



Historic Riverview Cemetery:

Enhancing the Benefits and Landscape

Shirley Duffy
LARC 467 Senior Design
University of Delaware
March 8, 2022

HISTORIC RIVERVIEW CEMETERY: ENHANCING THE BENEFITS AND LANDSCAPE

A Long Range Plan with Detailed Area Designs for

Friends of Historic Riverview Cemetery Board of Directors

Wilmington, Delaware

A Capstone Study Proposal

Submitted by:
Shirley Duffy
May 2022

Bachelor of Landscape Architecture Program
Department of Plant and Soil Sciences
University of Delaware

In partial fulfillment of the requirements for the degree of
Bachelor of Landscape Architecture

Approved by:

Dr. Jules Bruck

IN GRATITUDE

Although most of my classmates, friends, and family thought it odd that I chose a cemetery for my Capstone Project, the journey has been fascinating and rewarding.

I owe the pleasure of this journey to many folks, but especially:

Professor Jules Bruck;

the members of my Capstone Committee - Geoff Anderson, Rodney Robinson, Sue Wyndham, and especially Lee Anderson who knows how to praise better than anyone;

the members of the Arboretum and Landscape Committee of Historic Riverview Cemetery, who love trees as much as I do - Lee Anderson, Geoff Anderson, Sam Seo, Sue Wyndham, and Julie and Peter Zorach;

Nick Bruce, creative classmate who also explored cemeteries for his Capstone;

and especially my well-intentioned, patient, and very loved husband, Joseph Duffy, who has tolerated my schedule and inattention to the homefront for, lo, these many semesters.

Thank you, one and all,
~Shirley Duffy

TABLE OF CONTENTS

Page	Topic
02	Introduction
03	History
04	US Burial Grounds
05	Riverview Cemetery
11	Community Mausoleum
12	Other Cemeteries
13	The Current Reality
14	Cemetery Mission Committee Focus
15	Project Intent
16	Cemetery Benefits
17	Location
18	Potential Advocates
19	Community Population
20	Community Health
25	Project Mission
26	Goals & Objectives
27	Design, Walking Pathways
29	Brochure
31	Design, Mausoleum
33	References
34	Appendix

INTRODUCTION



Fig 1. Abandoned Riverview Cemetery, 2007, courtesy of Dr. Lee Anderson

Burial ground abandonment

A common phenomenon in human history is the abandonment of burial grounds (Fig 1). In ancient times, the cause might be the collapse of an entire civilization. In modern times, the reasons are less dramatic: insufficient funding for maintenance and lack of surviving advocates to sustain cemetery maintenance.

Reversal of abandonment

At Historic Riverview Cemetery (HRC), the abandonment was reversed by one woman, an advocate who formed a “Friends” organization and led the rally to return civility to this sacred place (Fig 2).

Long-Range Plan

The “Friends” organization has accomplished much, but they recognize the value of developing a Long-Range Plan. Beginning in January 2022, the Arboretum and Landscape Committee (ALC) of the Friends of HRC set a course to create a Long-Range Plan based on the Mission of the Friends of Historic Riverview Cemetery.

Capstone Project Interface

This Capstone Project contributes to those plans for the future by proposing a Community Engagement Program to foster new Cemetery Advocates and by proposing physical enhancements to the Cemetery that will support Community Engagement.

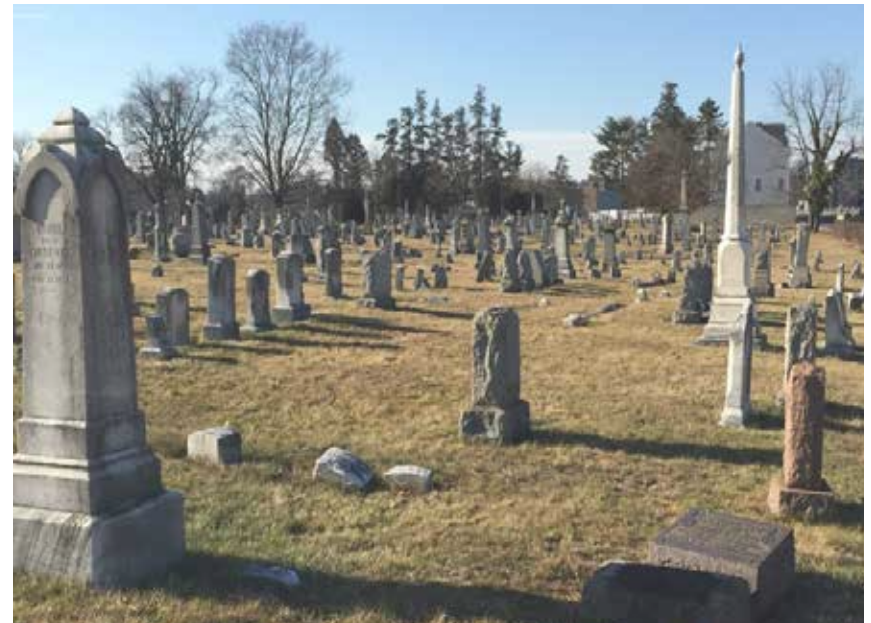


Fig 2. Well-maintained Historic Riverview Cemetery, February 2022

HISTORY

***“The more you know about the past,
the better prepared you are for the future.”***

--Theodore Roosevelt

BRIEF HISTORY OF U.S. BURIAL GROUNDS

Ancient Times

Burial practices are linked to the culture and beliefs of various civilizations over time and space. Archaeologists and researchers interpret their artifacts to propose what ancient cultures practiced. For example, Sykes, 2020, did not find evidence that Neanderthals buried their dead, but they did cannibalize even when food was abundant. In contrast, Homo sapiens buried their dead. Is it the care of a corpse that separates humans from other animals?



Homoneanderthalis, The Human Journey, www.history.com

Moving forward in time, we arrive on the east coast of North America before the Europeans arrived. The indigenous people had varied practices, dependent upon the beliefs of the tribe. Some practiced a green burial; others clothed the body, wrapped it in animal skins, and placed it on an eight foot tall scaffold for a year, and then buried it; some buried the body in caves or ravines, covered with rocks; others burned the body.

Not-So-Ancient Times

After the Europeans arrived, they practiced death rituals as they had in Europe, which usually meant in-ground interments in a shroud or a simple pine coffin in a churchyard, if one was available. Markers were often wooden crosses, but the wealthy had engraved stone markers. As the colonists moved outside settlements, family burial plots were used. Death and dying were common occurrences attended by family members, just as burial was.



Victorian Death Rituals, Jacksonvillereview.com

During the Victorian Age, grieving was expected to be public, not private, and followed a strict etiquette that encouraged elaborate customs. Cut flowers were added to the ritual, and very decorative caskets and grave markers were created. Cemetery tours today often focus on these elaborate gravesites. The burial pit was lined with slate, and later, a concrete vault, to protect the body from moisture.

Current Times and Future Predictions

Since the end of the Victorian Age, our culture has moved death away from the living. Professionals are paid to care for the dying, to dig the grave, and prepare the body for burial. Family members do not participate. People question the contamination from embalming, and the resources used in hardwood caskets, concrete, and fuel for cremation. Memorial services are held without a body, focusing on a celebration of life, not a focus on loss.

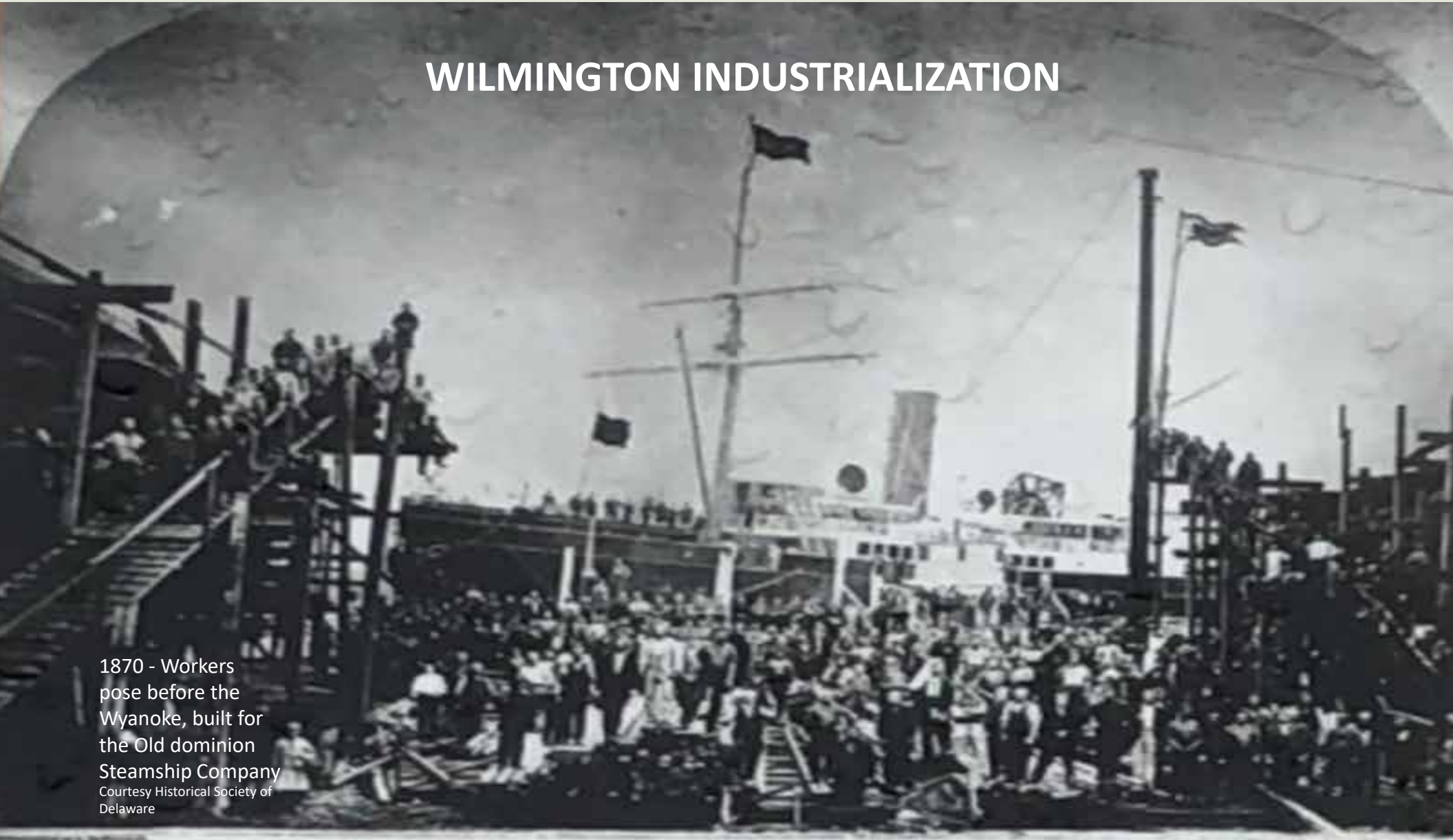


Ghost Bike, MassBike.org

According to Sloane, 2018, < 5% of bodies were cremated in 1960. By 2015, 48% were. He predicts the number will be 70% by 2030. The increase in cremations means a decrease in burials. To survive, cemeteries will become repositories of sculpture, art and an oasis in dense cities. They will be places of contemplation, education, recreation and sites of historical tourism. Cemeteries may create natural burial sites at a premium.

HISTORY OF RIVERVIEW CEMETERY

WILMINGTON INDUSTRIALIZATION



1870 - Workers
pose before the
Wyanoke, built for
the Old dominion
Steamship Company
Courtesy Historical Society of
Delaware

1870

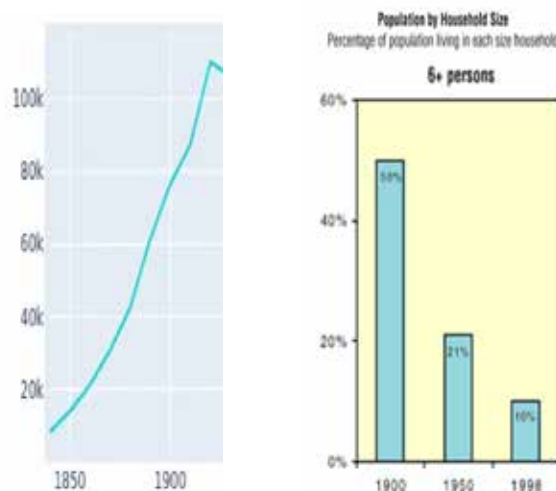
THE HARLAN & HOLLINGSWORTH COMPANY'S

IRON SHIP YARD.

HISTORY OF RIVERVIEW CEMETERY

Origins

Like other east coast cities, Wilmington, DE, witnessed large population growth through the 1800s. **Industrialization** in textiles, leather tanning, and rail and ship building **attracted people to Wilmington** and the **population grew** from 8,367 in 1840 to 76,508 in 1900, more than a **nine-fold increase in 60 years**. (Hoffecker, 1974)



Wilmington population growth and crowded housing.
(BiggestUSCities.com; Wattenberg, 2000)

While industrialization and the rise of population brought prosperity to Wilmington, it also contributed to increases in mortality. Simple math predicts that **a nine-fold increase in population translates to a nine-fold increase in deaths**.



Hetrick Cemetery Sellersville, PA

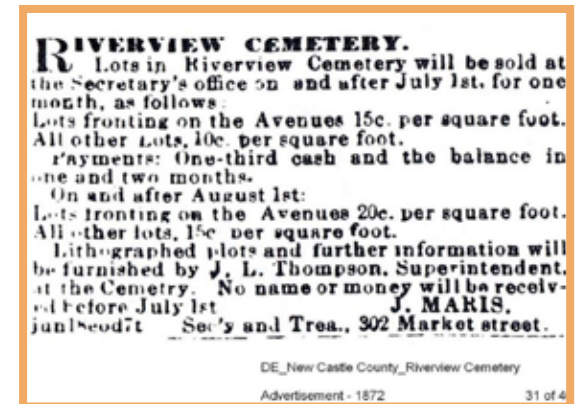
Industrialization and deaths

Causes:

- Unsafe working conditions
- Overcrowded housing
- Lack of clean water & sanitary systems
- Poor air quality from industry; coal smoke
- Poor drainage (East and South sides)
- Ignorance of the germ theory of disease (Battenburg, 2000)

Wilmington Effects:

- 1840s typhoid epidemic = 89 deaths.
- 1870s cholera annual deaths = 33/year
- 1900 infant mortality = 165/1000 births
- High rate of maternal deaths (second only to tuberculosis) (Hoffecker 1974)
- Urban church cemeteries filled.
- In Wilmington and across the US, new burial grounds were needed.**



Incorporated on February 19, 1893, as Riverview Cemetery Co.;
riverviewcem.com

1872

In August 1871, a coalition of 18 lodges of the Knights of Pythias and the Independent Order of Odd Fellows coalesced to secure land for a new burial ground in Wilmington. Collectively, they created 200 "shares" which sold for \$50 each. This revenue funded the purchase of 21.91 acres of Todd family farmland on the south side of Philadelphia Pike. Less than a year later, in **February 1872, the first cemetery outside Wilmington city limits was founded for the burial of all people, regardless of socio-economic class or religion.**

**Mission of the
Independent Order of Odd Fellows:**
visit the sick, relieve the distressed,
bury the dead, and educate the orphans.

HISTORY OF RIVERVIEW CEMETERY

1872-1873

Architect Hermann J. Schwarzmann, employee of Fairmount Park, Philadelphia, and chief architect for the 1876 Centennial Exposition, **laid out** the SouthEast Cemetery in a **grid pattern**, similar to urban church cemeteries and the grid imposed on rural areas as they were annexed. He started development near Philadelphia Pike, planning orderly named roadways criss-crossed with subdividing brick walkways, now buried below the sod.



The first burial, that of Elizabeth Warren, **took place in July 1872**, a few days after the cemetery opened. The original superintendent's home was constructed in 1873 at the Philadelphia Pike entrance.

1873-1889

Vegetation was added over time. In 1873, **200 Norway maples were installed** to create a shaded canopy along the main roadways. Other species included spruce, weeping birch, and the weeping willow, which appeared on the company seal.



E.Warren marker, Riverviewcem.com

By 1875 the cemetery was viable, with sufficient funds to cover expenses and with excess for improvements. **Lot holders paid an annual fee for care and maintenance**, but in 1883 the cemetery began saving 25% of the cost of lots for future maintenance. The cemetery paid \$10 dividends per share in 1884. From 1880 to 1889, **annual burials averaged 229**. Business was successful and expanding.

1890-1899

Annual burials averaged 392 in the 1890s. Employee responsibilities expanded from digging graves to selling slate cases to protect caskets, and erecting utility buildings. **By 1891 lot holders could enroll in the perpetual care program for \$50**, eliminating the annual fee. In 1898 the cemetery had a balance of \$58,000 after liabilities. Immediately across Philadelphia Pike, 20 acres of the Derickson farm were purchased in January 1899 for \$20,000.



Architects were invited to design the cemetery, but the Board chose the work of **Goldsmith C. Nailor, the cemetery superintendent**. **His design has six areas**, each surrounded by curvilinear roadways. Lots were sold at a price that included perpetual care.

HISTORY OF RIVERVIEW CEMETERY

1900-1910

As the cemetery finances improved, more plantings were added and by September of **1900, 125 shade trees** were planted throughout the northwest side. **More** trees and shrubbery **were added** in the **fall of 1901 and the spring of 1902**. In addition, family members created green memorials at burial sites, most eventually overcrowding the stone they were meant to enhance.



Maples on Main Avenue, 1910; Superintendent's home and office on Left. Riverviewcem.com

The **Stoeckle Mausoleum** was constructed in 1907. The Stoeckle family emigrated from Germany and became prosperous in the Wilmington **beer-brewing industry**. The Stoeckle Mausoleum was the first mausoleum at Riverview and was sited at the highest elevation in the cemetery. Other family mausoleums were added over time.

1911-1921

In 1911, Philadelphia hosted a national cemetery convention which brought attention to Riverview Cemetery when approximately **200 cemetery superintendents visited Wilmington, DE** for a tour. One of the cemetery board members championed the 1917 construction of Delaware's first Community Mausoleum. (See details in the Mausoleum History section.)



Stoeckle Mausoleum in 1910. Riverviewcem.com

In 1921, Riverview Cemetery received its own **patent on a cement vault** and began manufacturing them exclusively in this area. Also in 1921, First & Central Presbyterian Church, located on one side of Rodney Square, Wilmington, was demolished. About one-half of its **graveyard was moved** to Section G at Riverview Cemetery. The dates on these stones are older than Riverview Cemetery.

1922-1950

On August 29, 1922, Riverview Cemetery Company received a **US patent for a joint that prevented seepage** of moisture into concrete vaults. Employees developed this special joint. By 1928 Riverview Cemetery Company was at the peak of its prosperity and was held in high regard by the community. It provided all the services and materials needed for the interment of a loved one.



Reinterments from First and Central Presbyterian Church, Riverviewcem.com

Employees sold lots and vaults; grew plants in the greenhouse, which they sold from Riverview Flower Shop; installed foundations for markers; supplied the tent and chairs for the burial; and planted shrubs and flowers for customers. HRC was the **first cemetery in Delaware to be racially integrated** in the 1950s. It remains a melting pot of diversity.

HISTORY OF RIVERVIEW CEMETERY

1951- 2000

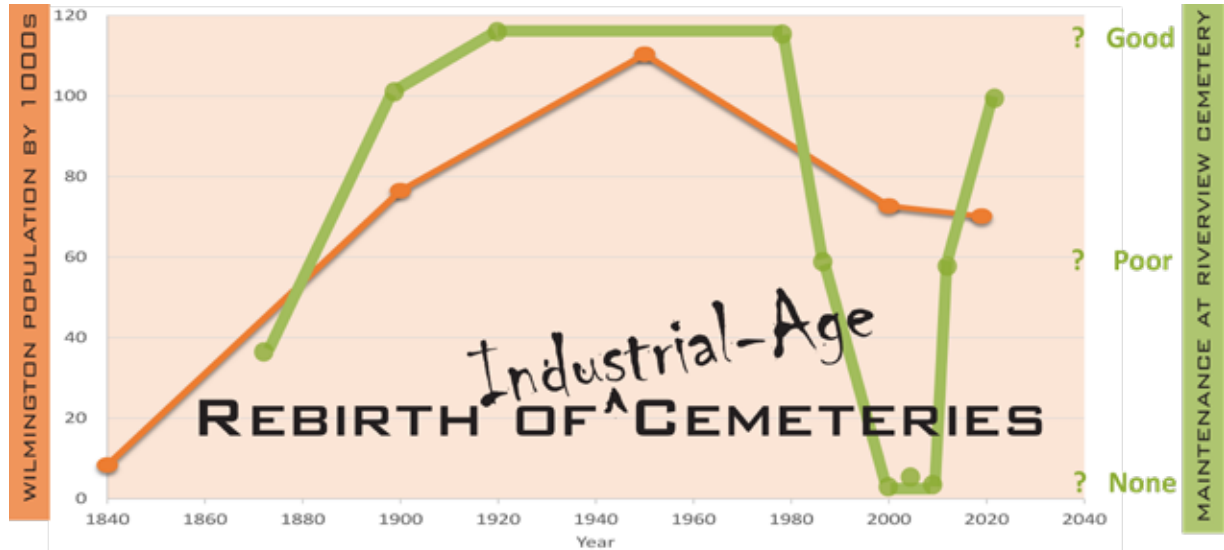
In 1951 a Chapel & Office was constructed on the site of the Superintendent's home. Riverview Cemetery continued as an active, successful burial ground. Families came for picnics and to prepare for Decoration Day (now named Memorial Day). However, as time passed, the population of Wilmington decreased, as did the number of burials and cemetery profit. **By the late 1990s cemetery maintenance was barely adequate.**



1950s family prepares for Decoration Day. Riverviewcem.com

2000-2018

Since 2000, the old burial ground has been the focus of a **concerted effort to rescue it from decades of neglect**. Over 24 years, one woman led the effort, supported by loyal community business partners and a dedicated corps of volunteers (eventually named "**Friends of Riverview Cemetery**").



Double graph showing Wilmington population changes compared to quality of maintenance at Riverview Cemetery over time.

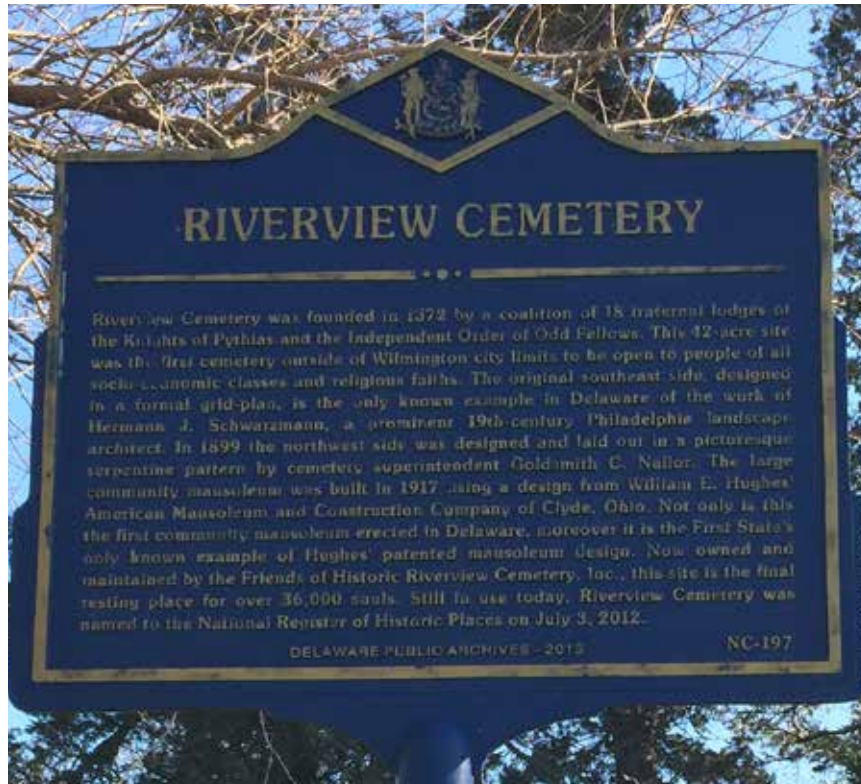


The appearance of abandonment includes unmown turf, trash, downed trees, toppled markers. Courtesy of L.Anderson

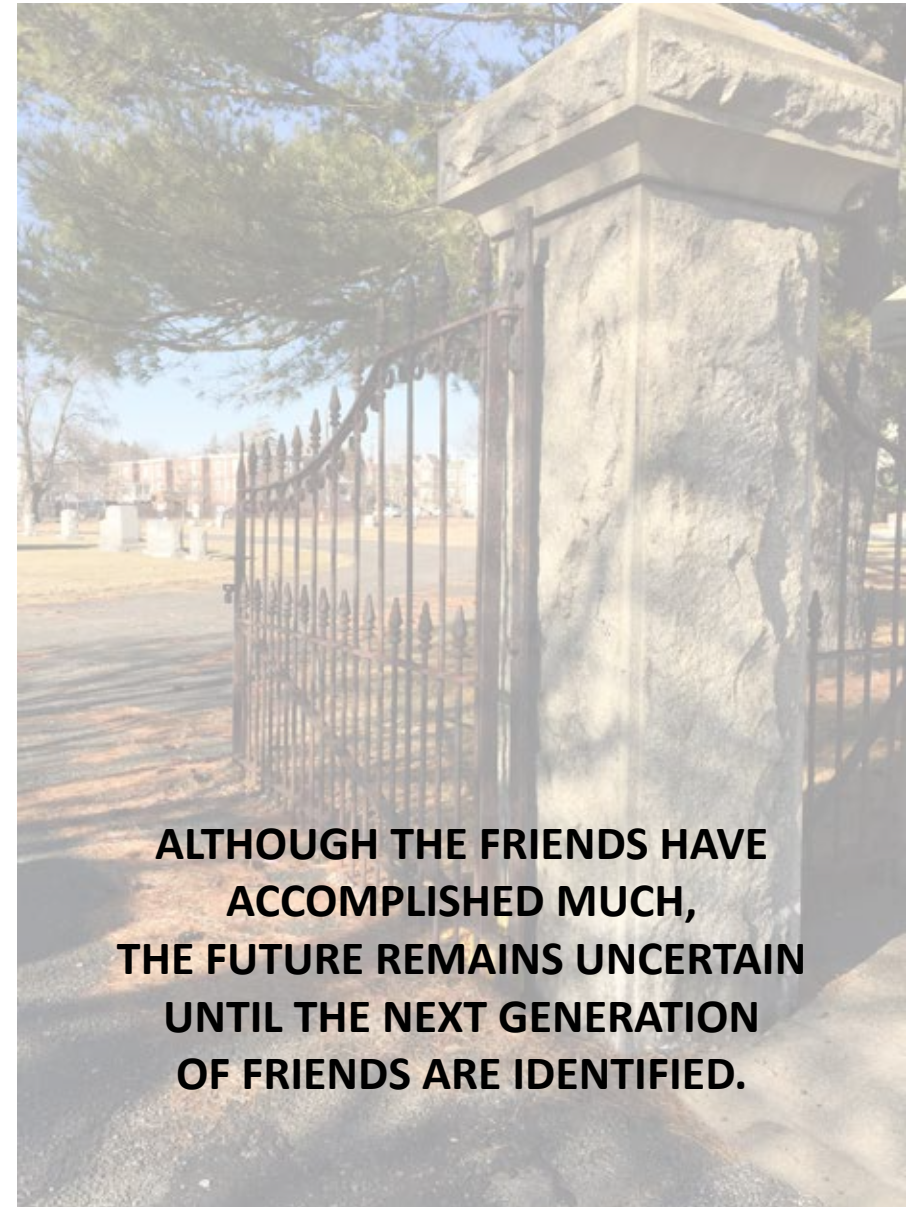


The local News Journal published articles that helped her project to record oral history about the people interred at Riverview. The project and book brought attention to the cemetery at an opportune time. **Poor maintenance by owners continued** through management by the Attorney General's Office and purchase by Riverview Gardens, Inc., in 2003. By 2006, **community outcry about abandonment** led to the 2009 purchase by 501c3 Friends of Riverview Cemetery. The previous owner planned to demolish the chapel to build townhomes, but the **Friends raised \$300,000 to save and renovate** the structure into the Visitor Center in 2018.

HISTORY (AND FUTURE?) OF RIVERVIEW CEMETERY



Friends conducted research to win placement on the **National Register of Historic Places** in 2012, the first cemetery in Delaware to qualify on its own merit. Through perseverance and inclusion of other organizations, volunteer groups, and grant applications, the Friends greatly improved maintenance, added daylilies, daffodils, and hostas at outside borders, won a horticulture award for a garden installation at one of the baby cemeteries, identified a mutually beneficial arrangement with the nearby correctional facility for lawn maintenance, listed burial records online, began tree and shrub safety maintenance, and achieved **Level I Arboretum Status**.



ALTHOUGH THE FRIENDS HAVE ACCOMPLISHED MUCH, THE FUTURE REMAINS UNCERTAIN UNTIL THE NEXT GENERATION OF FRIENDS ARE IDENTIFIED.

Sturdy pillars and iron gate entrance from N. Market Street to picket-fenced Northwest Cemetery

HISTORY OF DELAWARE'S FIRST COMMUNITY MAUSOLEUM

1917

The large community mausoleum was built in 1917 by the Wilmington Mausoleum Company, using a design from the William E. Hughes' American Mausoleum and Construction Company of Clyde, Ohio. It is the First State's only known example of Hughes' mausoleum design. His patented design provided ventilation to each of the 260 crypts, allowing for quicker drying of the corpse.



Local newspaper advertisements, September to November 1917

The external design is Greek Classical Revival, covered in gray granite, with Doric columns at the entrance. Wilmington Mausoleum Company owned the Mausoleum and crypts and was responsible for advertising, sales, and all burial functions until bankruptcy, when Riverview Cemetery became the owner.



1950 Entrance. Note size of shrubs. Riverviewcem.com



Large orange rectangle is the Mausoleum. Riverviewcem.com



2010 Interior of Community Mausoleum. Riverviewcem.com

The Mausoleum interior is covered in gray-streaked white marble, measuring 98' x 30', resulting in 2940 feet² to accommodate 260 vented crypts. Burial services are held in the spacious central area. Large stained glass windows are at each end, but are now boarded for protection. In recent years, vandals stole metal gates from several mausoleums, and even took the doors from the Community Mausoleum.



2010 Community Mausoleum. Note the absence of landscaping near the structure. Riverviewcem.com

The Mausoleum's large footprint meant limitations to avoid interments. Section D of the Northwest cemetery was chosen, adjacent to Richmond Avenue, and in full view by N. Market Street. The impressive front entrance faces southeast. Overgrown evergreens were removed and the structure awaits a landscape plan.

COMPARISON TO LOCAL INDUSTRIAL-AGE CEMETERIES

Comparisons rarely show a perfect match between two or more characteristics, such as the history of success followed by abandonment in cemeteries that were created during the Industrial Revolution.

In this comparison, the similarities will exist, as well as the differences, but the summary of the history is remarkably repetitive.

In November of 2021 I attended an online conference: ***New Life for Old Cemeteries: Connecting Communities and Open Space*** because I hoped it would help me decide if my Capstone Project should be about a cemetery. It helped.

Examples of Community Engagement

Different cemeteries approach this in different ways, dependent on resources, topography, structures, etc. Here are examples to increase visitors/ revenue:

- Venue for weddings, parties
- Wine and cheese tasting
- Tours, tours, tours, lectures
- Outdoor movie night
- Craft Fairs, Farmer's Markets, Festivals
- Permitting dog walkers
- Adding ash scattering and green burials

Except for the name of Riverview Cemetery, this chart lists the names of burial grounds that were discussed at the conference. To improve the value of the comparison, the orange lettering highlights cemeteries with similar characteristics: (1) formed as rural burial grounds during the Industrial Revolution; and (2) eventually neglected/ abandoned.

The stories behind this brief comparison are similar. An organization chooses to create a burial ground outside the city; there is success for the endeavor, but eventually cemetery maintenance stops as funds diminish. The conference provided case study reports that demonstrate the value of community engagement to bring “new life to old cemeteries.”

Cemetery Name	Location	Industrial-Age	Abandoned
Mt. Moriah Cemetery	Philadelphia	Yes	Yes
Laurel Hill Cemetery	Philadelphia	Yes	Yes
Historic Eden Cemetery	Collingdale, PA	No	No
Historic Fair Hill Burial Grounds	Philadelphia	No	No
The Woodlands	Philadelphia	Yes	Yes
Historic Arch Street Meeting Burial Grounds	Philadelphia	No	No
Green-Wood cemetery	Philadelphia	Yes	Yes
Riverview Cemetery	Wilmington	Yes	Yes



Craft Festival, Woodlands Cemetery



GraveDiggers Ball, Laurel Hill Cemetery

THE CURRENT REALITY

CEMETERY'S MISSION / COMMITTEE'S FOCUS

***The mission of Friends of Historic Riverview Cemetery
is to operate and maintain
Wilmington's most culturally diverse, non-profit, public cemetery,
and to support its restoration and preservation.***

From the January 2022 Newsletter of Riverview Cemetery:

"The focus of the [Arboretum and Landscape Committee's] work is to develop a [long-range] plan for the grounds, which will depend somewhat on our ability to build partnerships and receive grants. There was general consensus that the cemetery grounds should serve the living and the dead, and the grounds should be welcoming, safe and accessible for neighbors and visitors."

PROJECT INTENT

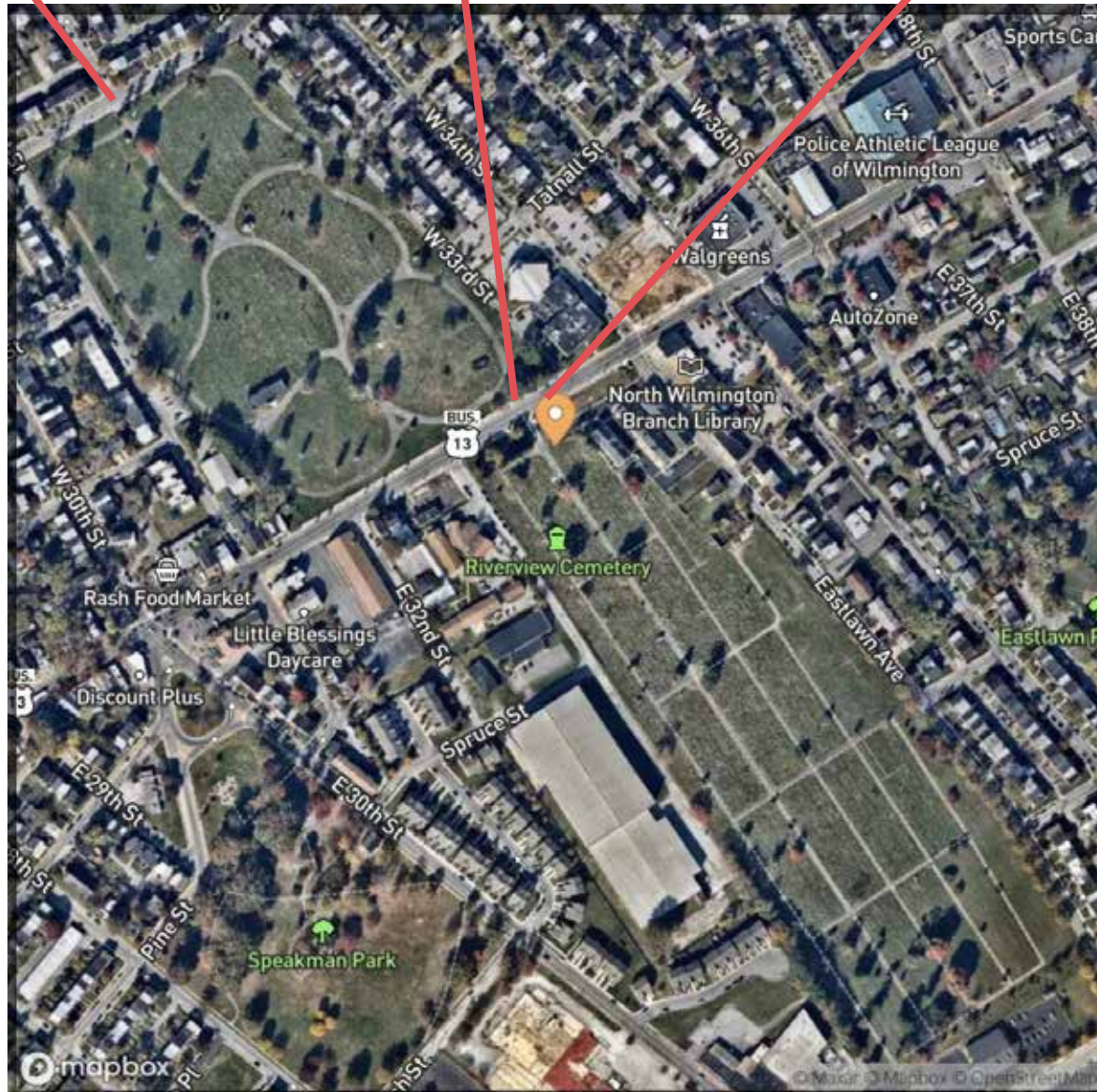
***Support the Long-Range Plan of the
Arboretum and Landscape Committee of the
Friends of Historic Riverview Cemetery
by identifying and enhancing
the benefits that the cemetery provides to the community***

THE REASON TO PRESERVE HISTORIC RIVERVIEW CEMETERY: **BENEFITS**

W. Washington St.
Entrance

N. Market St.
Entrance #1

N. Market St.
Entrance #2



Benefits

Forty-Two Acres

Urban Greenspace

Restorative

Ecosystem Services

Dense Urban Location

Arboretum Status

Open Daily

Open Dawn to Dusk

Walkable Roadways

Accessible

Historic Significance

150th Anniversary

Flag Memorial

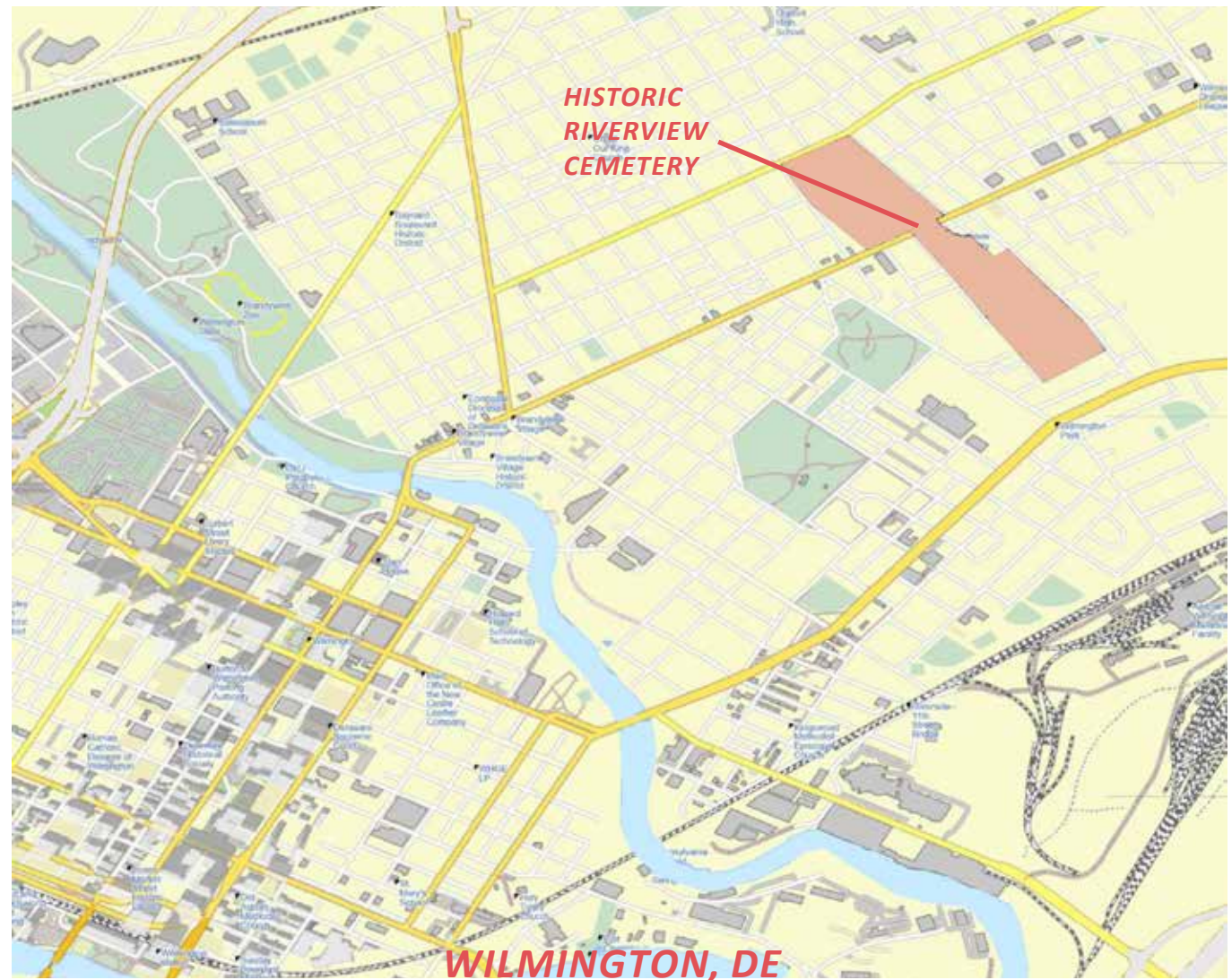
Community Mausoleum

HISTORIC RIVERVIEW CEMETERY (HRC) LOCATION

The site is located in the Mid-Atlantic region of the East Coast of the U.S.



More specifically, in northern New Castle County in Wilmington, DE.



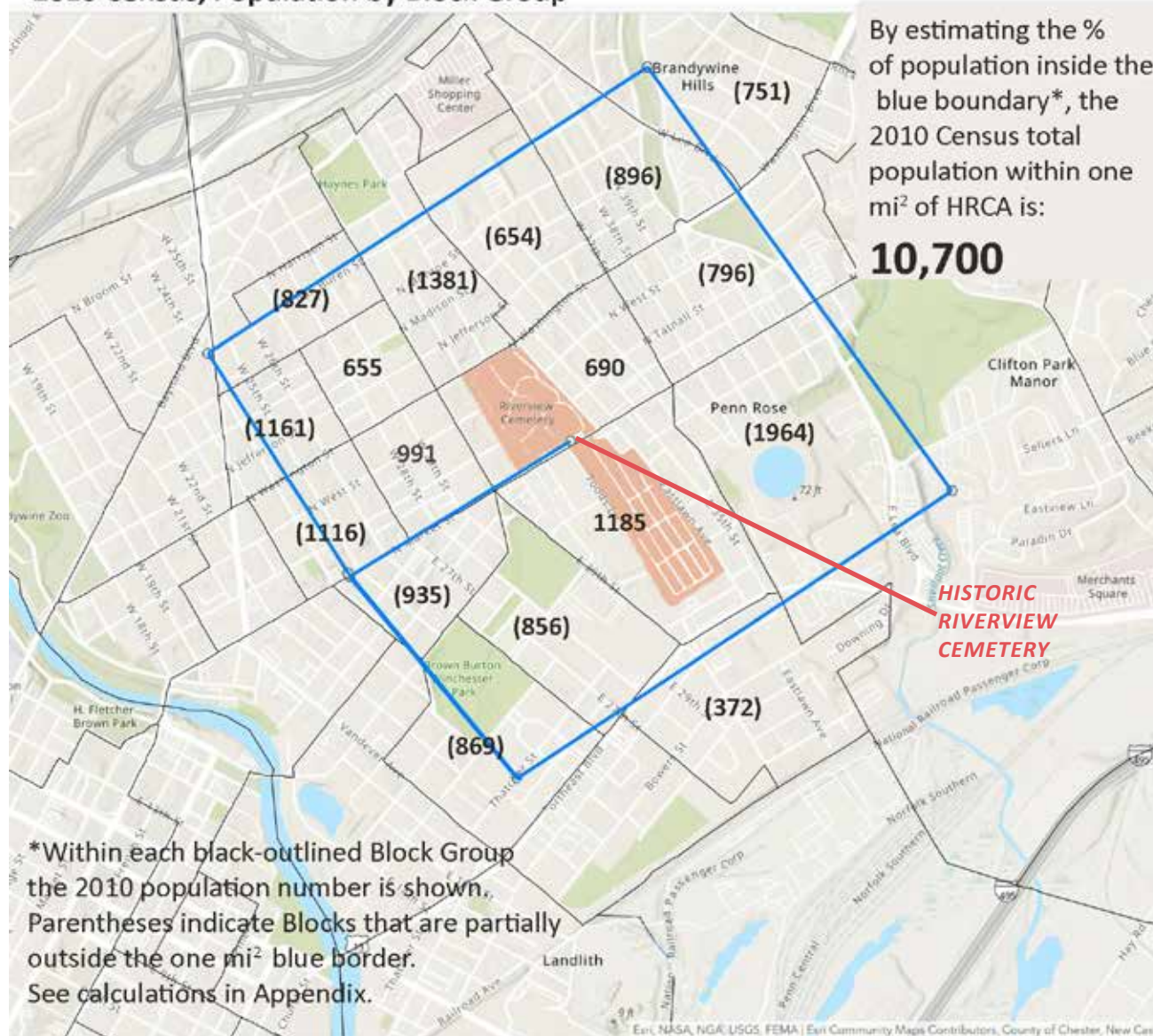
HRC is located within the NorthEast neighborhood of Wilmington, DE, and occupies 42 acres on both sides of N. Market St. between 31st and 34th Sts. This urban cemetery, founded in 1872, has approximately 36,500 interments and 20,000 available plots. It is surrounded by diverse land uses, predominantly residential, but also churches, a correctional facility, and small businesses.

CEMETERY NEIGHBORS = POTENTIAL ADVOCATES



COMMUNITY POPULATION

2010 Census, Population by Block Group



The 2010 Census reports more than ten thousand people live within one square mile of HRC, which includes a second greenspace, the Brown-Burton Winchester Park, with a pool and sports facilities.

According to New Castle

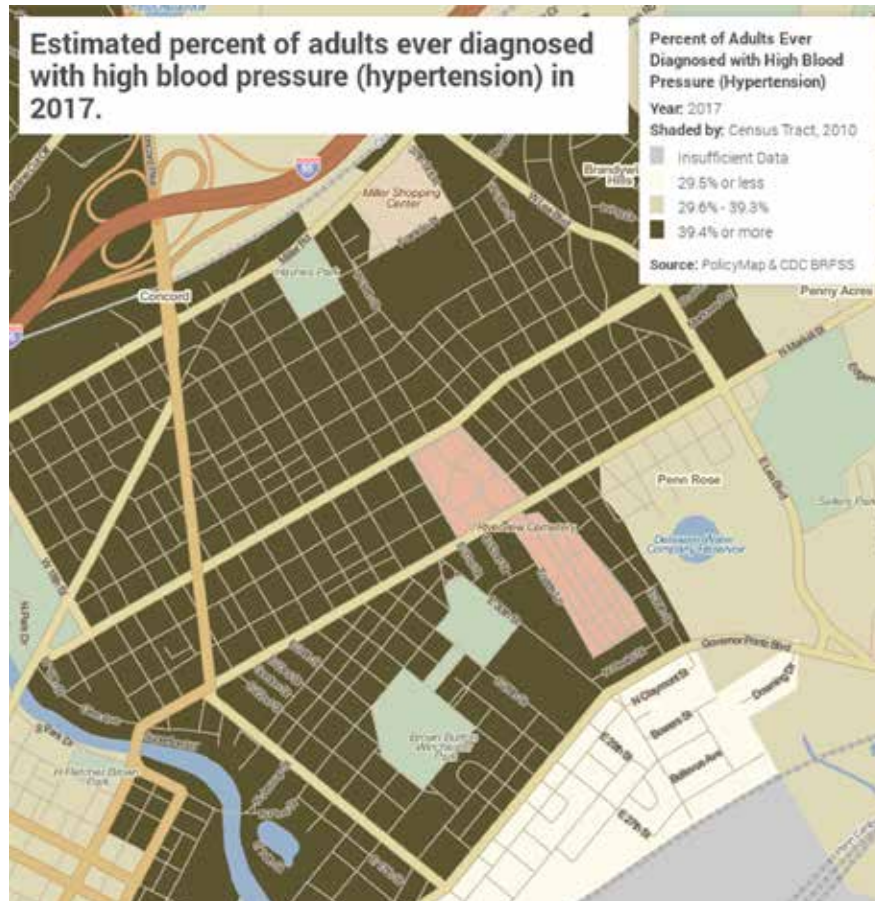
County GIS data, **more than 1000 occupied addresses** are within one square mile of HRC.

However, it is rare to see community members enjoying the benefits of the cemetery.

For community members to use and appreciate the benefits of the Cemetery, they must know it is open to the public:

- They must visit.
- They must feel safe and welcome.
- They must have a reason to visit.
- They must have a desire to return.

COMMUNITY HEALTH - HYPERTENSION & INACTIVITY

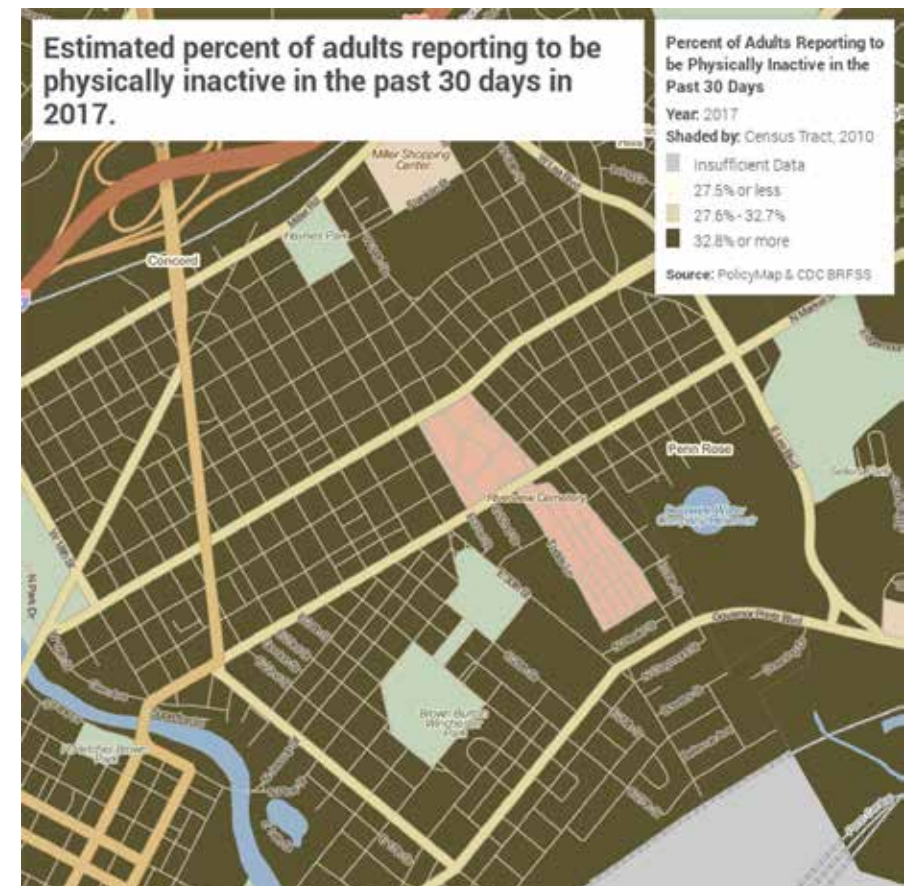


Activity Helps to Control High Blood Pressure

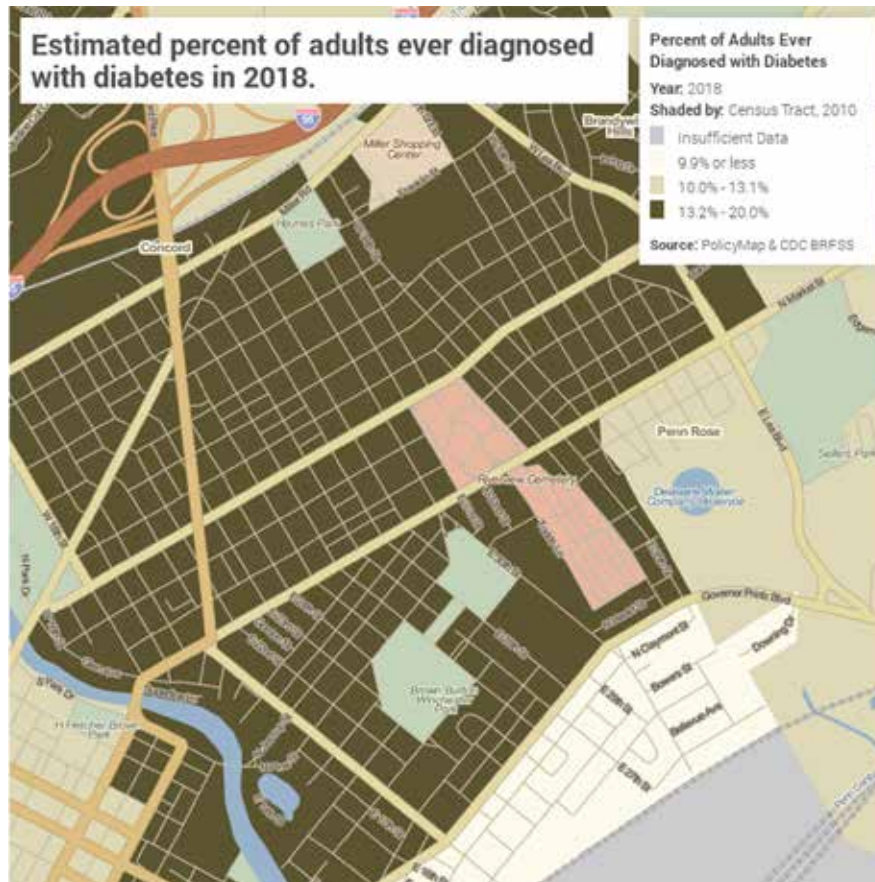
In the **US**, **32.4%** of the adult population is diagnosed with high blood pressure, but the number is **39.4% for the community** near HRC. The National Heart Lung and Blood Institute says physical activity is an important factor preventing and controlling high blood pressure - **recommending 30 minutes of moderate-level physical activity, such as brisk walking, five days each week.**

How Exercise Lowers Blood Pressure

According to the Mayo Clinic, **regular physical activity makes the heart stronger.** A stronger heart pumps more blood with less effort, resulting in decreased force on the arteries and a lowering of blood pressure. Regular activity also helps maintain a healthy weight — another important way to control blood pressure. It may take 1-3 months for exercise to improve blood pressure, but the **benefits are maintained as long as activity is maintained.**



COMMUNITY HEALTH - DIABETES AND FOOD DESERT

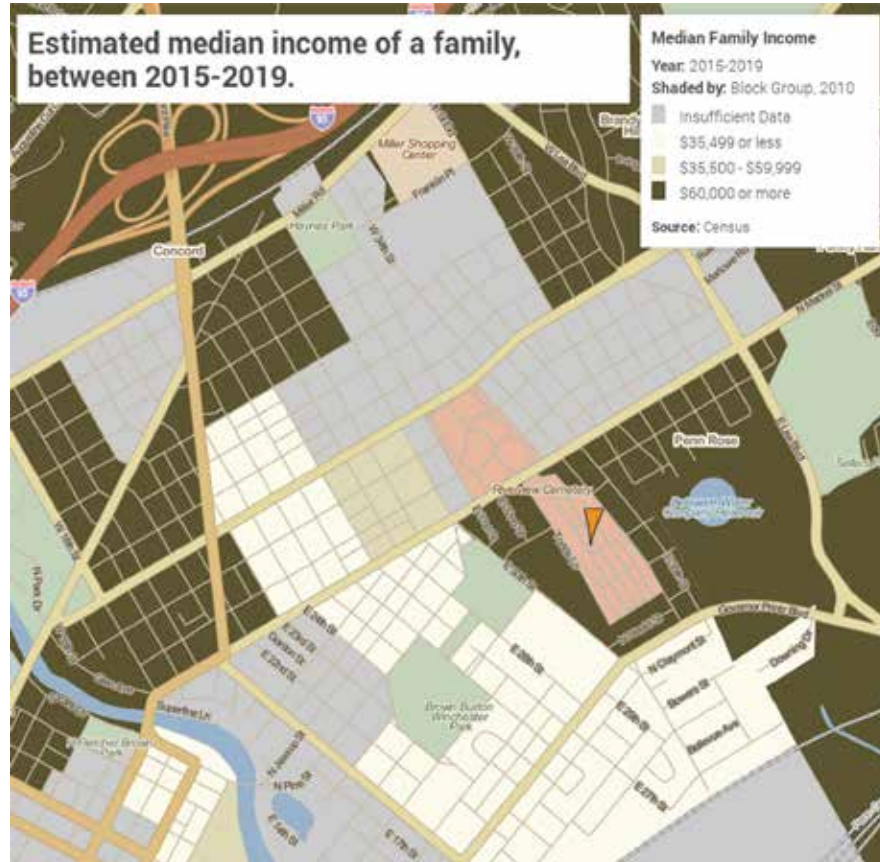


The average rate of **diabetes in the US is 11.4%**, but near HRC the number is nearly **15%**. Diabetes increases the risk of other adverse health outcomes such as cardiovascular disease, blindness, kidney failure, hypertension, and neuropathies. The National Institute of Health recommends a treatment plan that includes **increasing activity** and modifying diet. Providing community members a **safe, peaceful walking trail through the Cemetery** might encourage them to **walk more frequently**, leading to positive health outcomes.

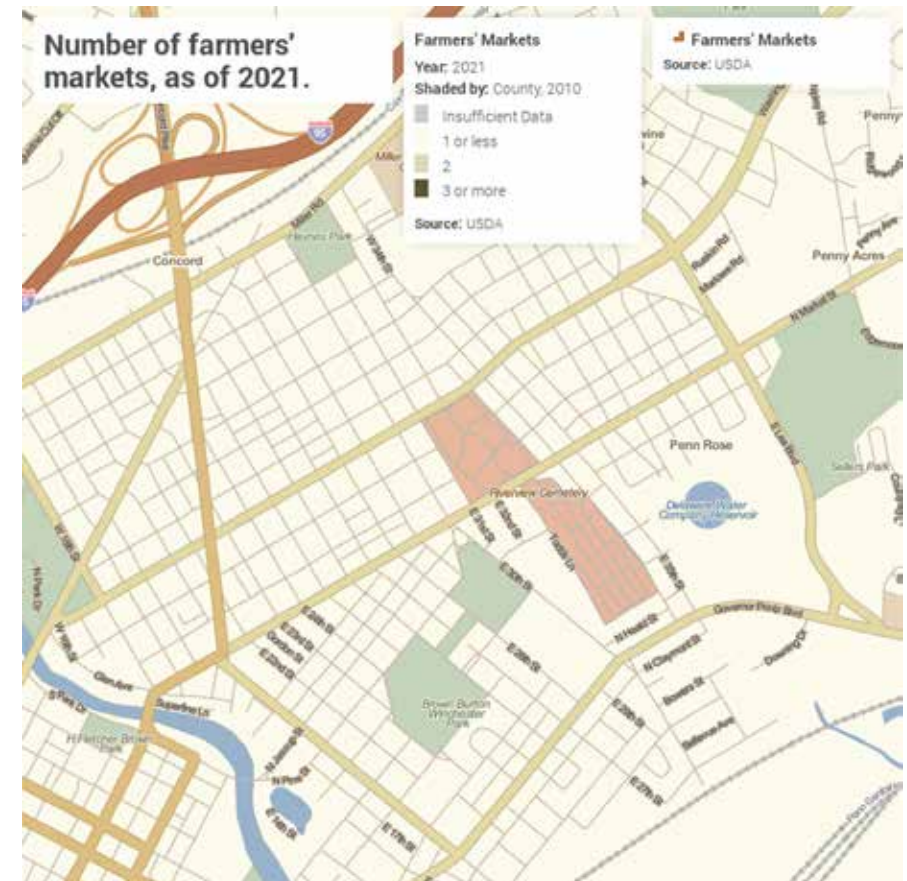
Approximately one-half of the square mile surrounding Historic Riverview Cemetery is rated as a **Food Desert**, indicating **poor access to fresh fruits, vegetables, meats, etc.** Since diet has a role in health outcomes such as hypertension, hypercholesterolemia, diabetes, cardiovascular disease, and obesity, finding solutions, like Farmers' Markets, to address **access to healthy food** could **positively impact this neighborhood**.



MEDIAN FAMILY INCOME & FARMERS' MARKETS



At least **1/3 of the families** within one square mile of the Cemetery meet the \$35,499 **poverty threshold** for a family of 6. Case studies reveal practices for success when creating a **Farmer's Market in a low-income neighborhood**, including resident and government support, farmer agreement to travel to less profitable locations, food preparation demonstrations, and access to utilities, including electricity and bathrooms (Markowitz, 2010). Because of these complicating factors, it is beyond this project's scope to pursue a Farmer's Market, regardless of its potential value.

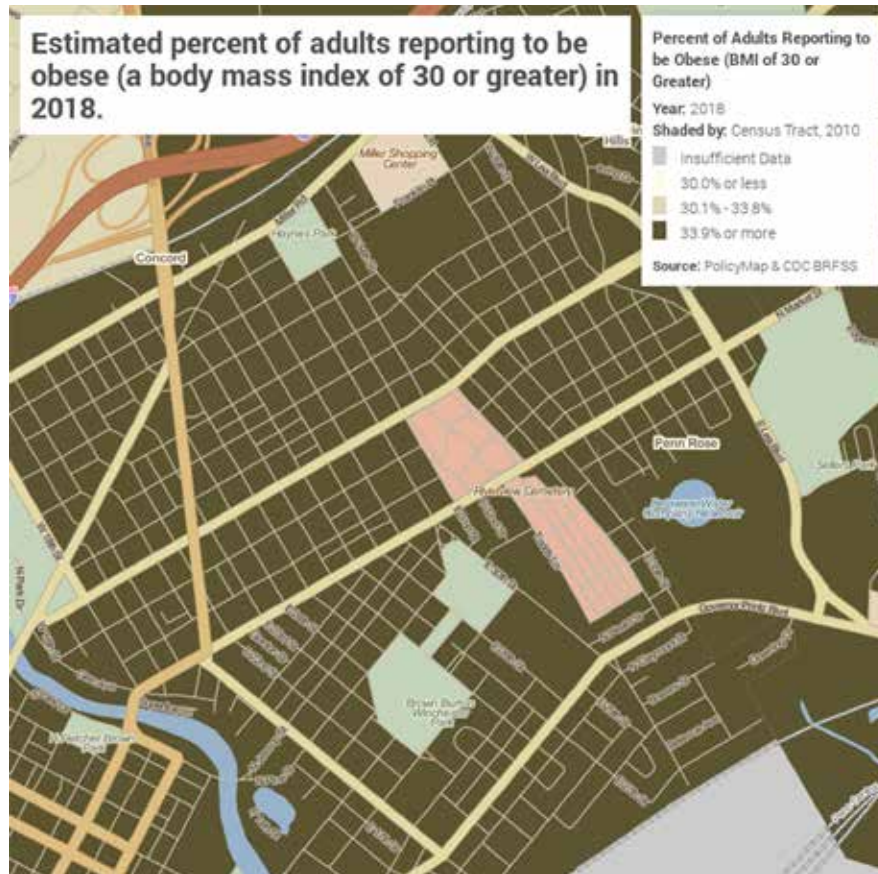


Poverty Thresholds for 2020 by Size of Family and Number of Related Children Under 18 Years

Size of family unit	Weighted average thresholds	Related children under 18 years								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person (unrelated individual)	13,171									
Under age 65	13,485									
Aged 65 and older	12,413									
Two people	16,733									
Householder under age 65	17,413	17,331	17,830							
Householder aged 65 and older	15,659	15,644	17,771							
Three people	20,581	20,244	20,832	20,852						
Four people	26,496	26,695	27,131	26,245	26,338					
Five people	33,432	32,132	32,661	31,661	30,887	30,414				
Six people	35,499	37,027	37,174	36,408	35,674	34,582	33,935			
Seven people	40,406	42,895	42,871	41,954	41,314	40,124	38,734	37,210		
Eight people	44,755	47,850	48,071	47,205	46,447	45,371	44,006	42,585	42,224	
Nine people or more	53,605	57,319	57,507	56,831	56,188	55,132	53,679	52,366	52,042	50,005

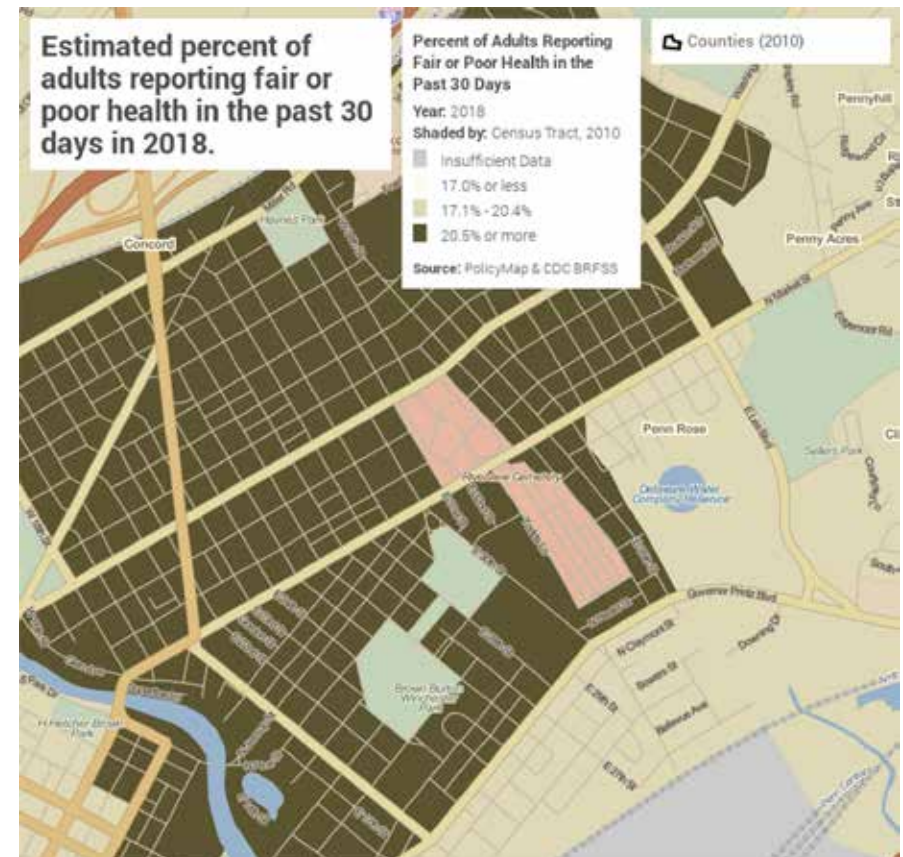
Source: U.S. Census Bureau

COMMUNITY HEALTH - OBESITY & SELF-REPORTED PHYSICAL HEALTH

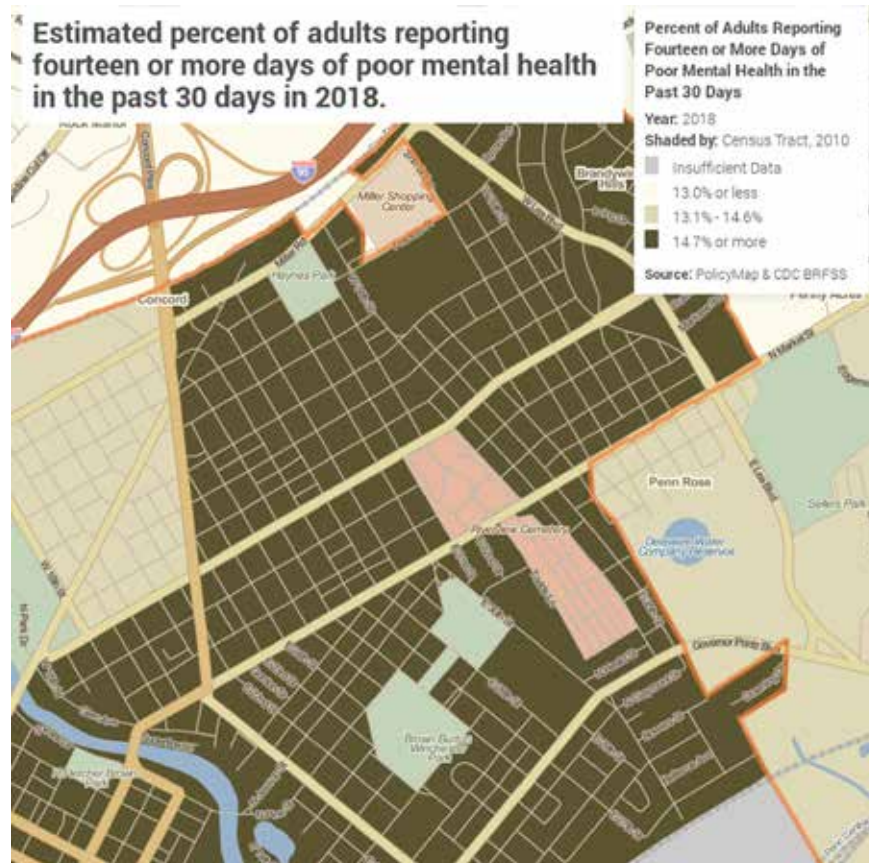


In 2018, adult residents within one square mile of Historic Riverview Cemetery self-reported data that was used to rank obesity and the results show 33.9% or more of the adults were obese. **Obesity is a health risk** for hypertension, cardiovascular disease, hypercholesterolemia, joint damage, diabetes, etc. Typical **recommendations** to combat obesity include dietary changes and **increased physical activity**, such as walking.

Echoing the community health outcomes already presented, 20% or more of the adults within one square mile of Historic Riverview Cemetery **self-reported fair or poor health** in 2018. Other Census chronic health data validates this impression. Ultimately, the Cemetery, which is an urban greenspace, offers an opportunity to provide **untapped benefits to community members for improving their health outcomes**.

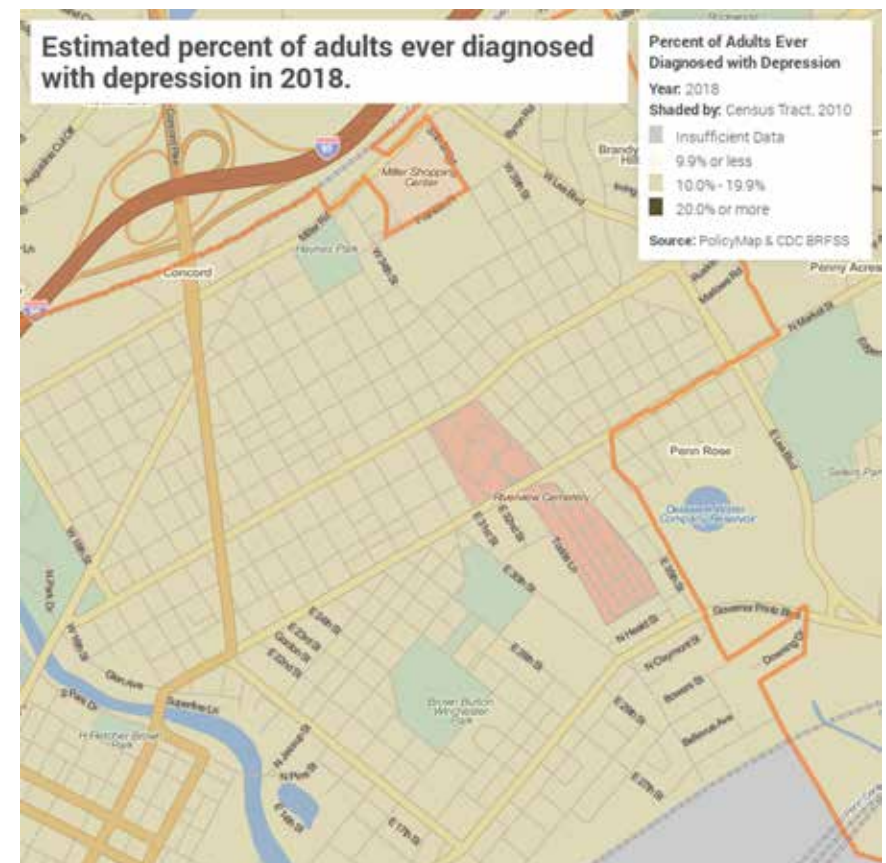


COMMUNITY HEALTH - SELF-REPORTED MENTAL HEALTH



In 2018, more than 14.6% (US average = 12.7%) of adult community members within one square mile of Historic Riverview Cemetery reported **poor mental health** for 14 of the last 30 days (map above). In the same year, 10 to 20% of the members reported a **diagnosis of depression** (map to right). Both Nordh (2017) and Lai (2020) conducted research that concluded that **cemeteries are restorative urban greenspaces** capable of meeting Kaplan's (1985, 1989) definitions of Attention Restoration Theory.

Farah et al (2016) reviewed 367 randomized clinical trials to conclude that "Cognitive behavioral therapy, naturopathic therapy, biological interventions, and **physical activity interventions reduced depression severity.**" Other research shows that "Exercise has therapeutic effects on depression in all age groups... and the **benefits of exercise therapy are comparable to traditional treatments...**" Xie et al (2021). All neighborhoods can benefit from safe, accessible walking trails such as that offered at Historic Riverview Cemetery.



PROJECT MISSION

***Based on the Long-Range Plan
developed by the Arboretum and Landscape Committee (ALC)
of the Friends of Historic Riverview Cemetery (HRC)
and on personal interviews and historical research, this project will:***

- Document the history of U.S. burial grounds, including abandonment and restoration at HRC and other local cemeteries.
- Expand the cemetery's safe and respectful public use to enhance the likelihood of public engagement and development of HRC advocates.
- Identify short- and long-term physical enhancements at HRC that will support community health benefits and public engagement.

PROJECT GOALS AND OBJECTIVES

Document History

1. Record the history of HRC* with emphasis on recent revitalization and compare that to similar experiences at other urban cemeteries



- a. Research and prepare an overview of the history and predicted future of burial grounds in the United States
- b. Document the history of origin, use, decline, and restoration of HRC*
- c. Identify factors that contribute to cemetery abandonment and the processes that drive restoration at other local cemeteries and compare to the experience at HRC*

*HRC is Historic Riverview Cemetery

**ALC is Arboretum and Landscape Committee

Enhance Community Services

2. Create actionable plans to increase public engagement and expand the benefits that the cemetery provides to the community



Walker in cemetery,
TampaBay.com

- a. Provide ideas to HRC's ALC** to increase community engagement and use of the cemetery by a wide variety of users



Memorial Day, McCall.com

- b. Develop programming for one concept to increase community engagement

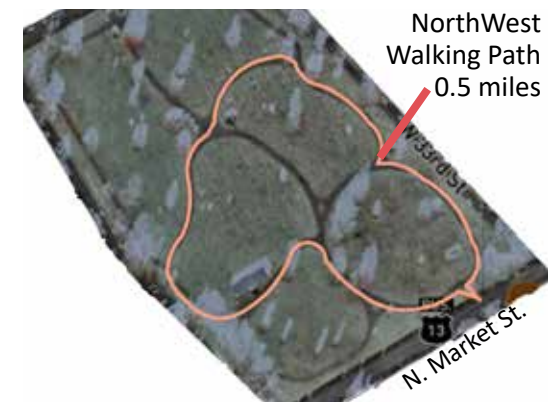
Enhance Physical Environment

3. Create landscape designs for the community mausoleum and in one other area to support community engagement



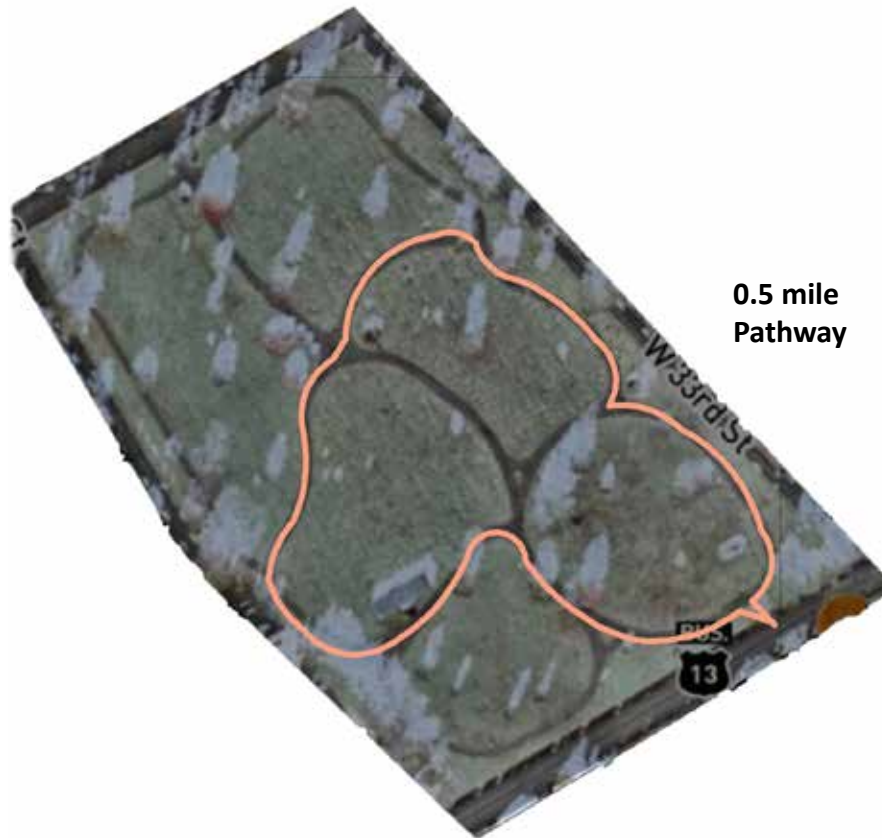
Community Mausoleum HRC*, RiverviewCem.com

- a. Develop a design to enhance the appearance of the approach to the community mausoleum by using ALC's** approved plant list
- b. Develop one additional design that is of importance to community engagement, such as a metered walking path or shaded area for a bench



NORTHWEST CEMETERY WALKING PATHS

Whether walking for 30 minutes, five times a week, to improve high blood pressure or simply taking a restorative stroll in a historic greenspace, the neighbors of HRC can benefit from a walk at Riverview Cemetery.



0.5 mile
Pathway



1.0 mile
Pathway

Phase I
Northwest Cemetery Walking Pathways

Phase II (future development)
Southeast Cemetery

NORTHWEST CEMETERY WALKING PATHS

Points of Interest

1921 First and Central
Presbyterian Church reburials

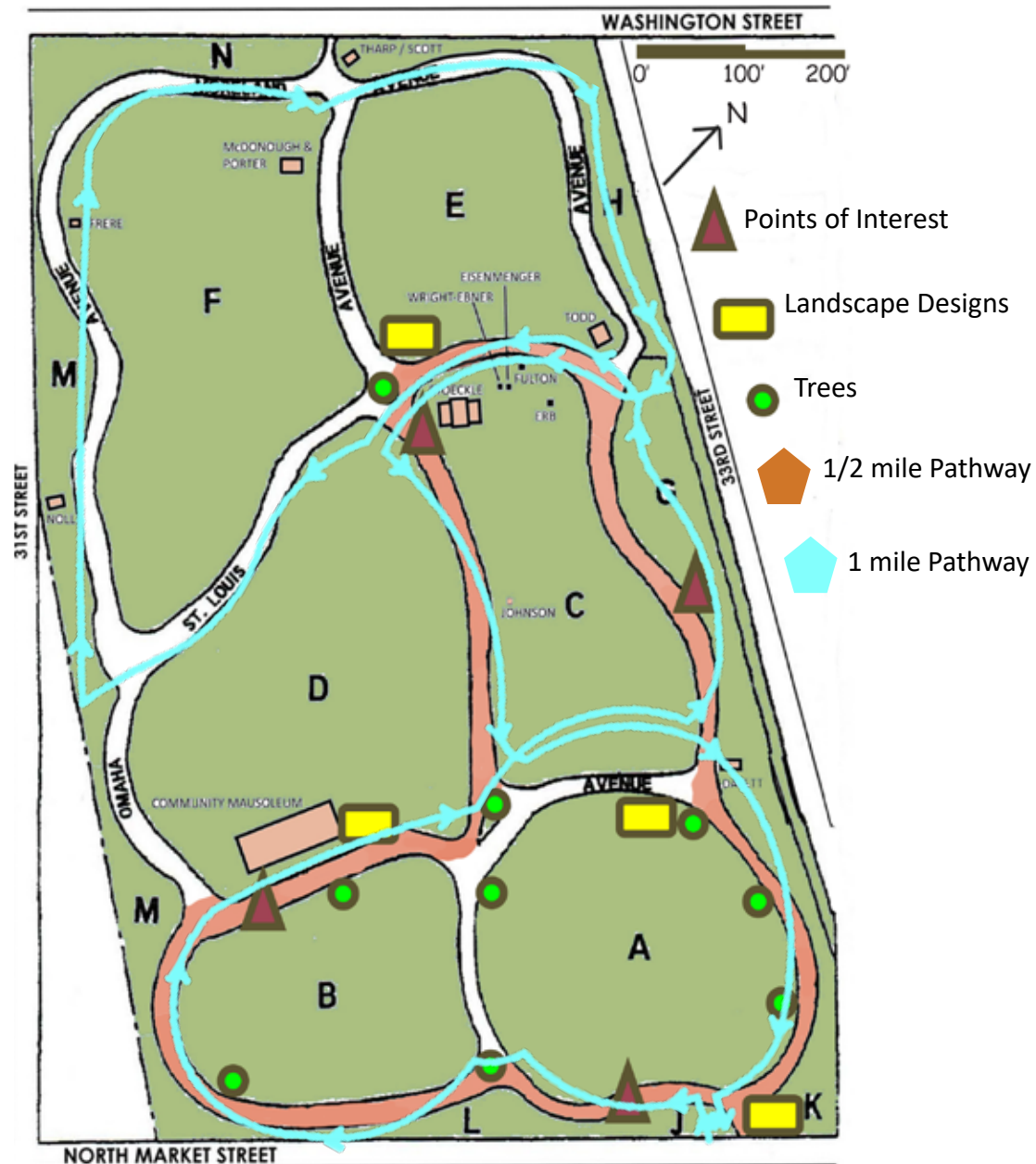
1907 Stoeckle Mausoleum and
Wilmington Brewing Industry

1917 Community Mausoleum

Monument and Baby Cemetery

Orange and Cerulean markers
will serve for way-finding.

Informational signs along the
pathways will draw attention to
special items in the cemetery



BROCHURE TO PROMOTE WALKING AT HRC

Side 1 of Trifold

Are you or your doctor
concerned about your
high blood pressure?

Are you trying to **lose weight?**

Do you or a loved-one have
diabetes (high blood sugar)?

Are you feeling **depressed** - Do
you believe that you have poor
mental health?

Are you looking for a place that
soothes your soul and helps
you **feel peaceful?**

WALKING can help !!

Researchers have found that
simple activities like walking
for 30 - 60 minutes 4 - 5 days
a week can reduce blood
pressure, help manage
diabetes, and even improve
mental health.

Your neighborhood has a lovely,
quiet greenspace for walking:
Riverview Cemetery!

Ask your friends to help you
create a Walking Team today.



Riverview Cemetery is open
daily to individuals and Walking
Teams--- dawn to dusk.

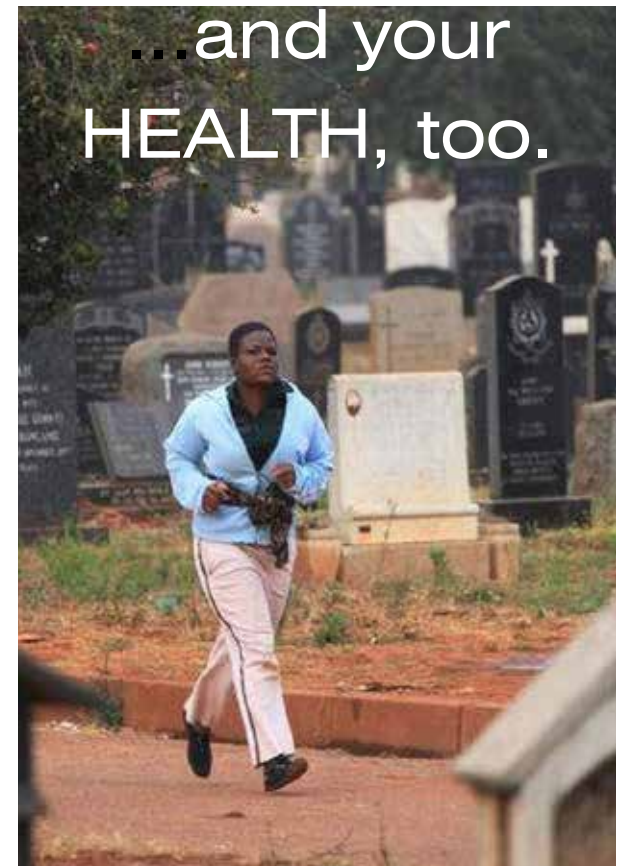


Entrance from N. Market Street

Historic Riverview Cemetery
3300 North Market Street
Wilmington, DE 19802

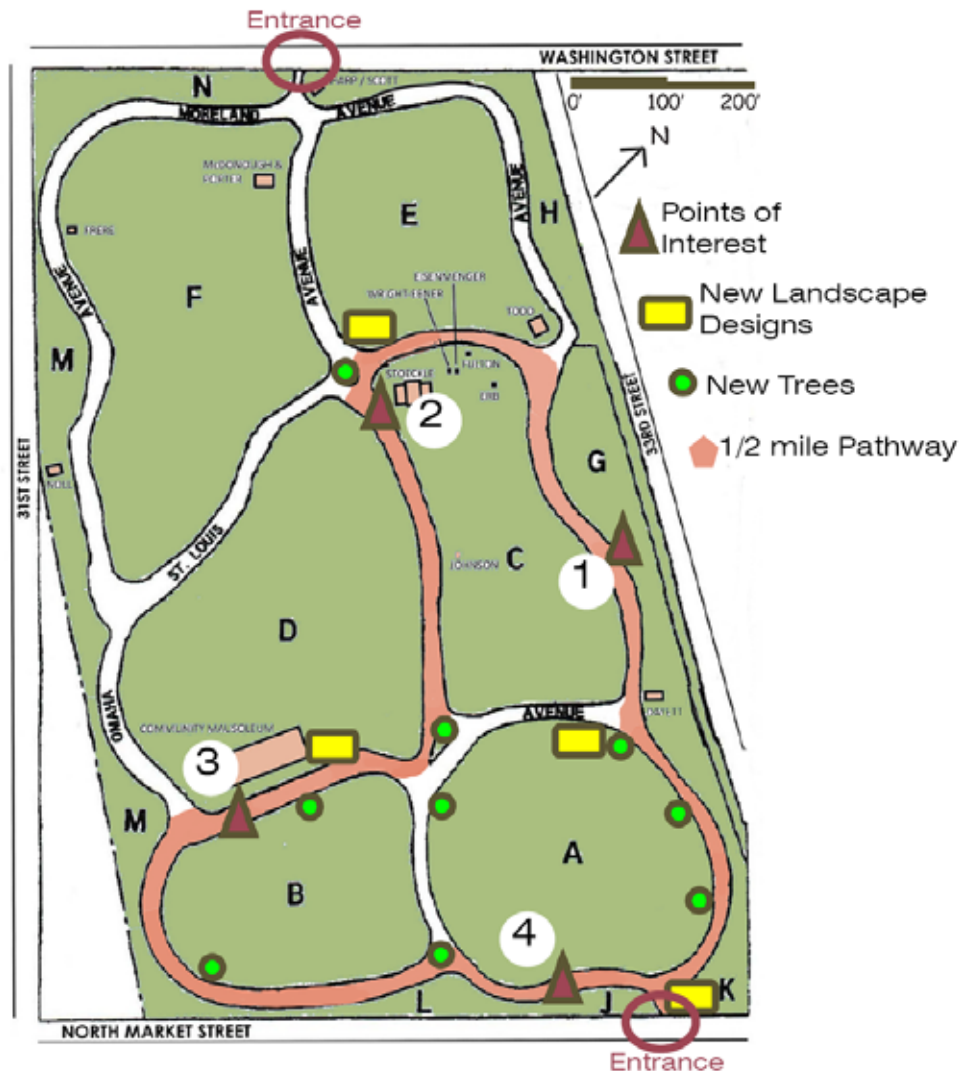
A walk in the
Cemetery
is good
for the SOUL

...and your
HEALTH, too.



BROCHURE TO PROMOTE WALKING AT HRC

Side 2 of Trifold



The two parts of Riverview Cemetery are divided by North Market Street. This map shows the Northwest Cemetery, started in 1899, but it has graves older than that!! Solve this mystery from the sign at triangle #1.

Points of Interest

There are many interesting sights and stories at Riverview Cemetery. Here are just a few:

- 1 First and Central Presbyterian Church burials
- 2 Stoeckle 1907 Mausoleum of Wilmington's German brewers
- 3 Delaware's first Community Mausoleum, 1917 (260 crypts)
- 4 Monument that marks one of two baby cemeteries at Riverview

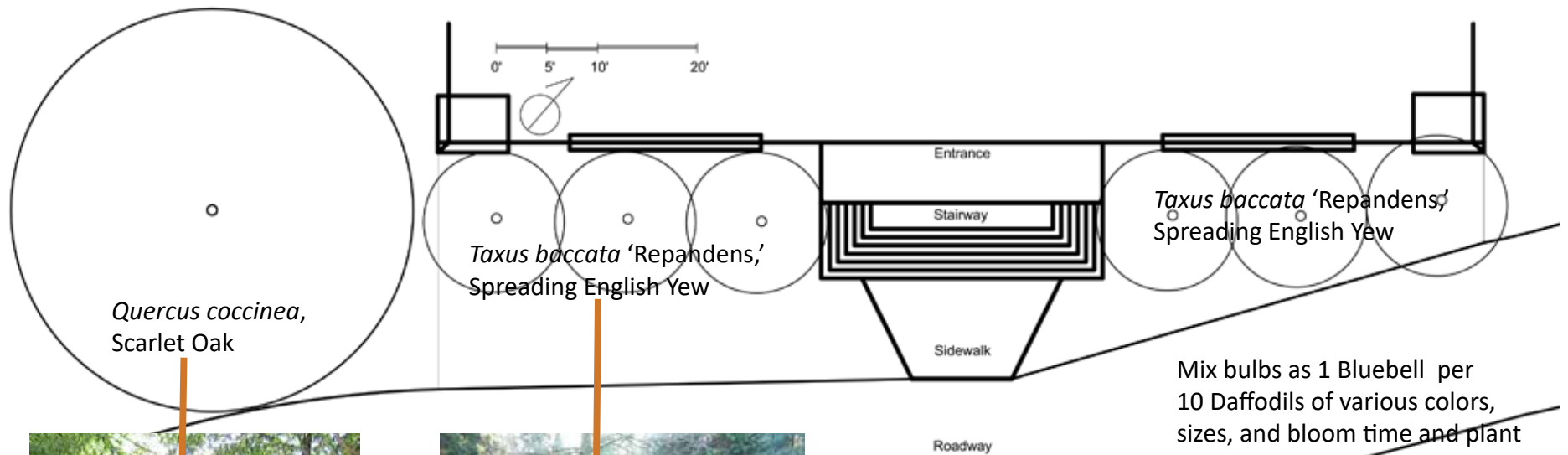
By following the orange loop from the North Market Street Entrance around to the same Entrance, you will complete a 1/2 mile walk. Walking with a buddy can be more fun than walking alone. Allow yourself the pleasure of listening as you walk: birds, wind in the trees, gravel underfoot. People often find that walking in a natural greenspace helps them feel restored. How does it make you feel?

Riverview Cemetery is open daily to individuals and Walking Teams--- dawn to dusk.

3300 North Market Street
Wilmington, DE 19802

MAUSOLEUM LANDSCAPE DESIGN

FRONT OF COMMUNITY MAUSOLEUM



MissouriBotanicalGarden.com



GatewayGardenCenter.com

Hyacinthoides hispanica,
Spanish Bluebells



Caribbeangardenseed.com

Mix bulbs as 1 Bluebell per
10 Daffodils of various colors,
sizes, and bloom time and plant
randomly, 12" apart, under and
around the Taxus.

Narcissus species
Daffodils

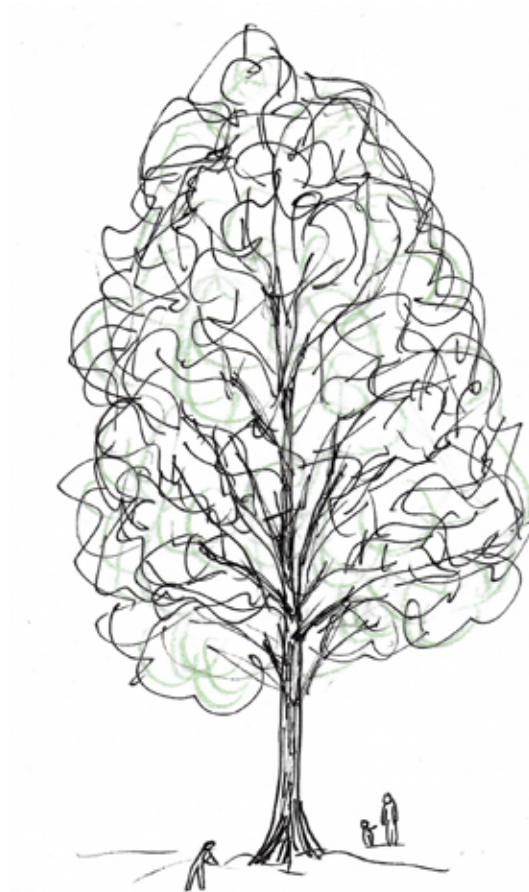


Brecks.com

MAUSOLEUM LANDSCAPE DESIGN

From the Registration Form of the National Register of Historic Places, this description of the cemetery:

*"The landscape is at once
densely populated with monuments
and desolate,
evoking the nostalgia
of a once-busy enterprise
and social institution
tied to the industrial growth of Wilmington."*



REFERENCES

Anderson, L. (2005). Riverview Cemetery : reading the stones: a collection of memories from the First State. Timestone Press.

Biggest Cities In The US | 2020 Population Data. (n.d.). Www.biggestuscities.com. Retrieved May 16, 2022, from <http://biggestUSCities.com>.

Farah, W. H., Alsawas, M., Mainou, M., Alahdab, F., Farah, M. H., Ahmed, A. T., ... & LeBlanc, A. (2016). Non-pharmacological treatment of depression: a systematic review and evidence map. *BMJ Evidence-Based Medicine*, 21(6), 214-221

Hoffecker, C. E.; Robert, D. F. J. D. C. (1974). Wilmington, delaware: portrait of an industrial city, 1830-1910. Published for the Eleutherian Mills-Hagley Foundation by the University Press of Virginia.

Lai, K. Y., Sarkar, C., Sun, Z., & Scott, I. (2020). Are greenspace attributes associated with perceived restorativeness? A comparative study of urban cemeteries and parks in Edinburgh, Scotland. *Urban Forestry & Urban Greening*, 53, 126720.

<https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/in-depth/high-blood-pressure/art-20045206>

Markowitz, L. (2010) Expanding Access and Alternatives: Building Farmers' Markets in Low-Income Communities, *Food and Foodways*, 18:1-2, 66-80.

National Register of Historic Places / Registration Form on <https://riverviewcem.com/history>

Negami, H. R., Mazumder, R., Reardon, M., & Ellard, C. G. (2018). Field analysis of psychological effects of urban design: a case study in Vancouver. *Cities & health*, 2(2), 106-115.

Nordh, H., Evensen, K. H., & Skår, M. (2017). A peaceful place in the city—A qualitative study of restorative components of the cemetery. *Landscape and urban planning*, 167, 108-117. <https://riverviewcem.com/history>

David Charles Sloane. (2018). *Is the cemetery dead?* The University Of Chicago Press.

Rebecca Wragg Sykes. (2022). *KINDRED : neanderthal life, love, death and art*. Bloomsbury Sigma.

Wattenberg, B. (Host). (2000). *The First Measured Century: The Other Way of Looking at American History* [PBS Specia]. BJW, Inc.; New River Media, Inc.

US Diabetes citation

Centers for Disease Control and Prevention. *Diabetes Report Card 2019*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2020.

Xie, Y., Wu, Z., Sun, L., Zhou, L., Wang, G., Xiao, L., & Wang, H. (2021). The Effects and Mechanisms of Exercise on the Treatment of Depression. *Frontiers in Psychiatry*, 1904.

APPENDIX

JANUARY 2022 WINTER



OUTDOOR VOLUNTEER PROJECTS 8 am - Noon*

Project dates are:
January 8
February 12
March 12

*weather permitting

HELP WANTED

Part time Employment
\$25/hour

- Burial Coordinator
- Administrative Assistant

Job Descriptions can be found on
Riverviewcem.com/employmentopportunities



...the cemetery grounds should serve the living and the dead, and the grounds should be welcoming, safe and accessible for neighbors and visitors.

It was heartening to attend a conference entitled "New Life for Old Cemeteries" sponsored by the Morris Arboretum. There were many presenters from cemeteries across our region thinking about the very issues we struggle with everyday at Riverview Cemetery. In addition, preservationists, urban planners, historians, landscape planners and arborists shared their experiences. Cemeteries are an integral part of urban infrastructure and ecosystems and as such we hope to do thoughtful planning going forward.

We have initiated a Landscape and Arboretum Committee with representatives from our volunteer community, Delaware Center for Horticulture, University of Delaware Landscape Architecture department, and urban forester. The focus of the committee's work is to develop a master plan for the grounds which will depend somewhat on our ability to build partnerships and receive grants. There was general consensus that the cemetery grounds should serve the living and the dead, and the grounds should be welcoming, safe and accessible for neighbors and visitors.

Riverview Cemetery became accredited this fall as a Level 1 ArbNet Arboretum, the first arboretum in the City of Wilmington. Receiving this designation recog-

TREES OF RIVERVIEW Annual Fund - Donate Today!

nizes the Cemetery as a place that values and maintains its green space and trees, and as a resource to the residents of Wilmington and the surrounding area. This accreditation acknowledges the efforts of FHRC to maintain and enhance the grounds and trees of

Riverview Cemetery and encourages it to pursue further improvements.

The ArbNet Arboretum Accreditation Program provides standards and guidelines for the establishment and development of an arboretum. It is sponsored and supported by The Morton Arboretum, Botanic Gardens Conservation International (BGCI), and the American Public Gardens Association (APGA).

By achieving Arboretum Level I accreditation, the cemetery-arboretum aims to:

- Remind people of the existence of Riverview Cemetery and increase their awareness of its availability as a place to meet, walk, relax, meditate, and enjoy nature.
- Maintain and enhance its existing tree canopy in accordance with high arboricultural standards.
- Enhance the beauty of the site by planting species of trees and shrubs that have horticultural interest, strong aesthetic qualities, and support biodiversity.
- Encourage greater local community appreciation and involvement in its green space through signage, accessibility of arboretum documentation, and events.
- Ensure preservation of the site's historic character and designation both with respect to those persons interred and the historic infrastructure as they relate to the location of trees.
- Increase the level of engagement with private, business, and governmental groups through community events, as well as educational and volunteer programs.
- Through its preservation of green space, continue to enhance air quality and help with storm water management.

Submitted by Julie Zorach
2022 Landscape & Arboretum Chair
Riverview Cemetery



The mission of Friends of Historic Riverview Cemetery is to operate and maintain Wilmington's most culturally diverse, non-profit, public cemetery, and to support its restoration and preservation.

Riverview Cemetery • 3300 North Market Street • Wilmington, Delaware • 19802 • (302) 762-4705

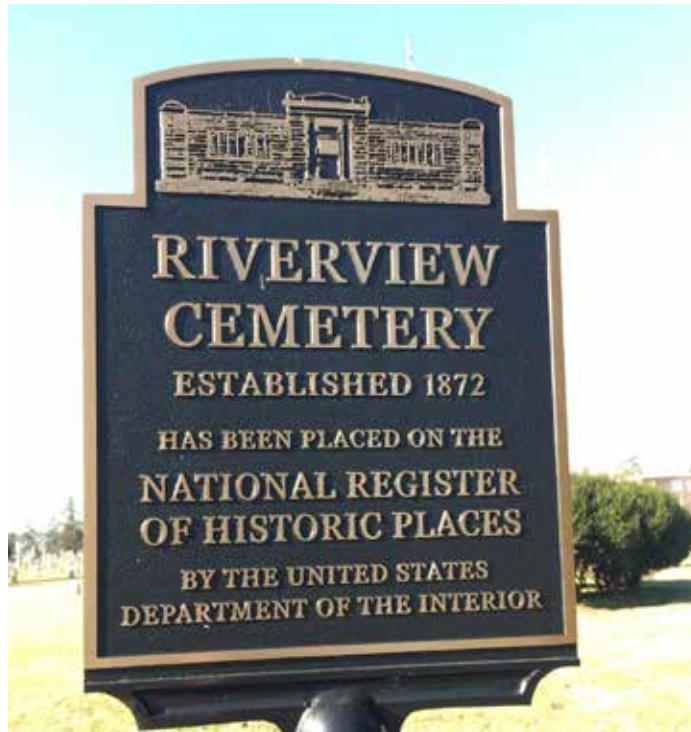
From the January 2022 Newsletter of Riverview Cemetery:

"The focus of the committee's work is to develop a master plan for the grounds, which will depend somewhat on our ability to build partnerships and receive grants. There was general consensus that the cemetery grounds should serve the living and the dead, and the grounds should be welcoming, safe and accessible for neighbors and visitors."

CALCULATION FOR POPULATION WITHIN 1 SQUARE MILE OF HRC

2010 Census - Population by Block Group			
Population Calculations for 1 square mile around HRC			
	2010 Census Block Group population	Estimated % of Block Group inside boundary	Estimated population inside boundary
	827	60	496.2
	1161	66	766.26
	655	100	655
	1381	60	828.6
	654	80	523.2
	896	50	448
	751	10	75.1
	1116	66	736.56
	991	100	991
	690	100	690
	796	60	477.6
	935	95	888.25
	869	35	304.15
	856	97	830.32
	1185	100	1185
	1964	40	785.6
	372	5	18.6
			10699.44
		Total =	~10700

RESEARCH SUMMARY-RESTORATIVE CAPACITY



Cemetery benefits

A literature search revealed the benefits of a cemetery, especially the **Restorative Capacity** of cemeteries. Could emphasis on this increase the presence of visitors, potential advocates, and future “Friends” to the cemetery?

Attention Restoration Theory

Kaplan and Kaplan (1985, 1989) described the Attention Restoration Theory whereby restorative landscapes provide four elements to humans: fascination, being away, extent, and compatibility.

EVIDENCE-BASED DESIGN

History, nature, culture

Nordh (2017) conducted the first study of the cemetery environment as “Restorative.” The authors explored the possibility that cemeteries provide a restorative experience, beyond the experience in other greenspaces in a city, since the cemetery offers History, Nature, and Culture. In contrast, other green spaces may not provide all three.

Cemeteries are restorative

Based on interviews of visitors to an Oslo cemetery, their findings revealed that there was a correlation of the verbalizations of the visitors to Kaplan’s definition of restorative landscapes.

Restorativeness in cemeteries and parks

Lai (2020) compared the psychological impact of landscape in urban cemeteries and parks. Both had greenspace attributes of pleasantness and aesthetic quality, which were significant predictors of perceived restorativeness.

Optimize cemeteries

K.Y.Lai suggests the need to integrate cemetery strategy along with that of parks to inform the local authority’s urban greenspace planning and policy, which impacts the health and mental well-being of urban residents.

RESTORATIVE CAPACITY



"Friends" celebrate historic marker, RiverviewCem.com

CASE STUDY

Impact of intervention

H.R.Negami conducted a field analysis of 102 subjects' mental well-being, sociability, and feelings of environmental stewardship by exposing them to 3 intervention sites and 3 standard. Afterward, subjects responded on a cell phone app. The intervention sites had greenery or colorful elements. Subjects responded with higher levels of happiness, trust, stewardship, and attraction to the intervention sites than to the standard sites.

Enhanced Sociability

Sociability measures of the landscape site were: the desire to return, meet friends there, trust strangers, and likelihood of a wallet being returned.

DESIGN IMPLICATIONS

1. Focus on creating sociability and stewardship through place-making designs
2. Strive to enhance sociability through events that engage the community and neighborhood residents so they can be exposed to the greenery and colorful designs of the cemetery and experience the benefits of restorativeness
3. Strive to enhance "fascination" through designs that use a diversity of plants, textures, shapes, colors, sizes
4. Strive to enhance the separateness of the cemetery to encourage the feeling of "being away"
5. Strive to enhance "compatibility" by creating designs that are familiar and perceived as safe.



Family at Riverview Cemetery, circa 1950, RiverviewCem.com

Citations

Lai, K. Y., Sarkar, C., Sun, Z., & Scott, I. (2020). Are greenspace attributes associated with perceived restorativeness? A comparative study of urban cemeteries and parks in Edinburgh, Scotland. *Urban Forestry & Urban Greening*, 53, 126720.

Negami, H. R., Mazumder, R., Reardon, M., & Ellard, C. G. (2018). Field analysis of psychological effects of urban design: a case study in Vancouver. *Cities & health*, 2(2), 106-115.

Nordh, H., Evensen, K. H., & Skår, M. (2017). A peaceful place in the city—A qualitative study of restorative components of the cemetery. *Landscape and urban planning*, 167, 108-117.