

*Central Burying Ground
Carlisle, Massachusetts*

Preservation Master Plan



*prepared for the
Town of Carlisle Historical Commission*

by

*Martha Lyon Landscape Architecture, LLC
Fannin-Lehner Preservation Consultants
CME Associates, Inc.
Carlisle Arboriculture*

2016

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Town of Carlisle Historical Commission
66 Westford Street
Carlisle, MA 01741
978-369-9702

by

Martha Lyon Landscape Architecture, LLC
313 Elm Street
Northampton, MA 01060
413-586-4178
www.marthalyon.com

Fannin-Lehner Preservation Consultants
271 Lexington Road
Concord, MA 01742
978-369-6703
www.fanninlehner.com

CME Associates, Inc.
333 East River Drive
East Hartford, CT 06108
860-290-4100
www.cmeengineering.com

Carlisle Arboriculture
John Bakewell, CMA
290 Rutland St
Carlisle, MA 01741
978-807-9550
johnbakewell@comcast.net

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Carlisle Historical Commission:

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Fern's Country Store

...and the citizens of Carlisle, past, present, and future

INTRODUCTION

The Central Burying Ground lies along the west side of Lowell Street in the center of Carlisle, just north of its intersection with Westford/Bedford (Route 225), Concord, East, and School Streets. Established as a “burying place” in 1784 through purchase by the District of Carlisle of one-half acre, the property likely held earlier interments of the original owners, the Wilkins family. The site grew in 1787 when the district purchased an additional one-half acre, bringing the total size on one full acre. It remained the sole known place of burial in Carlisle for eighty years, and holds the burials of many individuals influential in the early development of the town.

Town crews have continually maintained the Central Burying Ground, mowing grass and removing leaves, but limited funding for upgrades has led to decline. Stones in the perimeter farm walls have begun to tumble, and an overgrown Arbor vitae hedge obscures views into the site from the street. Within the burying ground, geriatric shade trees cast shadows over most of the landscape, and many of the 100+ head and footstones are leaning or have fallen.



The Central Burying Ground, located on the west side of Lowell Street near the town center, dates to the late 18th century, and is one of the oldest historic landscapes in Carlisle.

In recent years, concern has grown among local residents and business owners about the burying ground’s condition as one of the oldest historic sites in the town. In response, the Carlisle Historical Commission applied for Community Preservation Act funding to develop a comprehensive plan to improve the burying ground landscape. The result is the foregoing *Central Burying Ground Preservation Master Plan*.

Goal & Objectives

The Carlisle Historical Commission established a goal of *bringing greater visibility to the Central Burying Ground and heightening residents’ and visitors’ understanding of its important to the history of the town*. Objectives include proposing historically sensitive treatments to the burying ground’s structures, trees and gravestones, and providing better access and interpretive information to its visitors.

Preservation Master Plan Program

During the start-up meeting for the project, members of the Carlisle Historical Commission outlined the following program elements to be addressed in the plan. They include:

- Opening views into the cemetery from Lowell Street; bringing light into the cemetery through tree removal;

- Rebuilding, at a minimum, the dry-laid stone walls along the back and sides of the cemetery;
- Exploring the pros and cons of having multiple access points;
- Exploring the pros and cons of securing the cemetery, including fencing and/or gates;
- Considering a sign or signs; and
- Looking at different options for the Litchfield “seat.”

The CENTRAL BURYING GROUND in HISTORY

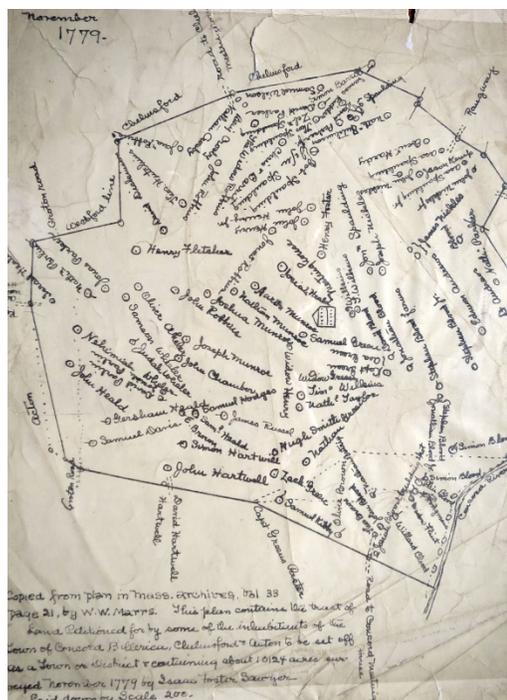
Beginnings.

Origins of Carlisle's earliest known place of interment date to the late 1700s, and to the initial settlement of the town. In the mid-1700s, what would become the Town of Carlisle was a northern part of the Town of Concord (settled and incorporated in 1635). By 1754, the sixty families living in this area successfully petitioned for a separate district so that they could worship closer to their homes. The failure of the district to construct a meetinghouse led to a vote in 1756 to return the district to Concord. A new Second District of Carlisle was not established until 1780.¹ At the time, Timothy Wilkins owned much of the land in the Second District.

Establishment - 1784-1865.

In 1784, the Wilkins' son, Timothy Jr. and grandson, Timothy, III deeded one-half acre of land "for a cemetery."² The District Meeting vote, taken on April 5th, stated "[t]hat there be one-half acre of Land Provided for the use of a burying-place including the spot of ground that hath been made use of for that purpose already."³ It is likely that these early burials belonged to the Wilkins family, who may have temporarily marked the graves, or left them altogether unmarked.⁴ In 1787, the District paid the Wilkins a total of 26 shillings for a one-half acre addition to the lot, bringing the total size to one acre. The Second District was incorporated into the Town of Carlisle in 1805.

Early Town Meeting minutes provided a sketch of the physical character of the burying ground. In 1810, the town voted to erect a hearse-house to shelter a hearse that had been procured in 1808. This structure, measuring sixteen feet long, nine feet wide, and seven feet high, stood at the southeast



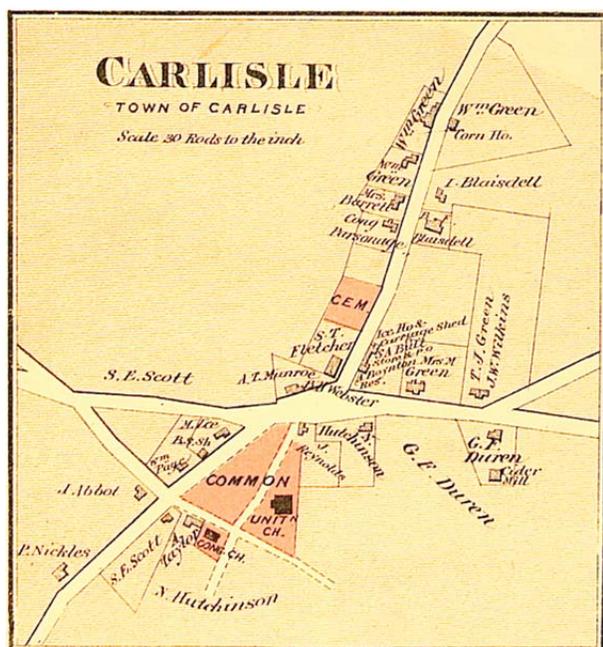
Carlisle in 1779 shows the homes of the settlers, surrounding the central meetinghouse. The burying ground, established five years after this map was created, was located a short distance from the meetinghouse (to the north). Mass. Archives Vol. 33.

¹ *Images of America: Carlisle*, 7.

² *Images*, 7. "Cemetery" was not used to describe places of interment in America until the last decade of the 18th century.

³ "Massachusetts Historical Commission Form E for the Carlisle Central Burying Ground."

⁴ Wilkins, Martha Fifield, "Old Houses and Old Families," *Cemeteries* Box #1. Wilkins posits that Timothy and his wife, Anna (Smith) may have been interred in the southwest portion of the Center Burying Ground, as their graves have never been found. Carlisle-based antiquities researcher Dr. Timothy Fohl believes it is also possible this area may have been the site of Native American burials and/or ceremonial events. A single stone, located in the southwest corner closely resembles a "standing stone," an object from which Native Americans marked the progress of the solar year.



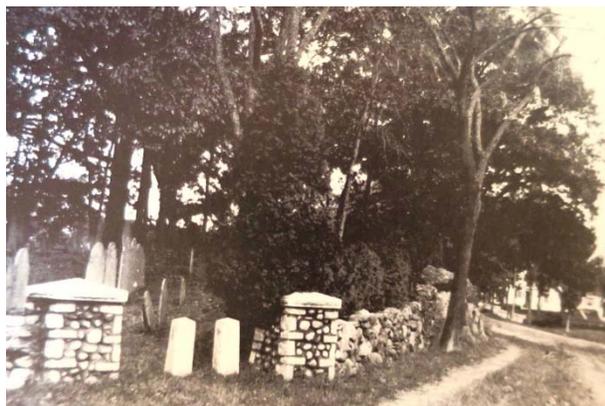
Beers 1875 Atlas of Middlesex County shows the small burying ground (“CEM”) located just to the north of the center. While drawn nearly 100 years after the Wilkinses deeded the initial parcel to the town, the map documents continuing ownership of land by the Wilkins family.

corner, and likely doubled as a storage facility for powder, firearms, and equipment.⁵ Expenses were paid out yearly for mowing brush, and an 1862 expense for “repairing wall at graveyard” suggests it may been surrounded (completely or in part) by a stone wall. In 1859, the town paid for fabrication of a burying gate made of iron.⁶

Embellishment - 1866-1940

During the last few decades of the 19th century and first few of the 20th, the town made cosmetic changes to the cemetery landscape, beautifying its overall appearance. Between 1866 and 1871, an Arbor vitae hedge was planted along the east edge, on the inside of the perimeter stone wall, and a taller cedar tree planted at the southeast entrance.⁷ This Arbor vitae appear to have been maintained as a hedge into the 1940s. The town removed the hearse house in 1867, constructing a replacement on the grounds of the new Green Cemetery.⁸ In 1892, the town commissioned the building of the posts and capstones at the southeast entrance, and

planting a second cedar at the southeast entrance.⁹ Mowing of brush and trimming of hedges appeared to take place on an ongoing basis. The last interment took place in 1875.



A ca. 1890 photograph of the southeast entrance shows the Arbor vitae hedge and cedar tree. Images of America: Carlisle

In the 1920s and 1930s, the town added several features to the burying ground that significantly impacted its appearance. In 1923, William F. Litchfield of Maynard commissioned the memorial “seat” in honor of his great grandfather, the Reverend Paul Litchfield, Carlisle’s first minister. The seat, consisting of a fieldstone foundation supporting a heavy wood timber roof, contained a slate bench with bronze tablet set into the stones. Stone for the seat was taken from the Litchfield farm. The tablet’s inscription read, “In loving memory of the Reverend Paul Litchfield, the first minister of the Town of

Carlisle, 1781-1827.”¹⁰ The following year, the town established a second entrance at the northeast

⁵ Bull, Sidney A., History of the Town of Carlisle Massachusetts, 31-32.

⁶ Town Annual Reports, 1859 and 1862.

⁷ Wilkins, Box #1. The Town Annual Report for 1881 lists an expense for 125 Arbor vitae shrubs, although it does not make clear in which cemetery these shrubs were planted.

⁸ Bull, 32 and Town Annual Report, 1867.

⁹ Wilkins, Box #1.

corner, consisting of granite steps set into the stone wall. William Litchfield continued making gifts to the burying ground into the 1930s, when he financed the removal of ledge along the front boundary, and replacement of the ledge with a stone retaining wall. He also paid for the construction of the sidewalk (originally concrete) along Lowell Street; the stepping stones leading from the north to the south entrances and to Rev. Litchfield's grave; the installation of the engraved identification stone, set into the east wall near the southeast entrance; and planting, in 1933, of spruce trees on either side of the Litchfield seat.¹¹

Most of the efforts to embellish the burying ground during these years were supervised by Mrs. T. A. Green, an active member of the Carlisle Cemetery Commission (established around 1903; also referred to as the Carlisle Cemetery Committee). Beginning in 1926, Mrs. Green also marked the graves of Carlisle's Revolutionary patriots, placing standard markers and flags, a total of nine between 1926 and 1935.¹² In 1933, on observance of Mrs. Green's 80th birthday and to honor her efforts at the Center Burying Ground, the Carlisle Garden Club created a small rock garden around the outcropping of ledge near the Litchfield seat, and deepened the natural depression in the rock to create a bird bath.¹³



The natural outcropping became the centerpiece of a rock garden, made in 1933 in honor of Mrs. T. A. Green, the rock's depression deepened to create a bird bath.

A final measure beautified the burying ground in the late 1930s, a planting of lilac shrubs near the grave of Edmund Andrews. An ancestor, Miss Alice French of Lowell, Mass. undertook this effort, gathering roots from the old cellar hole of Andrews' former home.¹⁴

Maintenance and Decline - 1941-Present

During the last decades of the 1900s, beautification of the burying ground became less of a priority for the town, and annual maintenance was limited to mowing grass and removing leaves. At some point, the town removed the concrete sidewalk on Lowell Street, replacing it with bituminous asphalt. Two utility poles were installed adjacent to the east wall, introducing a modern element into this 18th century site. Trimming of the Arbor vitae hedge ceased, and the shrubs grew into large, scraggly trees, completely obscuring views into the burying ground from the east, and most visible side.

¹⁰ Town Annual Report, 1923.

¹¹ Town Annual Report, 1930; E-Form; Wilkins, Box #1. According to Wilkins, stones for the stepping stone path came from the Parson's old farm.

¹² Town Annual Reports, 1926, 1929, 1932, 1935.

¹³ Wilkins, Box #1.

¹⁴ Ibid.



The stone wall was reconfigured into a retaining wall in the 1930s when ledge was removed along the east side of the burying ground. In the late 20th century, the original concrete sidewalk was replaced with bituminous asphalt, and utility poles installed against the wall.

Concern about the burying ground surfaced in 2015, when local residents began voicing concern about its appearance. In response, the Carlisle Historical Commission applied for funds from Carlisle's Community Preservation Committee to prepare this master plan, a blueprint for preserving, improving, and managing the burying ground in the future.

Period of Historical Significance

The period of significance for Carlisle's Central Burial Ground spans the years 1784 to 1940. During this time, the Second District of Carlisle acquired one-half acre of land near the center of the settlement as a place to inter their dead. The site doubled in size in 1787, and has remained one-acre to this day. Cosmetic changes to the burying ground landscape, including establishment of two entrances, construction of a retaining wall, and addition of a pathway at the Litchfield Memorial Seat all took place in the 1920s and 1930s. Changes that took place after 1940 detracted from the 18th century feel of the burial ground. Efforts to preserve, improve and manage the burying ground should reflect this 1784 to 1940 period.

LANDSCAPE ASSESSMENT

This section of the Preservation Master Plan provides an assessment of the existing conditions of the Central Burying Ground landscape. It includes an inventory the burying ground's features; an analysis of their condition and appropriateness to the property's period of significance; and an evaluation, or set of preliminary recommendations for preservation, improvement and long term care.

Setting, Edges & Views

The Central Burying Ground lies on one acre of land along the west side of Lowell Street, at the heart of the Town of Carlisle. Several town landmarks surround the burying ground, all located within a short walking distance, including: the Gleason Memorial Library (to the east), Carlisle Town Hall (to the west), Center Park (across Lowell Street), Carlisle Police Station (to the north), the First Religious Society (to the south), and Fern's Country Store (also across Lowell Street). Immediate abutters include a small-scale commercial building complex to the south, the Carlisle Police Station to the north, and a heavily-vegetation wetland ~ part of the Conant Conservation Land ~ to the west. Lowell Street, a busy vehicular and bicycle route leading northward from the center of Carlisle, lines the east side. The burying ground's edges appear as follows:

- The strongest edges rim the east and west sides.

On the east, a grassy strip/4'-wide bituminous sidewalk/6' high granite curb and field stone retaining wall separate the burying ground from the edge of Lowell Street. These features provide an important visual division between the modern roadway and historic commemorative space. Overgrown portions of the old *Arbor vitae* hedge remain along the inside of the wall, obscuring views into the burying ground from the outside. Two utility poles stand between the sidewalk and wall, detracting from the historic character of this prominent edge. A 24" high dry-laid field stone wall rims the west side, separating the burying ground from the adjacent wetland. While not entirely intact, the wall ~ likely constructed of local stone ~ complements the historic character

- Weaker edges stand along the north and south sides, where bituminous asphalt parking areas and driveways stand just outside the burying ground. The field stone retaining wall along the west edge continues across both the north and south edges, separating the burying ground from the paved areas. A lack of screening along these edges makes the pavement visible from within the burying ground.



*A field stone wall lines the eastern burying ground edge, providing a strong buffer from the busy Lowell Street thoroughfare. Overgrown *Arbor vitae* shrubs detract from the appearance of the wall and also block views from outside, into the burying ground.*

Views both into and out of the burying ground correspond with the quality of the four edges. Views from the outside looking inward are best from the entrances and the high points, where visitors can

scan across the landscape, glimpsing the many old gravestones and mature trees. Views are poorest from inside the burying ground looking outward across the parking lots and bituminous drives. Views into the cemetery from Lowell Street are blocked by the overgrown *Arbor vitae* planting, lining the inside of the field stone retaining wall.



A stepping stone path, added in 1930, connects the two burying ground entrances. While the path is inaccessible, it is a prominent historic feature.

Access, Circulation and Topography

Visitors to the Central Burying Ground must do so on foot, as the property does not contain vehicular parking areas, vehicular gateways, or roadways. Center Park, located across Lowell Street, contains a small parking lot, and visitors can walk from there directly across Lowell Street to either the northeast or southeast cemetery corners. At the northeast corner, visitors must walk up three granite steps to enter the burying ground; at the southeast corner, visitors can pass through stone gate posts on nearly level ground. A narrow (roughly 2-3' wide)

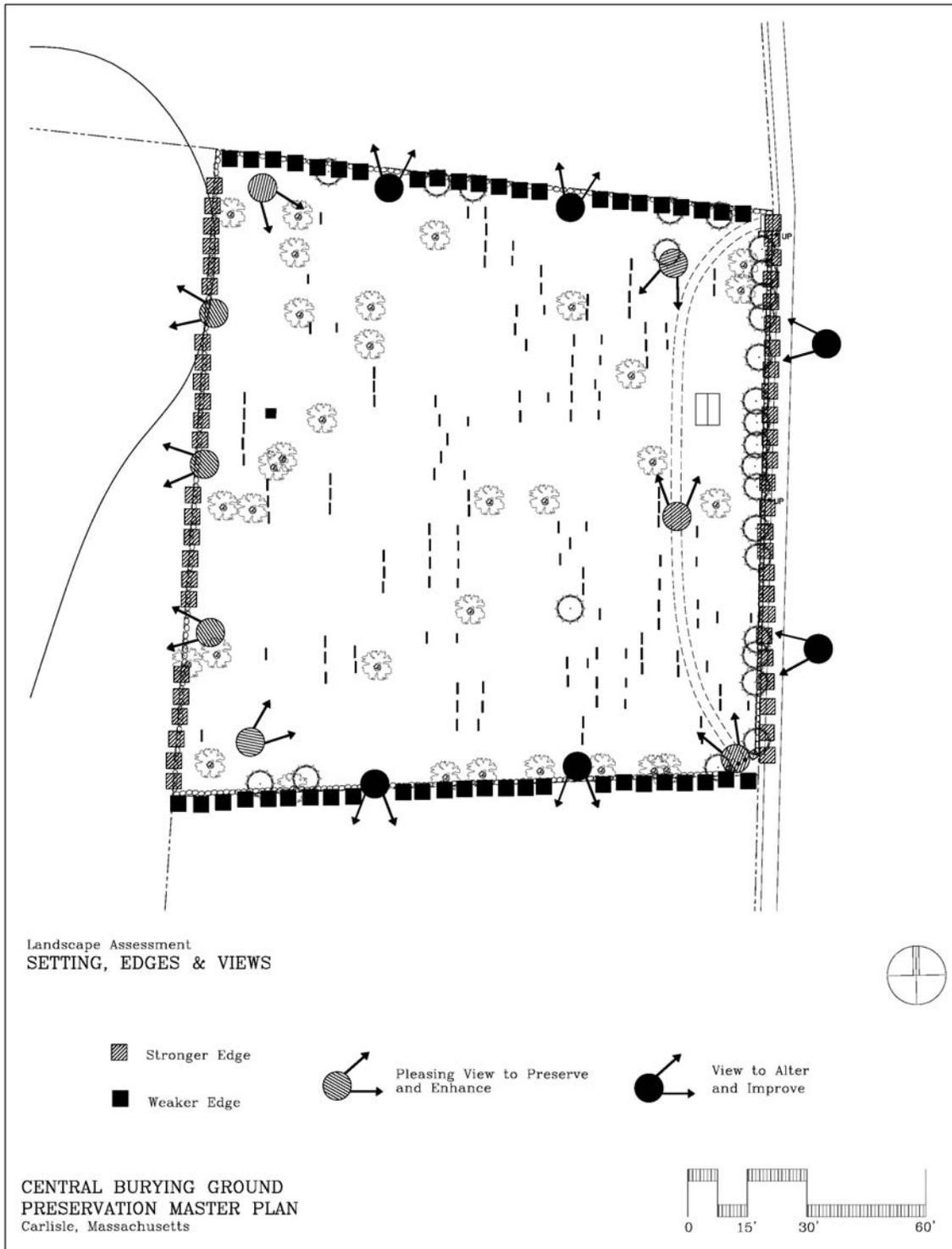
stepping stone path connects the two entrances and much of it traverses moderate (but inaccessible) grades. Neither the grading of the path, nor its surface complies with

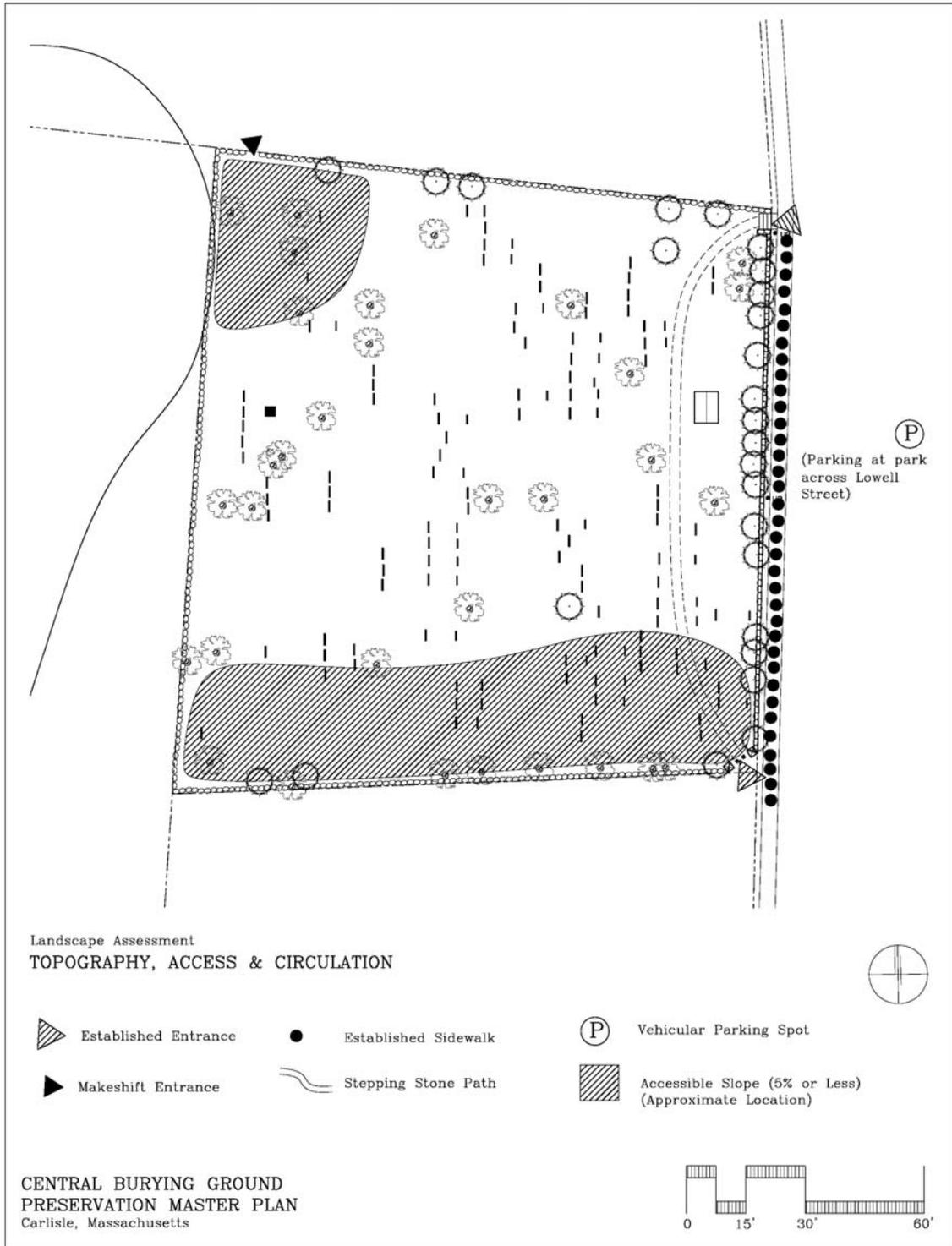
Americans with Disabilities Act (ADA) codes. A third make-shift entrance, marked by a narrow break in the perimeter stone wall, stands near the northwest corner, accessed via the Carlisle Police Station parking area.

Topography across the burying ground landscape rolls moderately from the high point near the east edge, westward towards low points along the west edge. The lowest point in the burying ground appears to be at the southwest corner where the property abuts the tree-ed wetland. At least two-thirds of the terrain throughout the one-half acre is inaccessible to persons with disabilities (slopes exceed 5%), however limited access is possible via the southeast entrance. The burying ground's topography bears historical significance, as it may likely be some of the only unaltered topography within the town.

Trees, Shrubs and Ground Covers

The burying ground contains many species of trees and ground covers, adding to its historic character. The tree assessment (Appendix C) identified a total of 58 trees, including 17 Oaks (*Quercus*), 7 Maples (*Acer*), 5 Birches (*Betula*), 2 Cherries (*Prunus*), and 8 Pines (*Pinus*). In addition, as many as 19 *Arbor vitae* shrubs continue to grow along the eastern edge, and 1 Laurel (*Kalmia*) grows near the northeast corner. In general, the trees have not received any type of regular care, including pruning and feeding, for many years, and several are in decline. Some grow very close to gravesites and have or will eventually impact the integrity of the stones. The *arborvitaes* growing along the east wall have become tall, scraggly, and are pushing against the back side of the wall, as is a large oak, located near the north end of the cemetery. The assessment recommended removing all but 14 trees, eliminating trees in decline, volunteer young trees, and trees that threaten the health of the cemetery structures and gravemarkers. Trees to remain include six mature oaks, seven maples, and one mature black birch.





Removal of the other 44 trees will allow light into the burying ground, while at the same time providing a partial canopy and retaining a sense of privacy for visitors. For a complete assessment of the burying ground's trees refer to Appendix C.

In addition to the trees and shrubs, several species of perennial ground covers have inched in the burying ground, blanketing the floor. These have likely infiltrated the landscape over time, as trees matured and began to cast the burying ground into continual shade. Mosses, sedums, and other species acclimated to rocky and shading conditions appear throughout, adding texture and color and also minimizing the need for mowing.

Structures

The burying ground contains four significant structures, (1) the east edge retaining wall; (2) the south entry gate; (3) the Litchfield Memorial Seat (shelter); and (4) the dry-laid perimeter walls. A summary of conditions is as follows:

East Edge Retaining Wall. This wall, completed in the 1930s, is constructed of dry-laid field stones (not mortared) without a cap. Most of the wall shows little sign of movement, except for a minor shift and bulge near the northern edge, where it abuts a mature oak tree. Slight staining appears across the length of the wall.

South Entry Gate. This four-piece structure consists of two large mortared stone posts flanking two smaller granite bollards. Some cracking is visible in the mortar joints in the faces of the posts, and the left post shows signs of slight leaning. An Arbor vitae (overgrown shrub) has encroached on the right post but does not appear to have moved the post. The bollards are in excellent condition and stand plumb.

Litchfield Memorial Seat (Shelter). This mortared stone structure, constructed in 1928, contains a heavy wood framed roof with asphalt shingles. Overall the structure appears in stable condition, with only minor cracks in the mortar joints (caused by settlement or thermal expansion). Re-pointing has occurred since its original construction. The most significant sign of decay is in the wood roof framing, which contains several broken eave ends, and severe rot on the main beam on the east side. Vandals have carved initials into some of the wood surfaces.

Dry-Laid Perimeter Walls. These low walls line the north, west and south sides of the burying ground and vary in condition. In several spots, stones have become dislodged or have fallen, leaving a messy appearance. Regardless, the walls continue to perform an important function, separating the burying ground from its neighbors.



The Litchfield Memorial Seat (shelter) is the burying ground's most prominent structure. Constructed on mortared field stone with a heavy wood timber roof frame, it has stood the test of time, showing only minor decay.

A full description of these features, their condition, and preliminary preservation recommendations appear in Appendix B.

Gravestones

The burying ground contains a total of 107 headstones, many of which have accompanying footstones. The stones date from the late 18th century to the mid-19th century, and a majority are made of slate. Intricate carvings appear on many, and on some, the artwork is signed by its carver. The gravestone assessment identified the work of five carvers, including L. Kendall, Ithamar Spauldin, Enoch Kendall, J. Park, and Caleb Lamson, II. Of the 107 headstones and accompanying footstones, a total of 73 are in need of conservation treatment, 53 headstones and 20 footstones. All but four of these stones are made of slate; three are marble and one is a combination of marble and sandstone. The stones' condition ranges from being tilted, raised, and/or out of place, to delaminated and broken. Some have been impacted by the roots of adjacent trees. Fifty-seven of the stones have been assigned a #1 priority for conservation treatment (highest, urgently in need), while treatment of remaining sixteen has been given a less urgent (but nonetheless important) priority #2. A complete inventory and assessment of the stones appears in its entirety in Appendix D.

Character-Defining Features

Many of the features described above contribute to the historic, late 18th-early 19th century character of the burying ground, and the Town of Carlisle should make every attempt to preserve these. They include:

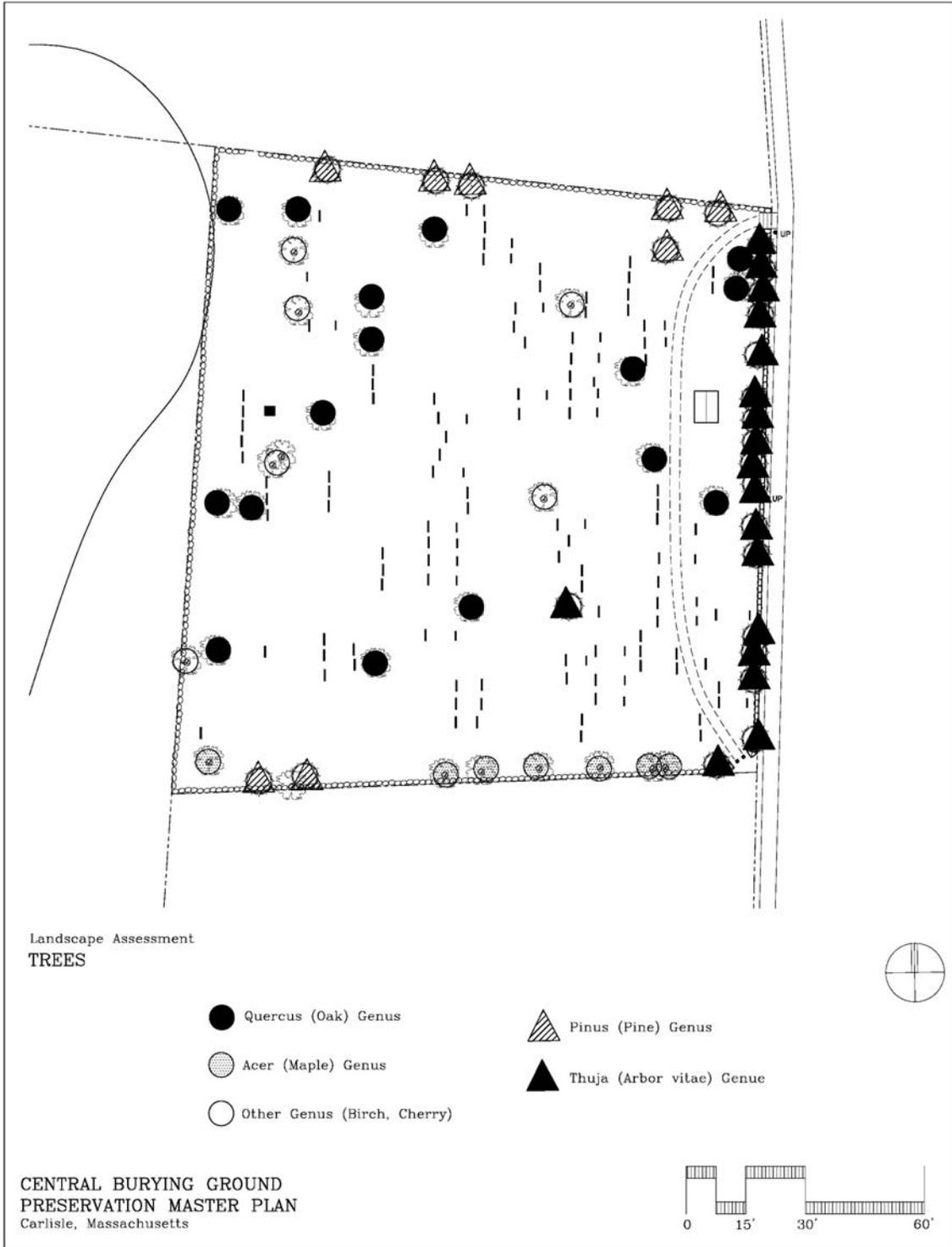
- Perimeter fieldstone wall (date unknown)
- Entry posts (both large and small) (1892) located at the southeast corner
- Granite steps (1924) leading from Lowell Street into the burying ground at the northeast corner
- Field stone retaining wall (1930) lining the eastern edge and burying ground marker
- Concrete sidewalk (1930) between the field stone wall and Lowell Street
- Granite stepping stones (1930) connecting the two entrances inside the burying ground
- Litchfield Memorial Seat (1923)
- Gravestones (1778-1875) throughout the burying ground

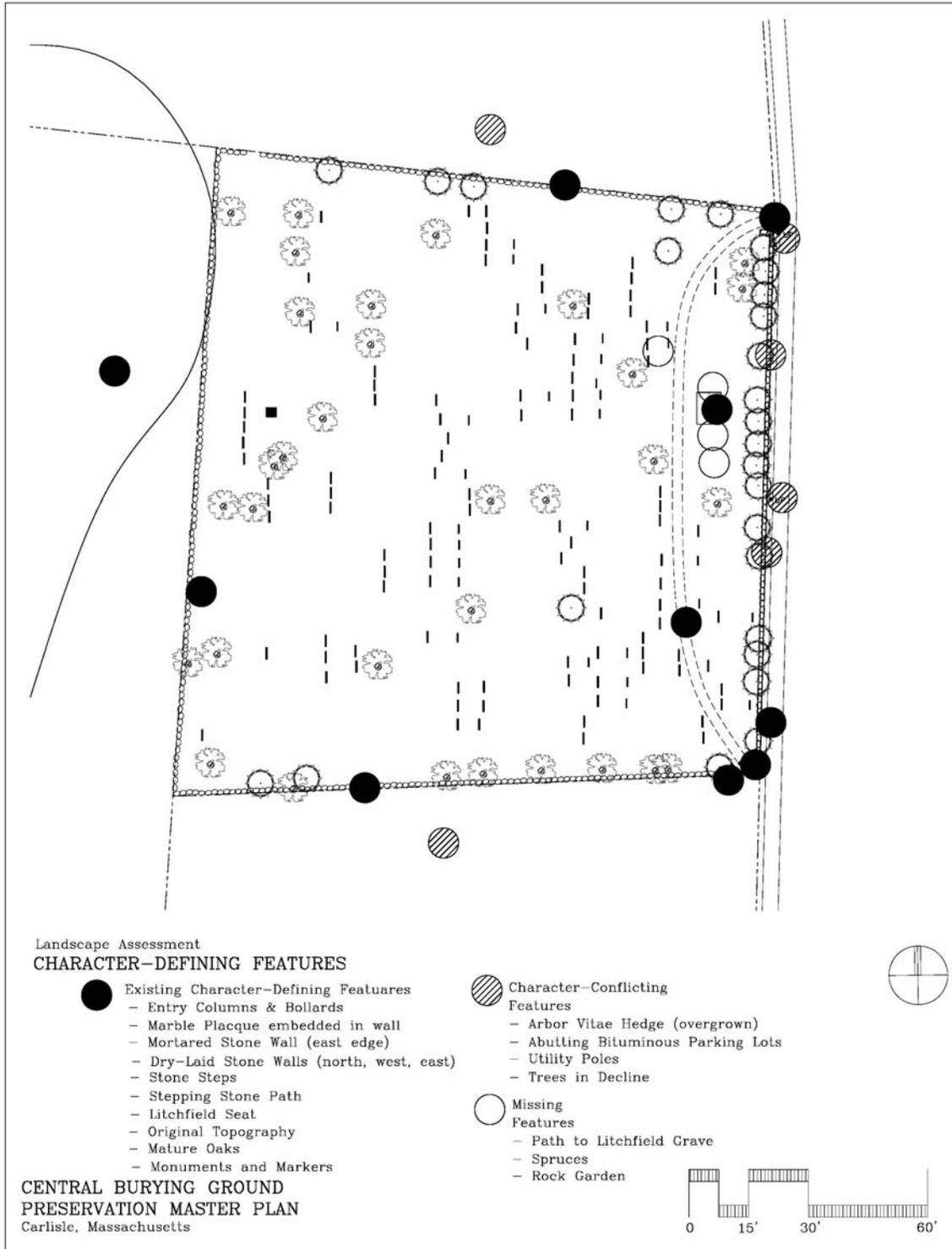


In the 1930s, the Carlisle Garden Club planted a rock garden around this prominent cemetery feature. The garden is one of several historic features missing from the burying ground landscape.

Several features, either in poor condition or added recently to the burying ground, conflict with the historic character. They include:

- Overgrown Arbor vitae hedge along east edge (likely a replacement of an original hedge)
- Many trees in decline
- Utility poles abutting burying ground wall along Lowell Street
- Abutting bituminous parking lots and driveways





Missing features, once found in the burying ground but no longer extant include:

- Stepping stone path leading to Rev. Litchfield's gravesite (1930)
- Spruce trees flanking the Litchfield seat (1933)
- Rock garden surrounding the ledge outcropping (1933)
- Lilac shrubs transplanted from Carlisle homes (late 1930s)

Preliminary Recommendations

The following is a list of preliminary recommendations, based on the (1) preservation master plan program; (2) historical chronology and period of significance; and (3) landscape assessment. The recommendations will involve each of the four treatment methods outline by the United States Secretary of the Interior's *Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. They include:

- Preservation, where existing form, integrity and materials of the landscape will be sustained;
- Rehabilitation, where features in the landscape will be repaired or altered to make their use compatible with the landscape's historical value;
- Restoration, where landscape features will be returned to their original form; and
- Reconstruction, where landscape features no longer extant will be recreated.

Based on the preceding assessment, the following preliminary recommendations should be considered for the Preservation Master Plan:

- Stabilize and, where needed, re-stack the perimeter stone wall
- Stabilize the east edge retaining wall
- Stabilize the southeast entry posts and remove the granite bollards to allow ADA-compliant access into the burying ground
- Stabilize the Litchfield Memorial Seat, repairing the roof framing, as indicated; replace the asphalt shingle roof with cedar shingles
- Remove the Arbor vitae hedge (overgrown) inside the east edge retaining wall
- Remove trees identified in the tree assessment as in decline or dead
- Plant new trees to screen incompatible edges (north and south); diversify tree population
- Conserve the gravestones identified in the gravestone assessment as requiring treatment
- Re-institute the rock garden at the outcropping on the east side, to be implemented and maintained by the Carlisle Garden Club
- Re-plant the spruce trees to flank the Litchfield Memorial Seat

- Design, construct and place an interpretive sign inside the southeast entrance to allow persons of all physical abilities to “experience” the burying ground, including installation of a footprint of the historic hearse house near the southeast corner

In addition, the following long-term efforts, to be implemented by the Town of Carlisle Department of Public Works, veterans’ agent, Board of Selectmen and/or Town Meeting, will help maintain the integrity of the burying ground, once it is preserved:

- Placing the utility poles along Lowell Street underground
- Reconstructing the concrete walkway along Lowell Street by replacing the bituminous walkway
- Replacing any missing and/or damaged S. A. R. markers
- Reviving the Carlisle Cemetery Commission.

RECOMMENDATIONS

The following section of the Preservation Master Plan outlines specific recommendations for fulfilling the overall plan goal of *bringing greater visibility to the Central Burying Ground and heightening residents' and visitors' understanding of its important to the history of the town*. This goal, along with the program (defined in the Section 1), history (detailed in Section 2) and existing conditions assessment (discussed in Section 3 as well as Appendices B, C, and D), contributed to shaping the recommendations.

Preservation Projects

The Carlisle Historical Commission has expressed interest in undertaking preservation efforts at the burying ground over a one-to-two year period. As noted in the Assessment section of this plan, preservation will involve work on masonry, trees, gravestones, and the Litchfield seat, as well as construction of a new entrance. As a result, the work will require expertise of several tradespersons, including masons, arborists, stone conservators, carpenters, as well as landscape contractors. To reflect this, the preliminary recommendations have been organized into five projects, organized by trade.

The order in which the town undertakes the five projects is not critical, however, the approach outlined below will likely prove more cost-effective. The most physically invasive project ~ removing trees ~ should precede all others, as the felling of trees, even when carefully handled as to not damage surrounding structures, can produce debris (leaves, limbs, etc.), and cleanup will be required. The masonry, carpentry (Litchfield seat), and gravestone conservation tasks can proceed after tree removal, in any order. Construction of the entrance should happen last, after all other crews have completed work on the interior of the burying ground.

Project #1: Tree Removal and Replanting

Project #1 involves two tasks related to the burying ground's trees, tree removal and tree replanting. The Tree Assessment (*Appendix C*) identified as many as 44 (out of 58 total) trees to be removed from the burying ground. The reasons for removal include (1) tree is overgrown; (2) tree is near and/or negatively impacting headstones; (3) tree is impacting the structural integrity of a wall; (4) tree species is invasive; (5) tree or portion of the tree is likely to fail. Removal of all trees from the interior of the burying ground would severely alter the landscape's character, therefore Project #1 will retain the healthiest trees, representing a diversity of species, while at the same time allowing for some sun to infiltrate and providing visibility into the burying ground from the outside.

Replanting the burying ground will involve developing a tree planting plan and installing new trees and shrubs. The plan will aim to (1) provide



Arbor vitae plantings, once a hedge, will be removed under Project #1.

screening from incompatible adjacent properties (driveways and parking areas on the north and south sides); (2) re-introduce historical plantings (lilacs shrubs and spruces); and (3) diversify the tree population remaining after all removals have taken place. New plantings of trees and shrubs should reflect the Colonial period, including the following native tree species:

Fagus grandifolia	American Beech
Larix laricina	Tamarack
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifera	Tulip Tree
Platanus occidentalis	American sycamore

Native shrub species for planting at edges include:

Ilex verticillata	Winterberry
Kalmia latifolia	Mountain Laurel
Viburnum opulus	American Cranberrybush

In addition, lilac shrubs (*Syringa vulgaris*) may be planted along the south edge. While lilacs are native to Eastern Europe, they were historically planted in the burying ground, as donations from properties of local families.

Project #2: Masonry Restoration

Project #2 includes restoration of the burying ground's front border wall and perimeter farm walls. As noted in the Engineering Assessment (*Appendix B*), all of the walls show some type of deterioration, including bulging, shifting stones, staining, application of mortar (front wall) and loose or falling stones (farm walls). By treating the walls, the town will improve the look of the burying ground, and at the same time structurally stabilize the burying ground's edges. Specific masonry tasks will include the following:

Front Wall (East Edge)

- Removing trees behind the wall, including the Arbor vitae and oaks identified for removal in the Tree Assessment (this task should be best undertaken through Project #1);
- Dismantling and re-stacking the southern 30 feet of wall;
- Removing the mortar located in the wall near the utility pole;
- Cleaning the entire structure.

Farm Walls (North, West and South Edges)

- Restacking fallen stones

Project #3: Litchfield Seat and Environs Restoration

Project #3 involves stabilization and restoration of the Litchfield seat, the mortared stone and timber-framed roof structure, located at the highest point in the burying ground. As noted in the Engineering Assessment, the seat is in good condition, with little sign of movement or failure. Stabilization will include cleaning the stones, removing graffiti and re-staining the wood. Restoration will involve replacing a rotted beam, repairing rafters, repairing cracked pointing, re-pointing un-matching mortar,

and replacing the asphalt shingle roof with cedar shingles. Also included in Project #3 are the replanting of two spruce trees that once flanked the seat, and re-establishment of the rock garden, around the outcropping to the south of the seat.

Project #4: Gravestone Conservation

The Gravestone Assessment (*Appendix D*) identified 73 out of 107 stones requiring some type of conservation treatment, including both headstones and footstones. Project #4 involves treatment of all 73 stones. The condition of these ranges from tilted, to unstable, to altogether broken. Because of a large presence of ledge throughout much of the burying ground, a significant amount of digging will be required in and around many of the stones. Work will include photographing (before and after conservation treatment), measuring, fully documenting each stone, in addition to conserving them according to treatments specified in the Gravestone Assessment.

Project #5: Entrance Construction

The final project, Project #5, involves construction of a small entry “foyer” at the southeast burying ground corner. In this location, the natural topography is fairly level, allowing persons with all levels of physical ability to enter and travel a short distance into the burying ground, far enough so that they can scan a significant portion of the landscape. The project will include the following:

- Stabilization of entry posts, including re-point joints and cleaning stone surfaces;
- Removal of the existing bollards;
- Construction of a stable surface outside of the entry posts, flush with the adjacent sidewalk and driveway pavement;
- Design, fabrication and placement of an interpretive sign, located inside the entrance, allowing visitors to learn about the burying ground’s history and those interred within.
- Setting of granite edgestones, installed flush with the grade, marking the former location of the hearse house (near the southeast corner).



To create an accessible entrance to the burying ground, granite paving will be installed outside the existing columns, abutting the existing sidewalk and driveway, as part of Project #5.

Budget Projections

The following figures reflect preliminary budgets for each of the preservation projects described above. Note that the figures are merely projections, intended as guidelines for the Town of Carlisle in setting fundraising goals. All figures are based on 2016 construction industry and conservation trade rates. Design and engineering fees, as well as project management fees, have not been included in the project budgets, but appear as a separate budget number.

Project #1: Tree Removal and Re-Planting: \$30,000

Costs for Project #1 will include (1) removal of approximately 44 trees; (2) development of a re-planting plan; and (3) planting of up to 10 new trees and 10 shrubs of species taken from the list of species provided in this plan. Tree removal should only be undertaken by a Massachusetts-certified arborist experienced with historic landscapes.

Project #2: Masonry Restoration: \$30,000

Costs for Project #2 will include (1) removal and re-stacking of stones in the front border wall and re-stacking of stones in the farm walls; and (2) restoration (cleaning, mortar removal, re-stacking) of the front wall and farm walls. All work will need to be completed according to specifications written by an engineer experienced with restoration of historic masonry structures.

Project #3: Litchfield Seat and Environs Restoration: \$15,000

Costs for Project #3 include replacing rotted beams, repairing/replacing damaged rafters; filling graffiti carvings, replacing the roof with cedar shingles, re-pointing portions of the base, staining the woodwork, and cleaning the stone surfaces of the Litchfield seat. All masonry work will need to be completed according to specifications written by a preservation architect and/or engineer experienced with restoration of historic masonry structures. The project will also include re-planting of a pair of spruce trees, and construction of a small rock garden at the adjacent outcropping. *Note: the budget projection assumes that the rock garden will be implemented by the Carlisle Garden Club.*

Project #4: Gravestone Conservation: \$40,000

Costs for Project #4 include hiring an experienced stone conservator to undertake treatment prescribed in the Gravestone Assessment section of this plan (Appendix D). Fees will include documenting the existing condition of each stone (photographing, documenting material, size, location, inscription and condition); providing the appropriate conservation treatment; photographing the stone after treatment is complete, and compiling a treatment report.

Project #5: Entrance Construction: \$20,000

Costs for Project #5 include re-pointing and cleaning of masonry entry posts, construction of an approximately 50 SF entry foyer surface, fabrication of an interpretive sign, and installation of 50 LF of granite edgestones to mark the former hearse house (9' x 16') location. All work on the posts will need to be completed according to specifications written by an engineer experienced with restoration of historic masonry structures.

Design, Engineering and Project Management: \$41,000

Projects 1, 2, 3 and 5 will all involve professional design and/or engineering services for (1) plans and specifications, and (2) construction observation. Project management fees include the costs associated with bidding, selecting contractors, performing field inspections, closing out projects. The breakdown of these costs is as follows:

Design: \$6,000

- Tree planting plan/specifications
- Entrance plan/specifications

Engineering: \$10,000

- Wall specifications
- Seat specifications

Project Management: \$25,000

- Bid Document Development/Coordination
- Bidding assistance
- Contractor selections
- Field inspections/reports
- Project close outs

Contingency Fee: \$17,600

The total project cost, including design, engineering and project management fees, is budgeted at \$176,000. A 10% contingency fee will provide will allow for scope modification(s), if necessary, and/or assumption of unforeseen costs associated with the project.

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MANAGEMENT

This final section of the Preservation Master Plan will help the Town of Carlisle care for the Central Burying Ground landscape. It includes strategies for care of the plants (trees and ground cover) and structures, and provides a maintenance schedule. By following this guide, the town and its crews will help insure the long term health of this important resource.

Management Log

Before beginning to care for the landscape, the overseer (currently the Department of Public Works) should set up a “management log,” or an ongoing written record of inspections, repairs, and introduction of new features, listed by date. The log should include methods and materials employed, as well as names and contact information for any specialists employed in the burying ground’s care. The log should be stored, in both electronic and manual (hard copy) formats, in a secure location.

Plants

Existing Plant: Trees

While the Preservation Master Plan calls for removal of many trees from the burying ground, several others will remain, and will require on-going care. General guidelines for tree care are as follows:

- Once per year in late winter, consult an arborist about the general health of the trees. Ask the arborist:
 - If any of the trees or branches are dead, broken or in any way hazardous. These need to be removed as soon as possible for safety.
 - If the trees are free of disease, and if not, how the disease should be treated.
 - If the diseased branches/sections of the tree should be removed, or if the entire tree should be removed to protect the health of neighboring trees.
 - If the trees need fertilizing, and if so, what they should be fed, how they should be fed, and how often they should be fed.
 - If root suckers or other growth should be removed to ensure the health and beauty of the tree.
- Provide and install cables to help any weakly-joined limbs.
- Treat trees with a systemic insecticide to minimize stress caused by leaf feeding pests.
- Prune trees, removing all dead wood greater than 1/2” in diameter.
- Where soil has built up at the base of trees, remove enough to expose the root collar.
- Remove any dead or dying trees.

Existing Plants: Ground Covers

The town should make an effort to retain existing ground covers and encourage their growth, and minimize turf (grass) as much as possible. Ground covers minimize the need for mowing, cutting down

on maintenance tasks. Each should be allowed to bloom, wither, and cast their seeds before they are mown, allowing them to multiply. Weed killers and other such herbicides should not be used where there plants are growing (some species may be classified as “weeds”).

For any turf (grass) that remains in the burying ground, follow these guidelines for maintaining health and minimizing damage to adjacent stones:

- When mowing, remove no more than one-third of the height of the turf at one time, always leaving twice as much leaf height as is cut.
- The best level for mown grass is 2 ½ inches, with 2 to 3 ½ inches the range.
- It is best to mow grass on an as-needed basis, not on a regular schedule, such as once per week.

New Plants: Trees

The *Recommendations* section of this plan includes an effort to plant new trees within the burying ground. In selecting new trees to plant, the town should aim to diversify the tree species within the cemetery while, at the same time, choosing native species appropriate to the Colonial period:

Colonial Style

Fagus grandifolia	American Beech
Larix laricina	Tamarack
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifera	Tulip Tree
Platanus occidentalis	American Sycamore

Newly planted trees are unlikely to survive if they do not receive special care and attention, particularly in the first few years after planting. In general, adhere to the following care guidelines:

- Plant in the spring or fall, and never during the heat of summer.
- Utilize crews working under the supervision of a Massachusetts-certified arborist, or hire a landscape contracting company to plant trees. Trees that are planted correctly will be far more likely to survive and thrive, and the arborist/landscape company should exercise the best tree planting practices. Landscape contractors should guarantee all trees for one year after planting. However, *the guarantee is valid only if the plants have been properly cared for.*
- If staking new trees is necessary, be sure to remove stakes and guy-wires within one year of planting. If the trees appear to need some kind of individual protection because of their location, build a simple fence rather than leaving the guy-wires on. Wires can damage and will eventually kill the tree if left in place too long.
- Provide the trees with at least one inch of water each week. This water can be supplied by rainfall or by supplemental watering. Spreading one inch of water using a hose attached to an exterior water spigot takes approximately two-three hours. Water must soak deep into the soil to encourage good root growth and overall plant health. Adjust the flow of water so it has time

to sink into the ground, reducing the pressure if small “rivers” develop. The water should sink into the ground around the tree or shrub, rather than flowing away.

- If drought dominates the fall, be sure to water trees well before the ground freezes, protecting the plants from entering winter in dry soil.
- Mulch plants to help control weeds and keep moisture in the soil (and maintain a neat appearance in the landscape). Use composted pine bark mulch that has been aged a minimum of three months. Apply the mulch to a depth no greater than three inches. Each spring, fluff the existing mulch and add more, as needed. Keep mulch away from the stems or trunks of trees and shrubs, and off shrub branches (to minimize decay and prevent insect infestations).
- Prune trees and shrubs to enhance their natural form and appearance, and to help maintain their health. Enlist the expertise of a professional or person trained in proper pruning practices. Prune only by hand (never use electric pruners). Prune broken branches immediately to prevent disease.

New Plants: Ground Covers

As previously mentioned, ground covers add beauty to the burying ground landscape and minimize the need for mowing. In shady areas, the trustees should select shade-tolerant species, indicated by asterisks (“*”), below.

<i>Ajuga reptans</i>	Bugleweed
<i>Arctostaphylos uva-ursi</i>	Bearberry
<i>Asarum canadense</i> *	Wild Ginger
<i>Cornus canadensis</i> *	Bunchberry
<i>Erythronium albidum</i> *	White Trout Lily
<i>Fern spp.</i> *	Ferns
<i>Gallium odoratum</i>	Sweet Woodruff
<i>Housatonia caerulea</i>	Bluets
<i>Lamium spp.</i>	Dead Nettle
<i>Phlox stolonifera</i>	Creeping Phlox
<i>Phlox subulata</i>	Moss Pink
<i>Sedum</i>	Stonecrop
<i>sp reflexum, sp. cauticola,</i>	
<i>sp. anglicum, sp.bBrevifolium</i>	
<i>Thymus serpyllum</i>	Creeping Thyme
<i>Voila canadensis</i> *	Canadian Violet
<i>Waldsteinia ternate</i>	Barren Strawberry

Structures

As discussed in the *Engineering Assessment (Appendix B)*, the burying ground contains dry-laid stone walls, mortared stone entry columns, and the stone and wood timber Litchfield seat, and the Recommendations section suggests approaches for restoring these structures. In addition to restoration, the town should implement the following management methods for delaying and/or inhibiting future deterioration:

- Clear volunteer tree, shrub, and vine growth away from structures, and remove buildup of dead leaves. Allowing these to grow in the and around structure not only contributes to their decay, it creates an overall unkempt appearance, making the structures appear neglected and/or abandoned.
- Inspect structures yearly for deterioration, such as leaning, splintering and/or cracking, application of graffiti. If deterioration is detected, make repairs as soon as possible, as deferred maintenance will add significant to the long-term cost of upkeep.

Gravestones

Project #4 of the *Preservation Master Plan* calls for the professional conservation treatment of gravestones (head and footstones) in the burying ground. Once conserved, the town should perform regular inspections, looking cracked, leaning, or fallen stones. If damage is found, a conservation professional should be consulted. Under no circumstances should untrained individuals attempt to repair grave markers, as improper treatment of stones can lead to further deterioration. Conservation professionals will employ treatments that help stabilize the stones for many, many years, however because the stones lie exposed to weather and are vulnerable to vandalism, further deterioration is always possible.

Management Schedule

January - March	<ul style="list-style-type: none"> ▪ If removing snow from the burying ground, eliminate the use of salt.
April	<ul style="list-style-type: none"> ▪ Inspect the gravestones for damage that may have occurred over the winter. Consult a conservator about repairing any major damage. ▪ Remove leaves from inside the burying ground.
May	<ul style="list-style-type: none"> ▪ Inspect trees for damage that may have occurred over the winter and note any needs for pruning and removals. ▪ Begin mowing turf on an as-needed basis to a height no less than 2-1/2 inches. ▪ Plant new trees and groundcovers, as required.
June	<ul style="list-style-type: none"> ▪ Conduct pruning and removals of trees. ▪ Continue mowing turf on an as-needed basis to a height no less than 2-1/2 inches. ▪ Continue to plant new trees and groundcovers, and grassy areas, as required.
July	<ul style="list-style-type: none"> ▪ Continue mowing turf on an as-needed basis to a height no less than 2-1/2 inches. Suspend mowing during hot, dry periods.
August	<ul style="list-style-type: none"> ▪ Continue mowing turf on an as-needed basis to a height no less than 2-1/2 inches. Suspend mowing during hot, dry periods. ▪
September	<ul style="list-style-type: none"> ▪ Continue mowing turf on an as-needed basis to a height no less than 2-1/2 inches. ▪ Resume planting of new trees and groundcovers, and lawns, as required ▪ Inspect fences, iron work and gravestones for damage that may have occurred over the summer. Consult a specialist about repairing any major damage.
October	<ul style="list-style-type: none"> ▪ Remove leaves from inside the burying ground, especially those gathering at the base of walls.
November - December	<ul style="list-style-type: none"> ▪ If removing snow from around the burying ground, eliminate the use of salt.

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