PROPOSALS

- i) The Stellenbosch Municipality should in collaboration with the Klapmuts community embark on a process of identifying property suitable for burial purposes other than the property offered by Mr Bouma. It is uncertain whether the condition set by Mr Bouma, i.e. development application must be approved, can be met in the near future. Due to the urgent need for burial space it is proposed that the Municipality together with the community enter into negotiations with Mr Bouma for the unconditional donation of Site 14. If this is not possible alternative properties must be identified as a matter of urgency.
- ii) The management of the existing cemetery and any future communal cemetery should remain the responsibility of the Klapmuts community in order to ensure that their rituals and traditions can be given practical effect to without contravening any municipal regulations, e.g. burials on a Sunday.
- iii) The Stellenbosch Municipality should assist the Klapmuts community in the planning and development of the proposed extension. Burials may only take place after the approval, by the Stellenbosch Municipality, of a detailed management plan containing development and landscape proposals.

## 4 GENERAL RECOMMENDATIONS

The Stellenbosch Municipality should strive to establish, promote, enhance, and protect the components and values described under section 2.1.2 with regard to the cemeteries under their jurisdiction. In order to implement these values and components, the following general recommendations are made:

- (i) In order to promote the historical, social and religious values people attached to cemeteries, the general neglect and safety of cemeteries under the jurisdiction of the Stellenbosch Municipality must be addressed. As was mentioned above every cemetery has its own dedicated work-force. No reasons therefore exist why Stellenbosch's cemeteries cannot be tidied up and managed in such a way that it will attract family members and general visitors and as such promote the historical and social values thereof. Communal cemeteries are however not excluded and communities must, with the assistance of the Stellenbosch Municipality, restore and

manage their cemeteries so that their traditional beliefs with regard to the value that their respective cemetery play in their community become visible to all.

- (ii) The Stellenbosch Municipality Burial Park By-Law (P.N. 109/1983) provides guidelines regarding internments, exhumations, and memorial work and prescribes regulations for the general management of cemeteries. Section 4 (Memorial Work) of the by-law must be enforced more strictly in order to create an overall landscape quality together with setting, landscape design and botanical elements (refer to Photo's 7, 8, 14 &15).
- (iii) The role that cemeteries can play in, for example, the enhancement of floral and faunal diversity within the Stellenbosch Municipal area, is often overlooked. The Municipality should therefore manage cemeteries as part of the overall vision for its area through for example including the management and landscaping of cemeteries into the Stellenbosch Municipality Environmental Management Framework (SEMF) and other policy and sectoral documents. The Municipality must assist communities with the management and landscaping of their respective cemeteries so that it can contribute to the vision of the Stellenbosch Municipality with regard to its environment.

Landscape design and botanical elements play a critical role in establishing and maintaining cemeteries as part of the open space system of an area. By, for example, integrating proposals for Papegaaiberg (i.e. establishing an arboretum) with the proposed site for cemetery expansion for the area (i.e. memorial park), a safe and landscaped '*garden of remembrance*' could be created, which in turn could also act as a valuable botanical resource or as a source for rare indigenous plant species (refer to Photo 28 and Figure 9 and 10 on pg. 26 and pg. 27).

- iv) A management plan containing development and landscape proposals should be drafted for existing cemeteries under the jurisdiction of the Stellenbosch Municipality. No cemetery development and/or expansion may occur without a detailed site development plan.





**Photo 28: The integration of an arboretum and memorial park, together with the strict enforcement of regulations regarding memorial work could have our cemeteries become part of Stellenbosch Municipality's open space system (SWJ vd Merwe).**

- v) Consider the establishment of empowerment projects, e.g. production of framing structures (refer par. 3.1.3 [ii]), headstones, clay pots for flowers, etc. These products can be offered to the public at a lower cost.
- vi) The feasibility and desirability of a crematorium in the Stellenbosch municipal area should be investigated in detail. It does however not seem feasible due to the fact that a number of communities within the municipal area do not believe in cremation. The construction costs associated with the development of a crematorium is also extremely high and with a new existing crematorium situated at Durbanville Memorial Park it does not make financial sense to establish another crematorium.
- vii) Alternative burial methods, e.g. *Smart Burial* (refer to Annexure 5) and the establishment of mausolea (refer to Annexure 6), should be investigated by the Stellenbosch Municipality.

- viii) Consider outsourcing the establishment and management of a private cemetery (such as Durbanville Memorial Park) through a public-private-partnership by for example, leasing municipal property to a developer for 50 years at a nominal fee. The Durbanville Memorial Park makes provision for a number of services, including burial services, burials (internments and memorials for cremations), engravings of memorials and are in the process of building a high quality crematorium.

## 5 CONCLUSION

In conclusion it is submitted that the feasibility study that has been undertaken in terms of the criteria summarised in section 2.5.1.1 has provided adequate evidence that a number of municipal properties could be developed as cemeteries. With regard to the development of cemeteries the *Development Suitability Study* revealed municipal properties that are classified as 'development zones' and as 'conditional development zones'. Detailed sites development studies should however be undertaken on these sites before any development may occur (refer to Annexure 3).

The study also revealed an urgent need for burial space in Pniel, Kylemore, Lanquedoc, Klappmuts and De Novo. No suitable municipal properties have been identified in these communities. It is imperative that the Stellenbosch Municipality in collaboration with the respective communities embark on a process to identify suitable private property as a matter of urgency. The municipality should assist communities in negotiations with the owners of suitable private property.

It is suggested that this document be made available for public scrutiny and comment and that such comment be included in a final revised document.

Comments or inquiries are to be forwarded to the consultants, Dennis Moss Partnership, at the following address:

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## **DENNIS MOSS PARTNERSHIP**

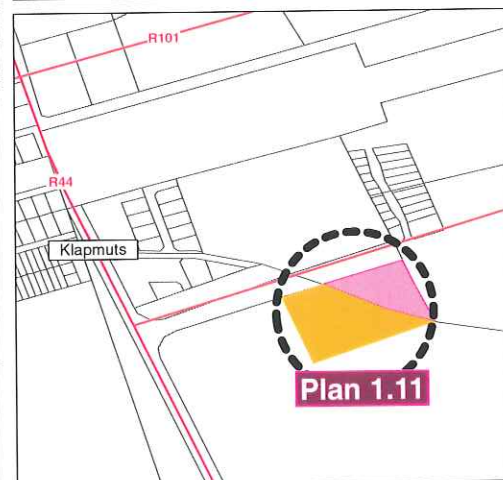
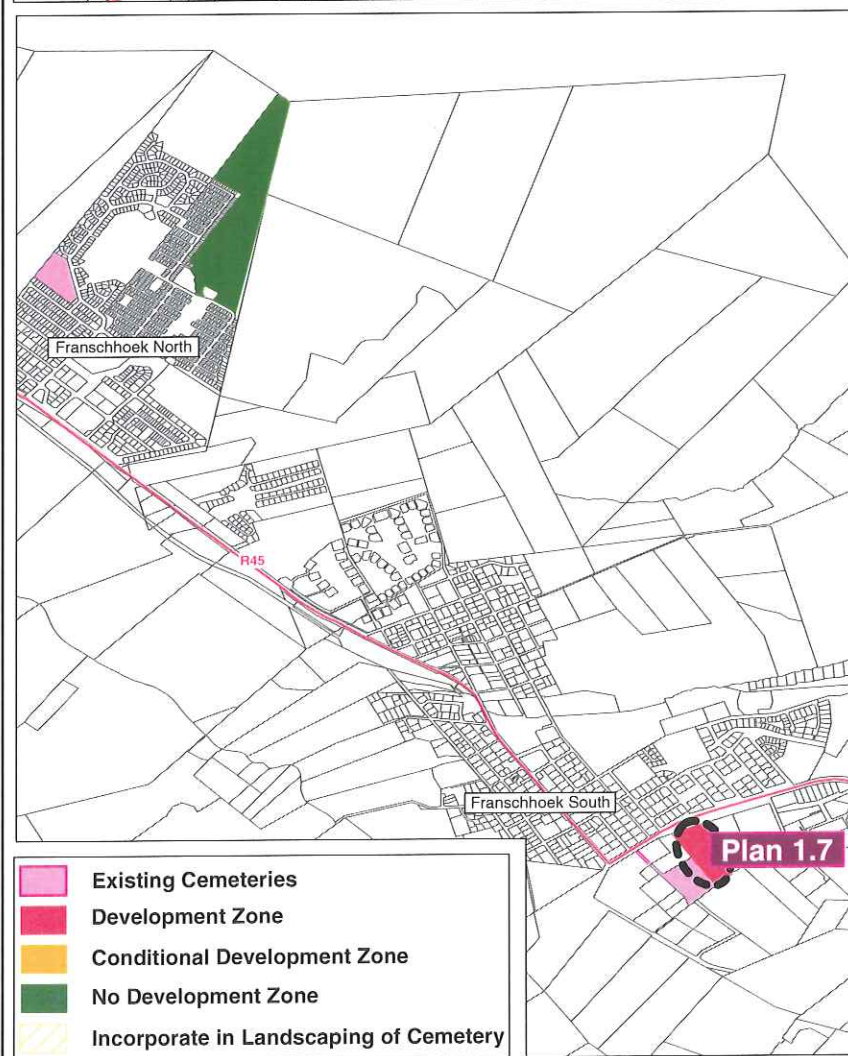
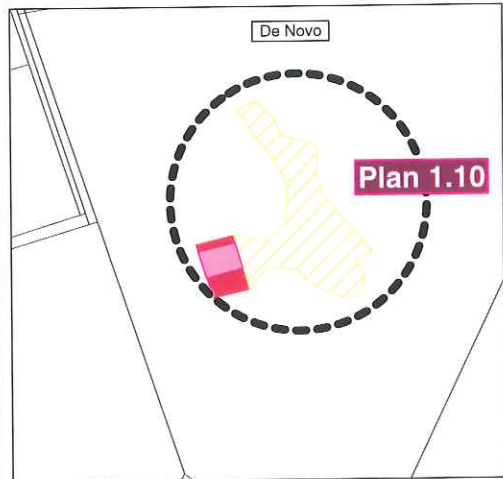
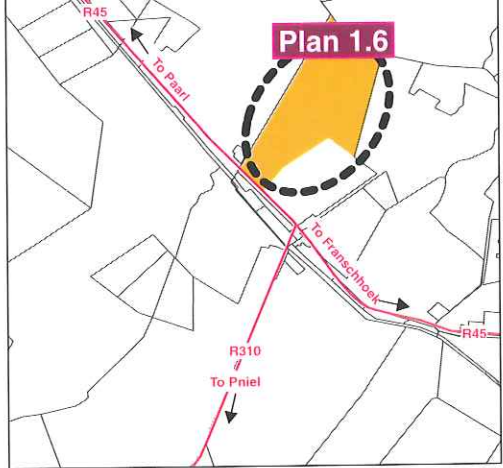
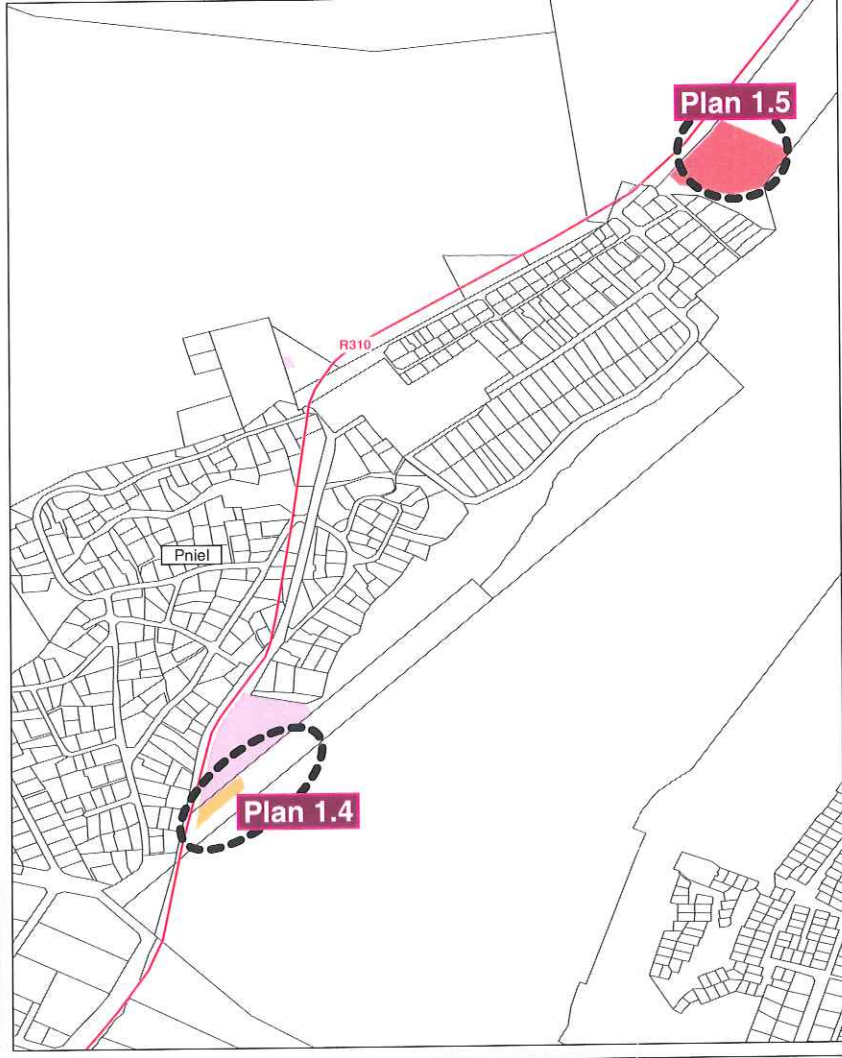
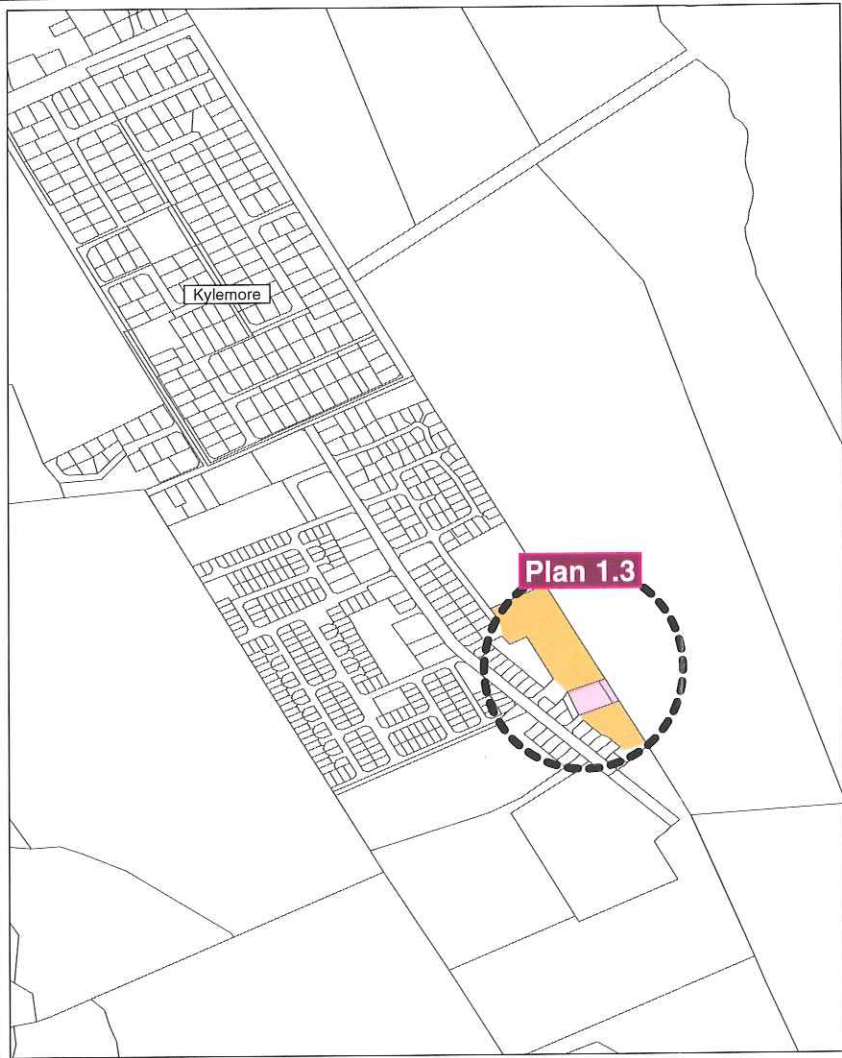
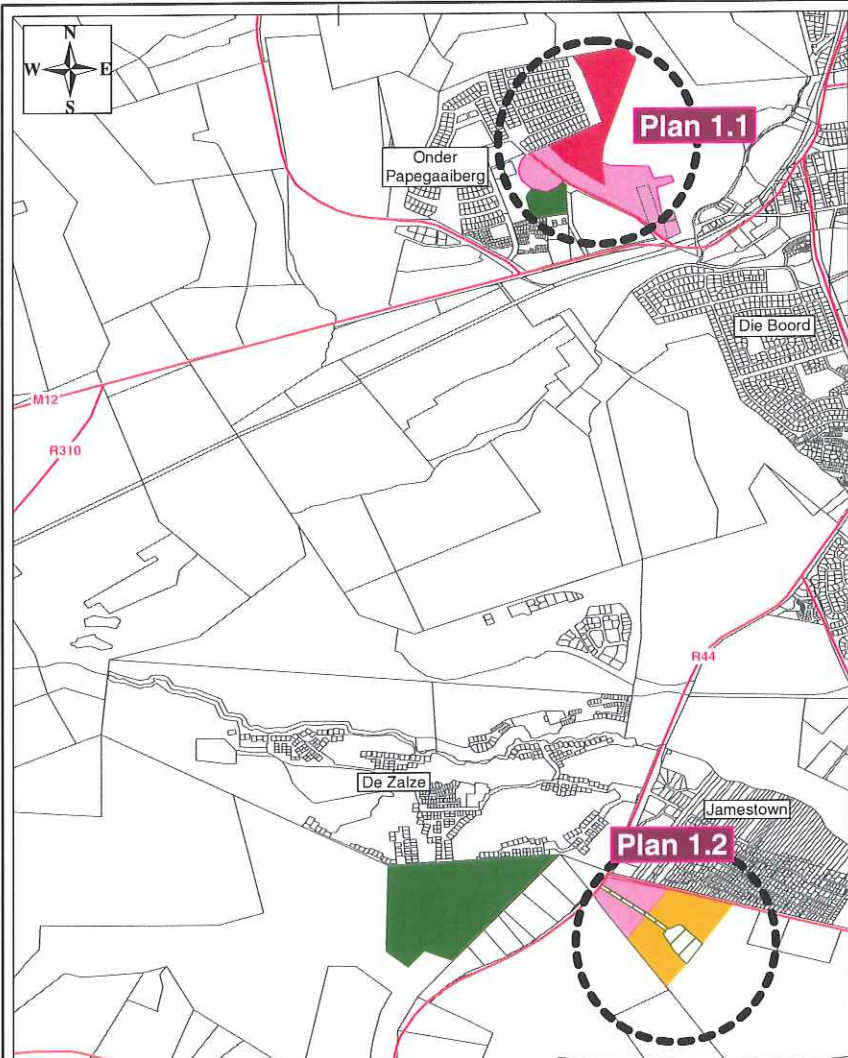


**ANNEXURE 1**

**MAPS & PLANS**







- Existing Cemeteries
- Development Zone
- Conditional Development Zone
- No Development Zone
- Incorporate in Landscaping of Cemetery

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CLIENT  
**STELLENBOSCH MUNICIPALITY**

PROJECT  
**CEMETERY FEASIBILITY STUDY**

DRAWING  
**MUNICIPAL PROPERTIES STELLENBOSCH: Development Suitability**

PROJECT NR. W3620	DATE 27/10/2006
DRAWING NR. PLAN 1	DRAWN BY TV
	CHECKED BY SW

**FOR DISCUSSION ONLY**









Proposed woodland cemetery with memorial garden rooms and formalised garden passageways as illustrated in these drawings

Proposed natural area with formalised path system that link to cemetery.  
 Junctions of paths can provide seating and shade.  
 Hill top can become a landmark viewpoint.

ONDER PAPEGAAIBERG

Main entrance

Major nodes can provide cemetery facilities like crematorium, chappel, teegarden, parking, etc

FLAMINGO STREET

DISTILLARY STREET

OUDE LIBERTAS

BERGKELDER

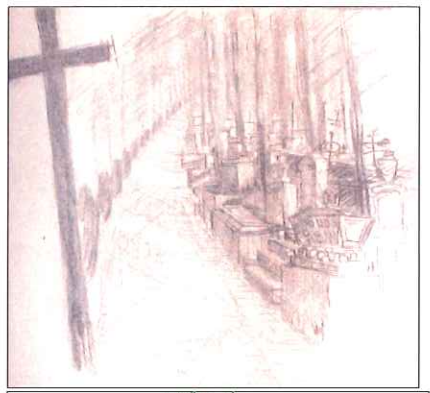
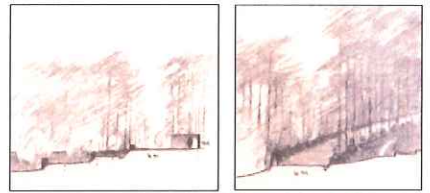
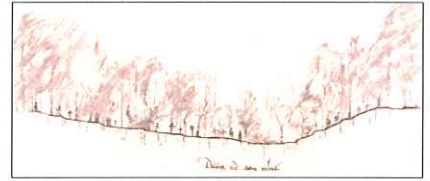
BOSMAN'S CROSSING

STELLA KAYA

ADAM TAS ROAD

existing public open space

A series of sketches by Gunnard Asplund, exploring the character of the Stockholm Woodland Cemetery. The wooded character of the proposed area to be incorporated into the existing Papegaaiberg cemetery, provides similar opportunities for creating a woodland setting with spaces of varying scale.... some more open and public, with others more enclosed and private.



**DENNIS MOSS PARTNERSHIP**  
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CLIENT: **STELLENBOSCH MUNICIPALITY**

PROJECT TITLE: **CEMETERY FEASIBILITY STUDY**

DRAWING TITLE: **SITE DEVELOPMENT PLAN**

PROJECT NO:	W3620	SCALE:	NTS
DRAWING NO:	L3620/01	DATE:	17/11/2006
REV:	A	DRAWN:	MVR

**FOR DISCUSSION**







**ANNEXURE 2**

**STELLENBOSCH MUNICIPALITY: BURIAL PARK  
BY-LAW (P.N. 109/1983)**



**STELLENBOSCH MUNICIPALITY: BURIAL PARK BY-LAW  
(P.N. 109/1983)**

*DEFINITIONS*

1. In this by-law, unless inconsistent with the context-anatomy:

“anatomy subject” means human remains from schools of anatomy;

“authorised official” means the person appointed by the Council as its official and includes any person lawfully acting in this stead;

“burial” includes cremation or any other lawful mode of disposal of a dead human body or anatomy subject, and “bury” shall have a corresponding meaning;

“burial order” means an order issued in terms of the Births, Marriages and Deaths Registration Act, 81 of 1963, as amended;

“burial park” means land on which the Council has established a burial park and which has been set aside as such by resolution of Council;

“coffin” means any form of opaque shelf, which completely encloses the body, is of sufficient strength to bear the mass of the body without collapsing and is of readily combustible, decomposable material;

“competent authority” means any person authorised by law to perform the functions contemplated by Section 3’

“Council” means the Council of Stellenbosch Municipality;

“exclusive rights” means a right of burial issued in terms of section 2 thereof,



“memorial work” means any headstone, monument, inscription thereon whether permanent or temporary;

“plot” or “grave” means one unit measuring –

- (a) in respect of adults, 2 500mm in length and 1 200mm in width, and
- (b) in respect of children under 12 years, 1 500mm in length and 700mm in width;

“public holiday” has the same meaning as in the Public Holidays Act 5 of 1952, as amended;

“special resolution” means a resolution as defined in the Municipal Ordinance, 20 of 1974, as amended; and

“superintendent” means the duly appointed person in charge of the burial park.

## *INTERMENTS*


2. (1) The Council may set aside any part of the burial park for the burial of the dead of any religious denomination or other body or community; provided that such setting aside shall not vest in any person the right to be buried in any particular place in any cemetery.
- (2) All interment fees relating to the burial park are paid in advance and are fixed by Council by special resolution.
- (3) The Council may sell or dispose of the right of burial in a grave or a plot subject to the conditions and fees as it may determine by special resolution and shall issue to a person acquiring an exclusive right the conditions attaching to such acquisition and a certificate of acquisition.
- (4) Should a holder of a right of burial wish to relinquish such right, he may return such right to the Council upon such terms and conditions as the Council may determine.

- (5) No vaults or brick-lined graves shall be permitted in the burial park.
- (6) No person shall bury or cause to be buried any body within the burial park without the prior permission of the authorised official and no such permission shall be given unless the burial order and the completed motive of interment have been first submitted to the authorised official together with any other forms as may be required.
- (7) Interments shall only commence between the hours of 09h00 and 16h00 and must be completed not later than 17h00. No interments shall take place on Sundays and public holidays and any service rendered by the Council on Saturdays, shall take place on the times and conditions determined by the Council.
- (8) Applications for interments in the burial park must be made at the Council's offices.
- (9) No person shall –
  - (a) bury a body unless the top of the body or the coffin, if the body is contained in a coffin, is, after being covered up, at least 1 000mm from the surface of the ground;
  - (b) bury another body unless the soil on top of the last body interred is left undisturbed for a space of at least 300mm when the further interment is made, or
  - (c) bury a body in a grave unless the person whose body is to be buried has a right to be buried in that grave.
- (10) The Council reserves the right to lower any mound on any grave.
- (11) A coffin shall be used for interments except when religious beliefs prohibit its use.

## *EXHUMATION*

3. (1) No person shall exhume or cause to be exhumed a body from a grave –
  - (a) unless he shall first have obtained the authority of the Administrator and the Council, and
  - (b) Otherwise than in accordance with the conditions specified in such authorities.
- (2) Whenever the authorised official deems it advisable that a body be removed from the grave, he may, after consultation, if possible, with any near relative of such deceased person and with the approval of the Administrator and the Council, removes such body to another grave.
- (3) Subject to the provisions of subsections (1) and (2), no body shall be exhumed less than two years after burial except when so decided by a competent authority or unless the coffin was hermetically sealed prior to interment.

## *MEMORIAL WORK*

4. (1) No memorial work other than a headstone shall be permitted in the burial park. 
- (2) No person shall commence any memorial work, whether erection or removal –
  - (a) Except under authority of a written permit issued by the authorised official;
  - (b) Otherwise than in accordance with the conditions attached to such permit as determined by the Council; and
  - (c) As such manner as to encroach upon other graves, footpaths or Roads in the burial park.
- (3) An application for a permit referred to in subsection (2) shall obtain such particulars of the erection and the inscription to be placed thereon as the Council may require, and the authorised official may refuse to issue such permit if in this opinion such erection is likely to be of inferior workmanship or



quality or is likely in any way to disfigure the burial park or is calculated to hurt or offend the feelings of the public, or is likely to be a danger.

- (4) No memorial work whatsoever will be authorised on a grave until an interment in such grave has been effected.
- (5) No headstone shall be erected which exceeds the following maximum dimensions:
  - (a) Length: 3
  - (b) Width: 1
  - (c) Height: 1
- (6) Bricks on edge are permitted as a lining around the headstone, provided they are below grass level and do not interfere with maintenance work.
- (7) No person shall –
  - (a) Solicit any business or order, or exhibit, distribute or leave any tract, business card or advertisement within the burial park, or shall use the burial park, road or walk therein for the conveyance of goods, parcels, or other materials except such as are intended for use in the burial park, or
  - (b) Use any part of the burial park for the cutting, dressing and manufacturing of headstones, except with the consent of the authorised official.
- (8) No person shall carry out any memorial work or bring any materials into the burial park for the purpose of such work on Saturdays, Sundays and public holidays, except where the removal of monumental work is necessary to effect an interment.
- (9) The holder of a right or the owner of a memorial work shall keep the grave or plot concerned and the memorial work thereon in good order and repair.
- (10) (a) Whenever the holder of right or the owner of a memorial work has erected any memorial work in the burial park, and allows it to fall into such state of disrepair as in the opinion of the authorised official

constitutes a danger or a disfigurement in the burial park, the authorised official may call upon such holder or owner or his near relatives to effect such repairs as may be specified within the period stipulated.

- (b) In the event of the required repairs not being effected within the period stipulated, the Council may itself effect the repairs or remove the memorial work without paying compensation and may recover the expense of such repair or removal from such holder or owner or his near relative.
  
- (11) No person shall at any time leave or deposit any rubbish, loos soil, stone or other debris within the burial park other than at a place provided for that purpose or in any way damage or deface any part of the burial park or anything therein contained.
  
- (12) Where it is necessary to cause a subsequent interment in a grave or plot the onus shall be upon the person requiring the interment to remove any existing memorial work required to be removed for that purpose and for its replacement if necessary.
  
- (13) No person shall erect palings, or any other structure, improvement or ornamentation on a grave.
  
- (14) No person shall obstruct, restrict or opposed the superintendent or authorised official in the course of his duty or refuse to comply with any order to request of the superintendent or authorised official.
  
- (15) No person shall plant a tree or shrub on a grave or plot without the permission of the superintendent or authorised official.
  
- (16) The superintendent or authorised official may prune, cut down, dig up or remove any shrub or plant or flower in the burial park without any notice.
  
- (17) Every person in charge of memorial work being carried out within the burial park shall, upon demand at any time produce his written permission to carry out such memorial work.

- (18) No person shall fix or erect any memorial work while the ground is, in the opinion of the superintendent or authorised official, in an unfit state.
- (19) The Council or its employees shall not be responsible for any damage to or theft from graves and memorial work within the burial park.

#### *MEMORIALS: CREMATIONS*

- 5. (1) The Council may provide –
  - (a) buildings, niches or other facilities for the deposit and preservation of the ashes of cremated human remains, for definite periods or in perpetuity upon such terms and conditions as may be determined by the Council;
  - (b) facilities for memorial tablets of approved material upon such terms and conditions as may be determined by the Council; and
  - (c) gardens for the strewing of ashes of cremated human remains.
- (2) All inscriptions on niches, memorial tablets or in books of remembrance shall be subject to the approval of the authorised official.
- (3) No person shall –
  - (a) open a niche containing ashes, or
  - (b) remove an urn or casket containing ashes from a niche, without the permission of the authorised official.
- (4) Ashes to be interred in a grave shall be in a container constructed of perishable material.
- (5) The outer dimensions of urns or caskets to be deposited in a niche shall not exceed –
  - (a) for a double niche, 230mm X 230mm X 230mm, and
  - (b) for a single niche, 150mm X 150mm X 230mm.
- (6) Only urns or caskets containing ashes of a deceased person shall be deposited



in a niche.

- (7) No permanent wreaths, sprays, flowers or floral tributes may be placed in the columbarium or in its grounds.

#### *GENERAL*

6. (1) All vehicles lawfully within the burial park shall proceed at a speed of not more than 20km/h and not vehicles shall pass in close proximity to any point where a funeral services is being conducted. No hooting shall be permitted. No person shall drive any vehicle in the burial park except upon the roads provided for that purpose.
- (2) No person under twelve years of age may enter the burial park unless such person is under the care of a responsible person.
- (3) No person shall hold or take part in any demonstrations for any purpose in the burial park.
- (4) No person shall –
  - (a) enter or leave the burial park other than by the official gates;
  - (b) sit, stand or climb upon or over memorial work, a gate, wall, fence or building the burial park;
  - (c) enter the burial park with a vehicle without the permission of the authorised official upon terms and conditions determined by the Council;
  - (d) expose or convey a body un an unseemly matter in the burial park;
  - (e) play any game or sport, or discharge any fire-arm except as a salute at a military funeral, or discharge any airgun or catapult within the burial park or disturb or annoy any person present therein;
  - (f) mark, draw scribble or erect an advertisement upon, or in any way deface a wall, building, fence, gate, memorial work or other erection in the burial park;
  - (g) pick or in any way interfere with plants or flowers in the burial park; or
  - (g) bring an animal into the burial park.

- (5) Persons entering the burial park do so at their own risk. The Council will not accept any responsibility for damage, loss or injury sustained.
- (6) No instrumental music shall be performed within the burial park without the permission of the superintendent or authorised official.
- (7) Any person who knowingly makes any false statement under this by-law or who contravenes this by-law shall be guilty of an offence and upon conviction shall be liable to a fine not exceeding two hundred rands or to imprisonment for a period not exceeding six months or to both such fine and such imprisonment.





**ANNEXURE 3**

**COMPREHENSIVE CEMETERY SITE  
INVESTIGATION GUIDELINES  
(SOURCE: GEOSCIENCE)**



# THE SELECTION OF CEMETERY SITES IN SOUTH AFRICA

## 1 CEMETERY SITE INVESTIGATION

Recognition of cemetery as a potential health hazard calls for comprehensive site investigation. A full and proper site investigation includes the examination of all the following aspects pertaining to geology, pedology, hydrology and environmental conditions.

### **Factors relating to soil conditions:**

- # Soil type (including pedogenic material).
- # Soil structure (both residual and transported soil).
- # Soil density (incorporates soil grading).
- # Soil permeability.
- # Soil moisture content.

### **Factors relating to underlying bedrock conditions:**

- # Geology (bedrock lithology).
- # Frequency of joints and other discontinuities in the rock.
- # Joint condition.
- # Nature of joint fill material.
- # Degree of bedrock weathering (related to the N-value).

### **Factors relating to ground water conditions:**

- # Depth of the permanent water table.
- # Frequency of perched water tables during the wet season.
- # Prevailing hydraulic gradient.
- # Relationships between the slope and ground water table.

### **Factors relating to surface water occurring in drainage features:**

- # Perennial or non-perennial.
- # Frequency of flow in non-perennial drainage channels.
- # Stream order.



- # Location of storage dams in drainage systems.

**Topographical and climatical influences:**

- # Slope shape and gradient (influences hydraulic gradient).
- # Incised nature of the landscape.
- # Located above 1 in 50 year flood level.
- # Annual precipitation (related to the N-value).
- # Evaporation factor (also related to the N-value).
- # Seasonal temperature ranges.

**1.1 SOIL EXCAVATIBILITY**

Soil excavability refers to the ease of grave excavation without mechanical aids. A minimum excavatable depth of at least 1.8 metres (6 feet) is essential for cemetery purposes, but depths exceeding this would be preferential (see **basal buffer zone**).

**TABLE 1: EXCAVATIBILITY ASSESSMENT**

<b>SOIL CONSISTENCY<sup>10</sup></b> (after Jennings et al 1973)	<b>EXCAVATION METHOD</b>	<b>CEMETERY SUITABILITY</b>
Very loose and loose. Very soft and soft.	Spade.	Suitable, but grave stability may be problematic.
Medium dense and firm.	Pick and spade.	Ideal.
Dense and stiff. Very soft rock.	Backactor.	Suitable, although weathered rock should be avoided where possible.
Very dense and very stiff. Soft and hard rock.	Jackhammer.	Not suitable, but allowable only if alternative site options do not exist.
Very hard rock and extremely hard rock.	Blasting.	Not recommended.

**1.2 SOIL PERMEABILITY**

Soil permeability is the major factor determining the rate of fluid movement through the soil. For cemetery purposes, soil permeability must fall within a predetermined permeability

range. A measure of flexibility is again permitted to accommodate variable conditions.

**TABLE 2: SAFE DISTANCES TO DOMESTIC WATER SOURCES**

SOIL PERMEABILITY	SAFE
$1 \times 10^{-4}$ cm/s	465 metres
$5 \times 10^{-5}$ cm/s	308 metres
$1 \times 10^{-5}$ cm/s	182 metres
$5 \times 10^{-6}$ cm/s	166 metres
$1 \times 10^{-6}$ cm/s	153 metres
$5 \times 10^{-7}$ cm/s	152 metres
$1 \times 10^{-7}$ cm/s	150 metres

**TABLE 3: SOIL TYPE AND PREDICTED PERMEABILITY RANGES.**

SYMBOL (ASTM) <sup>12</sup>	SOIL TYPE (ASTM) <sup>12</sup>	PERMEABILITY <sup>13</sup> (cm per sec)	CEMETERY SUITABILITY
GW	Well-graded gravel	$1 \times 10^{-1}$ to $1 \times 10^{-3}$	Totally unsuitable
GP	Poorly graded gravel	$5 \times 10^0$ to $1 \times 10^{-3}$	Totally unsuitable
GM	Silty gravel	$1 \times 10^{-4}$ to $1 \times 10^{-7}$	Partially suitable
GC	Clayey gravel	$1 \times 10^{-5}$ to $1 \times 10^{-8}$	Suitable
SW	Well-graded sand	$5 \times 10^{-2}$ to $5 \times 10^{-4}$	Unsuitable
SP	Poorly graded sand	$5 \times 10^{-1}$ to $5 \times 10^{-5}$	Unsuitable
SM	Silty sand	$5 \times 10^{-4}$ to $1 \times 10^{-7}$	Ideal
SC	Clayey sand	$5 \times 10^{-5}$ to $1 \times 10^{-8}$	Ideal
CL	Lean clay	$1 \times 10^{-6}$ to $1 \times 10^{-8}$	Partially suitable
ML	Silt	$5 \times 10^{-5}$ to $1 \times 10^{-8}$	Suitable
OL/OH	Organic silt / clay	$1 \times 10^{-5}$ to $1 \times 10^{-8}$	Partially suitable
CH	Fat clay	$1 \times 10^{-8}$ to $1 \times 10^{-10}$	Totally unsuitable
MH	Elastic silt	$1 \times 10^{-7}$ to $1 \times 10^{-9}$	Unsuitable

**TABLE 4: SAFE DISTANCES TO DRAINAGE FEATURES**

<b>SOIL PERMEABILITY</b>	<b>SAFE DISTANCE</b>	<b>SAFE DISTANCE (Arid Regions)</b>
1 x 10 <sup>-4</sup> cm/s	415 metres	365 metres
5 x 10 <sup>-5</sup> cm/s	258 metres	208 metres
1 x 10 <sup>-5</sup> cm/s	132 metres	82 metres
5 x 10 <sup>-6</sup> cm/s	116 metres	66 metres
1 x 10 <sup>-6</sup> cm/s	103 metres	53 metres
5 x 10 <sup>-7</sup> cm/s	102 metres	52 metres
1 x 10 <sup>-7</sup> cm/s	100 metres	50 metres

### 1.3 SITE DRAINAGE

Site drainage is also one of the more significant site selection criteria. The ingress of surface water into graves must be minimised and storm water run-off controlled as far as possible.

The following reasons are cited:

- (i) High velocity run-off after a typical South African thunder storm would lead to erosion of a site, especially when taking into consideration that a cemetery site's surface soil horizon is in the process of being disturbed.
- (ii) The presence of surface water and excessive ponding would enhance the ingress of water into the soil, especially at recently closed graves, and the subsequent saturation of the soil would increase the risk of ground water contamination.
- (iii) Poor site drainage could also lead to the flooding of recently excavated graves and subsequent destabilisation of grave verges.
- (iv) Poor drainage resulting in marshy conditions would have a detrimental effect on human and mechanical mobility around the graves.
- (v) Poor drainage would also lead to the degradation of cemetery appearance. This is an important factor concerning the marketability of a cemetery site.



## **1.4 SITE TOPOGRAPHY**

A gradient of between 2° and 6° is considered as ideal for cemetery purposes. This slope range would ensure adequate site drainage, minimum erosion and promote human and mechanical mobility on site. These specifications will, however, not always be attainable. On the Cape Flats, for example, slopes seldom reach 2°, and in the hilly and mountainous areas of KwaZulu-Natal, moderate slopes are scarce and used for other purposes. In these areas recommendations could be relaxed and special precautions introduced.

When the surface slopes at cemetery sites by necessity exceed 6°, a maximum gradient of 9° is recommended. In these cases the following measures are proposed: Graves should be orientated with their long axis perpendicular to the slope direction and should be staggered in a brickwork manner. This grave arrangement will minimise surface erosion and impede rapid internal fluid movement which will tend to occur downslope, through the cemetery as a result of the voids created by the graves and coffins. If not checked, rapid leachate seepage could threaten water resources.

## **1.5 BASAL BUFFER ZONE**

A basal buffer zone refers to the vertical soil succession which occurs between the base of the deepest grave and the water table (permanent or perched). This buffer zone (aeration zone or attenuation zone), essentially forms a barrier between the source of pollution and the water table. Through processes of filtration and adsorption, microbiological pollutants are prevented by the soil from reaching the water table. The soil, however, tends to lose its filtration and absorption capacity with time<sup>14</sup>, and because a cemetery is a long term source of pollution, a substantial buffer zone is proposed.

The effective depth of this attenuation zone depends largely on the prevailing soil permeability conditions and a few of the other factors mentioned earlier in this document. A minimum buffer zone of 2.5 m will adequately cater for most conditions if the recommended permeability limits are complied with. However, the buffer zone should ideally be even deeper than 2,5 metres.

## 1.6 GRAVE STABILITY

Grave stability refers to the competence of the sides and verges of excavated graves. Soil with characteristics to support stable graves is desired for the following reasons:

- (i) A few days usually elapse between excavation of a grave and the funeral. During this time the grave has to stand open, unsupported, hence the term “stand up” time. The soil should therefore have a consistency allowing for at least a few days of “stand up” time.
- (ii) During the funeral, many people move around the grave. If located in an area comprising unstable soil, this disturbance could result in the grave collapsing.
- (iii) Excessive crumbling of the excavation verge may hinder the smooth lowering of a coffin into the grave.

**TABLE 5: GRAVE STABILITY ASSESSMENT**

<b>SOIL CONSISTENCY<sup>9</sup></b>	<b>CEMETERY SUITABILITY</b>
Very loose and very soft.	Not recommended.
Loose and soft.	Not suitable, but allowable if alternative site options do not exist.
Medium dense and dense. Firm and stiff.	Ideal.
Very dense and very stiff.	Suitable, although excavability may be problematic.

## 1.7 SOIL WORKABILITY

Soil workability refers to the ease at which the soil can be manipulated in and out of the grave. Although not one of the most important factors, soil workability should receive some consideration. A stiff clayey soil for example, will be difficult to work and especially arduous to recompact back into a grave. Another drawback would be the slumping or settlement of this poorly compacted grave fill material after periods of precipitation.

## **1.8 CEMETERY SIZE**

The size of a cemetery is very often limited by the non-availability of suitable conditions, especially in areas characterised by dense drainage networks and where shallow bedrock or shallow water tables are prevalent. However, from an economic point of view, a minimum-sized unit should be defined to justify an engineering geological or geotechnical investigation of this nature (phase III investigation).

## **GEOSCIENCE**





**ANNEXURE 4**

**LETTER FROM MR TYMEN BOUMA  
(ANURA ESTATE)**





**Tania Volschenk**

---

**From:** allan@investcall.com  
**Sent:** 30 October 2006 09:25 AM  
**To:** johanlr@stellenbosch.org  
**Subject:** FW: Anura Estate Development: Extention of Graveyard  
**Importance:** High

-----Original Message-----

**From:** Allan Marais [mailto:allan@investcall.com]  
**Sent:** 23 October 2006 12:25 PM  
**To:** 'johanleroux@stellenbosch.org'  
**Cc:** JC Anthony (jcanthony@stellenbosch.org); Tymen Bouma (tymen@anura.co.za)  
**Subject:** Anura Estate Development: Extention of Graveyard  
**Importance:** High

Dear Johan,

Referring telephonic discussion with Mr Tymen Bouma of the Anura Estate he has advised that in principle he has no objection to assisting with making available adjoining property to the existing graveyard subject to final approval for the current application for Development on the Estate. He also advises that at this point the extent and the work required to secure the extension via walling and or landscaping can be agreed.

I trust this will assist in your future planning of the Klapmuts graveyard site.

Regards

**Allan Marais**  
**Investcall Property Group Pty Ltd**  
Uitzicht Building, Tygerberg Office Park  
163 Hendrik Verwoerd Drive, Platteklouf  
PO Box 4477, Tygervallei, 7536  
Tel. 0861 750 750  
Fax. 0861 750 751  
Cell: 082 773 3833  
Email: allan@investcall.com



**ANNEXURE 5**

**SMART BURIAL**





**INTRODUCING**



**REDUCES BURIAL COST**

**OPTIMISES BURIAL SPACE**

**HONOURS CULTURAL VALUES**

**PRESERVES THE ENVIRONMENT**





## Preamble



South Africa is currently faced with a shortage of cemetery space which will be further aggravated with an increase in death rate, expected to rise by 35%. It is estimated that 4,7 million people will require burial over the next five years. Johannesburg alone has experienced a 25 per cent increase in burials since 1998. The city and country's largest cemetery, Avalon, will run out of space by the end of 2008 (Special Assignment: 29 Apr. 03).

Kwazulu-Natal which is in the grip of the Aids pandemic, is worse off in terms of available cemetery space. Research done for town planners in the province projected the space required for burial over the next decade will be equivalent to 3,240 soccer pitches (Special Assignment: 29 Apr. 03).

Cremation is not acceptable to the majority of the South African population, which leaves government little choice other than to provide the necessary burial space.

As for sub-Saharan and other developing countries, social structures in South Africa, are already burdened with increased demand to dispose of the dead, in turn creating a need for new and radical alternative methods of burial where cremation is not regarded as an option.

**Smart Burial** is a patented burial system designed to provide the means to optimally utilise available burial space, radically reduce burial costs, demote deforestation and proactively preserve the environment.

Using the Smart Burial system will allow current burial space to be optimally utilised, allowing for two to three times the number of burials to be performed in the same space required for current in ground burials.

Not only will the Smart Burial system save space but also radically reduce burial costs. A very conservative cumulative estimated saving of between R 3,000.00 to R 5,000.00 can be made in terms of the grave, casket and memorial stone.

Last but not least is that the Smart Burial system is environment friendly, not only saving space and cost but at the same time preserving the environment discouraging deforestation and preventing soil and underground water pollution.



## Dynamic Burial System



*Smart Burial* provides a flexible burial system that can be tailored to satisfy specific needs. The *Smart Burial* system comprises of a range of affordable eco-friendly caskets, an alternative burial option that optimises available space and affordable memorial stones available at a fraction of the cost compared to equivalent marble products in the market.

*Smart Burial 's* intent is to radically reduce burial costs and optimise burial space whilst preserving the environment and honouring cultural values.

### Vertical Burial

Vertical burial, an integral part of the *Smart Burial* system, is offered as a space

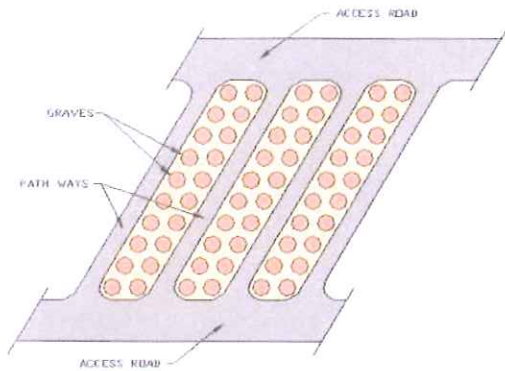


Figure A - Birds eye view on graves layout positions (Figure C). The intent with the Trench Shuttering option is to minimise capital investment whilst optimising

saving alternative burial option where cremation is not regarded as acceptable.

Vertical burial comprises of a plurality of round holes (graves) drilled (Figure A) or rectangular holes constructed (Figure B) applying the Smart Burial Trench Shuttering method and caskets designed to support the deceased in vertical standing

available resources in the form of equipment and labour. Graves are constructed by digging a continuous trench using a backhoe which is currently being used within cemeteries and partitioning it off in sections to create graves. Caskets are vertically disposed in these holes (Figure D) and covered up with earth once in position. A casket is loaded onto a custom designed casket

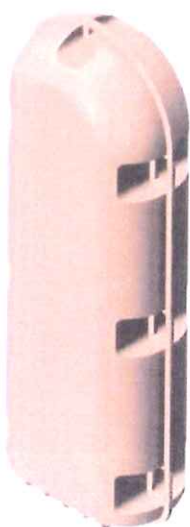


Figure C - Casket in upright position

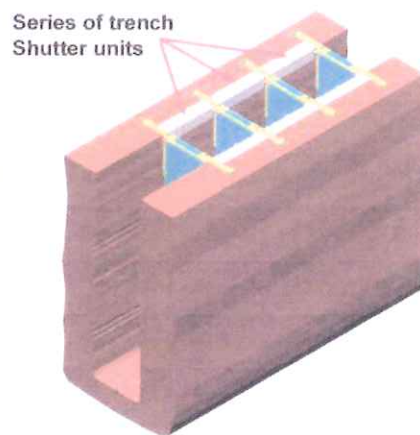
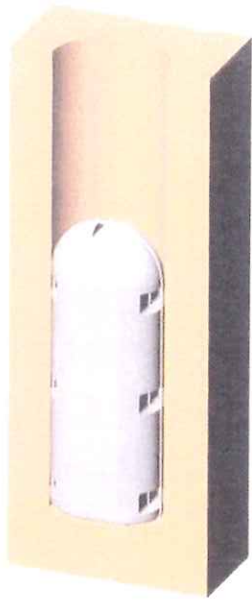


Figure B - Sectional view of a number of Trench Shutter units in position within a trench







Picture D - Sectional

carrier whilst in a horizontal position (Figure E) and connected up to a lowering device . Once in position the casket is



tilted vertically (Figure F ) and lowered into the grave. The **Smart Burial** casket is environment friendly, designed to be manufactured mainly from recycled plastic contrary to traditional caskets that are manufactured from wood, which in turn increases demand and lead to further deforestation. A BBC News report released in April 2003 stated, Kenya's new Narc government's deputy environment minister, Wangari Maathai (Nobel Peace Prize winner in 2004 for her contribution to sustainable development, democracy and peace) told the BBC's Network Africa programme, "Converting our trees into coffins is not very good

for the living." Ms Maathai a prominent environmental activist that joined the government when the opposition swept to power in December 2002 suggested, Kenyans should use plastic coffins to help prevent envi-

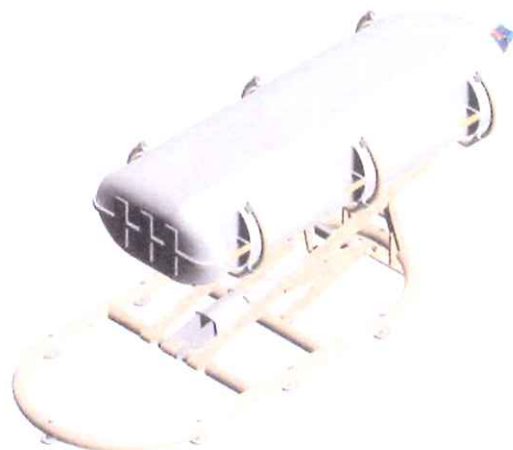


Figure E - Casket loaded on Casket Carrier

ronmental destruction. She said that according to statistics, Aids in Kenya is causing some 700 deaths a day. She further mentioned that people have to cement the wooden coffins into the ground to prevent thieves from stealing and selling them on. Using plastic coffins would also prevent this practice she said.

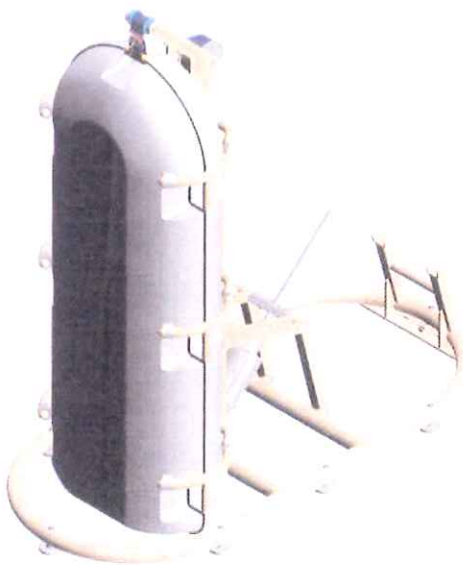


Figure F - Casket tilted vertically for burial





## Caskets



**Smart Burial** offers a standard range of caskets that can be customised according to individual needs. Based on cost, religion and culture, caskets can be beautified in terms of colour, print (*Figure G*) and ornamentation applied to a basic casket. Traditionally people are accustomed to using wooden caskets therefore wood effects can also be applied to caskets simulating traditional wooden caskets (*Figure H*). Caskets are not limited to vertical burial only. The intention is to provide an affordable alternative other than wood, without relinquishing product quality, that can be used either for vertical or traditional horizontal burial.



Figure G - Screen printed casket



Figure H - Casket with wood finish

## Memorial Stones

**Smart Burial** also provides alternative memorial stones (*Figure I*) at a fraction of the cost paid for traditional memorial stones made from marble. Marble is an expensive commodity and traditionally memorial stones are manufactured using this base material. Environmental destruction is evident wherever marble is mined, therefore **Smart Burial's** decision to discourage the use of this material for the manufacturing of memorial stones.

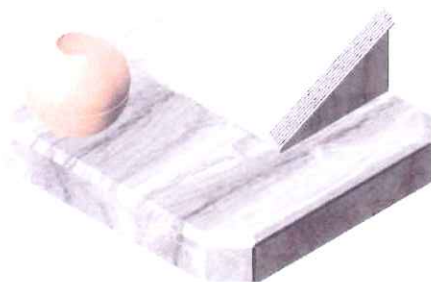


Figure I - Example of memorial stone for a vertical grave

Modern technology and materials make it possible to manufacture imitation marble without the cost and environmental destruction associated with it. Customer needs can still be satisfied whenever requesting marble memorial stones, however, the versatility of new materials enables us to explore new innovative frontiers providing even more exquisite product designs at an affordable cost.



## Body Preservation

**Smart Burial** caskets can also be used to preserve bodies outside refrigerated facilities.



Figure J - Casket with Vacuum/ Gas Shut Off Valve

This is done by fitting a vacuum/ gas shut off valve to the casket and (*Figure J*) sealing the lid and bottom receptacle off with a rubber seal. Oxygen is removed from the casket by drawing a vacuum through the vacuum/ gas shut off valve and flushing the internal atmosphere with nitrogen. Shutting off the valve when the process is completed, produces an inert atmosphere which will slow down the

decaying process in turn preserving a body. This method of body preservation is intended where refrigerated facilities are not available e.g. during cross border and transportation from rural areas and/ or in case of a natural disaster, for example the Tsunami that struck South East Asia, where facilities cannot cope with demand in turn creating a serious health risk. Using **Smart Burial** caskets to contain and preserve the deceased will reduce the immediate health risk posed by decaying bodies that cannot be refrigerated or buried in time.

## Environmental Conservation

If we want to leave a positive legacy for future generations to come, environmental preservation must be key therefore **Smart Burial 's** approach not to use wood and marble for caskets and memorial stones. **Smart Burial** caskets are manufactured from bio-degradable plastic and memorial stones are made using a substitute material that has a low environmental impact.

A grim reality is that current burial practices result in environmental degradation. Each year within cemeteries in the United States of America alone, they bury 3,130,763 litres of embalming fluid, which includes formaldehyde, 81,893,403 kilograms of steel, 2,449,399 kilograms of copper and bronze and 2,787,091 square meters of hardwoods, including tropical woods, according to Mary Woodsen, vice president of the Pre- Posthumous Society, an organization dedicated to bringing memorial nature preserves to New York state.





Formaldehyde is considered a toxic material, that has been classified as a human carcinogen (cancer-causing substance) by the International Agency for Research on Cancer, and is regarded



as hazardous waste . Formaldehyde serves many purposes in products and is used as a part of the glue or adhesive in pressed wood products (chipboard, hardwood plywood, and medium density fibreboard) and embalming fluid, a chemical used to preserve the deceased. More than eighty percent of caskets used within funerals are made from chipboard. Leaching toxins from decomposing bodies and caskets are polluting surrounding soil and underground water resources destroying the environment and creating a serious health risk.

**Smart Burial** caskets are eco-friendly and are designed to contain the decomposing remains of the deceased until the body is mummified. Gases and vapour pass through vent holes within the casket allowing the remains to dry out over time and also regulating the emissions without destroying the ecosystem. Once the body is mummified will the casket decompose.

## **Cost and Space Savings**

### Costs Saving

**Smart Burial** offers a wide variety of affordable high quality caskets at radically reduced prices. A basic **Smart Burial** casket will sell for approximately R 2,300.00.

**Smart Burial** graves will result in a cost saving of between 20% to 40% depending on the type of cemetery used. **Smart Burial** memorial stones will sell for up to 75% less apposed to marble equivalents.

A total saving of approximately 60% can be realised in terms of the casket, grave and memorial stone which equates in a monetary saving of between R 3,000.00 to R5,000.00 conservatively speaking.

### Space Saving

**Smart Burial** improves land utilisation to such an extent that double to three times the number of burials can be performed in the same space required for traditional horizontal burial. Vertical burial not only saves space but also requires less preparation time, which will generate more capacity to deal with increased demand.







# SMART CASKETS

**Smart Burial** caskets are made to order and are supplied in open or closed face configurations. Depending on affordability and individual preference, caskets are customizable in terms of colour, ornamentation, trim (lining) and handle configurations applied to a basic casket.

**Smart Burial** supports environmental preservation therefore caskets are not manufactured from wood in order to discourage deforestation and preserve the environment for future generations to come.

Patent and design protection reserves **Smart Burial** and authorised agents the exclusive right to produce and distribute **Smart Burial** caskets preventing unwanted competition to capitalise on the idea.

**Smart Burial** produces light weight eco-friendly caskets each weighing approximately 20 kg. Caskets are capable of handling excessive loads and are designed to prevent environmental contamination.

**Smart Burial** offers standard caskets to reduce cost as well as top of the range caskets to satisfy individual customer needs, however, options are endless in terms of colour, trim, decorations and handles that can be used on caskets.

Terms and conditions apply.





# SMART CONVENTIONAL CASKET

## SMART CASKETS

All caskets are made to order and are supplied in open or closed face configurations.

Depending on affordability and individual preference, caskets are customizable in terms of colour, ornamentation, trim (lining) and handle configurations applied to a basic casket.



## BASIC CASKET

The Smart Conventional Casket is a basic casket that is supplied either in open or closed face configuration, and is available in standard basic colours, handle configurations and trim (lining).

This casket is aimed at providing an affordable dignified option to individuals, where cost is a factor, without reducing quality.









# SMART CONVENTIONAL CASKET

## SMART SUPREME CASKETS

Smart Supreme Caskets are aimed at the top end of the market where cost is not an option.



## MADE TO CUSTOMER REQUIREMENTS

Caskets are made to order according to customer requirements and are supplied in open or closed face configurations.

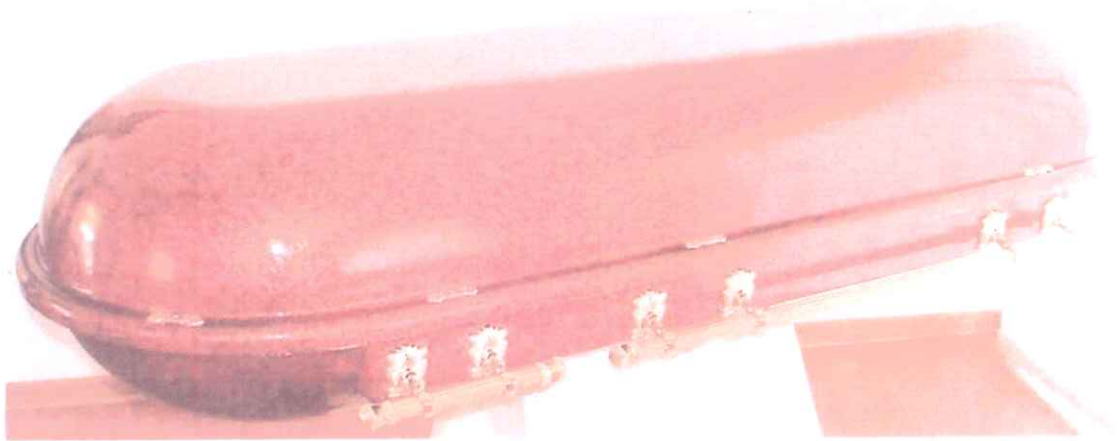
Caskets can be customized in terms of colour, decorations, trim (lining) and handle configurations applied that will satisfy individual taste, providing a high quality esthetically pleasing product.







# SMART SUPREME CASKET



## SMART SUPREME OPEN FACE CASKET

WITH MARBELIZED FINISH, EXTENDED SPLIT  
HANDLES AND SILK LINING





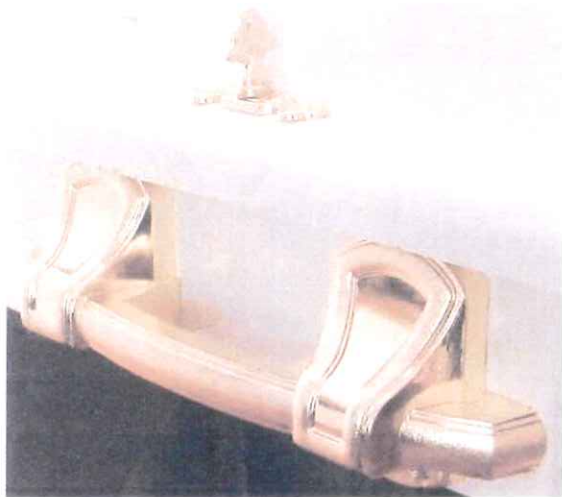




# SMART ACCESSORIES

## HANDLES

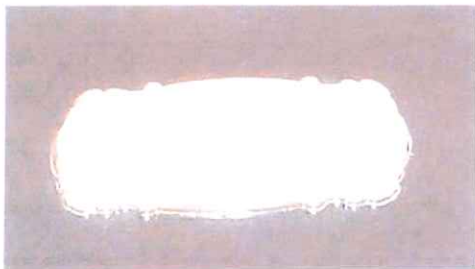
Caskets are available in different handle configurations to satisfy individual choice.



## ORNAMENTATION

Caskets can be beautified in terms of ornamentation applied.

Ornamentation is designed to satisfy different religions and cultural diversity which is available at a nominal additional cost



Commemorative Inscription Plate





For more information contact:

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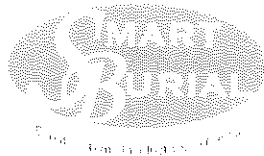
Or

S Arnold

Mobile: 0825742155

EXHIBIT 10 - 2011/12

10/11/12



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**ANNEXURE 6**

**MAUSOLEUMS: BACKGROUND INFORMATION**



# MAUSOLEUM: BACKGROUND INFORMATION

## 1 DEFINITION OF A MAUSOLEUM

Historically, the *mausoleum* referred to the large temple-like and elaborately decorated structure which was erected in 353 BC by Queen Artemisia of Halicarnassus as the final resting place for her late husband, King Mausolus.

At present a mausoleum is defined as a crypt, tomb, or vault, which in short constitutes a burial chamber. The mausoleum concept is a unique burial option and follows a tradition dating back thousands of years. A mausoleum is an **above-ground internment structure** housing *crypts*<sup>1</sup> for caskets/coffins and *niches*<sup>2</sup> for cremated remains (O'Neill, 2006)<sup>3</sup>.

Modern-day mausoleums have a ultra-violet protected sealant that is used at the interface of adjacent units to ensure that the burial chambers are perfectly sealed. Marble and granite are mostly used to safeguard the mausoleum against natural elements such as rain, weathering, wind, etc and airborne pollutants such as smoke, smog and industrial gases. Marble and granite are hard rocks and could potentially protect the mausoleum for centuries to come. As granite is harder and far more durable than marble it is used on outside of the mausoleum, and the more beautiful marble on the inside.

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<sup>1</sup> Crypts are designed to hold casketed remains. Crypts are usually constructed of durable, poured-in-place, reinforced concrete and connected to drainage and ventilation systems. The crypt is sealed and a bronze, granite or marble front is attached. Once a funeral is completed, the coffin or casket is placed in crypt. The face of the crypt is inscribed with a memorial plaque for remembrance. Ceramic or photoplex pictures may be placed on crypt fronts but it may be subject to certain specifications of the particular mausoleum. Bodies do not have to be embalmed before it is entombed and it is largely a matter choice. However, if the funeral service includes several days of visitation with an open casket, embalming is probably advisable. Furthermore, it also depends on where the mausoleum is erected and what the regulations are of the mausoleum regarding embalment. Crypts can be purchased as a single position, a true companion (where the internments are positioned head to toe and separated by a special partition), or a pair, where the coffins are interred side by side. Other world-wide trends for crypts include: single occupancy, companion, family or tandem, couch style and the slide-over concept. Furthermore, crypts may include a family room or *vault* where an entire room is dedicated to descendants of a family.

<sup>2</sup> Niches are constructed to hold the cremated remains of the deceased. Modern mausoleums will often have *columbarium* (i.e. public storage of cinerary urns) niches for cremated remains in addition to traditional mausoleum crypts. Columbaria can be either free standing (indoor or outdoor) standing units, or part of a mausoleum or another building. Following an urn entombment, a niche front of granite, marble bronze, wood or glass is attached.

<sup>3</sup> O'Neill J 2006: What is a mausoleum? <http://www.forpeaceofmind.com.au/Vol3/prepaidfuneral.cfm>





**Figure 1: An example of a multi-storey mausoleum with niches that house the cinerary urns** (Source: <http://www.mausoleum.com>).

A variety of mausoleums can be developed, e.g. indoor community mausoleums which forms part of a larger structure such as a church or memorial building, outdoor / garden mausoleums constructed in a cemetery / burial park or community mausoleums consisting of a building designed to provide for above-ground interment or entombment (Green Hills Memorial Park, 2006)<sup>4</sup>.

Above-ground burials do not necessarily require an expensive casket. In addition, mausoleums may be opened up at any time. They are able to house any number of urns or one casket and additional urns. Developed in accordance with the strictest standards, the design of the 'classic' mausoleum includes an everlasting filter system, which ensures

<sup>4</sup> Green Hills Memorial Park 2006: General Information: Facts about Entombment: <http://www.greenhillsmemorial.com/fcat-e.html>



that the deceased's remains are biodegraded in a natural and environmental-friendly manner (Johannesburg City Parks, 2006)<sup>5</sup>.

## 2 MAUSOLEUM CONCEPT IN SOUTH AFRICA

Although new to South Africa, the mausoleum concept is well-accepted internationally, particularly in European and American communities. The mausoleum may be an answer to urban development where there is insufficient space in cemeteries to accommodate conventional, below-ground burials.

Functional reasons to build a mausoleum in South Africa are as follows:

- a) A mausoleum enables authorities to make use of rocky terrain or ground which may be unsuited to conventional burials.
- b) They can be designed to any size and specification, and are a practical and cost-effective alternative to conventional tombstones (Johannesburg City Parks, 2006).
- c) Low maintenance: Mausoleums reduce seasonal grounds care.
- d) Mausoleums provide higher densities to bury people than traditional below-ground burial. Maximum number of entombments in a minimum amount of space.
- e) A well-designed and well-placed mausoleum has a positive effect on the entire property, namely:
  - i. *Feature:* The building is placed to be a visually interesting attraction.
  - ii. *Theme:* A mausoleum can create a theme for an entire cemetery or reinforce an existing theme.
  - iii. *Focal point:* A mausoleum visible from many parts of a cemetery becomes a familiar point of reference.
  - iv. *Unique.* A mausoleum not only fulfils the above-mentioned three characteristics but also is a work of art in such a way that the public visits it for inspiration, meditation or to experience something unique that can not be found in everyday life (<http://www.mausoleum.com/whybuild.htm>, 2006).

The mausoleum concept clearly offers a new and helpful alternative to traditional below-ground burials and could alleviate the current problem facing the Stellenbosch Municipality in finding more burial space. Furthermore, it could visually enhance an existing or new

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<sup>5</sup> Johannesburg City Parks 2006: *Greater Johannesburg's Crematoria*. <http://www.jhbcityparks.com/Cemeteries/CemBurial.aspx>

cemetery and more people could be buried at a mausoleum on a terrain which is rocky and normally unsuited for conventional burials.

However, as the need for additional burial space in the Stellenbosch Municipal area is a short term reality, the construction of a mausoleum could be expensive and it involves a lengthy construction period. In order for the mausoleum to stand the test of time it is necessary to use materials such as marble, granite, etc. and to employ expert construction methods. This could drastically increase the building fees and it is important to bear in mind that the majority of the people residing in the Stellenbosch Municipal area are poor and can't even afford a tombstone let alone a bronze or marble plaque for a crypt or niche front.

Other additional fees regarding a mausoleum could be for the maintenance of the compulsory filtering systems, regular care (i.e. cleaning, measures against vandalism, etc.) of the mausoleum and entombment fees which include administration and permanent record-keeping (determining ownership, obtaining permission and the completion of other documentation which may be required, entering entombment particulars in the interment register, maintaining all legal files, etc.), opening and closing the crypt or niche, and replacing the marble and granite front. Any other supplies and/or services which may be required at the time of an entombment would be at an additional cost. Funeral costs could even increase more if embalment of the body is requested by the mausoleum specifications before the body is entombed.

Construction of a mausoleum needs careful design and planning, and it should be considered as a long-term option for the interment of the deceased in the Stellenbosch Municipal area. Well-organised *community mausoleums* and sharing the costs with other individuals may reduce the entombment fees and could make it more affordable to most people in the Stellenbosch Municipal area.