

PERPETUAL CARE: A SUSTAINABLE APPROACH TO RESTORING THE LOST
LANDSCAPES OF AMERICA'S RURAL CEMETERIES

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Dedication

This graduate thesis project is dedicated to my parents, who have provided me with unwavering support throughout my academic career.

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Table of Contents

1. The Significance of Rural Cemeteries	
1.0 Introduction	1
1.1 Objectives	3
1.2 Scholarly Literature	5
1.3 History and Significance of Rural Cemeteries in America	
12	
2. Section One Figures	21
3. Cemetery Landscape Restoration; Recommendations and Examples	
2.0 Documentation, Planning, and Restoration Ethics	28
2.1 Dallett Family Lot; Drafting and Implementing a Preservation Plan	
32	
2.2 Labor	33
2.3 Preserving Access Routes	
35	
2.4 Iron Enclosures	37
2.5 Restoration of Landscape Features	46
2.6 Lot Furniture	50
2.7 Monuments	51
4. Section Two Figures	56
5. Conclusion	54
Bibliography	76
Index	78

List of Figures

Section One

1.1 Plan of Mount Moriah Cemetery	21
1.2 View of Mount Moriah Cemetery	
22	
1.3 Mount Moriah Cemetery Today	23
1.4. Original Plan of Mount Auburn Cemetery	24
1.5 Plan of The Woodlands Cemetery	25
1.6 Tower at Mount Auburn Cemetery	26
1.7 Boulder Monument at the Dallett Lot	27

Section Two

2.1 Dallett Family Lot at The Woodlands	56
2.2 Dallett Family Lot in 1860	57
2.3 Dallett Soap Factory	58
2.4 Volunteers Exposing Brick Paving	59
2.5 Newly Exposed Walkways	60
2.6 Detail of Dallett Lot Iron Enclosure System	61
2.7 Detail of Robert Wood Iron Works Catalogue	62
2.8 Photo of Fence Panel Chosen for Restoration at the Dallett Lot	
63	
2.9 Paint Sample Photomicrograph Under Visible Reflected Light	
64	

2.10 Paint Sample Photomicrograph Under Ultra Violet Light	65
2.11 Photo of Fence Panel During Restoration	66
2.12 Photo of Fence Reinstallation	67
2.13 The Harris Lot at The Woodlands	68
2.14 The Printers' Cemetery at The Woodlands	69
2.15 Cedar Grove at Laurel Hill Cemetery	70
2.16 View of a Lake at Mount Auburn Cemetery	71
2.17 Historic Irises at The Woodlands	72
2.18 Landscape Restoration in Progress at the Dallett Lot	73
2.19 Hedge Restoration at the Dallett Lot	74
2.20 Cast Iron Settee	75

INTRODUCTION

Cemeteries in America are by and large overlooked and underappreciated as historic landscapes. Historic burial grounds are cultural constructions that contain and display a wealth of information on a range of historic topics. These funerary sites evolved with cultural trends and produced distinct landscape forms over time. Popular burial practices evolved drastically starting in the second quarter of the 19th century with the advent of the rural cemetery movement. This period of cemetery history is incredibly significant for a variety of reasons, but continues to receive insufficient attention from historic preservationists and heritage professionals. Mount Moriah cemetery in Philadelphia is an example of one of these important burial grounds that developed from the rural cemetery movement.

Mount Moriah cemetery was incorporated in 1855 by an act of the Pennsylvania legislature. The cemetery was located on a large tract of land on the west edge of Southwest Philadelphia that had only recently been incorporated in the city limits, and some of it still lay outside the now sprawling city. Set far afield from the dense urban development in central Philadelphia, the cemetery quickly became a fashionable burial space for middle class city dwellers. The site featured meandering dirt paths cut into rolling hills and circular sections upon high points.(fig. 1) The bucolic landscape contained clusters of old-growth trees, a meandering creek, and open meadows. The cemetery company went about creating a series of improvements to define but not necessarily tame the landscape.

An elaborate brownstone Moorish revival gatehouse was constructed at the entrance of the property and iron fencing was installed along the edges of the

property. A masonry bridge was constructed to span the creek, and stone signs were installed to demarcate sections of the burial ground. Soon after its founding, the naturalistic landscape developed a forest of marble and granite monuments that rose between the trees and shrubs and which varied greatly in height, shape, and style. (fig. 2) These monuments were surrounded by enclosures of iron or stone, and often romantically landscaped, embellished, and cared for by the lot owners. The site became a popular weekend destination for tourists and lot holders, as an escape from urban nuisances as well as reflective and memorial site in a natural setting. Mount Moriah was one of many rural cemeteries that developed outside American cities and towns beginning in the 1830s. The earliest included Boston's Mount Auburn [1831] and Philadelphia's Laurel Hill [1836], (making Mt. Moriah a late example of the type). These sites remained popular until the early 20th century when newer cemeteries began to adopt more simplified rectilinear plans, removed enclosures to simplify maintenance, discarded broken monuments and removed trees and plantings. By the mid 20th century these landscapes had been heavily altered. Mount Moriah Cemetery is an extreme example of this phenomenon. As the city of Philadelphia grew in size, the area surrounding the cemetery became densely developed, and eventually became economically depressed. The cemetery fell out of favor and directors failed to maintain the site. Today, the architecturally significant gatehouse has suffered a partial collapse, and the majority of the site has been overtaken by uncontrolled vegetation, making most of the burial plots inaccessible. (fig. 3) The once-bucolic and well-tended landscape has now become a magnet for

illegal waste disposal and crime. Years of mismanagement have led to irrevocable loss of a historic landscape.

Although the story of Mount Moriah is an extreme example, many of America's rural cemeteries have lost elements that defined their 19th century appearance. The following project aims to explain why this is an unacceptable state for some of America's most important cultural landscapes. It is imperative that cemetery owners and caretakers recognize the significance of remaining landscape features and work to restore the integrity of these often overlooked and undervalued historic sites. By undertaking this project, I hope to aid in the restoration and conservation of rural cemeteries by demonstrating their significance, providing a historic context, and presenting a collection literary resources. The second portion of this report discusses treatment options and approaches for the character defining features of rural cemeteries, and provides a short example of the implementation of a cemetery landscape restoration project.

OBJECTIVES

In this project, I seek to address a long-neglected issue in the field of historic preservation: the conservation of nineteenth century rural cemeteries and acknowledgement of their significance as cultural landscapes. The history of the type has been well documented, but only three or four such institutions actively interpret and preserve their landscapes today. The rural cemetery movement was a manifestation of emerging trends in religion, landscape architecture, burial practice, domestic values, public park development, and other fields that make these sites

highly significant in nineteenth century American history. Over the course of the twentieth century, many rural cemeteries deteriorated or evolved to the point where most of the character-defining features are no longer extant. With each passing day, the important vestiges of these disappear. While various governmental and preservation organizations have produced general literature on cemetery preservation, rural cemeteries that require specific restoration approaches. It is vital that action is taken to protect the remaining elements of these historic sites, and to reestablish some of the features that once defined these “genteel pleasure grounds.” This project provides a thorough literature review of sources to aid in these endeavors, running the gamut from conservation information to rural cemetery history and context. The significance of these cemeteries is then reviewed in a chapter on the historic development of these cemeteries. The last large section of this project contains basic restoration guidelines and presents an example of the implementation of the first stage of a sample landscape restoration project.

Taken as a whole, this project should serve as a practical resource for cemetery managers and other stakeholders who wish to restore and preserve the historic nature of their properties. Most historic cemeteries face challenges finding the funding, labor, time, and professional guidance to accomplish restoration projects, which makes restoring and preserving the intricate landscapes of rural cemeteries especially challenging. This project seeks to provide practical advice and restoration guidelines at a level that can be implemented with limited resources, and carried out over time, as well as prescribe methods for historical research.

SCHOLARLY LITERATURE

The rural cemetery phenomenon in America was rediscovered in the 1970's, and 80's by various authors and historians. By this time these institutions' landscapes had deteriorated to such an extent that the certain 19th century features had become hard to discern. A modest-sized but fairly comprehensive body of literature now exists concerning history of rural cemeteries in America and abroad. Cemetery landscape preservation and restoration has received far less attention from historic preservation professionals and landscape historians. Comprehensive restoration of a 19th century "family lot" restoration has very rarely been attempted, and apparently never been documented. What follows is a brief synopsis of available literature concerning rural cemeteries, and cemetery preservation.

Dell Upton's "Gridding the Graveyard" chapter from his 2008 book *Another City*, is an excellent resource to help develop a context for the development of rural cemeteries. Upton describes the burial practices that proceeded the rural cemetery movement in America, particularly the gridded cemeteries that were developed in the first decades of the 19th century.¹

The history of America's rural cemeteries has been relatively well documented, although some aspects have received more attention than others. Most secondary-source literature focuses on the earliest and most prominent sites located in the northeast. In order to accurately restore the landscapes and lots in

¹ Dell Upton, "Gridding the Graveyard," *Another City* (New Haven: Yale University Press, 2008), 203-241.

these cemeteries, it is vital to understand their development. Blanche Linden's *Silent City on a Hill*² is the most thorough study of a particular rural cemetery. Linden's tome explores the formation of America's first rural cemetery, Mount Auburn, located outside of Boston. *Silent City on a Hill* discusses the international inspiration for rural cemeteries, and the forces in Victorian American culture that gave rise to these funerary landscapes. Linden also discusses the built environment and landscape design of rural cemeteries. Although the book focuses on one site, it is an essential resource in understanding the wider rural cemetery phenomenon.

Another vital piece of literature regarding the rural cemetery movement is David Schuyler's essay "The Didactic Landscape: Rural Cemeteries." In this chapter from the book, *The New Urban Landscape* (1988). Schuyler provides a concise overview of the cultural forces that drove the development of rural cemeteries. This chapter also provides the best description of the ideology surrounding the creation of these parks in terms of their didactic value to society. Schuyler also comments on how the philosophical tenants of the rural cemetery movement went on to influence civic leaders and landscape designers to create great picturesque urban parks, like Central Park in New York and Fairmount Park in Philadelphia.³

While Dell Upton's chapter describes the form of cemeteries that preceded the rural cemetery movement, David Sloane's *The Last Great Necessity* illustrates the

² Blanche M. Linden, *Silent City on a Hill: Picturesque Landscapes of Memory and Boston's Mount Auburn Cemetery*, 2nd Ed. (Boston: University of Massachusetts Press, 2007).

³ David Schuyler, "The Didactic Landscape: Rural Cemeteries," in *The New Urban Landscape: The Redefinition of City Form in Nineteenth-Century America* (Baltimore: The Johns Hopkins University Press, 1988), 37-56.

departure from these forms.⁴ Many cemeteries evolved with changing trends, and portions of older cemeteries can display different approaches to the landscape design. Following the rural cemetery movement, cemeteries began to adopt a more controlled and less naturalistic form often referred to as “lawn-park” or “landscape-lawn” cemeteries.

Most of the other scholarly literature concerning rural cemeteries comes in the forms of articles, or chapters in broader compellations. Colleen McDannell’s *Material Christianity*⁵ discusses the religious symbolism of Laurel Hill cemetery in Philadelphia. One of the most prominent rural cemeteries in America, Laurel Hill’s monuments display inscriptions and iconography indicative of trends in 19th religious attitudes. Understanding the symbolism behind these embellishments allows for the interpretation of cemetery monuments and plots, and helps transform rural cemeteries into didactic historic sites.

When completing work on rural cemetery landscapes, it is important to understand their role in the development of professional landscape architecture, and the Victorian rural park movement. Keith Morgan’s article, “The Emergence of the American Landscape Professional: John Notman and the Design of Rural

⁴ David Sloane, *The Last Great Necessity: Cemeteries in American History*, (Baltimore: The John Hopkins University Press, 1991).

⁵ Colleen McDannell, "The Religious Symbolism of Laurel Hill Cemetery," in *Material Christianity* (New Haven: Yale University Press, 1995), 104-128.

Cemeteries” documents this well, and should be consulted before any landscape restoration work it attempted.⁶

One of the only resources that addresses the industries that supported the embellishments of rural cemeteries is Aaron Wunsch’s “Emporia of Eternity”.⁷ This is the only piece of secondary literature that summarizes and analyzes the marble, granite, cast and wrought iron manufacturers that supplied lot accoutrements to clients. This article, in conjunction with contemporary trade catalogues, allows one to interpret the aesthetic choices made by lot owners when selecting monuments and fencing, and the economic means of said lot owners.

Another article that helps develop the context of the built environment is Ellen Marie Snyder’s article on cast-iron seating furniture.⁸ A portion of the article discusses seating in rural cemeteries, and the furniture’s social role in the decoration of family lots.

Blanche Linden has also written a concise article on the history of cemetery lot enclosures. In “The Fencing Mania,”⁹ Linden describes the introduction and evolution of lot enclosure systems, starting with iron fencing and progressing to granite coping. Also valuable is Linden’s commentary on the extinction of lot

⁶Keith N. Morgan, “The Emergence of the American Landscape Professional: John Notman and the Design of Rural Cemeteries” *Journal of Garden History* 4, no. 5 (July 1984), 269-90.

⁷ Aaron Wunsch, “Emporia of Eternity: ‘Rural’ Cemeteries and Urban Goods in Antebellum Philadelphia,” *Nineteenth Century* 28, no. 2 (2008): 15-23.

⁸ Ellen M. Snyder, “Victory over Nature: Victorian Cast-iron Seating Furniture,” *Winterthur Portfolio* 20, no. 4, (1985), 221-42.

⁹ Blanche Linden, “The Fencing Mania’: The Rise and Fall of Nineteenth-Century Funerary Enclosures,” *Markers: The Journal of the Association for Gravestone Studies* 7 (1990): 35-58.

enclosures, and provides theories for why much of the fencing and coping has disappeared over time.

As noted earlier, the history of rural cemeteries has been well documented, but their conservation, restoration, and preservation has not been addressed as thoroughly. There is very little research on attempts to restore rural cemeteries on either the plot or landscape scale. Below, I will identify the resources that are available and can prove useful for lot restoration projects.

Mount Auburn Cemetery undertook a landscape restoration plan in the 1990's, restoring and preserving various periods of landscape design present at the site. A summary of this plan prior to implementation appears in a 1992 article in the *APT Bulletin* authored by Shary Berg.¹⁰ Although this piece deals with cemetery restoration on the landscape scale, it does discuss historically accurate planting and vegetation schemes, and deals briefly with how to treat lot embellishments. The Mount Auburn Strategic Plan from 1993 addresses this campaign in greater detail, and discusses briefly an action plan for lots that retained their original embellishments.

A few governmental preservation agencies have created conservation guidelines for historic cemeteries. These compilations generally cover maintenance and site management issues, and do not delve into restoration. While the state of

¹⁰Shary P. Berg, "Approaches to Landscape Preservation Treatment at Mount Auburn Cemetery," *APT Bulletin* 24, no. 3 (1992): 52-58.

Massachusetts¹¹ created the first guide of this nature, the SHPOs of both Pennsylvania and Michigan¹² have also created comprehensive preservation guides for cemeteries. None of these guides address rural cemeteries specifically and tend to focus more on emergency conservation than restoration.

Lynnette Strangstad's *A Graveyard Preservation Primer* is similar to the resources issued by the SHPOs listed above.¹³ The only published book on cemetery maintenance, this resource tends to focus on the 18th century gravestones of New England, and also does not cover landscape or lot restoration issues. It is an excellent source to consult for basic cemetery maintenance and site management issues.

While rural cemetery conservation and restoration has not been written about specifically, there are many resources that tackle the individual materials found in typical rural cemeteries. Cast-iron fencing was an important piece of lot décor in the 19th century, and there has been much research compiled about treatment options.

The same can be said for monument treatment. There is a large collection of literature on monument conservation and restoration, ranging from advanced scientific treatments, to the simple resetting of stones.

¹¹ Wedny Pearl and Victor Walker, *Terra Firma: Guides to Historic Landscape Preservation*. (Boston: Massachusetts Department of Conservation and Recreation Historic Landscape Preservation Initiative, 2011).

¹² Gregg G. King, *Michigan Historic Cemeteries Preservation Guide*. (Lansing: Michigan State Historic Preservation Office, 2004).

¹³ Lynnette Strangstad, *A Graveyard Preservation Primer*, (Nashville: American Association for State and Local History, 1988).

Another important factor to consider when undertaking lot and landscape restoration is vegetation and plantings. There is a modest amount of primary and secondary literature concerning exactly which types of ground covers, hedges, flowers, and shrubs were introduced to lots and landscapes and when they were popular. For this aspect of restoration projects it is more helpful to consult primary sources. Contemporary photographs, notes or receipts can help to inform planting choices. One contemporary landscape guide utilized by many rural cemetery planners was John Loudon's *On the Laying Out, Planning, And Managing of Cemeteries*.¹⁴ This guide details planting schemes and layouts for lots, and cemeteries in general, including a list of appropriate plant species. Although influential in America, Loudon's work focuses exclusively on England, which makes the horticultural recommendations less valuable.

Some extremely useful information on planting schemes comes from the guides to the cemeteries produced in the 19th century for tourists as well as lot holders. Laurel Hill's 1844 guide makes recommendations on types of flowers, shrubs and trees to be grown in different locations throughout the cemetery (and, more crucially, contains an extensive list of plant on the site).¹⁵ Mount Auburn produced a series of similar guides through out the 19th century.¹⁶

¹⁴ John C. Loudon *On the Laying Out, Planting, and Managing of Cemeteries; and on the Improvement of Churchyards*. (London: A. Spottiswoode, 1843).

¹⁵ John Jay Smith, *Guide to Laurel Hill Cemetery*. (Philadelphia: Conger Sherman, 1844).

¹⁶ Nathaniel Dearborn, *A Guide Through Mount Auburn*, (Boston 1857).

For this topic it is helpful to consider secondary literature about 19th century gardening in general. David Stuart's *The Garden Triumphant*¹⁷ discusses in great depth the new forms gardens took in the 19th century, both indoor and outdoor. Included in this book is a detailed list of popular decorative species, and their respective uses. Similarly, Jennifer Davies' book, *The Victorian Flower Garden*¹⁸ outlines the development of gardening in the 19th century. Unlike Stuart's book though, *The Victorian Flower Garden* contains a chapter devoted to in use of flowers in Victorian cemeteries. Davies discusses why and when certain flowering plants were popular, where and how they were planted in cemetery lots.

This lot restoration project at the Woodlands aims to fill some specific gaps in the body of literature surrounding cemetery preservation. No cemetery restoration guides approach the subject from a lot perspective, and few attempts have been made to develop preservation approaches for rural cemeteries specifically. These funerary landscapes are extremely significant, and preserving and restoring the remaining infrastructure should be a priority for historic cemetery managers.

ORIGINS AND IMPORTANCE OF THE RURAL CEMETERY

It is important to fully understand the history and significance of the rural cemetery movement before making recommendations for restoration. Rural cemeteries were the culmination of a variety of social forces that emerged in 19th

¹⁷ David Stuart, *The Garden Triumphant*. (London: Penguin, 1988.)

¹⁸ Jennifer Davies, *The Victorian Flower Garden*. (New York: W. W. Norton & Co., 1992.)

century society, as well as a reaction against traditional burial methods. Prior to the 1800s, most urban citizens in Europe and North America were buried in local churchyards or crowded potters fields. These lots filled quickly, were poorly organized, and were often impermanent resting places. Contemporary theorists believed these graveyards emitted dangerous miasmas, and were a harm to public health in increasingly dense cities.¹⁹ The increasing urbanization of major cities on the east coast also drove up land values significantly, convincing churches to sell off their yards, and the removal of potter's fields.

The first planned reaction against these traditional burials forms in America occurred in Boston in 1831, when a group of members of the Massachusetts Horticultural Society purchased 72 acres of wooded, hilly land four miles west of Boston in then suburban Cambridge. The initial plan for this space included space for burials, as well as a large garden to be utilized as an educational tool by the Horticultural Society.²⁰(fig. 4) The garden was never realized on site, but the cemetery enjoyed a relatively fast rise in popularity, with the first interment occurring on July 6, 1832. Although the first Mount Auburn was the first rural cemetery in America, it was partially inspired by Pere Lachaise Cemetery in Paris, which was considered the first ever planned, and extramural landscaped cemetery. It did not take long for the major urban centers of America to develop their own suburban cemeteries, including Laurel Hill Cemetery (1836) and The Woodlands

¹⁹ Blanche M. Linden, *Silent City on a Hill*, (Boston: University of Massachusetts Press, 2007) 117.

²⁰ Linden, *Silent City on a Hill*, 142-145.

Cemetery in Philadelphia (1841)(fig. 5) Green-Wood Cemetery (1838) in Brooklyn, and Green Mount Cemetery in Baltimore (1838).

The founders of these cemeteries were generally civic groups comprised of prominent businessmen and public officials, and were generally organized as nonprofit organizations. Many had an interest in botany, aesthetic theory, and what we modernly consider landscape architecture. Most of the cemeteries followed the same type of development pattern as Mount Auburn, with founders purchasing large plots of land and gradually making improvements in campaigns as funds became available.²¹ Occasionally the proprietors of these cemeteries would pay for the re-interment and subsequent monument instillation of well-known local individuals from other burial grounds to encourage lot purchases.

The opinions Americans held towards landscape also shifted dramatically at the beginning of the 19th century, which helped spur the rural cemetery movement. In the 18th century, colonists generally had held negative views about the untamed wilderness, seeing it as a untamed and potentially dangerous. These views shifted though with the advent of the romantic movement at the turn of the 19th century, when Americans began to embrace naturalistic landscapes. These picturesque landscapes became contemplative, didactic spaces that had positive effects on the mind.²² Romanticism was a force that affected nearly every realm of society, from the visual arts, to music, literature, and theology.²³ Rural cemeteries were a physical

²¹ Linden, *Silent City on a Hill*, 140-169.

²² Schuyler, *Didactic Landscapes*, 40-41.

²³ Hans Huth, "The Romantic Period" in *Nature and the American: Three Centuries of Changing Attitudes* (Lincoln, NE.: Nebraska University Press, 1990), 30-52.

manifestation of this broad societal force. These burial grounds embraced the picturesque emphasis ushered in by the romantic revolution. The rural cemetery movement required more than a suburban location, the landscapes themselves were carefully chosen. Efforts were made to find spaces with undulating, visually stimulating topography. They landscapes often included features such as rivers, lakes, or tall hills in order to create picturesque viewsheds.(fig. 6) The delineators of the cemeteries carefully considered how to cut paths through across the property to utilize these features to create dramatic vistas. Cultural critics like Andrew Jackson Downing observed the landscape gardening techniques displayed at these institutions and referred to them in their writings.²⁴ Rural Cemeteries would go on to influence a generation of landscape designers, as will be discussed later in this section.

Rural cemeteries were popular for more than their naturalistic settings. They also were attractive because of new trends in American's views towards religion, death, and the afterlife. While Christians traditionally feared death and viewed it as a distinctly negative event, this began to change in the first quarter of the 19th century. Death became a temporarily depressing incident, with a greater focus on the continuation of life in heaven. In her writing on the religious history of Laurel Hill Cemetery, Colleen McDannell explains,

“The cemetery reinforced the belief that by following Christ’s message they would be assured a place in heaven. For the Christian, death was only a brief pause in the continuation of life. Cemeteries like Laurel Hill were not places of death, they were environments of resurrection and immortality. Protestants who were helpless to secure their loved ones a place in heaven

²⁴ Downing, *Public Cemeteries and Gardens*, 155-157.

after their death needed physical reminders that death was not the end of life. Since they could not buy masses to hasten their family's travel to paradise, they built physical landscapes of eternal life. Laurel Hill Cemetery utilized a constellation of symbols to assure Philadelphians of immortality."²⁵

Rural cemetery patrons turned their lots into inspirational memorials through use of particular inscriptions, popular bible verses, and romantic symbolism. There was a reaction against traditional iconography utilized on 18th century monuments, typically of classical and therefore secular origin.²⁶ Romantic symbols and verses replaced these now antiquated motifs (although traditional classic funerary monuments coexisted with more naturalistic, Christian, and gothic inspired types). Typical new symbols in these cemeteries included a barren cross (representing Christ's resurrection), a mourning woman leaning on a cross (from a popular contemporary poem, "Rock of Ages"), carved greenery including ivy and ferns, as well as angels gesturing towards the heavens, and open books. Many monuments were carved to imitate wood, and large stones were shaped to imitate in-situ boulders.²⁷ (fig. 7) One particularly pervasive monument form at rural cemeteries is the cradle grave. These long rectangular graves resemble empty beds, and it can be argued these monuments suggested the deceased had been resurrected in heaven.²⁸ The monuments in rural cemeteries reveal much about the religious ideologies of mid 19th century Christians. The rise in Christian centered

²⁵ Colleen McDannell, "The Religious Symbolism of Laurel Hill Cemetery," in *Material Christianity*, (New Haven: Yale University Press, 1995), 117.

²⁶ McDannell, "Religious Symbolism of Laurel Hill," 120.

²⁷ McDannell, "Religious Symbolism of Laurel Hill," 120-126.

²⁸ McDannell, "Religious Symbolism of Laurel Hill," 129.

monuments corresponded with religious revivals that were part of the greater Victorian spirit of reform..

In the mid 19th century, many civic leaders set out to enact sweeping social reforms . Movements such as temperance, women's rights, abolition, and prison reform were among the issues championed by in the first half of the 19th century. The rural cemetery movement was also influenced by these reform ideals. The traditional practices of urban churchyard interment was viewed as unhealthy, old fashioned, and disrespectful towards the deceased. These extramural cemeteries were a reformed style of burial in many ways. As Linden notes,

“[Mount Auburn] would not just dispose of the city's burial problem. It would fill many cultural needs as well: honoring the deceased, cultivating the civilizing emotion of melancholy, teaching moral lessons, fostering a sense of the past as pertinent to the present and future, and celebrating nature.”²⁹

One force driving the development of rural cemeteries was the desire to create a more refined burial practice by removing the recently deceased from urban centers, and creating more permanent gravesites and monuments. Another advantage of rural cemeteries was the ability to bury families and relatives in distinct lots, as opposed to communal internments. The design of these cemeteries also was influenced by the new emphasis on domesticity that emerged in the 19th century. Families (either nuclear or extended) were often buried in one lot, usually with a central monument containing the family's surname or name of the father. Smaller monuments that denote individual burials are then scattered around the lot. The majority of these lots were then enclosed, either with iron fencing or stone

²⁹ Linden, *Silent City on a Hill*.” 139.

coping, visually and physically separating the family from the rest of the cemetery. Inscription on the stones often read, mother, father, son or daughter, without any identification of the individual buried there. These lots were intended for use by one family, and they would know who was represented by stones. Cast-iron cemetery furniture was installed at many of these lots, creating a private domestic space in a picturesque landscape, and allowing living family members to commune with the dead. Addressing the cast-iron furniture, Ellen Snyder explains, "In the cemetery, cast-iron seating may well have been reassuring: nondecaying, naturalistic, alive looking forms in a place that only disguised death and decay."³⁰

The design of rural cemeteries proved influential in the development of naturalistic urban parks. Until the 3rd quarter of the 19th century, American cities had few public green spaces, mostly in the form of public squares. These modest squares, if landscaped, were laid out in a rectilinear fashion and featured formal planting arrangements on relatively flat land. By the first quarter of the 19th century, the picturesque aesthetic had taken root in American culture, as is reflected in the naturalistic layouts of rural cemeteries. The general public flocked to these cemeteries to experience the landscape by journeying through the cemetery on winding roads, revealing picturesque viewsheds and contemplative monuments. The wild public success of these cemeteries drew accolades from writers, poets, and design professionals. Some design professionals decried the touristic nature of the cemeteries, and in 1848, A.J. Downing stated that these cemeteries were becoming

³⁰ Snyder, Ellen M, "Victory over Nature: Victorian Cast-iron Seating Furniture," *Winterthur Portfolio* 20, no. 4, 1985, 221-242, 239.

simple pleasure grounds instead of contemplative landscapes, and that public parks should be developed to serve as naturalistic leisure retreats.³¹ The romantic inclinations of the period in combination with the push for societal reform, created a demand for expansive urban, naturalistic parks inspired by the rural cemeteries created decades earlier. These forces manifested themselves in places Central Park in New York City, and Fairmount Park in Philadelphia. (In fact one of the primary organizers of the Woodlands Cemetery spearheaded the development of Fairmount Park in Philadelphia). These expansive urban green spaces were laid out in much the same form as rural cemeteries, with winding paths exploiting the natural features of the landscape. Fredrick Law Olmsted, the landscape architect for New York's Central Park, went on to design rural cemeteries in the same manner, such as Mountain View Cemetery in Oakland, California.

By the second quarter of the 20th century, many rural cemeteries fell into disrepair. This was caused by a combination of factors. For one, the relatively remote areas in which these rural cemeteries were established had become urban, surrounded by the activity they sought to escape. Newer cemetery forms became popular. Many families relocated to other areas, leaving cemetery managers with an incredible amount of maintenance to see to. With the introduction of modern mowing equipment, the vast amounts of iron and stone enclosures became inconvenient, and many were removed. Vegetation was greatly reduced, probably to stay competitive with newer, more popular, cemeteries. Today the

³¹ Downing, Andrew Jackson, "A Talk About Public Parks and Gardens," in *Horticulturist*, 4 (Albany: Luther Tucker, 1848), 157.

integrity of these historic landscapes has often been compromised and it is now imperative to restore and retain as much fabric as is still possible.

The significance of rural cemeteries spans many fields. As a multifaceted manifestation of 19th century culture, these cemeteries are invaluable historic sites that are prime candidates for restoration, and deserve to be preserved.

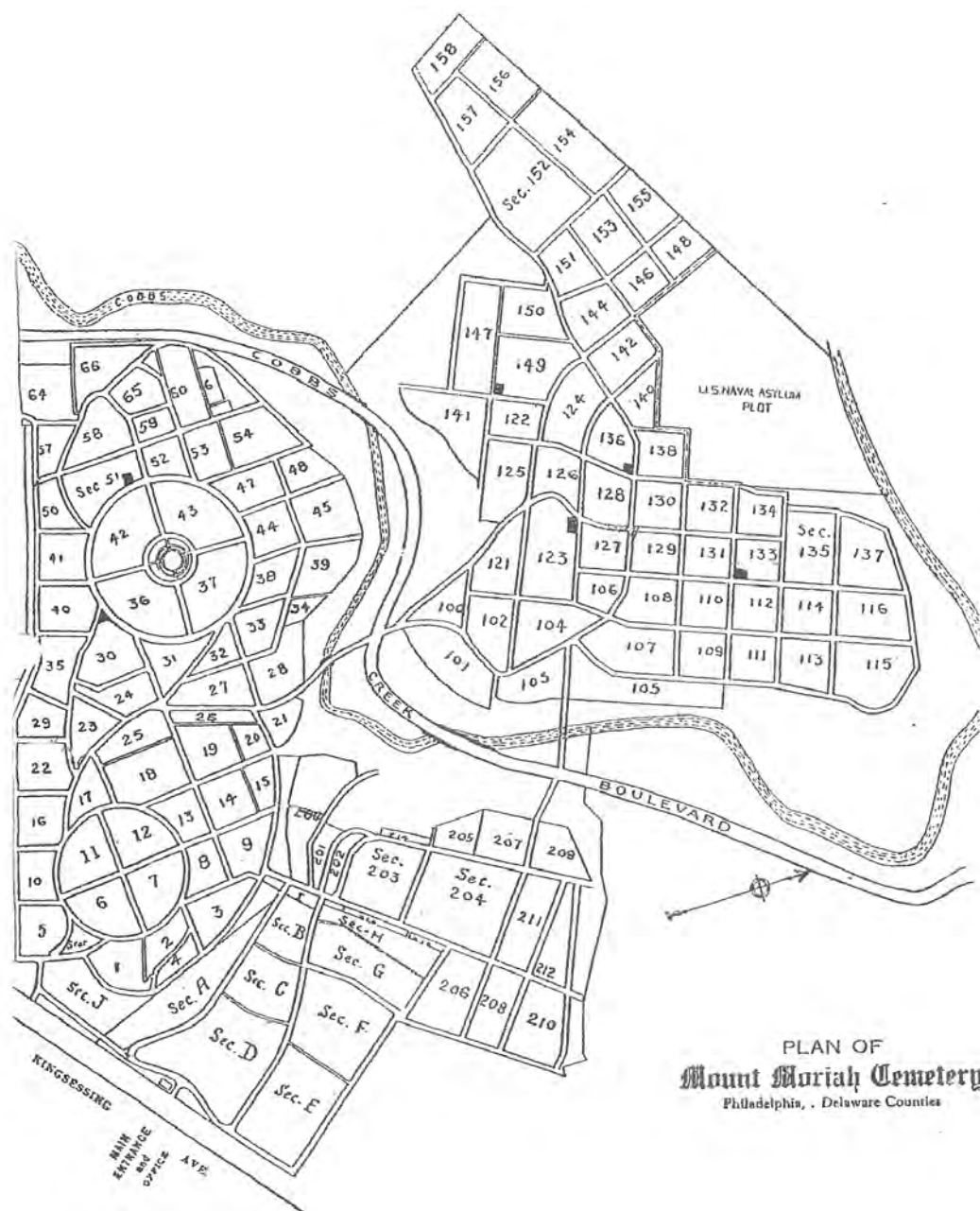


Figure 1.1. Map of Mount Moriah Cemetery. Note the typical curvilinear thoroughfares and central circles that utilize the topography of the landscape, especially in the earliest section along the southern edge.

Map provided by the Friends of Mount Moriah Cemetery.

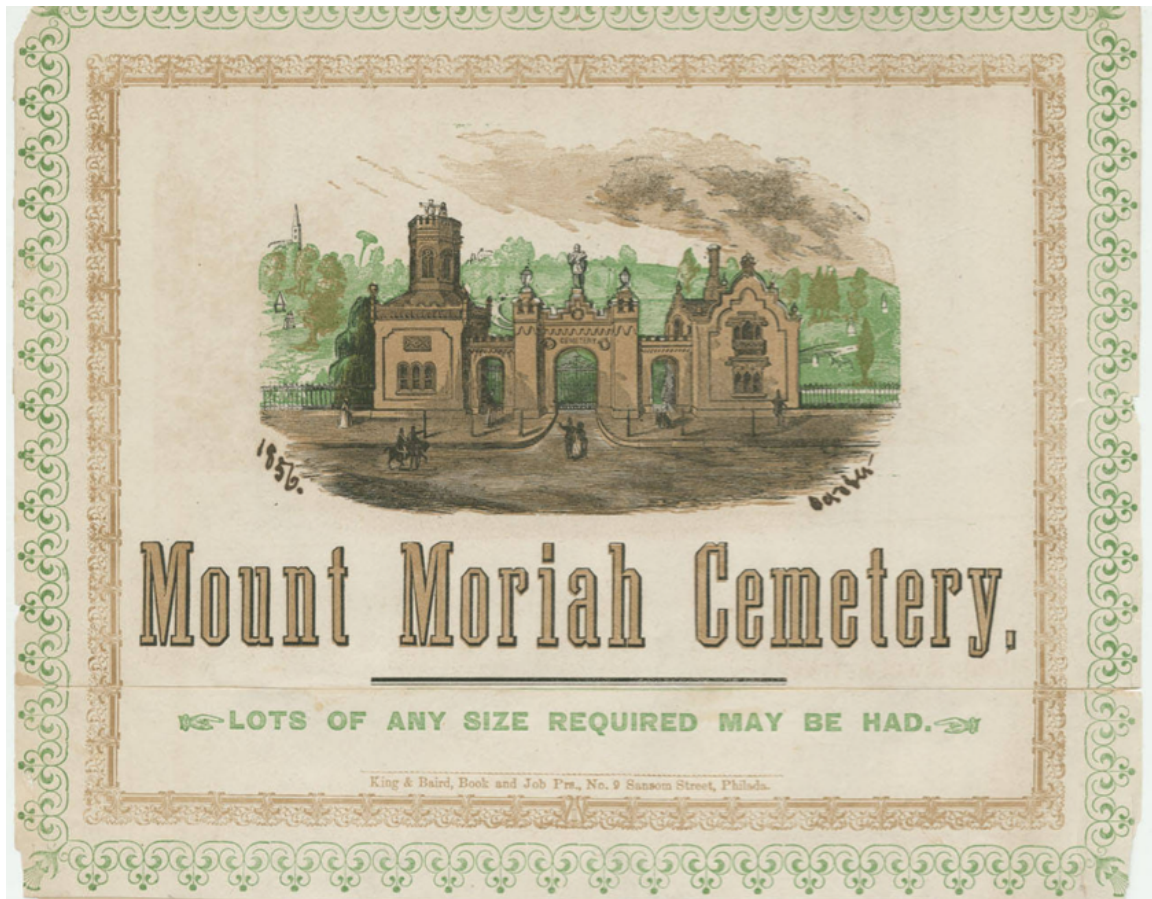


Figure 1.2. Advertisement for Mount Moriah Cemetery.

“Mount Moriah Cemetery,” in *Scraps Illustrative of the History of Philadelphia, Vol. 5*, (Philadelphia: King and Baird, 1856).



Figure 1.3. Photograph of a typical family lot at Mount Moriah Cemetery in 2013. Many of the monuments are over grown, quickly deteriorating, and are inaccessible. Many of the original landscape features are lost or hidden.

Photo by author.



Figure 1.4. Original Plan of Mount Auburn Cemetery in Caimbridge.

Reproduced from the Boston Public Library Map Collection.
<http://maps.bpl.org>



Figure 1.5. Plan of The Woodlands Cemetery.

Courtesy of The Woodlands Cemetery Company



Figure 1.6. Tower on the hill at Mount Auburn Cemetery

Photo by author.



Figure 1.7. Boulder like monument from the Dallett lot at The Woodlands.

Photo by author.

PART TWO: LANDSCAPE RESTORATION

DOCUMENTATION, PLANNING, AND RESTORATION PRINCIPLES

The second portion of this project focuses on making recommendations for the rural cemetery landscape restoration projects, and using as a case study the first phase of a restoration project carried out by the author at The Woodlands Cemetery at the Dallett family lot.(fig. 1) It should be noted that much planning, preparation, and research needs to take place before the physical work can begin. The first question that needs to be answered is, what period in the cemetery's history should the restoration and conservation strive to achieve? Most rural cemeteries have evolved through several distinct and significant phases during their existence. It not recommended that one arbitrary period be chosen for the eventual restoration of the entire cemetery at the expense of other periods. Usually the earliest periods of a rural cemetery's history least likely be evident in the modern landscape, so a case can be made for giving preference to their restoration, there are too many variables from case to case to make any across the board recommendations. Mount Auburn Cemetery has implemented a forward-thinking landscape restoration plan in this respect. The cemetery's master plan developed in 1993 called for the creation of "landscape character zones."¹ These zones designate every area of the cemetery under a specific landscape type, broadly defined as ornamental or naturalistic, but then broken down into subcategories. Each of these subcategories has specified preservation goals for decorative plantings, tree coverage, groundcover, and design

¹ Halvorson Design Partnership, *Mount Auburn Cemetery Master Plan*, Vol. 1. 1993, 49-59.

guidelines for new burials. This approach to landscape restoration and preservation should serve as a model for other rural cemeteries when appropriate. Preservation plans of this variety provide greater interpretive possibilities to the cemetery and respect each layer of the site's history.

At the Dallett lot project at the Woodlands, a guiding target era for restoration 1850-1860 was established. The lot itself was opened in 1848, and likely would have exhibited many of the features now lost in the modern landscape. (fig. 2) The botanical reintroductions, the fence treatment, and other aspects of the project were geared for the 1850-1860 time period.

As is the case with any historic restoration project, extensive documentation of every aspect of the object or landscape in question needs to be thoroughly documented and researched before preservation work can commence. This holds true for cemeteries. It is important to distinguish between restoration and preservation. Restoration refers to the active re-establishment of the fabric of lost or diminished objects, buildings or landscapes. Conservation implies that the subject will undergo treatments to preserve its existing state. Both cemetery conservation and restoration efforts require extensive documentation and background research, but in the case of rural cemetery restoration, the amount of information needed is greater. Specific documentation on landscape changes over were often not recorded at these sites, and therefore require more extensive searching. For example, historic planting schemes, contemporary photographs, and first-hand written accounts of the cemetery can be useful for this aspect. If these are not available (or in addition to these resources), experts in historic gardens can be an excellent resource, as can

general literature on Victorian horticulture, some of which was outlined at the beginning of this report. Best practices for documentation, as well as examples of those techniques used for the lot restoration project at the Woodlands.

Once the documentation and research phases have been completed, a restoration project can then move to the planning stage. This involves outlining the materials needed, creating a timeline, contacting appropriate professionals when necessary, and planning for labor (see note on labor section of this report). The plan should strive to conform to widely held principles in the historic preservation community regarding restoration. The Michigan State Historic Preservation Office has published a list of ethical guidelines for conservation at historic cemeteries, which can be applied to rural cemetery restoration projects.² Their guidelines are listed below, with annotations concerning their adaptation for restoration projects.

1. Do no harm.

Restoration projects, by definition, require interventions, and these must be made with care and caution. The would-be restorer of a landscape or lot should consider whether the act will destroy material from a historically significant time period. Are the treatments reversible if they prove inappropriate? Are interventions historically accurate and compatible with existing fabric? All of these questions should be considered carefully, and if one is not able to confidently adhere to these guidelines, a professional preservationist should be contacted.

2. All actions should respect the original fabric of the cemetery.

Adhering to this tenant begins with extensive documentation and research. Inaccurate restoration materials and techniques have the potential to downgrade the historic integrity of the cemetery.

² Gregg G. King, *Michigan Historic Cemeteries Preservation Guide* (Detroit: Canton Township, 2004) 61-63.

3. Use the gentlest and least invasive means possible.

This is a fairly simple but vital concept. All historic materials need to be handled with care, and with the intention of preserving the largest amount of historic fabric possible.

4. Attempt to do that which can be reversed.

All restoration and conservation projects should be able to be reversed if needed. A quick stroll around a rural cemetery will reveal many repairs carried out throughout the 20th century that caused serious damage to monuments, lot enclosures, and historic horticulture. Treatments that are found to be incompatible to, or compromise the historic assets need to be reversible in order for the appropriate actions to be taken in the future without further damaging the historic object.

5. Quick or easy fixes may not always be a reasonable choice.

While it may be attractive to conduct conservation as cheaply and quickly as possible, many of these techniques provide short term solutions for serious problems, and in the long run are more detrimental than productive. Of course, the restoration and conservation practices chosen must consider the resources of group organizing the project, but thinking creatively about resources can allow for the implementation of better restoration practices. Projects can be completed in increments, grant funding can become available, or conservation professionals may be willing to donate some of their time, knowledge, or resources to lend an hand with the work.

6. When in doubt, consult a professional.

While it may be faster, cheaper, and easier to use site staff for conservation and restoration efforts, only those with professional experienced in historic preservation can be ensured to provide the best possible product, using the best practices, and ensuring to the above ethical guidelines. Most historic cemeteries (outside of the oldest and most prominent) do not have conservationists on staff. When discussing preservation related efforts, it is advisable to at least consult with a historic preservation professional during the planning stages of the process.

Conducting consultations has the potential to minimize expenses while providing insurance against an incorrectly executed final product.

DALLETT LOT

The lot that was chosen for this restoration project is the Elijah and Thomas Dallett family lot in The Woodlands Cemetery in Philadelphia. The lot was purchased by Elijah and Thomas in 1847. The lot contains many of the typical features found in rural cemetery embellishments in the mid 19th century. This lot was chosen because it still retained some of its original features that have vanished from most rural cemeteries, namely the iron fencing and that physically separates it from the other lots and roads. The lot is also not actively in use and ownership of the lot was relinquished by the family to the cemetery.

The lot contains an underground burial vault which holds most of the interments. The central monument is a large marble obelisk with carved shield emblems. This obelisk is surrounded variety of smaller headstones on the lot dating from the mid nineteenth century to the mid twentieth, which is a typical design scheme for rural cemetery lots. Most of the oldest stones are made from marble, but granite and limestone monuments are also present in a variety of forms.

An ornate but now badly rusted cast-iron fence still surrounds the lot. The fencing is one of two original fences remaining at The Woodlands. As noted above, in the mid-nineteenth century fences surrounded nearly every lot, and was later followed by stone coping. During the course of the twentieth century much of this

ornate wrought or cast-iron work disappeared for various reasons, which are outlined in other sections of this article.

The Dalletts were wealthy immigrants from England who arrived around the turn of the 19th century. Elijah Dallett and his brother Thomas enjoyed great success in America, establishing themselves as fine soap and candle manufacturers before branching out into the more lucrative fields of banking, investment and finance.(fig. 3) At the time of Elijah's passing in 1847, the family was firmly established in Philadelphia's upper class. The extended family spent their entire lives in the dense and dirty centers of the cities of Philadelphia and London, yet chose to embrace the bucolic, naturalistic, and romantic ideals of the rural cemetery by purchasing a large and subsequently well embellished family lot in what was then semi-rural West Philadelphia. Elijah and Thomas Dallett were one of the earliest investors at the Woodlands, and some of the earliest embracers of rural cemeteries in Philadelphia. The Dalletts were typical of cemetery lot purchasers, they were urban, upper middle class families looking for a more secure, natural, and personal resting place than cluttered churchyards.

LABOR

Accurately restoring the historic landscapes of rural cemeteries can be a time-consuming and labor-intensive process. There are many challenges to accomplishing this at most sites. Many cemeteries operate on a shoestring budget, and have a minimal maintenance staff. Older cemeteries often fall out of favor with the public as burial grounds, or they run out of space. A general movement away

from traditional burial techniques, such as the widespread acceptance of cremation has also affected income at these cemeteries. Because of this, inventive approaches must be found to restore these landscapes. As mentioned in the introduction, it is important that a portion of the remaining rural cemeteries continue to transform from businesses or municipal institutions into didactic and active historic sites, and cemeteries can take cues from other, more traditional heritage organizations.

Much has been written recently about sustaining traditional house museums. Like cemeteries, many of these house museums (due partially to an over-saturated market and other phenomenon) lack financial support, do not engage well with the surrounding communities, and struggle to make ends meet. Successful and sustainable house museums have begun to modernize and adapt their programming, actively seek out and analyze recommendations of various stakeholders, and create community partnerships. Cemetery managers can learn from these efforts and model themselves after successful organizations. With diverse programming and active outreach programs, cemeteries can attract stakeholders to the grounds, and drum up enthusiasm for these landscapes. This, in turn, can bring volunteers to the site who can help with restoration activities.³ Families of lot owners too, are natural stakeholders at these cemeteries who are often willing to contribute time or funds to restore the resting places of their ancestors. The Woodlands cemetery has been very successful in attracting and developing community stakeholders, and creating local partnerships that have

³ Lynette Strangstad's *Graveyard Preservation Primer*, 11-17, provides a good synopsis of generating and managing volunteer labor at historic cemeteries. Strangstad, *Graveyard Preservation Primer*.

resulted in large numbers of dedicated volunteers who engage in periodical landscape restoration projects. Volunteers who attended one of these work days helped to remove the overgrowth from the brick pathways that surround the Dallett lot. (fig. 4)

Specialty restoration work, (applying treatments to, and reconstructing monuments for example) should be overseen by a conservator, or someone with experience in monument preservation. Many of the state or federally produced guides to cemetery preservation can provide basic guidance for conservation and restoration techniques.

ACCESS ROUTES

America's rural cemeteries are defined by their picturesque landscaping. The carefully planed footpaths and thoroughfares that weave through these sites dictate the experience of visitors, and play an essential role in the historic landscape. Stewards of sites that have retained their original pathways should make every effort to restore and then maintain these assets. In some cases, the meandering paths of rural cemeteries have been transformed into rectilinear patterns, and many sites the historic paving materials were covered in asphalt or concrete over the course of the 20th century. Most rural cemeteries originally featured roads and pathways of dirt, gravel, cinder, brick, macadam, or occasionally crushed shells depending on local traditions and design intentions. The reintroduction of these materials may seem like an inconvenience to those who travel to cemeteries by car, but it can also encourage slower driving speeds while restoring historic integrity.

Strangstad discusses the specifics and importance of pathway and road restoration in the *Preservation of Historic Burial Grounds*;

“Roads and paths, particularly in 19th century cemeteries, are often a key feature in articulating the cemetery’s landscape design and their preservation is essential. Such preservation [pathways and roads] includes maintaining existing widths and contours, small triangles or small circles often found at intersections, and the original paving surfaces. Brick gutters should be maintained rather than ignored or eliminated. Introduction of asphalt for the convenience of modern vehicles seriously alters the site and erodes its integrity. To preserve certain existing roadways, traffic can sometimes be limited to pedestrians only. Replacement of original crushed stone or early brick with new brick pavers or other paving materials likewise compromises the site. If brick was the original material, roads or paths should be resurfaced with as much of the original brick as possible, and reproduction brick that match the original in color, size, texture, and strength. When a custom-made brick is required, restoration brick firms generally have little difficulty in producing good replica brick.”⁴

The reintroduction of gravel and other aggregate pathways may seem expensive when compared to modern paving, but this is not necessarily the case. Simple sporadic grading and occasional material replacement are comparable in cost to the repair and repaving of modern surface treatments.

At The Woodlands, a series of winding thoroughfares comprise the primary roads of the cemetery, dividing the property into burial sections. These main arteries were originally of gravel, but today are paved. Slightly later a strikingly rigid grid of brick paths were installed in the interment areas that allow for access to each family lot. Over the course of the 20th century, most of these paths became buried as grades changed, or simply became covered by grass and soil buildup over time. This was the case with the brick surrounding the lot targeted for restoration. Removing

⁴ Strangstad, Lynnette, *Preservation of Historic Burial Grounds*, (Washington D.C.: National Trust for Historic Preservation), 2003, 20-21. 19

the overgrowth is a labor-intensive task. Volunteers were utilized to help roll back and remove the sod, and then clean the long buried original brick paths. (Fig. 5) Bricks that had shifted or been removed were reinstalled. Future efforts will focus on exposing more sections of path and connecting the Dallett lot to the surrounding paths.

Recreating the historic access routes is an essential part of restoring the landscapes of rural cemeteries. These paths were carefully crafted to manage the experiences of visitors, and should be utilized in the same fashion today.

IRON ENCLOSURES

Iron enclosure systems are one of the most defining features of rural cemetery lots. From the dawn of the movement, to until around the 1860s, iron enclosures were the primary and preferred method of protecting, demarcating, and embellishing rural cemetery lots.⁵ But the mid twentieth century, most of these lots had lost their enclosures for a variety of reasons. To restore rural cemetery landscapes iron restoration, retention and preservation should be one of the top priorities for rural cemeteries. What follows is a description and documentation of the steps taken to preserve the iron fencing at the Dallett lot at the Woodlands, and some a description some of the best practices compiled from a variety of professional sources. The level of financial resources, volunteer involvement, and

⁵ Blanche Linden-Ward, "'The Fencing Mania:' The Rise and Fall of Nineteenth Century Funerary Enclosures," in *Markers* Vol. 7 (1990), 35.

availability of skilled conservation technicians affects the approach to iron fencing restoration that can and should be taken.

The first step in iron fence restoration, as in most conservation projects, is the documentation of the deteriorated object in question.⁶ In the case of cemetery fencing, this involves photographing all faces of the object, taking measurements, and occasionally producing conjectural drawings of sections if the fence in question has experienced extremely severe deterioration. It is also important to determine the type of metal utilized (almost always cast-iron and wrought iron in the case of rural cemeteries, but also “gas-pipe” type fencing exists, and can require different treatment plans). The next important step in the documentation phase is to note the condition of the footings to see if they are level, or have risen or sunken in relation to the grade of the land and to one another.

Once the fencing has been documented, the types of deterioration should be determined. Of chemical deterioration methods, corrosion is the most common deterioration agent.⁷ Untreated rust (ferrous oxide) will eventually convert the

⁶ “NCPTT Iron Fence Repair: Cemetery Monument Conservation,” National Center For Preservation Technology and Training, accessed 4/27/2013, <http://www.youtube.com/watch?v=6fAacWpM8XQ>

This video produced by the National Center for Preservation Technology and Training provides a basic approach to the preservation of iron cemetery fencing. Although it is not a comprehensive, it serves as a good primer on the process of iron enclosure restoration.

⁷ John G. Waite and Margot Gayle, *Preservation Briefs 27: The Maintenance and Repair of Architectural Cast Iron*, (Washington D.C.: National Park Service, 1991) This document is one of many preservation briefs prepared by the NPS. This document is available online and in print, and describes the history, deterioration pathologies, and intervention procedures for cast iron. It is a short but essential guide for anyone undertaking iron enclosure restoration.

entire metal body and will cause irreversible damage. Galvanic corrosion occurs when exposed cast-iron comes into contact with different types of metal with different chemical properties as well as moisture.⁸ Both of these common chemical deterioration agents can be treated in the same manner.

Cast-iron fencing also faces threats from physical agents. Landscape maintenance activities are the most common and onerous threats to enclosure systems. Debris launched from lawn mowers, abrasions from weed whackers, and other simple maintenance errors can cause paint removal, dents, scrapes, and breakages in brittle cast-iron. Vandalism and storm damage can cause similar damages.

After documenting and diagnosing the pathological issues with the decorative ironwork, restoration work can commence. Nearly all fence restoration projects require the removal of residual paint. Before this is done, multiple samples should be taken in order to perform a paint analysis. These samples are mounted, cut and observed under a microscope. This process should be undertaken by a conservator or other preservation professional. The analysis of these samples will reveal how many times a fence was painted, with what type of paint, and the color of the paint. Although potentially expensive and cumbersome, paint sampling is an essential step towards the accurate restoration of iron lot enclosures, and is certainly worth the effort. Most fences were painted black, but green (imitation copper) and white have been observed, in addition to decorative metallic plating

⁸ Waite and Gayle, *Architectural Cast Iron*, 4-6.

treatments. Paint sample analysis was completed for the Dallett lot restoration, and images of the results will be included later in this section.

Before beginning iron restoration, the decision must be made whether the work will take place on the object in situ, or removed and treated in a remote location. Some treatments are more effectively carried out in a remote location due to easier access all sides of the object, and less of a chance to do, and a more controlled environment. Fence sections that are secure and stable in their footings should be left in situ for conservation work.

Oxidation is the most common deterioration agent in cemetery fencing. The first step in battling corrosion involves paint removal. This can be accomplished in a variety of ways depending on the circumstances. Paint may be removed with a soft wire brush, or with a sprayed aggregate.⁹ Both approaches have positives and negatives and are better applied to some situations than others. Brushing requires a large amount of physical labor and can be a slow process. It is also nearly impossible to reach the gray metal (total paint and rust removal down to healthy iron). It is imperative to reach gray metal in order to apply a traditional paint scheme (oil or lead based paint and primer on raw metal). Therefore, when using a soft bristle brush, the goal is to remove all paint and the most brittle exterior rust scale. After this has been achieved, a rust converter can be applied, which stabilizes the oxidation, greatly extending the lifetime of the ironwork. If using rust converter on in situ ironwork, it is *essential* to cover all monuments close to the application site,

⁹ Waite and Gayle, *Architectural Cast Iron*, 7-9.

as any spillage can cause irreversible black staining on stone.¹⁰ A historically accurate paint scheme can then be applied, (which will be discussed in the following paragraphs). If carefully used, a extremely fine and soft, fine bristled brush can be attached to a drill to reduce the amount of labor involved with hand

Paint and rust can be removed much more thoroughly and quickly with a blaster, loaded with crushed walnut shell aggregate. These blasters can be utilized on cast-iron enclosures, but their use is discouraged on wrought iron as it can cause abrasions and possible deformation to the surface. The blaster should be set to a low PSI (around 60-70) to avoid removing excess iron and dulling intricate details.¹¹ Also it is imperative to have an appropriate studio or facility to use the blaster, as the aggregate can create a sizeable mess. This factor makes blasters a better choice for iron enclosures that are no longer in situ. Once cleaned, a rust inhibiting primer should be applied to the raw metal surface, followed by the desired paint scheme. Blasters require some experience to use, and should be operated by contractors or conservators.

The next step in the process is dependent on paint removal method used. If some form of manual, brush removal method was used a rust converter should be applied before a primer can be used.¹² If a blaster was used and complete removal of paint and rust was achieved, a rust converter will not be necessary or effective. A

¹⁰ "NCPTT Iron Fence Repair: Cemetery Monument Conservation," National Center For Preservation Technology and Training, accessed 4/27/2013, <http://www.youtube.com/watch?v=6fAacWpM8XQ>

¹¹ Waite and Gayle, *Architectural Cast Iron*, 7.

¹² Wendy Pearl and Victor Walker, "Terra Firma: Putting Historic Landscape Preservation on Solid Ground," *Mourning Glory: Preserving Historic Cemeteries*, Vol. 10, (Boston: Massachusetts Department of Conservation, 2011).

priming layer can then be applied. The use of a rust inhibiting primer is recommended but not required, especially if a rust convertor was applied. The final coats (at least two) of oil-based paint can then be applied as informed by the microscopic paint analysis. The paints can be brushed or sprayed on the enclosure, but the final coats should be applied by brush as is historically appropriate.¹³

If a cast-iron component was found not in situ, or was removed for treatment, it will then need to be reinstalled. Smaller pieces or panels can be welded, or drilled and pinned or bolted where appropriate (welding is better suited to wrought iron than cast due to the carbon content of the metals). When possible, existing hardware should be reused, but this is often not possible. Compatible metals should be used to ensure galvanic corrosion does not occur. Iron hardware is preferable, but stainless steel is also acceptable and more widely available.¹⁴

Most iron fence enclosures are assembled in panels cased between some sort of top rails and bottom rails, and some feature applied iron details. These assemblies are then set in stone or concrete foundations in a variety of methods. Traditionally, most fencing was inserted into holes stone foundations and stabilized with lead.

For the Dallett lot restoration project, creating and implementing a preservation plan for the cast-iron fence enclosure was one of the top priorities. The lot features one of only two of remaining 19th century fences at the cemetery, which originally contained dozens. Installed around 1848, the fence consists of cast-iron

¹³ Waite and Gayle, *Architectural Cast Iron*, 9.

¹⁴ Waite and Gayle, *Architectural Cast Iron*, 9-12.

panels featuring repeating long oval, bolted to decorative crosshatched rails on the tops and bottoms. A rounded handrail is bolted to the top of these panels. Each fence section was set into holes drilled into granite foundation stones, or granite coping as is the case with the front fence that faces a main pathway. The panels are attached to decorate square corner posts, topped with four small cast-iron flower ornaments. (fig. 6) Two gates are present on the road facing side, each with customized panels displaying the names of Thomas and Elijah Dallett.

The first step in the restoration project and plan was documentation. First, all sides of each fence were photographed. Then a descriptive conditions assessment was written for each element, noting the extent of deterioration, (in this case corrosion of the iron), remaining paint, condition of joints and bolts, stability of the panels in their foundation stones, levelness of fence sections and foundational stones, and lost or broken elements. This documentation may serve to inform continued work on the fencing. The some small sections of fencing had broken off from panels, these sections were documented, labeled, and brought indoors for storage to prevent further accelerated corrosion on grade. Another piece of the documentation process was to identify the manufacturer of the enclosure. Some manufacturers of such materials exist to this day, and have plans, drawings, and occasionally cast-iron moulds that can be useful for restoration efforts. In this case, the firm of Wood and Perot Decorative Ironworks was identified as the source of the fence through a catalogue of fence designs. (fig. 7) The now-defunct firm was located on Ridge Avenue; in between the center of Philadelphia and Laurel Hill Cemetery, where a small cluster of monument oriented manufacturers were located.

Once the lot has been documented, a feasible and realistic plan for conservation was developed. One of the front panels of the enclosure had become completely dislodged from its foundational coping and was resting on the surviving fencing inside the cemetery lot. It was determined that this panel should be prioritized in the preservation plan, and would be the first element to be restored. (fig. 8)

The panel was first transported indoors. As noted earlier, cemetery cast-iron is a valuable and oft target material for thieves, so securing fencing immediately is important. Once indoors, eight paint samples were taken and prepared for analysis in a lab. Samples were taken from both sides of the panel, as well as the top and bottom, and from other locations on the fence. All samples revealed six layers of matte black paint, with some red lead primer, and outermost layers showing heavy weathering (figs. 9, 10).

The next step of the process was preparing the removed panel for treatment. Because of limited finances and available labor, the paint was removed with a fine bristled rotary brush attached to a drill. It is important to wear the appropriate safety gear (thick gloves, mask, and eye protection) when removing historic paint. Most historic paints contain lead, which can become airborne when disassociated with the cast-iron. Because a manual, wire brush paint removal method was used, an effort was made to remove the paint and any brittle rust, but retain a thin layer of corroded iron for treatment with a rust converter. After careful and thorough paint removal, the fence was washed and dried to remove any remaining surface particles. A rust convertor applied onto the panel, follows by two coats of rust inhibiting

primer. Finally, the fence piece was finished with two coats of black, matte, oil-based paint as informed by the paint sample analysis. (fig. 11) Photographs and written documentation were conducted at every step of the process.

The fence panel was then moved back on site for reinstallation. (fig. 12) This fence essentially functions as an interconnected system, with each panel stabilized by the pieces next to it. The restored section was originally held in place by lead poured in the foundation holes, and well as pegs that connected the top rail to the flanking corner posts, ensuring stability at all four corners of the panel. In this case, one of the connecting pieces at the corner posts had disappeared at some point, but one remained extant.

The remaining lead was removed from the foundation coping, and the fence panel was fit for reinstallation, ensuring a level, stable fit. The iron panel was then held in place while liquid lead was poured into and around the foundation holes. The top rail was then reconnected to the flanking corner post.

The project was only phase one of the full restoration plan. As time and resources permit, these steps can be repeated for each section of the fence that requires restoration. After the corrosion has been controlled and the paint reapplied, arrangements can then be made for the recasting of missing elements from molds made existing members. A restored enclosure is less appealing for theft or vandalism, as it gives shows the now rare objects are being observed, maintained, and secured. As portions of the fence fail, they impact the stability of the entire fence. Given the importance and scarcity of 19th iron cemetery lot enclosures, restoring and securing fencing should be a high priority for rural cemeteries.

ON LANDSCAPING

The landscape architecture and lot horticulture of rural cemeteries are arguably their most character defining features. Due to evolving styles, changes in landscape maintenance, and financial liabilities, the 19th century picturesque garden like qualities of these cemeteries have generally disappeared. Most rural cemeteries adopted modern trends in landscape design, reducing the density of plantings, creating short cut lawns, and eliminating historic plantings that required maintenance. A collection of contemporary photographs of rural cemeteries is included at the end of this chapter to help demonstrate the crowded, naturalistic planting schemes of family lots.(fig. 13-16) These lots functioned as rural gardens away from the city, and were designed as leisure locations. Restoring the some of the picturesque planting schemes of rural cemeteries is an important activity to pursue for a variety of reasons.

The landscape created by planting schemes in mid nineteenth century were an integral part of a visitors' experience there. The mature and ornamental trees, shrubs, and flower plants created unique viewsheds and environments like those championed by prominent contemporary design critics like A.J. Downing.¹⁵ They are significant in that they represent a revolution in America's approach to landscaping and interaction with the natural environment, as was elaborated on previously.

¹⁵ Andrew Jackson Downing, "Public Cemeteries and Public Parks," in *Rural Essays*, (New York: Leavitt and Allen, 1858) 154-159.

Beyond restoring the historic integrity of rural cemeteries, the reintroduction of appropriate plant species also has the potential advantage of helping to visually separate the cemeteries from their present surroundings. These cemeteries had been planned as natural escapes from the chaos and commotion of city living, but over the years, urban development has encroached on the landscapes, affecting the visitor's experience on site. Taller and more dense foliage, when historically appropriate, can help to segregate the burial site from modern infrastructural encroachments.

Intensive research is needed to determine appropriate planting schemes and foliage varieties. Important resources on Victorian gardening history are noted in the literature review section of this project. The most valuable resource that can inform lot landscape restoration though, are historic photographs of lots. Depending on the cemetery in question these can be difficult to procure, but are often found in local historic archives or in the cemeteries own records. Analysis of these photographs can provide information about planting schemes, specific species, and scale of plantings. Many rural cemeteries published guidebooks, and they occasionally contain recommendations and guidelines for lot owners on how to plant their lots.¹⁶ Many 19th century nurseries also published catalogues of their

¹⁶ The 1847 guide to Laurel Hill Cemetery in Philadelphia is a prime example of this type of literature. The booklet, created by the cemetery staff, encourages the planning of certain trees, shrubs, and perennials. Additionally they provide information as to where they should be planted and the conditions in which they thrive.

Smith, *Guide to Laurel Hill Cemetery Near Philadelphia*.

offerings.¹⁷ Consulting these catalogues from the appropriate time periods can provide one with an idea of what would be available locally for purchase.

When possible, it is best to consult with a landscape architect familiar with historic horticulture before embarking on any restoration work. Professionals can help design planting schemes, identify plants suitable for local climates, and specify individual plant varieties appropriate for use.

There are a variety of methods to gather plants once a plan has been developed. The first place to search for historic plantings is the cemeteries themselves. In the early spring months, existing perennial plants can often be found sprouting in various areas of the cemetery. Photographic documentation from these areas, or landscape or gardening professionals can help to verify the age of these plants. The interior of cradle-style graves, and lots with extant coping and fencing are prime locations to find historic but forgotten plant species for further propagation. These plants are ideal for replanting in other areas of the cemetery. There are also commercial retailers that specialize in historic flowers that can provide guidance in selecting plants for landscape revitalization based on the specific decades for which the restoration is designed.

¹⁷ For example, one of the earlier versions of these catalogues was Bernard M'Mahon's *American Gardener's Calendar*, which was published from 1806 to 1857. The *Gardener's Calendar* not only listed seeds that were available from M'Mahon, but provided advice on propagation techniques. Other prominent Philadelphia nurseries that produced catalogues available across the eastern seaboard were Landreth, Buist, and Dreer.

Bernard M'Mahon, *The American Gardener's Calendar Adopted to the Climate and Seasons of the United States* (Philadelphia: M'Mahon, 1828).

The Dallett lot restoration project focused on implementing the first phase of a historically accurate planting scheme, and developing a plan for later improvements and care. Like most family lots from rural cemeteries, this lot was likely embellished with dense shrubs and flowers, but now featured only tightly trimmed grass. There is a single, fairly distant and low quality from 1870 photograph exists (the original has been lost, but can be found in reproduction, (fig. 2)) of the Dallett lot. The image shows a row of bushes behind the front gates and fence, with some larger shrubbery behind. This photograph was used to inform the replanting program in conjunction with other early 19th century photographs from the around the cemetery. A historic flower specialist was consulted during the planning of the project. It was eventually determined that irises would be propagated around the central obelisk monument, along with a hedge of roses along the front gate. The irises were split from an existing overgrown bunch found in older cradle graves on site, both saving money and propagating historic plant varieties.(fig. 17, 18) Two varieties of rose bushes (Hermosa and Lesuve, both introduced to America prior to 1837) were purchased from an antique rose dealer to reintroduce a hedge along the front gate of the lot. (fig. 19)

The next step of the historic plant introduction plan is identifying and introducing a more accurate ground cover scheme. Many lots in rural cemeteries featured some sort of ground cover, often Ivy (which also was a popular symbolic motif on cemetery monuments from the period).¹⁸ The reintroduction of ground

¹⁸ Colleen McDannell, "The Religious Symbolism of Laurel Hill Cemetery," in *Material Christianity*, (New Haven: Yale University Press, 1995), 117.

covers in place of modern grasses not only increases the historical accuracy of a site, but can save cemeteries money on mowing landscape maintenance costs, and could prevent some damage caused by mowing activities.

Restoring the landscape features of rural cemeteries is one of the most crucial aspects of restoration projects. The movement itself was naturalistic in nature, and heavily centered around botany and gardening. Arguably, the most altered feature of these sites is the absence of rustic, gardenesque, or picturesque plantings and presence of modern, sparse landscaping designs. If approached at the scale of a family lot, and implemented in phases, the landscapes of rural cemeteries can be restored on a modest budget.

LOT FURNITURE

Many lots at rural cemeteries were embellished with cast-iron seating furniture. These pieces were new inventions in the mid 19th century, and emerged with innovations in cast-iron technology.(fig. 20) Highly detailed sections were cast and bolted together to create chairs and settees for gardens and cemeteries. As detailed by Ellen Snyder, these objects featured highly ornamental designs that mirrored popular trends in indoor furniture. Some scholars also see symbolic connotations with the use of iron seating in rural cemeteries. Snyder writes,

“In the cemetery, cast-iron seating may well have been reassuring: nondecaying, naturalistic, alive-looking forms in a place that only disguised death and decay. In a city of the dead, which expressed a timeless image of

the city of the living, cast-iron creation were visible signs of the permanence of the city. They denied the body's decomposition."¹⁹

Snyder goes on to make connections between the domestic emphasis in Victorian culture, and the illusion of domesticity in nature that this seating could impart.

These items were obviously an important part of the garden and park like landscapes that were developed at rural cemeteries. For a variety of reasons, nearly all of this seating furniture has disappeared from cemeteries. Some families probably removed their furniture, many fell victim to theft, and others probably deteriorated beyond repair. The Woodlands has retained only two pieces of original furniture, none of which are on display. Burial grounds that have managed to save any of their original furniture should remove them from the cemetery. Cast-iron cemetery furniture is extremely rare, and highly desirable to metal scrappers, and is too valuable to be left unattended. An appropriate, low moisture storage space should be found for these items. If desired, the chairs can be disassembled and their pieces recast. These replacement pieces can be installed in their place.

MONUMENTS

The monuments installed at rural cemeteries vary greatly in size, form, material (a character defining feature of rural cemeteries that was encouraged by

¹⁹ Ellen M. Snyder, "Victory over Nature: Victorian Cast-iron Seating Furniture," *Winterthur Portfolio* 20, no. 4, (1985), 239.

cemetery owners and contemporary critics)²⁰. While some fencing, plantings and landscaping restoration efforts can be accomplished by cemetery workers and volunteers, technical conservation on stone monuments should be undertaken by preservation professionals. This is especially true at rural cemeteries, where stone monuments are often larger and more intricate than those in earlier and later cemeteries. Work with masonry requires an advanced skill sets and special tools. Inappropriate conservation techniques can have disastrous results on the monuments. The first measure that should be taken, is a documentation of the stones as in situ, as well as the identification of any broken, unstable, or heavily weathered monuments. This report can be provided to a professional for further conservation work. One basic monument conservation task that can be completed by unskilled labor is stone cleaning. The stones present at historic cemeteries are at subjected to a variety of deterioration agents that can be mitigated by periodic cleaning. Acid rain and other types of airborne environmental pollution can wreak havoc monuments, especially some types of marble that were commonly installed in rural cemeteries before granite became the preferred material around the last quarter of the 19th century. Bio-growth can also thrive on moist stones, and cause eventual degradation of the stone surface. Rust staining is also a common phenomenon with historic monuments held together with iron pins that are exposed to moisture. Removal of all these deterioration agents should be completed to ensure the long term integrity of the monument. It is possible though to damage stone with improper cleaning methods. Gentle scrubbing with soft brushes is the

²⁰ Sherman, *Guide to Laurel Hill*, 49-50.

most safe and effective technique. Wire brushes and powers-washers should never be utilized, as they have the potential to remove historic fabric, especially on older marble headstones. If needed, a pH neutral detergent can be used, but this is often not needed. There are many bio-growth inhibiting agents on the market today, and many designed specifically for masonry. D2 Biological Solution™ is a commonly used, safe and effective on historic headstones. Many state and federal cemetery conservation publications noted in the literature review portion of this project contain recommendations for basic monument preservation.

For the Dallett lot restoration project, all of the stones were photographed before as work began. Most of the monuments in this lot were in exceedingly good condition, with a few exceptions. One small, rectangular stone had, over time, migrated from its original position and had fallen onto its face side. The lot card for the site was consulted, the original orientation found, and the stone was carefully moved back to its location using pry bars and protective wooden elements. The reset of the stone was noted in the cemetery records. Some deterioration was noted on the central obelisk. The rectangular base is experiencing substantial sugaring, and some cracking. These conditions were then recorded and photographed. In the future, stone consolidation on the weather marble elements of the lot was recommended, as well as a pathological investigation and subsequent patching of the cracking. This is work that should be completed by trained conservators.

CONCLUSION

The subjects of cemetery conservation, preservation, and restoration have received increasing amount of attention from historic preservation scholars, but the scholarship on these issues has been focused on a few specific areas. Monument preservation, for instance, has been subject to extensive study, albeit mostly under the rubric of materials conservation. Likewise, routine maintenance and basic repair techniques have been addressed as a historic site management issues. Additionally, the history and evolution of American cemeteries has been fairly thoroughly addressed by cultural, material, and art historians. Cemetery conservation scholarship has lacked though, in developing an approach to conservation through the more holistic lens of historic landscapes, as opposed to a collection of sculptural monuments. This lack of landscape conservation and restoration attention is especially troubling in the context of rural cemeteries. The rural cemetery phenomenon, more than any other movement in cemetery history, revolved around the creation and experience of a landscape. The landscapes were highly unique, carefully designed and regulated, and driven by brief but influential cultural forces in the 19th century. They played a highly influential role in subsequent landscape architecture theory, and represented a complete revolution in America's views on nature, as well as their approach to religion and the afterlife. Rural cemeteries are physical manifestations of the cult of domesticity that pervaded 19th Victorian culture. In short, rural cemeteries are much more than a collection of funerary monuments, they are (or were) landscapes that represented a variety of

revolutionary social forces in 19th century America, and deserve a preservation approach that recognizes their significance.

Restoring and preserving the remaining features of rural cemeteries is not a simple endeavor. It can require significant finances, labor, and expertise and time to perform in an accurate and sustainable way. Many of America's rural cemeteries face challenges in nearly all of these categories, stemming from a lack of burial space, changes in interment preferences, mounting maintenance costs, and the gradual disappearance of traditional stakeholders. This project aimed to demonstrate a few points regarding these issues. The first goal of this case study was to establish the significance of rural cemetery landscapes in American history, and make the case for their careful restoration. Furthermore, it identified the character defining features of the sites that should be preserved or restored. Lastly, by providing a small scale case study and providing a guide about how to approach most aspects of rural cemetery landscapes restoration, it aimed to show that there is a sustainable and reasonable way to carry out these projects, even for the most modest of sites.

As has been illustrated at various points in this thesis, rural cemeteries in America are at a crossroads. As the physical integrity of these sites weathers, and financial hardships continue to mount, it is vital to create responsible and realistic conservation plans to retain the remaining landscape features, while actively working to accurately restore some of the lost pieces of these unique sites.



Figure 2.1. A photograph of the Dallett Lot targeted for restoration at The Woodlands. Note the deteriorated condition of the enclosure, including the dislodged section at front. The historic planting scheme has been replaced by a simple lawn, and the access routes have become covered in sod.

Photo by author.



Figure 2.2. A Photograph of The Dallet Lot at The Woodlands taken around 1860. The original image has been is missing from the Library Company of Philadelphia. This photograph is a recreation from the a Historic Prservation Thesis project at the University of Pennsylvania. Notice the row of hedges along the front of the fence, as well as tallet bushes behind the main monument.

John Moran, "The Dallett Monument in The Woodlands Cemetery, 1870.



Figure 2.3. Detail of Dallett's old soap factory at on the northeast corners of 10th and Callowhill in Philadelphia in 1884. The Dallett family used their wealth derived from this industry to purchase and embellish their family lot at The Woodlands.

"Dallett's Soap Factory" from the Evans Collection at The Historical Society of Pennsylvania. Call number: 862EV15/.111



Figure 2.4. Volunteers help to remove overgrown sod from the brick paths surrounding the Dallett lot at the Woodlands.

Photo by Author



Figure 2.5. Photograph showing newly exposed brick access route on bottom left next to Dallett monument.

Photo by author.



Figure 2.6. Detail of Dallett lot fence gate.

Photo by author.

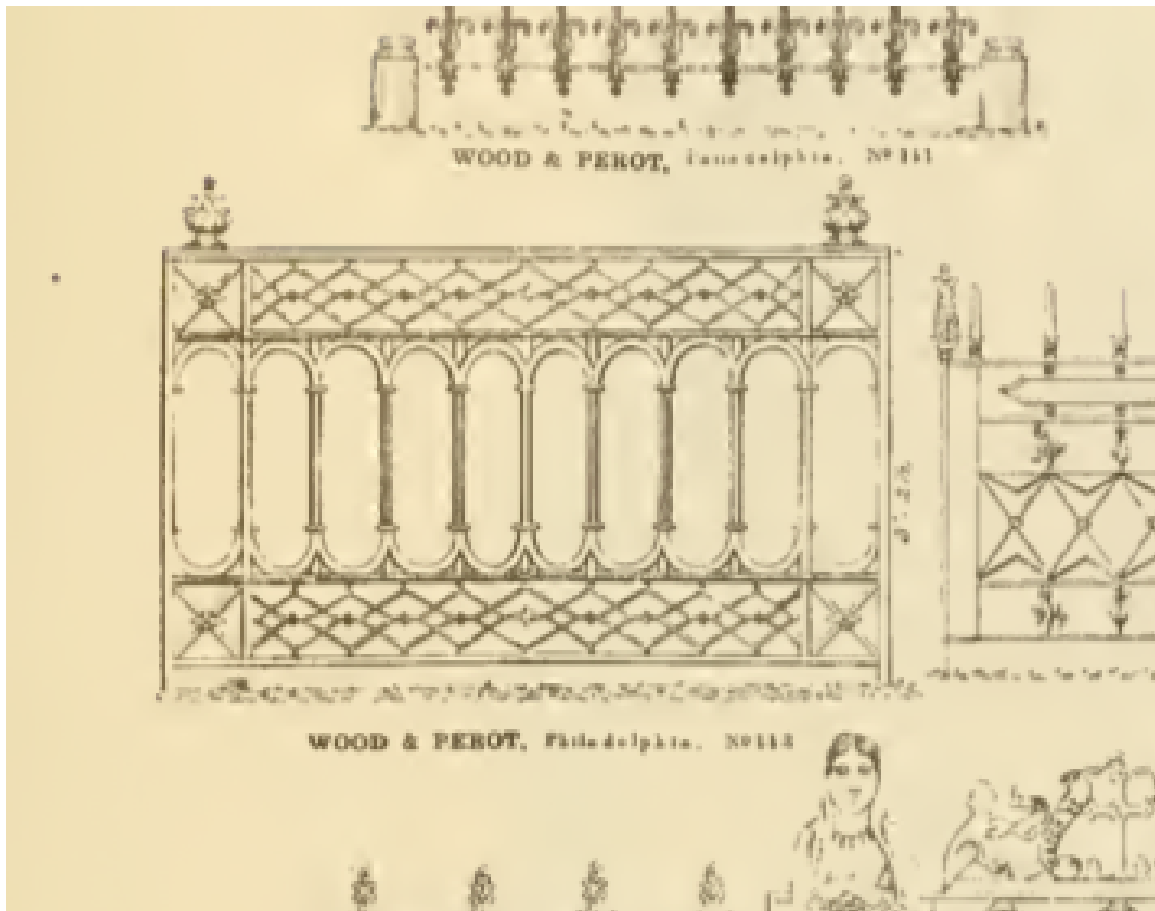


Figure 2.7. Catalogue illustration from Wood and Perot Iron Works showing fence paneling utilized at the Dallett lot. It is unclear if the corner posts of the Dallett lot originally featured finials of this nature.

Robert Wood and Co. *Portfolio of Original Designs of Ornamental Ironwork of Every Description*. Philadelphia: Robert Wood, 1867.



Figure 2.8. Dislodged and corroding front fence panel.

Photo by author.

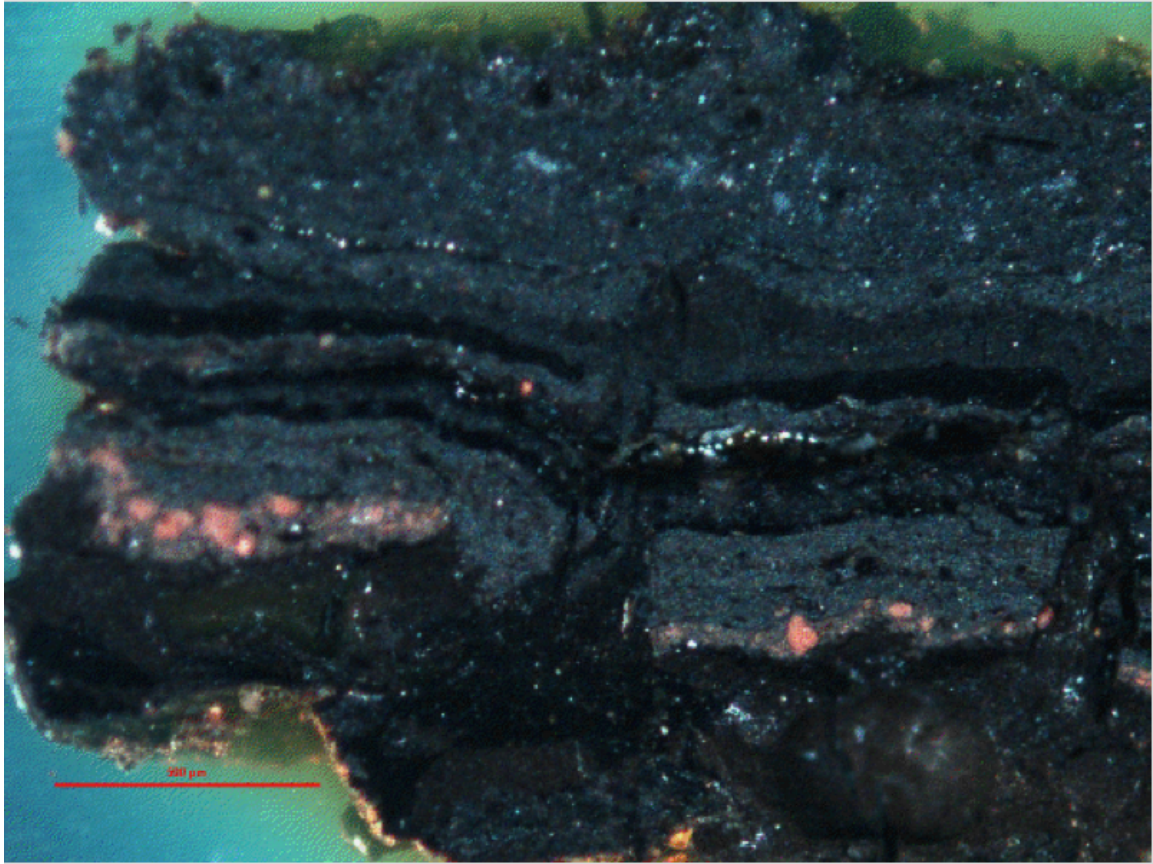


Figure 2.9. Photomicrograph of paint sample from the cast-iron fence enclosure of the Dallett family lot at the Woodlands Cemetery, showing six applications of black lead paint, with traces of oxidized cast-iron substrate and red lead primer. Image taken under visible, reflected light.

Image by author.

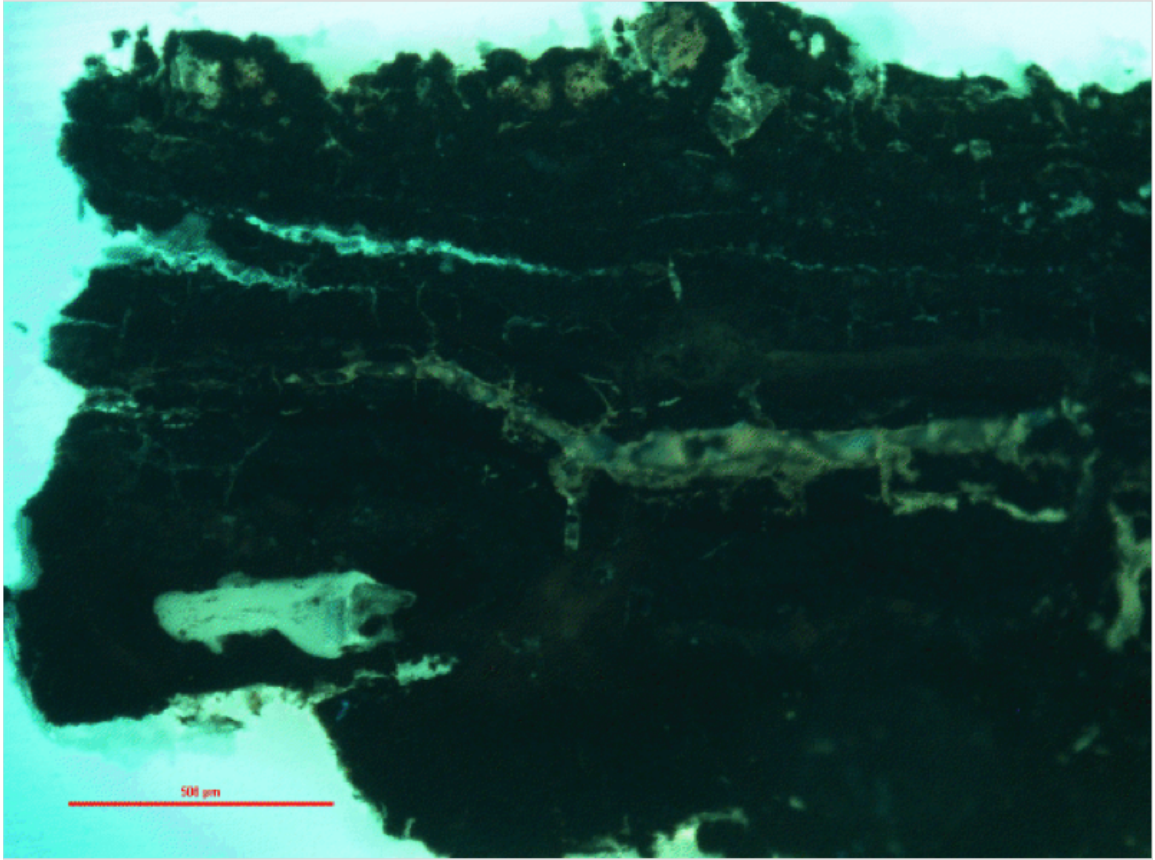


Figure 2.10. Photomicrograph of paint sample from the cast-iron fence enclosure of the Dallett family lot at the Woodlands Cemetery. Sample shows six layers of black lead paint application, with heavy weathering and cracking visible on the outermost layer. Photograph taken under Ultra Violet light.

Image by author.



Figure 2.11. Fence panel midway through first coat of oil based paint application. The white portion of the fence shows the corrosion inhibition primer application.

Photo by author.



Figure 2.12. Dallett lot restored fence reinstallation.

Photo by Erica Maust.



Figure 2.13. The Harris Monument at The Woodlands Cemetery. Note the ubiquitous fencing and coping.

Robert Newell, *The Harris's Monument at The Woodlands*, 1870, The Library Company of Philadelphia.



Figure 2.14. The Printers' Monument at The Woodlands.

John Moran, *The Entrance To the Printers' Cemetery at The Woodlands*. 1863, The Library Company of Philadelphia



Figure 2.15. Cedar Grove at Laurel Hill Cemetery.

Bartlett and French, *Cedar Glenn, Laurel Hill Cemetery*, 1868, The Library Company of Philadelphia.



Figure 2.16. A lake and wooded section of Mount Auburn Cemetery in Cambridge.

Edward L. Allen, *Lake, Mt. Auburn Cemetery, Cambridge Mass.*, 1870, The Historical Society of Pennsylvania.



Figure 2.17. Overgrown historic Irises sprouting in a cradle grave at the Woodlands.

Photo by author.



Figure 2.18. Transplanted Irises at the Dallett lot around the base of the central obelisk.

Photo by author.



Figure 2.19. Restablising a rose hedge at The Woodlands.

Photo by author.

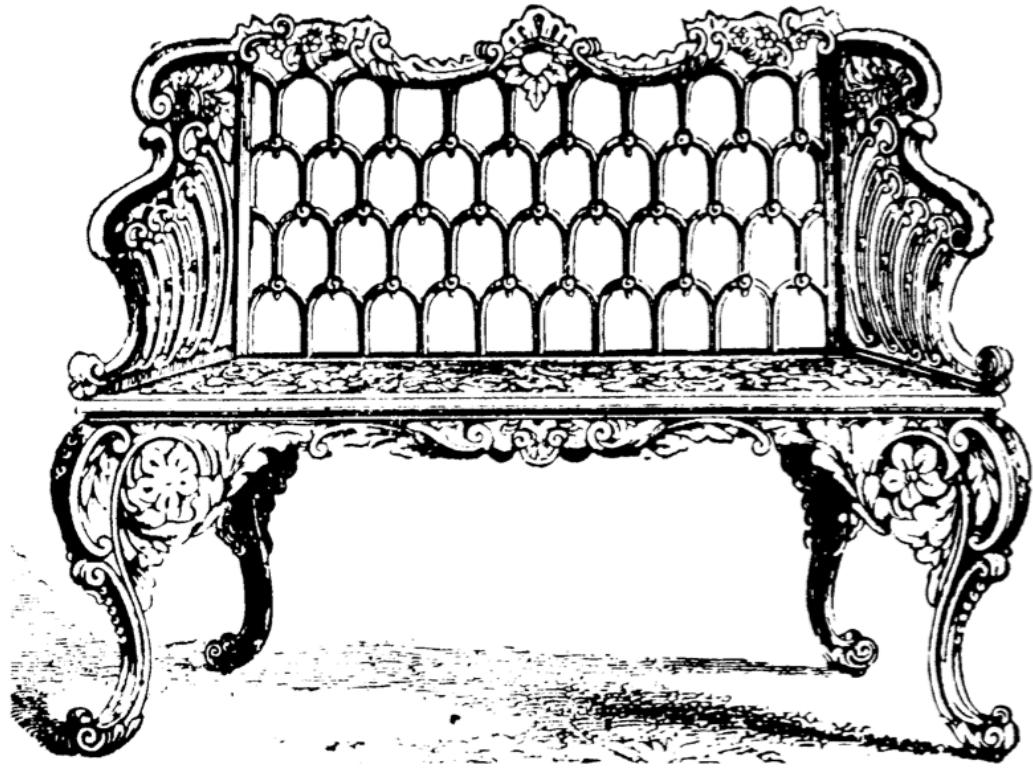


Figure 2.20. A typical cast iron settee that once graced many rural cemetery lots.

Stewart Iron Works Company, *Iron Reservoir Vases Catalogue No. S* (Cincinnati, Stewart Iron Works Co., [1910]. 29.

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INDEX

Coping: 8, 9 18, 32, 43, 44, 45, 48

Elijah Dallett: 32, 33, 43

Ethics: 30, 31

Enclosures: 2, 8, 9, 19, 31, 37, 39, 41, 42, 43, 44, 45

Furniture: 8, 18, 50, 51

Laurel Hill Cemetery: 2, 7, 11, 13, 15, 43

Mount Auburn Cemetery: 2, 6, 9, 11, 13, 14, 17, 28

Mount Moriah Cemetery: 1, 2, 3

Reform (movement): 17, 19

Romanticism: 2, 14, 15, 16, 19

Volunteers: 34, 35, 37, 52