

Green Burial

Introduction

There has been a noted increase in interest nationally for burials to be as environmentally friendly and natural as possible.ⁱⁱⁱ An industry is forming around what has been termed Green (or Natural) Burials with a growing number of cemeteries offering these types of services.ⁱⁱⁱ

This report will give a brief overview of the current state of Carrboro's town-owned cemeteries and what green burial is before providing two examples of how cemeteries have incorporated this method into their existing land. The report will go on to discuss several important issues Carrboro should consider when analyzing the appropriateness of green burial for existing Town of Carrboro maintained cemeteries.

Current State of Carrboro Cemeteries

Today, 25% of plots in the Westwood Cemetery & Old Carrboro Cemetery remain unsold, that is 500 and 101, respectively. On average 11 plots are sold per year including both cemeteries. Within the Westwood Cemetery there are three blocks (A, B, and C). Block A is nearly sold out with 4 plots remaining, Block B has 16 plots remaining and Block C has 480 plots remaining. The Old Carrboro Cemetery has 101 unsold plots.

Westwood Cemetery

Block	Plots Sold	Plots Buried	Plots Unsold
A	852	564	4
B	582	351	16
C	281	163	480
Total	1715	1078	500

Old Carrboro Cemetery

Old Cemetery	69	24	101
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Total Plots sold per year

(includes both cemeteries)

2013-14	9
2012-13	20
2011-12	9
2010-11	10
2009-10	7
2008-09	9
2007-08	19
2006-07	7
8 year average	11

The cost per plot in both Carrboro cemeteries is \$750 for residents and \$1500 for non-residents. The purchase of a plot gives you the right to be buried on the plot you purchased. The buyer, however, does not own the real estate. The Town assign plots numbers at the time of purchase and buyers have the right to sell any plot back to the Town for the purchase price. It is the buyer's responsibility to hire someone to do the burial and, currently, a vault is required to prevent the settling and sinking of the ground.

Brief Overview

A green burial is generally considered to be the burial of a body in a manner that does not inhibit decomposition but allows the body to recycle naturally. This can be done through a number of mechanisms. The most common mechanisms are^{iv}:

- 1) The body of the deceased does not go through the process of embalming
- 2) Burying the deceased directly in the ground without the use of any type of burial vault

3) The use of burial containers that are completely biodegradable (including shrouds, cardboard boxes, wooden caskets, etc.).

Over 30 cemeteries have been approved by the Green Burial Council (GBC) as Green Burial Cemeteries in the United States and British Columbia.^v While demand for this type of burial has increased resulting in more cemeteries offering green burials, it may not be a good fit for all cemeteries. Green burials can require differences in cemetery design and maintenance from traditional burials. The ability of a cemetery to integrate these different designs and maintenance requirements is often a major question cemeteries must answer before allowing green burials. The next section provides two examples of cemeteries who have answered those questions and are currently conducting green burials.

Examples

Below are two examples of cemeteries that have been approved by the GBC as Green Burial Cemeteries. For more information on the GBC approval requirements, see Appendix A.

Forest Lawn Memorial Park (Candler, NC)

Forest Lawn began performing green burials in 2010.^{vi} They have performed four burials since then and have seen an increase in interest the last year.

Forest Lawn was a traditional cemetery using cement vaults. Due largely to the difference in maintenance between green burial sites and traditional burial sites, Forest Lawn created a specific section of their cemetery for green burials. This section contains wooded area and a meadow giving the sites a more natural landscaped look. The graves are marked with a natural stone recognizing the name of the person buried and the years they were born and died.

The cemetery provides very little maintenance to the green burial section. At the sites, they mound the dirt up to two feet to allow for sinking. All four sites are still mounded, but they anticipate further sinking, as is the norm for green burials sites.

Forest Lawn has noted that the design of green burial sections needs to be different from the design of traditional burial sections. They were not aware of this when they designed the green burial section. They have now realized that green burial sections need a larger path (but did not specify a specific size) between rows so the back hoe can have room to dig new sites. This is because the graves need to be mounded and the mounds have proven to be an impediment for the back hoes when attempting to dig new sites. Since green burial graves need more space between them, green burial sections of a cemetery will likely hold less burial sites than a tradition burial section.

Washington Congressional Cemetery

Washington Congressional Cemetery opened in 1807, when green burial was the only type of burial performed.^{vii} Therefore, the majority of their grave sites have always been green. Recently, Congressional decided after receiving multiple inquiries, and since they already were mostly a green burial cemetery anyways, to begin conducting green burials again.

Congressional has continued to integrate their green burial sites in with other sites. They have noted that their green burials do sink over time, but that has been an issue they have always encountered and have the maintenance knowledge and tools to deal with. They continue to put soil over the top of the site and mound it. They also note that different casket types affect the amount that sites sink. The first

big rain after a burial can cause a site to sink a couple of inches. Some caskets sink more than others and some won't sink much until 20 years out.

They have noted an increase in the last two years with people who want a green burial. Today, the majority of their burials are green.

Issues to Consider

1) Demand

Green burial is still a small piece of the U.S. funeral industry, however, it is a growing trend. The most recent survey conducted by funeral industry publisher Kates-Boylston Publications in 2008 found that 43 percent of respondents said that they would consider a green burial^{viii}. The previous year, AARP found in a similar survey that 21 percent of people were curious about green burial.^{ix} There are currently 30 GBC approved Green Burial Cemeteries, up from just one in 2006.^x

The two green burial cemeteries interviewed by Town Staff have both noted an increase in interest for this type of service. Congressional Cemetery now performs more green burials than traditional burials.

2) Environmental Impact

The Green Burial Council finds that green burial is more environmentally friendly than traditional burial. Steel, reinforced concrete, and embalming fluid are not utilized for green burials. A body is able to decompose naturally and all items around the body are meant to be biodegradable. More research will need to be conducted to provide an accurate description of the environmental impact that allowing green burials in Carrboro would have.

3) Fit for Town of Carrboro Cemeteries

Green burial cemetery design and maintenance is different from traditional burial cemeteries. There are a host of factors that need to be considered around these issues.

Analysis on the feasibility of green burial in existing Carrboro cemeteries will need to take place. Since it is likely extra space will be required to dig the graves, as seen in the Forest Lawn Memorial Park example, the space between rows and grave plot dimensions will need to be analyzed to ensure the necessary space is available.

Allowing green burials in Carrboro cemeteries will likely lower the number of grave plots available for purchase. The number of desired plots in the cemeteries should be considered.

Maintenance of green burial cemeteries is different than traditional cemeteries. If green burial were to be incorporated in Carrboro cemeteries, mounds and land sinking would pose a maintenance issue. One potential solution for this issue would be to designate certain sections for green burial so the two maintenance methods would not be in conflict. Analysis of the feasibility for creating green burial sections of the cemeteries would need to be conducted.

Attachment A

Three Levels of Green Burial^{xi}

- 1) Hybrid Burial Grounds
- 2) Natural Burial Grounds
- 3) Conservation Burial Grounds

Hybrid Burial Grounds

1. This facility, or designated portion of the facility, shall not require the use of a vault (partial, inverted, or otherwise), a vault lid, concrete box or partitioned liner.
2. Burial containers of any kind are to be accommodated, including the use of shrouds.

Natural Burial Grounds

1. The facility, or a designated portion of the facility, must be reserved for burial that does not require the use of a vault (partial, inverted, or otherwise), a vault lid, concrete box, slab or partitioned liner.
2. Decedents are not to have been embalmed, or embalmed only with GBC approved nontoxic chemicals.
3. Burial containers are to be limited to those made from materials that are nontoxic/nonhazardous and natural/plant derived, with shrouds permissible.
4. An Integrated Pest Management (IPM) must be implemented, so as to prohibit the use of pesticide other than instances where required to eradicate invasive species.

Start-up criteria: A Natural Burial Ground must:

- a. Conduct an assessment (to be done by an independent professional in the field of biology/restoration ecology) that identifies any issues related to endangered species of plants/animals, cultural resources, and hydrology.
- b. Develop a plan for limiting visitation to sensitive areas.
- c. Develop a plan for limiting the types, sizes, and visibility of memorial markers/features to preserve or restore naturalistic vistas in the cemetery landscape and (where appropriate) the placement of landmarks outside its borders.

Operations and management criteria. A Natural Burial Ground must:

- a. Develop a plan for dealing with unauthorized grave decoration and landscaping.
- b. Develop a "systems and operations" manual to be given to all staff members, contractors, and volunteers that communicates the above criteria and the goals and methods of meeting them; and
- c. Establish an endowment fund to ensure the long term maintenance of the land and its trail system by setting aside at least 5% of all burial plot sales.

Conservation Burial Grounds

This facility must meet the requirements for a Natural Burial Ground and additionally meet the following criteria:

Land criteria. A Conservation Burial Ground must:

- a. Be contiguous to, or in a position to augment the conservation goals of an ecologically significant park, wildlife corridor, critical habitat area, or permanently protected open space; or (with appropriate management practices) be large enough on its own to be considered a landscape-level conservation effort.
- b. Operate only in areas of the property where burial would not degrade the land and the surrounding landscape.
- c. Be owned by, or operated in conjunction with a government agency or a nonprofit conservation organization that is recognized by the Internal Revenue Service as a public charity and in business for at least five years (the "conservation partner"). The conservation partner must have legally binding responsibility for perpetual stewardship of the land, both in the operational facility and in the conservation area(s), and must set all conservation policies.

d. Utilize a deed restriction (if operator is a nonprofit conservation organization that has been established for at least five years) or a conservation easement that incorporates these standards. A conservation easement must also conform to all provisions of the Internal Revenue Code Section 170(h) and provide for public access to and through the site, particularly to connect it to adjoining protected open space, to the extent public use of the property is compatible with ecological goals.

Start-up criteria. A Conservation Burial Ground must:

- a. Conduct a biological evaluation including baseline information on existing geology, hydrology, soils, and topography, and on both existing and potential vegetation and wildlife. This evaluation must be used by the facility designers and operators to ensure that existing site resources are not degraded, and that the potential for re-introducing native species is given appropriate consideration in design and planning.
- b. Conduct an evaluation to determine potential erosion issues and measures necessary to prevent them;
- c. Develop a plan for limiting visitation to sensitive areas as well as policies for families who choose "back country" or "off trail" burial; and
- d. Compile a plant list for use as memorial features for every area or "zone" of the property where burial will take place, and a list of plants appropriate for use in restoration and/or preservation of native vegetation.

Operations and Management criteria. A Conservation Burial Ground must:

- a. Develop a plan for using native plants and for protecting or rescuing locally rare plants.
- b. Establish an endowment fund to ensure the long term maintenance of the land and its trail system by setting aside at least 5% of all burial plot sales.
- c. Utilize excavation and burial techniques/technology that minimizes impacts on surrounding land, and protects native plant diversity.

Attachment B

Westwood Cemetery Ariel View



Attachment C

Example Green Burial Cemeteries

Pine Forest Memorial Gardens, Wake Forest, NC



Ramsey Creek, Westminster, SC (Natural headstone)



ⁱ Steven P Johson, “Eco-friendly green burials catching on in the U.S.”, Reuters, May 11, 2013.
<http://www.reuters.com/article/2013/05/11/us-usa-florida-burial-idUSBRE94A05620130511>

ⁱⁱ Ellen McCarthy, “‘Green burials’ are on the rise as baby boomers plan for their future, and funerals”, The Washington Post, October 6, 2014. http://www.washingtonpost.com/lifestyle/style/green-burials-are-on-the-rise-as-baby-boomers-plan-for-their-future-and-funerals/2014/10/06/d269cfbc-3eae-11e4-b03f-de718edeb92f_story.html

ⁱⁱⁱ Tasnim Shamma, “Options for Green Burials on the Rise”, Newsweek, August 26, 2010,
<http://www.newsweek.com/options-green-burials-rise-71717>

^{iv} Green Burial Council, “Burial Ground Standards”, <http://www.greenburialcouncil.org/standards/burial-grounds/>

^v Steven P Johson, “Eco-friendly green burials catching on in the U.S.”, Reuters, May 11, 2013.
<http://www.reuters.com/article/2013/05/11/us-usa-florida-burial-idUSBRE94A05620130511>

^{vi} All information in this section of the report came from an interview with Forest Lawn’s Manager or the cemetery’s website, <http://www.moorefh.net/services.aspx>

^{vii} All information in this section of the report came from an interview with Congressional Cemetery’s Assistant Director or the cemetery’s website, <http://www.congressionalcemetery.org/>

^{viii} Steven P Johson, “Eco-friendly green burials catching on in the U.S.”, Reuters, May 11, 2013.
<http://www.reuters.com/article/2013/05/11/us-usa-florida-burial-idUSBRE94A05620130511>

^{ix} Tasnim Shamma, “Options for Green Burials on the Rise”, Newsweek, August 26, 2010,
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^{xi} Green Burial Council, “Burial Ground Standards”, <http://www.greenburialcouncil.org/standards/burial-grounds/>