



# **SUSTAINABLE CEMETERIES SYMPOSIA**

**PROCEEDINGS OF SESSION I: THE ROLE  
OF GREEN BURIALS**

**Van Dusen Garden, Vancouver B.C.**

**July 24, 2006**

**CERDA DUPPEN DEERMAN  
1915**

# TABLE OF CONTENTS

<b>TABLE OF CONTENTS .....</b>	<b>2</b>
<b>BACKGROUND.....</b>	<b>3</b>
<b>PRESENTATIONS .....</b>	<b>3</b>
<b>PARTICIPANT DISCUSSION .....</b>	<b>7</b>
<b>WRAP UP AND NEXT STEPS .....</b>	<b>9</b>

## BACKGROUND

On June 6, 2006, representatives of municipal cemeteries in British Columbia and Alberta attended the first in a series of Symposia designed to explore and discuss the concept of sustainability as it relates to cemeteries in Canada.

Organized and hosted by LEES + Associates, the series was initiated to provide an opportunity for those associated with public cemeteries, including cultural and environmental advocates, to take a detailed look at all the issues relating to sustainability, as well as to share ideas, information and experiences. This initial Symposium focused on “green” burials – one of many aspects of sustainable cemetery systems. The session was facilitated by Erik Lees & Ellen Leslie of LEES+Associates.

The Symposium began with a presentation providing an overview of the evolution of green burial in North America and some of the related issues.

## PRESENTATIONS

### **Mike Salisbury – “Sustainability and Green Burials”**

Mike Salisbury is a Landscape Architect and principal of Earthartist Landscape Architecture, a design firm specializing in the planning and design of natural burial grounds. Mike’s thesis, “A Feasibility Study of the Woodland Cemetery in Canada,” was written as a comprehensive exploration of contemporary green burial, from its historic roots to the factors guiding its evolution. This study led to Mike becoming a founding member of the Natural Burial Co-operative, a consumer organization that advocates for the development of natural burial grounds across Canada. Mike currently serves on the Advisory Board of the Green Burial Council and maintains “Forest of Memories,” an online resource supporting the development of natural burial in North America.

Mike’s presentation is summarized below.

The idea of green burials originated in the United Kingdom out of the natural birthing movement. It was developed as an inexpensive, family-organized and environmentally-friendly funeral to improve the quality of the death experience.

Today in the United Kingdom, green burials account for about 10% of all burials. Unlike in Canada, where cremation is chosen by an increasing number of consumers, in Britain, green burial is now being chosen at a rate of 3:1 over cremation. The choice of green burial is growing in popularity at a rate 3 times faster than cremation when it was first introduced in the United Kingdom. Since 1994, more than 220 green burial grounds have been developed. The success in the United Kingdom has inspired others to take similar initiatives, including New Zealand, United States and Italy.

Ramsay Creek Preserve in South Carolina was the first green cemetery established in the United States, in 1998. Fernwood Cemetery in California was reinvented as a green burial park in 2003. These cemeteries have led the American green cemetery movement, which now includes green burial sites in many other states, including Florida, Colorado and New York. A Green Burial Council was founded in the United States, with the objective of educating the public about using the burial process as a means for producing social good, facilitating ecological restoration and landscape conservation, and encouraging cemetery practices that are transparent, fair and honest. The Council is actively working to develop principles and standards for social, environmental and economic sustainability in order to prevent tokenism or “greenwashing”.

The movement towards green burial is very much a grass roots movement. Although green burial will not appeal to everyone, interest in the subject is estimated to have doubled in North America since 1995.

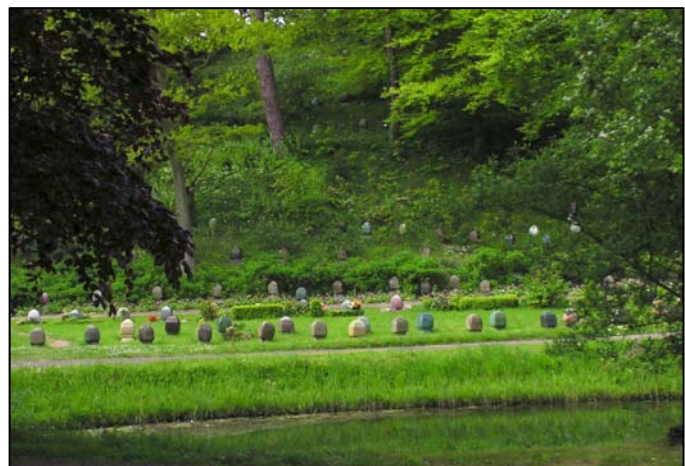
Canada has a strong municipal cemetery tradition, and municipal cemeteries seem naturally positioned to provide leadership in the movement toward green burials.

There are indications that Baby Boomers, with their changing values, will transform death and dying just as they have transformed so much of contemporary society. The concern for the environment that began with Rachel Carson’s *The Silent Spring* in 1962 and was followed by the dedication of Earth Day in 1970, demonstrates the power of this now-aging generation’s impact on contemporary values and behaviors.

The Wirthlin Study (January 2000) revealed that 19% of North American consumers intended to be cremated primarily in order to save land. This concern for the environment is similarly reflected in the finding that 38% of consumers said that they would like to leave a tree or other plant as a living memorial. Since 1995, this represents a 100% increase in consumer interest in environmental alternatives to a traditional monument.

Interest in green burials is also evident in popular media. The long-running HBO series “*Six Feet Under*” ends with the patriarch being buried in a natural burial ground. The CBC has produced a four-part documentary series on death and dying titled “*Outside the Box*” that has been shown and re-shown on Canadian TV.

The green cemetery movement appears to offer social, economic and environmental opportunities to serve growing public interest in environmental interment options. It could also offer a creative approach to reforesting degraded land, or to expanding existing cemeteries using more sustainable practices.



Establishing a green or sustainable cemetery operation in Canada could—as in Europe—even become the catalyst for change in society’s attitudes about death. The availability of green burial sites could fulfill the human need, not fully met by cremation, to do something meaningful at the end of one’s life. Providing the opportunity for the bereaved to participate in the funeral and burial ritual could also convey some of the therapeutic value recognized as a major benefit of green burial by its European proponents.

This overview was followed by a presentation providing an overview of green burial practices in Europe.

## Erik Lees – “Precedents from Europe”

Erik Lees is the principal of LEES + Associates, a Vancouver-based landscape architecture and planning firm that specializes in cemetery planning and design. Erik has spent many years studying cemeteries and burial practices around the world, and recently toured cemeteries in France, Denmark, Sweden and Holland.

Erik’s presentation provided an overview of traditional and contemporary cemeteries in Europe, summarized current practices such as the re-use of graves, and described the new “Promessa” disposition technology now being developed in Sweden. The presentation is summarized below:

Cemeteries in Europe are generally planned and managed as respected, contemplative open space. They are important urban habitat zones, keystones of the parks and open space system of the community.

Holland, Denmark and Sweden do not allow scattering of cremated remains without ministerial permission. All remains must come to a cemetery, and all plots are held for fixed terms.

When a grave is re-used, the memorial markers are offered to the family. If the family declines to take them, they are resurfaced and recycled or reduced to gravel and used as walkway material.



Green burial of cremated remains is under fixed term leases of 8 to 10 years.

Cremated remains are primarily interred in-ground (without containers) in garden or family urns, or are stored in exposed individual urns on open shelves. Enclosed columbaria and ossuaries are not popular. Scattering, when done, is on an open meadow or woodland setting within the cemetery.

In established urban cemeteries, the trend towards cremation and the re-use of graves has resulted in a surplus of cemetery space.

Traditional casket burial is under fixed term leases of 20 to 30 years. Re-leasing of lots is not limited to family members of the previous occupant.

There are no metal caskets or vaults. Embalming is not allowed in Holland and is generally not practiced elsewhere in Europe.

There are many walk-in funeral processions in cemeteries. Church carts are used extensively to transport the casket to the gravesite, as are golf carts to assist the elderly. Workers use small-scale equipment for opening and closing graves and hand tools where possible. Most cemeteries have an on-site funeral home or a celebration room available for services or family gatherings.

Promessa is an environmentally-oriented method of disposition that was developed in Sweden by Suzanne Wigh-Masak, an organic gardener and composting advocate. Suzanne developed the “promession” process of reducing remains after extensive research of cremation and burial practices.

The promession process is fully automated. The coffin enters a “Promator” and the corpse is chilled or frozen to  $-20^{\circ}\text{C}$ , then placed in a bath of liquid nitrogen (a by-product from the production of medical oxygen). The liquid nitrogen is extremely cold and further reduces the temperature of the corpse to  $-190^{\circ}\text{C}$ . This process removes all water in the body and reduces its size by 60%. The frozen remains are then vibrated gently ( $\pm 1$  cm oscillation) causing them to shatter into pieces 1 cm in size or less. These are conveyed to a specially designed bio-degradable (corn or potato starch) coffin that is then buried in a shallow grave. A bio-degradable screen placed on top for protection. The coffin is covered by rich compost to encourage decomposition, and all remains are typically indistinguishable within 3-5 years.



Testing of the process with animals is complete, as is the research and development of the liquid nitrogen bath, oscillating table and bio-degradable coffin.

Interest in the Promessa technology has been expressed in the United Kingdom, Korea and many other countries throughout the world. Approvals to Proceed are in place and by-laws to allow Promessa have been accepted in Sweden and South Africa.

A prototype Promator is currently in production. The launch of the first Promator is planned for November 2006 in Sweden.

Building upon the information and issues presented, participants discussed issues related to sustainability and shared ideas and experiences. The following is a summary of the discussion.

# PARTICIPANT DISCUSSION

## I Social, Economic & Environmental Sustainability

Discussion began with the premise that cemeteries are sustainable when they address three important and inter-connected pillars of sustainability:

- Social,
- Economic, and
- Environmental.

Participants agreed that cemeteries moving toward sustainability will:

- Explore the realm of potential social, emotional, spiritual and experiential benefits to the community and individuals;
- Include choice and flexibility in the provision of services for the diverse cultural and religious groups within the community; and
- Ensure the needs of future generations are not compromised in meeting current needs

A cemetery is socially sustainable when:

- It becomes a community amenity, a permanent repository of stories and culture contributing to a sense of place
- A sacred space is created and the spiritual needs of current and future generations are met, and
- The community is convinced of the intrinsic value of the cemetery.



A cemetery is economically sustainable when:

- Net revenues are positive or are moving towards cost recovery;
- Perpetual care fund planning is in place and on target to meet future maintenance needs;
- A range of options and services are provided;
- New services and technologies are incorporated, and
- Expectations are met within budget without negatively affecting the environment.

A cemetery is environmentally sustainable when:

- Wherever possible local products and materials are used and products are re-cycled;
- Negative effect on the environment is reduced or almost eliminated;
- The cemetery contributes positively to the surrounding habitat;
- The cemetery helps to promote respect for the environment, and
- There is a plan for land use and re-use.

## II Barriers to Sustainability

Barriers to social, economic and environmental sustainability were described by participants as arising from the cemeteries themselves, and from external political legislation and regulation. Cemetery policies that lack creativity and flexibility mean that the cemetery may fail to meet the needs of community members, and limits their participation in cemetery rituals and other cemetery events. Government legislation and regulation such as that which provides for the owning of cemetery land “in perpetuity” and prohibits leasing of land are barriers to environmental and economic sustainability. These barriers present challenges, but are not insurmountable.

## III Actions toward Sustainability

Participants identified some actions that will move municipal cemeteries toward social, economic and environmental sustainability:

### General:

- Advocate for changes to legislation and regulation to provide for a term certain leasing option with a perpetual option to review for future interments;
- Develop more effective information materials on sustainable cemeteries, green burial;
- Distribute information to people to create demand;
- Increase education and public awareness of new developments and services;
- Become better facilitators for families;
- Develop a better understanding of what consumers need, including what they want in the way of “green” options;
- Expand the range of services available for families e.g. availability of monuments, ceremony planning, catering arrangements;
- Take the lead in working with community groups;
- Provide for individual and community ritual, and
- Reclaim empty or un-occupied grave plots;

### Social:

- Make cemeteries places for the living;
- Integrate cemeteries into the community;
- Create an expanded role for cemeteries;
- Work with heritage related groups – storytelling, personal and community history;
- Consider ways to include school groups, education tourists, walking tours, city founders and gardens tours;
- Include community art and cultural events and celebrations, and
- Support local artists.

### Economic:

- Ensure that pricing of cemetery services pricing is not prohibitive for most people;
- Allow for more than one interment, either full body or cremated remains;
- Allow for lease of space for a shorter term, not rights “in perpetuity,” and
- Operate on a cost recovery basis, with provision for the future operation of the site.



**Environmental:**

- Use local materials whenever possible;
- Operate in an environmentally sensitive manner, and
- Contribute positively to the environment by adding green space to local habitat.

**Additional Topics of Discussion****Municipal Cemeteries**

Participants noted that municipal cemeteries can provide some services and programs on a not-for-profit basis, and can integrate family and community links and commonalities into services and programs. They can market their services as a whole, or on an individual basis. Municipal cemeteries, by nature of their mandate and policies, may be more appealing to some consumers than private cemeteries.

**Re-use of graves**

Market acceptance was raised as a significant issue to be addressed when considering changing policies to allow for re-use of graves. There is a need to provide for continuation of memorialization and questions of how to best to handle memorial markers and grave liners.

**Commemoration/Place**

People are now sometimes commemorating the place of death i.e., placing flowers on a roadside at the scene of an accident. There is a trend toward placing benches and planting trees in locations other than cemeteries. Benches and trees do not provide a lasting memorial and they further “cemetery” public open spaces not designed for this purpose.

**WRAP UP AND NEXT STEPS**

During the discussion, the social, economic and environmental aspects of sustainable cemeteries were explored, with social sustainability receiving the most attention. At the end of the day, participants had developed a comprehensive picture of a sustainable cemetery, and had begun to create a joint strategy toward its achievement.

Symposium participants agreed that they would like to meet together again in a second Symposium to address more fully the issues of economic sustainability, and to further develop an understanding and description of the continuum of green burial.

A suggested subject for exploration at a second symposium was how cemetery sustainability might be achieved. This would include a discussion about possible changes in legislation and regulations that would be required to realize green burial and related sustainable cemetery practices.

LEES+ Associates will work toward the development of information resources on cemetery sustainability, beginning with providing the information contained in this summary.

