

HISTORICAL CHRONOLOGY

Beginnings.

Before 1758.

In 1754, the northern part of Concord (settled and incorporated in 1635) became the First District of Carlisle so that the 60 families in the district could attend “Publick Worship” closer to their homes. The failure of the district to construct a meetinghouse led to a vote to return the district to Concord in 1756. (Images 7) Much of the land in the District was owned by Timothy Wilkins, who later divided the land for gifts and sales. (Wilkins)

1780.

The Second District of Carlisle was established, designating Carlisle town and allowing it legislative representation. (Images 7)

Ca. 1778.

Settlers of Carlisle may have begun interring their dead on land near the center of the settlement. The epitaph of Solomon Andrews (d. 1778) suggests this: “Erected in memory of Mr. Solomon Andrews, Who departed this life in Full assurance of A better. Sept’r ye 18th 1778 Aged 79 years.” (Bull 276) Other early graves include Abraham Andrews (d. 1769).

Establishment - 1784 - 1865.

1784.

The Central Burying Ground (AKA Old Cemetery) was established when the town acquired ½ acre of land “for a cemetery.” (Images 98) The April 5th District Meeting voted “That 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.” This parcel, owned jointly by Timothy Wilkins’ son and grandson, stood to the north of the meetinghouse and common, on the west side of the road to Chelmsford (today’s Lowell Road). (The E-Form notes that it is likely the Wilkins family had been using the site as a burial plot for many years (unmarked graves, possibly at the southwest corner), as well as other members of settlers’ families, possibly marked with the rough stones, located at the back (west side) of the cemetery.) “In the back corner of the grave-yard there are several graves with field-stone markers, without indication as to who lies beneath them. As this plot was property of the first Timothy Wilkins family in this region, and was used before it became a town burying-ground, it seems reasonable to think Timothy and wife Anna (Smith) Wilkins may be buried here. As far as I can ascertain, no one knows where they are buried. (Wilkins)

1787.

Ten shillings were paid to Timothy Wilkins III and 16 shillings paid to Timothy Wilkins, Jr. for an addition to the original ½ acre lot. The deed, dated June 18, 1787 states that the addition “has been used as a burying place.” (Wilkins)

1790. The population of Carlisle was 555.
1805. The Town of Carlisle was incorporated on February 18th.
1808. At a town meeting held on April 4th, it was “voted that the town raise one hundred collars to procure a hearse, and made a choice of Capt. Nehemiah Andrews to expend said money, and provide a hearse for use of the town.” (Bull 30)
1809. Expenditures were made by the town to construct the hearse. (Bull 30-31)
1810. An article was inserted in the warrant for the annual April Town Meeting, calling for consideration of a place to shelter (house) the hearse. At the meeting, it was “voted that the town erect a hearse-house sixteen feet long, nine feet wide, and seven feet high.” A committee of three was chosen to prepare a plan for the building with specifications. Captain Nehemiah Andrews built the house at a cost of \$26.04. The building was located on the southeast corner of the Central Burying Ground, where it stood until 1867, when the town voted to have it removed. It was sold for \$35.00, moved, and “transformed into a dwelling.” Bull speculated that the building, while in use as a hearse house, doubled as a sort of armory, where the town stockpiled powder, firearms, and equipments. (Bull 31-32)
1857. The Town Annual Report (TAR) listed expenses for “mowing brush in the burial ground.” (4)
1859. The TAR listed expenditures for: “laying stone and making gate for graveyard; irons for gate; work on graveyard; lotting(?) and setting posts for same.” (4)
1860. The TAR listed expenses for “mowing brush” and “purchasing irons for burying ground.” (4)
1862. The TAR listed expenses for “repairing wall at graveyard.” (2)
- Embellishment - 1866 - 1940**
1866. Between 1866 and 1871, the Arbor vitae hedge was planted along the east side. From photographs, it appears that a cedar tree was placed at the end of the hedge (nearest the town center), beside the entrance. (Wilkins)
1867. Development on the new Green Cemetery began ~ the TAR listed expenses for a survey and drawn plan. (4) A new hearse house was

- constructed within the Green Cemetery, to house the hearse following the removal of the house at the Central Burying Ground. (Bull 32)
1872. The TAR listed expenses for “mowing brush,” within the burying ground. (8-9)
1875. The last burial took place at the Central Burying Ground, Susannah Wheeler Hutchinson.
1878. The TAR listed expenses for “mowing brush in old cemetery.” (10)
1881. The TAR listed a payment for 125 arbor vitae (9). *It is not clear whether this is for the old cemetery or for the Green Cemetery, and may be for both.*
- 1885 - 1895. The TAR listed expenses for “mowing the old cemetery.”
1892. Capstones and posts were erected at the southeast entrance, under the direction of Mr. T. A. Green, and another cedar put on the left, to balance the one by the hedge. (Wilkins)
1900. The TAR listed expenses for “moving hearse house and laying wall for same.” (19)
1903. The TAR included mention of a Cemetery Committee with three members.
1904. In the TAR, the Cemetery Committee produced its first report, with the focus entirely on the Green Cemetery.
- 1920s. Thomas Green supervised the installation of the granite posts and capstones at the southeast entrance. (E-Form)
1922. The TAR described “trimming of trees and hedges in the cemeteries, following the 1921 ice storm.” (26)
1923. The TAR included a report of the Cemetery Committee: “in the old burying ground, a memorial in commemoration of Rev. Paul Litchfield, the first minister of Carlisle, has been erected by this great grandson, William F. Litchfield, of Maynard. It consists of a rustic stone canopy with a slate seat, inside is a bronze tablet set in a stone taken from the Litchfield farm with this inscription:

In loving memory of the Reverend Paul Litchfield, the first minister in the Town of Carlisle, 1781 - 1827.” (27)
1924. The TAR included a report of the Cemetery Committee: “in the Old Burying Ground, granite steps have been put in, on the farther

- entrance on Lowell Road.” (39) Wilkins stated, “In 1924 an entrance was opened at the north-east corner of the ground, and granite steps placed for the convenience of the public. The grounds were cleared up and stones straightened; some repairs were made on old slate slabs by private direction.
1926. Beginning in this year, Mrs. T. A. Green interested herself in locating and marking the graves of the Revolutionary patriots ~ eleven such graves have been marked with the official SAR standard and flag through her active interest. (Wilkins)
1929. The TAR noted that “Revolutionary War markers were placed on the graves of Nathan Green, Simon Blood, and David Blood.” (29)
1930. The TAR noted that “Mr. William F. Litchfield has made three additional gifts to be used toward beautifying the Old Cemetery on Lowell Street.” (37) These included removal of the ledge along the front boundary and replacement with a retaining wall, and construction of the concrete sidewalk connecting the two entrances; the stone path leading through the cemetery past the Litchfield seat. Funds from his request have also provided for the name and date of the cemetery engraved on a stone in the wall, which reads “Central Burying Ground, 1874.” (E-Form; Wilkins)
- “Mr. Litchfield later gave \$25.00 to Mrs. Green to use as she thought best in this sacred spot. A path of stepping stones, taken from the Parson’s old farm, was laid from the south to the north entrance, passing the Litchfield Memorial and one leading to Rev. Mr. Litchfield’s grave.” (Wilkins)
1932. The TAR stated, “we have placed Sons of the American Revolution markers on the graves of Stephen Blood, Jr., James Russell, Jr., Lieut. Nathaniel Parker, Edmund Andrews, all in the Old Cemetery.” (54)
1933. “Again in 1933, [Mr. Litchfield] gave [Mrs. Green] \$10 which she use in placing a small spruce tree each side of the memorial.” (Wilkins)
- “In 1933, at the observance of Mrs. Mary A Green’s 80th birthday, the Carlisle Garden Club arranged a small rock garden around the out-cropping ledge near the memorial, and a natural depression in the rock was deepened for a bird bath. Mrs. Green was thus honored as a member of the Cemetery Commission and her efforts recognized in making this an attractive rather than depressing spot.” (Wilkins)
1935. The TAR stated, “we have placed SAR markers on the graves of Timothy and Isaac Wilkins on the Old Cemetery.” (33)

Also in 1935, after the death of William Litchfield, a bequest of \$500 was made to the town, to be administered by Mrs. Mary A. Green, the interest to be used to further beautify and care for his ancestors' graves and the burial ground in which they sleep. (Wilkins)

Ca. 1939

"Miss Alice French of Lowell, Mass. has placed several lilac roots near the grave of Edmund Andrews, her Revolutionary ancestor, which were taken from the ancient bush still surviving beside the cellar hole of his former dwelling. Other bushes planted beside this lot, near the wall, may make a beginning for a memorial lilac hedge to border the burying ground. Doubtless many such roots could be gathered in Carlisle from the sites of old dwellings and from the houses in which the early settlers lived. They do not easily die out, and they would form a fragrant memory to the old families represented by stones in this spot." (Wilkins)

Maintenance and Decline - 1941-Present

1941.

The TAR noted that "hedges at both cemeteries were trimmed" and low spots filled in. (27)

1946.

The TAR noted that mowing was the principal work being done at the town cemeteries, and also trimming of hedges, trees and shrubs, and the filling in of graves. (50)

1947.

The TAR listed the "Litchfield Old Cemetery Fund" as having a balance of \$525.98. (50)

1949.

The Cemetery Commissioners reported in the Town Annual Report, the trimming of trees, trees and shrubs, and the cutting down of brush. (34)

Note: Through the mid-1950s and mid-1960s, the TARs only discussed improvements made to the Green Cemetery; the Central Burying Ground was not mentioned.

1968.

The TAR stated, "the new residents of the town will find in the old cemetery on Lowell Street the burial places of the early settlers of the town and a memorial seat erected to the memory of Reverend Paul Litchfield, the town's first minister." (55)

1969.

At the 1969 Town Meeting, the town voted to place the operation of the cemetery under the newly established Board of Public Works as of March 2, 1970. Beginning in 1970, the Board of Public Works Commissioners did not report on the cemeteries in the Annual Town Report.

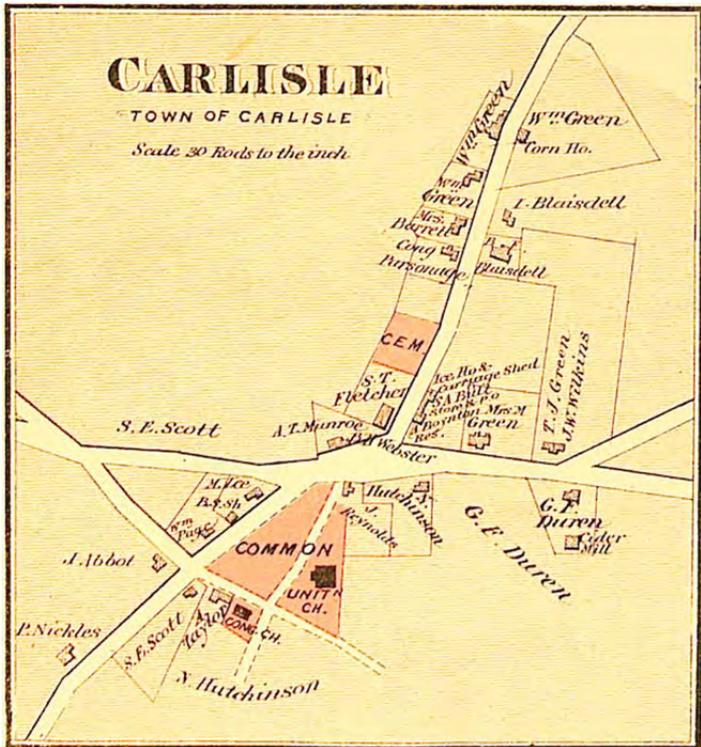
1971.

The town established a Historic District Committee.

1976. The Historic District Committee became the Carlisle Historical Commission.
2016. The Carlisle Historical Commission identified the need to upgrade the condition of the burying ground landscape, and applied for funds from the Community Preservation Committee to prepare a preservation master plan ~ a blueprint for improving and managing the burying ground over time.



Carlisle in 1856. Walling Atlas of Middlesex County, 1856.



Carlisle in 1875. Beers Atlas of Middlesex County, 1875.



The Central Burying Ground in ca. 1890. The stone posts have been constructed at the southeast corner (1892), but the road and sidewalk (1930) have not been paved. *Images of America: Carlisle*.

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Engineering Assessment at Central Burying Ground

Carlisle, Massachusetts

Issued: December 30, 2016
Revision Date:

Prepared for:

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ENGINEERING ASSESSMENT OF THE CENTRAL BURYING GROUND

CARLISLE, MASSACHUSETTS

Features Inventoried

The purpose of this report is to review the existing conditions of several significant structures within the Central Burying Ground in the Town of Carlisle, Massachusetts.

The following items were investigated in this study:

- Front Retaining Wall
- South Entry Gate
- Litchfield Seat Shelter
- Stone Border Walls

Notes:

1. The structural condition assessment did not include a structural analysis of elements. A visual assessment of the condition of the structures can be used to gain an understanding of the structural integrity. Structural faults can be inferred based on the performance of the structure over time.
2. The condition assessment of the structures was intended to document the existing conditions. Prior to development of any rehabilitation plans, more extensive documentation of all deficiencies would be required.

Existing Conditions of Structures

Structure specific inspection findings were developed in tabular form and are included in Appendix A of this report. The following section includes discussions for problems noted during the inspections, the causes of these problems, and recommended restoration/rehabilitation actions.

Front Retaining Wall

The front retaining wall supports the soil in the burying ground along the front (east side) of the property. The wall provides a relatively flat area for graves and pedestrian traffic above. The wall was constructed in the 1930's as part of a ledge removal and beautification project.

The wall is constructed of dry rubble masonry, made predominantly with granite stones. There does not appear to be any mortar in the wall, with the exception of a small area at the north end, behind the utility pole. The lack of mortar does not in any way affect the structural integrity of the wall structure. In fact, the openings between the stones allow ground water to seep through the face of the wall, thereby reducing forces acting on the rear face. The south end (last 30 feet) of the wall has signs of shifting of stones. This may be caused by the trees behind the wall or by foot traffic.

The wall has a minor batter (leaning back toward the retained soil), which is desirable in a stone wall. There are signs of minor shifting and bulging at one location located approximately 42 feet from the north end. There is an Oak tree very close to the wall in this location. There is also a potential small sink hole behind the wall at this location. All of this are signs that the wall is moving slightly forward, which is not desirable over the long-term. With the exception of this area, the overall integrity of the wall is very good.

The surface of the stone has moderate staining. The stains are a result of a combination of normal weathering, residue from adjacent trees.

South Entry Gate

The south entry gate consists of four features, the two side posts and two center posts. The side posts are constructed with mortared stones. The cap and corner stones of the side posts are cut granite, while the facing stones are rougher rounded stones. There is minor cracking in the mortar joints in the faces of the posts.

The left post has a slight lean. The right post has a tree that is growing into the side of the post. It does not appear to have moved to post much at this time. Over time, the tree can cause significant damage to the post.

The center posts do not appear to be of the same age as the side posts. These posts are made with cut granite and are in very good condition.

Border walls

The south border, west border, and north border of the burying ground are defined by a rough stone border wall. A border wall (also called a farm wall) is intended to define the border, not retain soil. The border walls in the Central Burying Ground are constructed with loose stacked stones without mortar. They were mostly likely built during the clearing of the land for the cemetery and/or adjacent properties. As stones were dug up, they were stacked along the border to define the limits of the burying ground. It

is our opinion that these walls were never intended to be an architectural feature of the burying ground, therefore they may never have been neatly stacked. Over time, numerous stones on these walls have fallen away onto the ground adjacent to the walls. In general, these walls are in fair condition, primarily due to the scattered stones throughout.

Litchfield Seat Shelter

The Litchfield Seat Shelter is a unique structure. The plaque on the interior of the shelter notes a construction date of 1928. The shelter has a mortared stone base and sides combined with a wood framed roof structure.

The structure is quite stable showing very few signs of settlement. There are minor cracks in the mortar joints, which could be caused by minor settlement or thermal expansion. There are several areas that have been re-pointed. The color of the pointing does not match the original pointing.

The wood roof framing is generally in fair to good condition. There are several rafters that have broken eave ends. This does not affect the structural integrity, but is considered a visual detraction. The main beam on the east side has severe rot. The ends of this beam are essentially not supporting the end rafters. There is some graffiti carving on some of the wood surfaces.

Causes of Problems with the Structures Investigated

The following sections describe the general causes that are common to each type of structure investigated:

Bulging Front Retaining Wall:

The discussion in this section pertains to the minor bulge in the front retaining wall. The most common causes of retaining wall failures are inadequate design, poor backfill soils, excessive ground water, tree root masses, and unstable foundations. The force from soil exerted on a retaining wall is similar to the force of water acting on a dam. The soil is pressing laterally against the back side of the wall. The force from a tree root mass is similar. As the tree grows, the root mass expands, pressing on the rear face of the wall. If the wall is not massive enough, these pressures will cause the wall to slide laterally, bulge, and/or overturn. Forces from frost and groundwater cause the similar lateral forces that can also fail a wall. The bulge of the front retaining wall can most likely be attributed to the effects of the tree root masses. The reasons for this assumption is that the majority of the wall shows no signs of movement, leading us to infer that it appears to be built on a solid foundation on top of non-frost susceptible soil, with proper drainage, and it has sufficient mass to resist the soil forces acting on it.

It should be noted that bulging of a stone retaining wall constitutes a structural failure. Failures of walls take place over a long time and are progressive in nature. As the tree root mass grows, the wall shifts, thereby relieving the force acting on it. Then the tree grows more and cycle is repeated. Once a wall starts to move, it will continue to move until it collapses. This type of failure can take several years, but in most cases, it takes many years (20 to 40 years or more). Removal of the trees should cease any future movement.

Cracking and Leaning of the Corner Posts:

The cracks and lean of the corner posts is mostly likely caused by one or more of the following:

1. Poor soils beneath the posts leading to settlement
2. It is doubtful that these posts have deep foundations, therefore another cause could be frost action in the soils below
3. Tree root pressures

Falling Stones on Border Walls:

The falling stones on the border walls do not indicate a structural problem. It is mostly likely caused by one or more of the following:

1. Snow and ice build-up that can push stones away from their seats
2. People scaling the walls and dislodging the stones
3. Frost action leading to shifting of the wall

Litchfield Seat Shelter:

The problems with the Litchfield Seat Shelter can be attributed to normal exposure to the elements. The rotting of the wood is due to exposure to rain and lack of proper stain on the members. The damaged rafter ends could have been caused by vandals. The minor cracking in the masonry could be a sign of a marginal foundation settlement; however it could also be caused by thermal expansion of the structure. Neither of these two causes and the ensuing issues are cause for alarm. The structure, if properly maintained should last for many years.

Areas for Restoration and Rehabilitation

Masonry Structures:

Tree Removal:

The trees behind the front wall and entry gates will continue to cause problems over time. All of the trees within 10 feet of the wall and entry posts should be removed, including the root masses (if possible). If the trees are removed, the minor bulge in the wall can be left as is. The bulge will not affect the structural integrity of the wall.

Shifting stones on front retaining wall and border walls:

The shifted stones can be repaired by careful dismantling and restacking the stones.

Removal of mortar at north end of the retaining wall:

The small area of mortared stone should be dismantled and re-assembled without the mortar in order to be consistent with the original design of the walls.

Cleaning:

The granite stonework can be cleaned with masonry cleaners. It should be noted that this recommendation is cosmetic in order to remove staining. Cleaning will change the appearance of the wall, which might not be desirable. Some owners prefer to leave the staining as a historic feature.

Re-pointing of South Entry Posts

The cracks in the mortar joint should be repaired by removing the mortar and replacing it with new mortar (re-pointing). The goal would be to prevent water from infiltrating the cracks, causing larger spall during freezing cycles. The re-pointing process would not result in a change to the appearance of the posts. The joints could be cleaned and properly re-pointed with a quality mortar. It is important to not use cement based mortars, which are much stiffer than the older historic mortars. The US Department of the Interior's *"Preservation Brief for Re-pointing Mortar Joints in Historic Masonry Buildings"* should be followed. This document generally recommends the use of a mortar that contains 1 part cement to 1 part lime combined with 5-6 parts sand. The color of the sand may be important if some of the older mortar it to remain. Sand color can affect the color of the final mortar. If all joints are to be repointed (which is most likely the case on the posts, the color may not be as critical.

Litchfield Seat Shelter:

The shelter is in need of minor restoration. The rotted beam is the only critical element as further decay could lead to more damage and potentially a partial collapse of the roof rafters. The roof can be temporarily supported allowing for removal and replacement of the rotted beam. The details for the new beam should match the original beam (front beam). The rafter ends can either be repaired by scarfing in a new piece, or by replacement with a similar rafter. The detail of the new pieces should match the original design.

The masonry portions of the shelter can be repointed as described above. The newer pointing should be removed and replaced with historically accurate mortar that matches the original mortar. The minor crack can be repaired by re-pointing the joints in the area of the crack.

The roof does not appear to be original, therefore it should be replaced. If historical data regarding the materials used on the original construction cannot be found, the new roof should be made with materials that are consistent with structures of that age. A cedar shingle roof would seem appropriate for the age of the structure and the architectural design of the shelter.

The graffiti carving areas can be filled with wood filler, sanded, and stained.

Budget Level Cost Estimates:

The following table contains recommended restoration and rehabilitation work, the approximate recommended timeframe for the work and a budget estimate (using current prices) for the work:

Restoration Item	Recommended Rehabilitation Timeframe	Budget Estimate
Front Retaining Wall		
<i>Remove mortar at north end, remove trees and root masses, re-stack the south 30 feet of the wall, clean stone surfaces</i>	No specific timeframe required	\$25,000
South Entry Posts		
<i>Re-point joints, remove trees and root masses, clean stone surfaces</i>	No specific timeframe required	\$7,000
Border Walls		
<i>Restack fallen stones</i>	No specific timeframe required	\$2,000
Litchfield Seat Shelter		
<i>Replace rotted beam, repair or replace damaged rafters, fill graffiti carvings, replace roof, re-point portions of the base, stain the woodwork, and clean the stone surfaces</i>	2 years	\$5,000

Notes:

1. These estimates are “order of magnitude” and are not based on detailed calculations. A more accurate estimate would require careful quantification of the actual work.
2. Engineering and architectural costs not included. These costs will be approximately 20% of the construction costs.

Appendix A – Inspection Findings



Cemetery Structures Inspection Report

Cemetery	Central Burying Ground		
Inspection Date	September 1, 2016	Inspector	Pete Culmo

Structure	Front Retaining Wall
Overall Condition	Very Good

Inspection Items	Comments
Movement	Nothing significant Potential minor bulge near Oak tree (42' from north end)
Joints	Dry rubble masonry - no mortar Some minor pointing at north end (near utility pole)
Staining	Minor staining due to trees and weather
Plant Growth	Minor lichen
Notes	<ol style="list-style-type: none"> 150 feet long Height varies from 2' to 6' Various stone types, mostly granite Aside from one minor potential bulge, there are no signs of movement. Approx. 15 trees located just behind the wall. Possible minor sink hole near the Oak Tree (42 feet from north end) Older trees have been removed. Stumps still present.
Short Term Repairs	Remove trees behind wall
Long Term Repairs	Re-built southern 30 feet of wall Remove mortar near utility pole Clean stone



Overall View of Wall



Tallest Portion of wall (potential bulge)



South End of wall



Panoramic View



Cemetery Structures Inspection Report

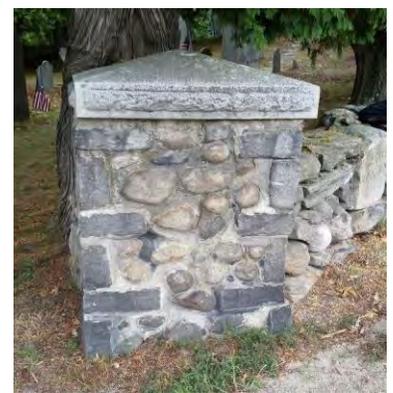
Cemetery	Central Burying Ground		
Inspection Date	September 1, 2016	Inspector	Pete Culmo

Structure	South Entry Posts
Overall Condition	Very Good

Inspection Items	Comments
Movement	Potential minor tilt of left post
Joints	Mortared stone joints Minor cracking in some joints
Cap stones	Good condition
Staining	Moderate staining on exterior
Plant Growth	Minor lichen growth
Notes	<ol style="list-style-type: none"> 1. Granite cap and corner stones 2. Rounded rubble stones on interior faces 3. Minor tilt to left post 4. Tree growing into right post 5. Pointing has been re-done several times 6. Center posts do not appear to be of the same age as the end posts
Short Term Repairs	Remove trees
Long Term Repairs	Reset lean only if conditions get worse Re-point mortar joints properly Clean Surfaces



Front Elevation



Close up of posts



Sides of posts



Rear of left post



Cemetery Structures Inspection Report

Cemetery	Central Burying Ground		
Inspection Date	September 1, 2016	Inspector	Pete Culmo

Structure	Litchfield Seat
Overall Condition	Good

Inspection Items	Comments
Movement	No signs of significant movement. One crack in base
Joints	Top portion of rear face have been re-pointed The remainder are in good condition
Staining	Minor staining
Wood framing	Most of the wood is in good condition Several rafters have damaged ends One main beam is severely rotted Minor graffiti carving Needs staining
Roofing	Asphalt Shingle roof (most likely not original) Good condition
Notes	1. Concrete base is in very good condition 2. Seat is in very good condition
Short Term Repairs	Replace rotted beam, repair rafters Fill graffiti carving and sand Clean stone Stain all wood
Long Term Repairs	Replace roofing with appropriate materials Repair cracked pointing Re-point un-matching pointing



West Elevation



East Elevation



South Elevation



North Elevation



Rotted wood beam on south side



Damaged Rafter End



Cemetery Structures Inspection Report

Cemetery	Central Burying Ground		
Inspection Date	September 1, 2016	Inspector	Pete Culmo

Structure	Border Walls
Overall Condition	Fair

Inspection Items	Comments
Movement	Many stones have shifted
Joints	Dry rubble farm wall, no mortar
Staining	Significant staining
Plant Growth	Lichen growth
Notes	1. These walls are considered to be farm walls. They were never intended to be architectural. They were most likely built from stones unearthed during the clearing of the land and during excavations for graves.
Short Term Repairs	None
Long Term Repairs	Reset fallen stones



South Wall



West Wall



West Wall



North Wall



www.cmeengineering.com

Original Copy Record

CME Project No. 2016053

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TREE INVENTORY & ASSESSMENT

ASSESSMENT OF INDIVIDUAL TREES

Abbreviations:

A = Arborvitae

O = Oak

P = Pine

C = Cherry

M = Maple

B = Birch

Dia. = diameter of trunk

A-1 (3) leader arborvitae (each about 8-12" dia) pretty much an overgrown shrub. In midst of monuments. Suggest removal.

A2-19 arborvitae – all along wall and Lowell St. Only good thing is that they obscure the power lines. Removing them would be radical but I don't think they would be missed after a couple of months.

Oaks – general. 17 total. They are some that make me a little nervous with leaning trunks and large cantilevered limbs. Most of them are pretty leggy so reduction pruning is not a good option. I suggest removing some of the larger more likely to fail trees and leaving the ones that are more structurally sound and/or out of the way. Specifically;

OK-1 10" dia red, stable, not near monuments and not too close to wall or wires. Keep.

OK-2 2' dia red oak severely compromised already by line pruning. Very close to wall and perhaps not stable as a consequence. Suggest removal.

OK-3 2.5' dia white oak in out of the way corner. Reasonable structure and not threatening. Keep.

OK-4 1.5' dia white oak trunk way off center because of OK-5, some mounding, not very pretty, suggest removal.

OK-5 3' dia (white?) oak with very large cantilevered limb. Again, not easy to reduce risk of failure with pruning. Suggest removal. This has significant mounding and stump grinding should at least be considered.

B-1 14" dia black birch, very pretty tree but in center of several monuments and has a lot of surface roots. I think removal is likely if only to preserve monuments. If the surface roots are not a problem then I would suggest potentially keeping this tree for 5-10 years as other smaller trees response to more light and possible new trees are planted and get established.

OK-6 8" red oak with terrible lean resulting from OK-7. Suggest removal.

OK-7, white oak that is all lean away from pines P-7 and P-8. Otherwise OK. Suggest removal.

TREE INVENTORY & ASSESSMENT

P-7 & 8, both are about 2' dia tall white pines at stonewall. I don't consider any large white pine safe.

P-7 has a significant lean towards the parking lot and has a double leader at the top which are always prone to failure. Lastly this is a likely access point for a crane and these pines would block. Suggest removal.

M-7, 9" sugar maple – excellent

OK-15, 3' white oak with significant deadwood and "leggy". Maybe keep for a few more years and then remove as others mature.

OK-14 2.5' red oak with significant trunk lean towards monuments. Also too leggy to reduce effectively with pruning. Crowding OK-13. Suggest removal.

OK-13 2' dia white oak, leans away from monuments, looks good.

B-5, dual black birch with stems about 8". Charming but roots undermining a larger monument. Remove.

OK-16. 3" red oak. This has a significant lean that could be corrected with a cable. I think it's a worthwhile keeper.

B-3, 8" black birch, looks nice

OK-11 2' white oak, looks OK

OK-12 2.5' dia oak, wonderful

OK-8, 1.5" white oak, is very balanced and healthy but is close to a monument. Keep if possible.

OK-9 1.5' red oak, big lean but the base is clear. Not sure of keep or remove.

Pines other than 7 & 8 (total of 8). Junk. P-3 is the 3rd largest and has a significant amount of mounding and surface roots. I wonder if the needles are problematic with acidification.

Maples – mostly along southern wall – OK. (7 total)

C-1 6" cherry with shoots along wall. Junk. C-2 junk too.

OK-17, 4" red oak, keeper

B-2 grey birch among mountain laurel and monuments. Junk

B-4 birch, remove.

TREE INVENTORY & ASSESSMENT

ADDITIONAL NOTES AND RECOMMENDATIONS

Wood Area Behind Rear Stone Wall

If a crane is in place there a few pines that I think should be removed to enhance the better specimen trees such as OK-13 and also to reduce risk. The invasive plant load in the woods itself is light but the reed growing in the wetlands is likely to creep out into the woods and compromise the aesthetics and biodiversity. I recommend at least establishing a limit of growth line for the reed (phragmites).

Grinding Stumps Versus Allowing to Decay

I generally favor grinding but access will be very difficult and risky. I suggest allowing stumps to decay to every extent possible. I favor leaving snags for habitat and believe they look better than stumps but realize this is an acquired taste and probably too unconventional. Probably best to cut stumps as low as possible. Decay can be accelerated with drilling and inoculation with fungi.

General Plant Health Care

This last / current will have a lasting effect on the trees in this area. We can expect decline of some of these trees over several years. The burying ground is a tough site. High and full of ledge. Removing some trees should leave more water for the remainders. Irrigation of the mature trees is probably not practical. There are certainly some soil treatments that could help the drought stressed trees but rain will be the most important. Fortunately there is not a lot of foot traffic on the grounds and the soils have not been too compressed. It helps that there is minimal need for mowing as this can be a major contributor to soil compaction. Mowing should be minimized in my opinion – even if it means retaining the current crop of moss. Removal of a significant number of trees will bring in more light and change this balance. I am not sure how to minimize subsequent grass and weed growth. At a minimum I would suggest an infrequent, bordering on negligent mowing schedule. In my opinion, herbicide targeting the more aggressive grasses and broadleaf weeds might extend the periods between mowings. I think the result would likely look more historic. I would definitely want to consult with the DPW to understand what they are doing currently and gain their perspective on what would work best in the future – especially when there is more light.

Summary

I recommend a significant amount of removal. There are limited “opportunities” for pruning. Some of the removals could be postponed for a few years to allow other trees to fill in. I also think planting a few native shade trees makes sense. This would offset near term and longer term removal of larger riskier trees. They could be located far enough from monuments to not disturb them. They would generally be better balanced if grown with sufficient space.

Carlisle Central Burying Ground
 Carlisle, Massachusetts
 TREE ASSESSMENT

Number	Species	Recommendation	Priority for Removal	Notes
A-1	Arbor vitae	Remove	High	Removal should be done at the time of removal of A-2 through A-19, as well as OK-2, OK-4 and OK-5
A-2 - A-19	Arbor vitae	Remove	High	Removal should be done at the time of removal of A-1, as well as OK-2, OK-4 and OK-5
OK-1	Red Oak	Retain		Prune
OK-2	Red Oak	Remove	High	Removal should be done at the time of removal of OK-4 and OK-5
OK-3	White Oak	Retain		Prune
OK-4	White Oak	Remove	High	Removal should be done at the time of removal of OK-2 and OK-5
OK-5	White Oak	Remove	High	Significant decay in the mid trunk section in the vicinity of the major horizontal limb. Tree threatening to harm nearby "seat." Crane required for removal.
OK-6	Red Oak	Remove	Medium	Removal with crane set up in private parking lot at southwest corner; removal should be done at the time of removal of OK-7, OK-15, P-7 and P-8
OK-7	White Oak	Remove	Medium	Removal with crane set up in private parking lot at southwest corner; removal should be done at the time of removal of OK-6, OK-15, P-7 and P-8
OK-8	White Oak	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-9, OK-11, OK-16, and P-1 through P-6

Carlisle Central Burying Ground
 Carlisle, Massachusetts
 TREE ASSESSMENT

Number	Species	Recommendation	Priority for Removal	Notes
OK-9	Red Oak	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-11, OK-16, and P-1 through P-6
OK-10	Oak	Retain		Prune
OK-11	White Oak	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-16, and P-1 through P-6
OK-12	Oak	Retain		Prune
OK-13	White Oak	Retain		Prune
OK-14	Red Oak	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground.
OK-15	White Oak	Remove	Medium	Removal with crane set up in private parking lot at southwest corner; removal should be done at the time of removal of OK-6, OK-7, P-7 and P-8
OK-16	Red Oak	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-14, and P-1 through P-6
OK-17	Red Oak	Retain		Prune
B-1	Black Birch	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small cherries and other birches.

Carlisle Central Burying Ground
 Carlisle, Massachusetts
 TREE ASSESSMENT

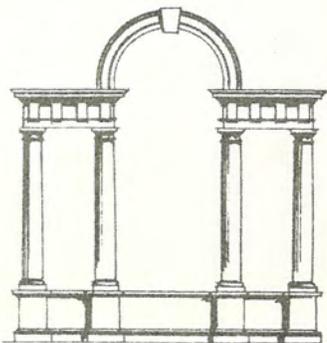
Number	Species	Recommendation	Priority for Removal	Notes
B-2	Grey Birch	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small cherries and other birches.
B-3	Black Birch	Retain		Prune
B-4	Birch	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small cherries and other birches.
B-5	Black Birch	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small cherries and other birches.
M-1	Maple	Retain		Prune
M-2	Maple	Retain		Prune
M-3	Maple	Retain		Prune
M-4	Maple	Retain		Prune
M-5	Maple	Retain		Prune
M-6	Maple	Retain		Prune
M-7	Sugar Maple	Retain		Prune
P-1	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries

Carlisle Central Burying Ground
 Carlisle, Massachusetts
 TREE ASSESSMENT

Number	Species	Recommendation	Priority for Removal	Notes
P-2	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries
P-3	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries
P-4	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries
P-5	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries

Carlisle Central Burying Ground
 Carlisle, Massachusetts
 TREE ASSESSMENT

Number	Species	Recommendation	Priority for Removal	Notes
P-6	White Pine	Remove	Low	Removal with crane set up in police station parking area, and with bucket truck brought inside the burying ground. Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and cherries
P-7	White Pine	Remove	Medium	Removal with crane set up in private parking lot at southwest corner; removal should be done at the time of removal of OK-6, OK-7, OK-15, and P-8
P-8	White Pine	Remove	Medium	Removal with crane set up in private parking lot at southwest corner; removal should be done at the time of removal of OK-6, OK-7, OK-15 and P-7
C-1	Cherry	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and other cherry
C-2	Cherry	Remove	Low	Remove at the same time as OK-8, OK-9, OK-11, OK-16, and all remaining white pines, as well as small birches and other cherry



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PRESERVATION CONSULTANTS

CENTRAL BURYING GROUND

CARLISLE MA

GRAVESTONE/MONUMENT ASSESSMENT REPORT

2016

PREPARED FOR

CARLISLE HISTORICAL COMMISSION

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CENTRAL BURYING GROUND
CARLISLE MA
GENERAL VIEW WITH STONES
IN NEED OF CONSERVATION

CENTRAL BURYING GROUND

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CENTRAL BURYING GROUND

INTRODUCTION AND ACKNOWLEDGEMENTS

The Central Burying Ground on Lowell Street is a quiet and almost unseen site that holds much history of Carlisle in a unique form, masterfully carved gravestones and monuments. With the overgrown Arbor Vitae hedge along the street, passersby find the burying ground is not particularly welcoming. Yet, contained within are numerous handsomely carved slate stones by well-known gravestone carvers. The historic nature of the burying ground not only comes from its mid-18th century establishment but also from the people buried in it. Names on the memorials are even now well known in the Carlisle community. These people were instrumental in the growth of the town and one finds their names on the streets and lanes throughout Carlisle.

However, these historic gravestones suffer from a number of problems that should be addressed in order to extend their lifespan. Among issues found during the assessment were stones severely tilting, numerous markers raised far above the original setting line, trees and tree roots capturing gravestones, severe coatings of lichenous growth obscuring inscriptions, delaminations, missing top fragments and markers rubbing together causing chipping.

The Gravestone/Monument Condition Assessment list contained in this document has some 73 gravestones and footstones, which require conservation. This is out of a total of 137 markers in the burying ground.

Many of the procedures required to conserve the markers are complex and will require a skilled conservator to complete. Like the gravestone carvers and monument makers of old, gravestone and monument conservation is an artisanal craft requiring training and experience as well as a thorough understanding of the nature of different types of stone and an intimate knowledge of eighteenth and nineteenth century methods of gravestone and monument building.

The conservation of gravestones and footstones in Central Burying Ground will require special effort due to the extraordinarily rocky nature of the ground. Two test field excavations were done which confirmed that the material surrounding the head and footstones consists mainly of rocks and

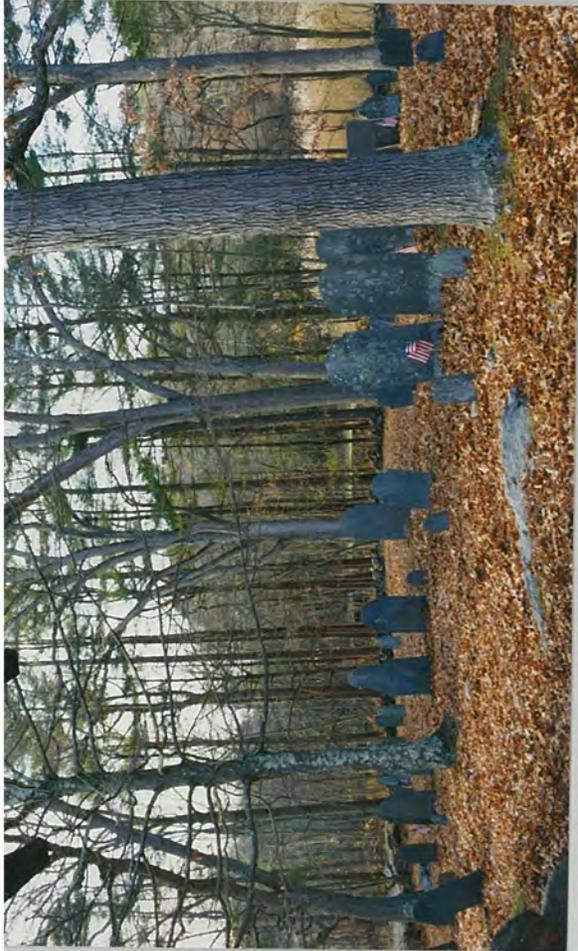
boulders of various sizes with some interspersed soil. Since many of the stones are raised above their original setting lines, substantial difficult excavation will be required for the project.

Conserving these stones will contribute to attaining the goal of the Preservation Master Plan: To bring greater visibility to the Central Burying Ground and heightening residents' and visitors' understanding of its importance in the history of the town.

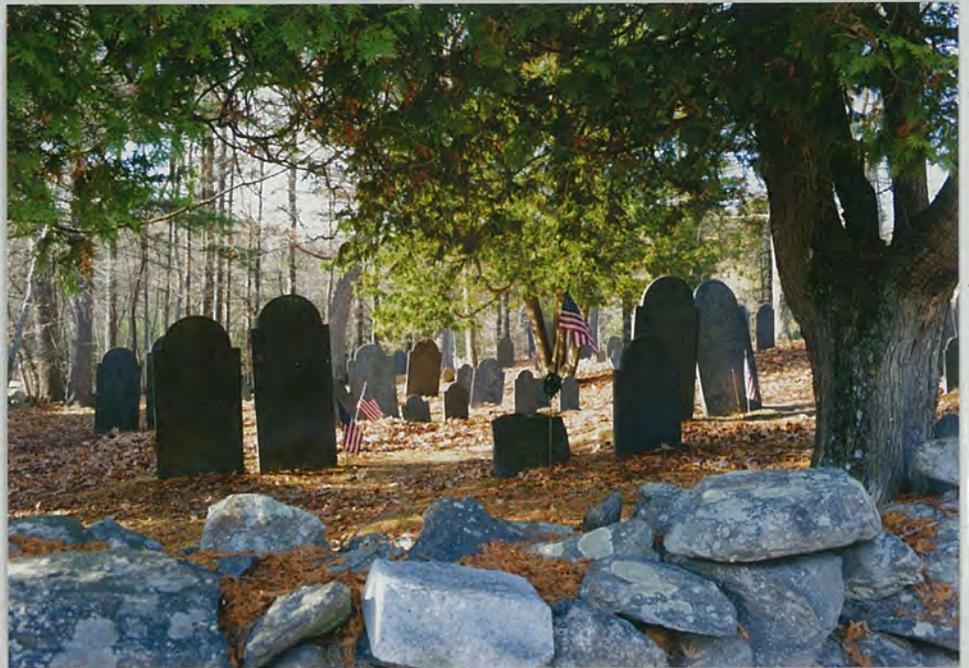
Fannin•Lehner Preservation Consultants is most grateful for the interest and assistance of Larry Bearfield in bringing to the attention of the Town the deteriorated condition of the Central Burying Ground and the generous loan of material regarding the Central Burying Ground from his personal library. The Carlisle Historical Commission deserves great credit for pursuing the conservation of the burying ground and securing CPA funding for this Preservation Plan.

The Carlisle Historical Society archives provided substantial information regarding the Central Burying Ground. Philip Drew, President and Charles Forsberg, Past President were most helpful in directing our research efforts to the most fertile files from which much valuable material was gleaned.

The Gleason Public Library staff was of great assistance in guiding our research and produced a number of important documents.



GENERAL VIEWS



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Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0777

Stone: Central Burying
Ground in outside
wall near entrance

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Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0778

View over wall into
cemetery

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Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0779

View looking toward
Litchfield shelter

Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0781

Views from inside shelter
looking southeast

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Fannin•Lehner
271 Lexington Rd
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0780

GENERAL VIEW

02 2026.97 1001.0

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#30-10000 001 N

CENTRAL BURYING GROUND

GUIDE TO GRAVESTONE/MONUMENT CONDITION ASSESSMENT LISTS

- **MAP #** - This refers to the stone numbers recorded on the Map: Carlisle Central Burying Ground Preservation Master Plan, 2016. An "F" after a number indicates a footstone, ex: "4F".
- **LAST NAME**
- **FIRST NAME**
- **D OF DEATH:** Complete Date of Death.
- **TYPE:** Head (headstone), Foot (footstone), Mon (monument), Obelisk, Marker (similar to a headstone but related to a central monument), Fragment.
- **MATERIAL:** Slate, marble, sandstone/brownstone, granite, limestone.
- **NOTES:** Problems experienced by the marker, Gravestone carver (if known), Miscellaneous Information.
- **TREATMENT:** Most common are: reset, adhesive repair, mortar into base, tack, cap and infill. All stones are completely cleaned before conservation is performed. Further treatment may include removing old repairs, re-pinning or new pins, or making a new base or foundation. Some stones must be investigated and then evaluated before treatment can be determined. Other stones need to be reset in the proper location, order or direction.
- **PR/COMP:** ("PR") - Priority or urgency of repair with "1" signifying Urgent, "2" - Less urgent but necessary. ("COMP") - The year conservation of a gravestone, footstone or monument is completed, after conservation is initiated.

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
1F	BLOOD	STEPHEN	N/A	FOOT	SLATE	REMOVE FROM TREE. CLEAN. RESET 12" AWAY FROM TREE.	IMPACTED BY TREE ROOTS	1
3F	DICKINSON	MRS PERSIS	JAN. 15, 1782	FOOT	SLATE	EXCAVATE. CLEAN. RESET	TILTED	2
4-F	LAW	MISS ELEANOR	DEC. 5, 1826	FOOT	MARBLE	EXTRACT FROM TREE ROOTS AND WALL. CLEAN. RESET CLOSER TO HEADSTONE.	IMPACTED BY TREE ROOTS AND STONE WALL	1
5	PROCTOR	EZEKIEL	DEC. 22, 1819	HEAD	MARBLE/ SAND- STONE	EXCAVATE. CLEAN. RESET. (DIE FIRMLY IN BASE)	TILTED	1
6	BLOOD	MRS. MEHETABLE	DEC. 9, 1819	HEAD	SLATE	EXCAVATE. CLEAN. BRING TO LEVEL.	TILTED CARVER: L. KEN- DALL, HARVARD	1
8	BLOOD	MRS. ELIZABETH	JAN. 10, 1815	HEAD	SLATE	EXCAVATE. CLEAN. BRING TO LEVEL. CAP	TILTED/ DELAMINATING	1
9	BLOOD	MR. DAVID	NOV. 23, 1804	HEAD	SLATE	EXCAVATE. CLEAN. BRING TO LEVEL.	TILTED	1
12	ROBBINS	MRS. SIBBEL	SEPT. 4, 1821	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER AND 6" TO PROPER RIGHT	TILTED/ RAISED	1
13	ROBBINS	DEA. EPHRAIM	JULY 29, 1820	HEAD	SLATE	EXCAVATE. CLEAN. MOVE SEVERAL INCHES TO PROPER RIGHT TO RESET.	TILTED/ RUBBING AGAINST ADJACENT STONE	1

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
14	ROBBINS	AZUBAH	OCT. 11, 1810	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ RUBBING AGAINST ADJACENT STONE	1
15F	ROBBINS	MISS ESTHER	FEB. 5, 1803	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
16	BARRETT	MRS. MARTHA	FEB. 26, 1795	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	RAISED/TILTED CARVER: ITHAMAR SPAULDIN	1
18	ROBBINS	MRS. SARAH	JULY 13, 1819	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
19	HEALD	LUCY	FEB. 22, 1785	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
22	FOSTER	MRS MARTHA	AUG. 22, 1832	HEAD	SLATE	EXCAVATE. CLEAN. BRING TO LEVEL.	TILTED	1
26	ANDREWS	ABRAHAM	DEC. 27, 1782	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
27	ROBBINS	AZUBAH	DEC. 26, 1786	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ RAISED CARVER: ITHAMAR SPAULDIN	1
28	SPAULDING	ZEBULON	APRIL 11, 1829	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	2

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
30	SPAULDING	MR. THOMAS	AUG. 13, 1795	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
							CARVER: ITHAMAR SPAULDIN	
31	SPAULDING	SOLOMON	APRIL 25, 1783	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	2
32	SPAULDING	MRS. MARY	OCT. 17, 1788	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
32F	SPAULDING	MRS. MARY	OCT. 17, 1788	FOOT	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
33	ANDREWS	MR. SOLOMON	SEPT. 18, 1778	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	2
33F	ANDREWS	MR. SOLOMON	SEPT. 18, 1778	FOOT	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
36	SPAULDING	MR. WILLIAM	SEPT. 27. 1825	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	2
38	SPAULDING	WILLIAM	MAR. 17,1797	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
40	SPAULDING	WILLIAM	APR. 21, 1793	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ RAISED	2
41F	HEALD	SARAH	DEC. 5, 1814	FOOT	SLATE	EXCAVATE. CLEAN. RESET. CAP.	TILTED/ DELAMINATING	1
42F	HEALD	MRS. SARAH	JULY 17, 1788	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
45F	HEALD	ELIZA SOBAL	SEPT. 18, 1807 JULY 16, 1810	FOOT	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
46	BARRETT	CHAMBERLIN	SEPT. 11, 1805	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
48	JOHNSON	GEORGE W.	SEPT. 3, 1818	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
49	BROWN	AARON	JULY 9, 1819	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
50	BROWN	HORACE T. ERIE.	SEPT. 9, 1805 OCT. 3, 1817	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
51	HEALD	LT. SILAS	JUNE 21, 1811	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
54	NUTTING	SARAH	JAN. 9, 1832	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
56	TAYLOR	MISS LUCY	JULY 3, 1798	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	2
56F	TAYLOR	MISS LUCY	JULY 3, 1798	FOOT	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
57	TAYLOR	SARAH	MAY 13, 1815	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ BROKEN?	1
60	TAYLOR	WIDOW ESTHER	AUG. 8, 1809	HEAD	SLATE	CLEAN. CAP.	DELAMINATING	1

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
63	DUREN	MR. REUBEN	MAY 20, 1819	HEAD	SLATE	MONITOR	SLIGHTLY TILTED/ TOUCHING ADJACENT STONE CARVER: "ENGRAVED BY J. PARK OF LITTLETON"	
64	DUREN	MRS. SUSANNA	NOV. 20, 1821	HEAD	SLATE	MONITOR	TOUCHING ADJACENT STONE/ CARVER: "ENG. BY E. KENDALL, LITTLETON."	
65	DUREN	GEORGE	MAY 9, 1804	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED/ CHECK FOR "MAKER'S MARK #283"	1
68	RUSSELL	MISS MARY	JAN. 15, 1799	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
71	WHEAT	MRS BETSY	NOV. 14, 1815	HEAD	SLATE	EXCAVATE. CLEAN. BRING TO LEVEL.	TILTED/ TREE ROOTS IMPACT	2
73	HEALD	MRS. LUCY	NOV. 20, 1822	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
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MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
75	CLARK	JONATHAN P.	SEPT. 24, 1817	HEAD	SLATE	EXCAVATE. CLEAN. NEW BASE. SET BASE. MORTAR INTO BASE.	BROKEN	1
77F	PARKER	LT. NATHANIEL	OCT. 17, 1802	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
78	PARKER	MRS. OLIVE	JAN. 16, 1817	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED/ NOTE: STONE HAS BRONZE STRAPS (HOLDING)	1
80	PARKER	NATHANIEL	SEPT. 9, 1808	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
81F	HARTWELL	RUFUS	N/A	FOOT	MARBLE	EXCAVATE. CLEAN. RESET.	TILTED	2
82	HARTWELL	RUFUS	SEPT. 14, 1801	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
85	HARTWELL	MR. FRANCES	APRIL 1, 1825	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER. CAP.	TILTED/ RAISED/ DELAMINATING	1
86	LITCHFIELD	REV. PAUL	NOV. 5, 1827	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED/ IMPACTED BY TREE	1
87F	LITCHFIELD	MRS. MARY	JULY 27, 1809	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
88	LITCHFIELD	MR. ROLAND	SEPT. 2, 1841	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER. CAP.	TILTED/ RAISED/ DELAMINATING	1
89F	WILKINS	MRS. MARY	JAN. 28, 1820	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1

CENTRAL BURYING GROUND
CARLISLE MA

GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
90	WILKINS	MR. TIMOTHY	FEB. 5, 1820	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED CARVER: ENOCH KENDALL	1
90F	WILKINS	MR. TIMOTHY	FEB. 5, 1820	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
93	WILKINS	MR. TIMOTHY	APRIL 28, 1812	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER. TACK. CAP.	TILTED/ RAISED/ DELAMINATING	1
93F	WILKINS	MR. TIMOTHY	APRIL 28, 1812	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ BROKEN?	1
94	HEALD	FRANKLIN RUHAMMI AMMI	1800 1805 1803	TRIPLE HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
95	HEALD	MISS LUCY	MAY 17, 1819	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ BROKEN?	1
96F	HEALD	MR. THOMAS	APRIL 14, 1843	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
97	HEALD	MR. WILLIAM	OCT. 20, 1827	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
99	ROBBINS	LIEUT. JOHN	AUG. 5, 1812	HEAD	SLATE	EXCAVATE. CLEAN. RESET LOWER.	TILTED/ RAISED	1
100F	ROBBINS	CAPT. AARON	JULY 26, 1821	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	1
104	WILKINS	LIEUT. ISAAC	JAN. 10, 1826	HEAD	MARBLE	INVESTIGATE! EXCAVATE. NEW BASE. SET BASE. MORTAR INTO BASE.	BROKEN	1

CENTRAL BURYING GROUND
CARLISLE MA

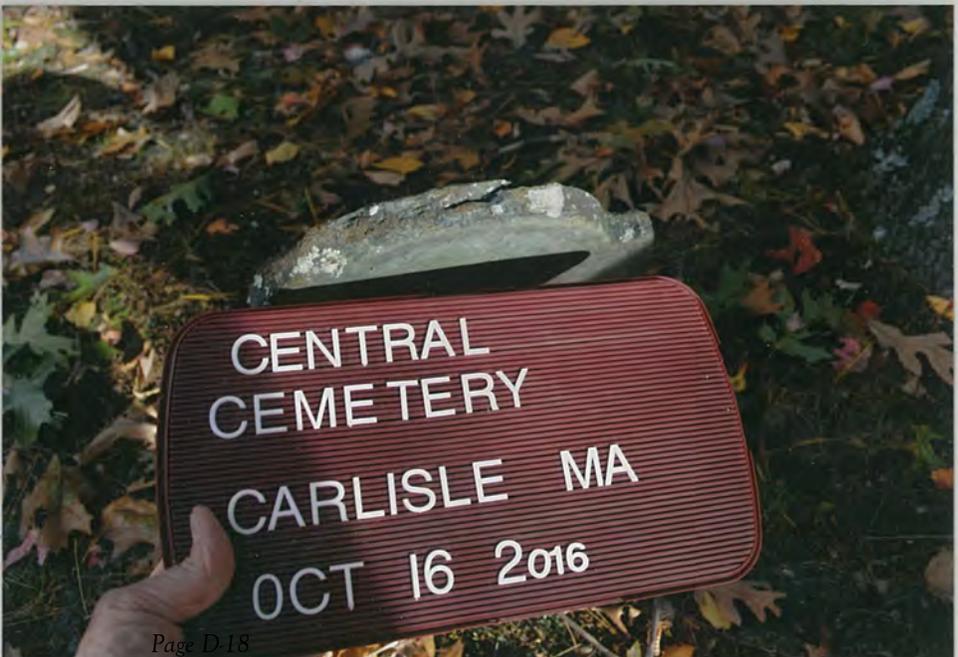
GRAVESTONE/MONUMENT
CONDITION ASSESSMENT

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
105	WILKINS	MARY	FEB. 6, 1806	HEAD	SLATE	EXCAVATE. CLEAN. RESET.	TILTED/ TREE ROOTS	1
106	PARLIN, JR.	MR. DAVID	JULY 19, 1803	HEAD	SLATE	EXCAVATE AND EXTRACT FROM TREE. CLEAN. RESET.	TILTED/ IMPACTED BY TREE CARVER: CALEB LAMSON II	1
106F	PARLIN, JR.	MR. DAVID	JULY 19, 1803	FOOT	SLATE	EXCAVATE. CLEAN. RESET.	TILTED	2
107	NICHOLS	REBECKAH OTIS	1805 1807	DOUBLE HEAD	SLATE	GATHER ALL FRAGMENTS. CLEAN. ADHESIVE REPAIR? BACKER? INFILL.	BROKEN	1
107F	NICHOLS	REBECKAH OTIS	1805 1807	DOUBLE FOOT	SLATE	EXCAVATE. CLEAN. RESET BEHIND HEADSTONE	TILTED/ OUT OF LOCATION	1



ONES REQUIRING CONSERVATION



CC DSC-0765.JPG 09/20/15
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Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0765

General: Tilted Stones
Miss Lucy Heald
d. May 17, 1819
#95

DSC-0764.JPG 09/20/15

Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Oct. 16, 2016
Set No. 2 Photo: DSC-0464

Sarah Heald
d. Dec. 5, 1814
41F
ex. of entire stone
tilting, delaminating

DSC-0463.JPG 10/16/16

Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Oct. 16, 2016
Set No. 2 Photo: DSC-0463

Sarah Heald
d. Dec. 5, 1814
41F
ex. of delamination
and tilting

Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Nov. 15, 2015
Set No. 1 Photo: DSC-0766

Tilted Slate
Leah Robbins
d. Aug. 5, 1812

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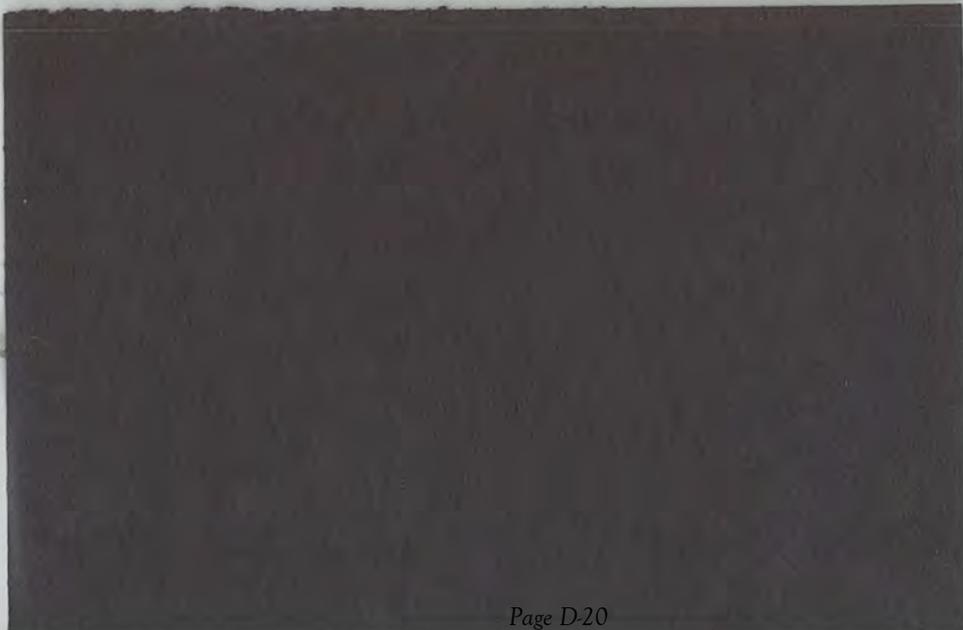
Fannin•Lehner
271 Lexington Rd.
Concord MA 01742
Central Burying Ground
Carlisle MA Oct. 16, 2016
Set No. 2 Photo: DSC-0465

Deacon Ephraim Robbins
d. July 29, 1820
Azubah Robbins
d. Oct 11, 1810
Ex. of two stones
rubbing against
each other

CC DSC-0465.JPG 10/16/16



**STONES
REQUIRING
CONSERVATION**



CENTRAL BURYING GROUND
CARLISLE MA

CAPT. ISSACHAR ANDREWS
d. July 16, 1796

Carver: ITHAMAR
SPAULDIN





ONES BY KNOWN CARVERS



CENTRAL BURYING GROUND

GRAVESTONE CARVERS

Central Burying Ground has a number of gravestones by recognized carvers. The list below of identified gravestone carvers is intended only as a beginning. There may well be the work of other carvers in the burying ground. Listed with each gravestone carver are examples of his work in Central Burying Ground. There are also gravestones and monuments in Central Burying Ground, which are signed by carvers or monument makers about which little is known. This group would make a rewarding research project. In addition there are stones of aesthetic significance, which are unsigned, and the carver is unknown.

The identification of these gravestone carvers in Central Burying Ground was greatly aided by Laurel K. Gabel of Yarmouth Port, Massachusetts, a nationally known gravestone carver authority. She is the author of many articles and co-author, with Theodore Chase, of the two-volume Gravestone Chronicles, New England Historic Genealogical Society, Boston MA, 1997. The recent book by James Blachowicz, From Slate to Marble: Gravestone Carving Traditions in Eastern Massachusetts 1750 – 1850, Vol. 11, Grover Press, 2015, is also most informative.

E. KENDALL, Littleton MA.

Carlisle MA. Central Burying Ground. Mrs. Susanna Duren, d. Nov. 20, 1821, #64.

ENOCH KENDALL (1795-1835), Littleton. He was once in partnership with Abel Davis, another stonecutter in Littleton. This partnership was dissolved in 1819 when Davis moved to Haverhill. He carved in the tradition of the Park family (see below). The best source for this carver is the Blachowicz book listed above.

Carlisle MA. Central Burying Ground. Mr. Timothy Wilkins, d. Feb. 5, 1820, #90.

L. KENDALL, Harvard MA.

Carlisle MA. Central Burying Ground. Mrs. Mehetable Blood, d. Dec. 8, 1891, #6. It is likely "L. Kendall" is related to "E. Kendall" aka "Enoch Kendall."

THE LAMSON FAMILY OF CARVERS: NATHANIEL LAMSON (1693-1755); CALEB (1697-1760); CALEB (1760-c.1800); DAVID - was paid for stones in 1798; JOHN (1732-1776); JOSEPH (1658-1722); JOSEPH (1728-1789) and JOSEPH (1760-1808). Caleb (1697-1767) and Nathaniel carved on a reddish slate with white or pale gray/green diagonal veins. This family of stonecutters lived in the Malden/Charlestown area of Massachusetts. There are also many Lamson stones in nearby Concord, both in the Old Hill Burying Ground and South Burying Ground.

CALEB LAMSON II (1760-c.1800): Although Caleb Lamson II is thought to be the carver of the Mr. David Parlin, Jr., d. July 19, 1803, #106, gravestone, it is probably by a younger member of the Lamson family as Caleb II died in 1800 and the stone was carved in 1803.

THE PARK FAMILY OF CARVERS, GROTON MA. WILLIAM PARK, (1705-1788), GROTON, MA. Arriving in New England from Scotland in 1756, he is the father of John and Thomas. "He was the progenitor of the large Park family of carvers who did so much to shape the carving tradition in the area to the west and north of Boston. [He] is credited with two very different carving styles. The earliest stone attributed to him are ornately intricate, flatly carved markers with Darth Vader-like skulls, flat scrolls and architectural details, often with stippling or diamond cut patterning in the background. The second style is usually more deeply sculpted, and for the more elaborate examples, ornate with vines, flowers, vases, scrolls and banners. Most of these stones depict a very broad face with a narrowed, short chin, scant close-capped hair, slightly crossed staring eyes and a decidedly bulbous nose. An epitaph is often set within a frame on the lower half of the stone. (From research materials on the Lexington Old Burying Ground.)

JOHN PARK. (1731-1793), GROTON, MA. Son of William Park and brother of Thomas Park (see below), John Park arrived in New England from Scotland in

1767. A talented and versatile carver, he uses vases, urns, stubby architectural pillars, birds and ribbon banners on many of his stones. Difficult to distinguish his work from his brother, Thomas, or their sons. (From research materials on the Lexington MA Old Burying Ground.)

JOHN or/and THOMAS PARK: (1745-1806), GROTON, MA. THOMAS (c. 1745-1806) came to New England from Glasgow, Scotland in 1765. "Like his brother John, Thomas was capable of great artistry with portraits and coats of arms. He is also paid for many more ordinary stones that depict a life-like face with wings, usually with 'Memento Mori' and vine or scroll embellishments filling the bottom half of the divided tympanum. (From research materials on the Lexington MA Old Burying Ground, Laurel Gabel, 1986). His active gravestone carving years were 1765-1806.

Carlisle MA. Central Burying Ground. Mrs. Lucy Spaulding, d. April 15, 1821, #37. This stone is signed: "J. Park, Littleton" It was not carved by any of the carvers above but a member of a later generation in the Park family.

J. S., Lowell.

Carlisle MA. Central Burying Ground. Esther Hartwell, d. 1862 #101. This carver needs to be identified.

ITHAMAR SPAULDIN (1767-?)

Born in Pepperell, Spauldin married Lydia Tarbell Reed of Concord in 1795 and they made Concord their home. In 1800 he and Lydia moved to Norridgewoc, Maine. From 1795 to 1800, working with the hard greenish slate from the Harvard quarry, he produced and carved gravestones for Acton, Arlington, Ashby, Bedford, Billerica, Carlisle, Concord, Framingham, Lincoln, Lowell, Marlborough, Pepperell, Sudbury, and Ware. He also worked in Peterborough and Temple, New Hampshire. He produced three styles: moon-faced cherubs, small and large portrait stones and urn and willow. Close to Carlisle, many examples of his work can be found Concord's South Burying Ground and Old Hill Burying Ground. There is excellent information on Spauldin in Markers I, The Journal of the Association of Gravestone Studies, 1980, an article by C. R. Jones, p. 51-55 and in Markers IX, 1992, an article by John S. Wilson, p. 105-131.

Carlisle MA, Central Burying Ground. Mrs. Martha Barrett, d. Feb. 26, 1795, #16; Mary Robbins, d. April 6, 1794, #17; Capt. Issachar Andrews, d. July 16, 1796, #24; Rebekah Andrews, d. March 20, 1796, #25; Azubah Robbins, d.

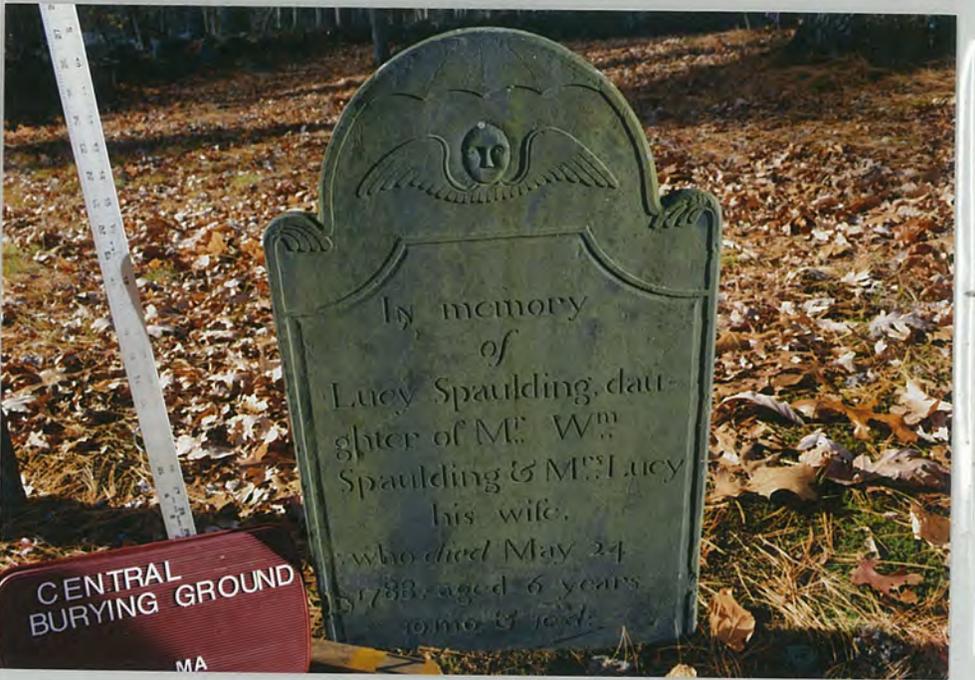
Dec. 26, 1786, #27; Mr. Thomas Spaulding, d. August 13, 1795, #30; William Spaulding, d. April 21, 1793, #40.

NATHANIEL STONE (1787-1861). Groton MA. Working in the tradition of the Park Family, and carving in the contemporary architectural style Stone opened up his first carving shop in Haverhill MA in 1830. The best source for Stone is the Blachowicz book noted above.

Carlisle MA. Central Burying Ground. Mrs. Abigail Blaisdell, d. Feb. 5, 1810, #44.



ETICALLY SIGNIFICANT STONES



CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
KEY TO MAP

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
1	BLOOD	MR. STEPHEN	N/A					
1F	BLOOD	MR. STEPHEN	N/A					
2	LANE	FRANCES	APRIL 17, 1811					
3	DICKINSON	MRS. PERSIS	JAN. 15, 1782					
3F	DICKINSON	MRS. PERSIS	JAN. 15, 1782					
4	LAW	MISS ELEANOR	DEC. 5, 1826					
4F	LAW	MISS ELEANOR	DEC. 5, 1826					
5	PROCTOR	EZEKIEL	DEC. 22, 1819					
6	BLOOD	MRS. MEHETABLE	DEC. 8, 1819				CARVER: L. KEN- DALL, HARVARD	
7	BLOOD	CAPT. STEPHEN	JULY 6, 1836					
8	BLOOD	MRS. ELIZABETH	JAN. 10, 1815					
9	BLOOD	MR. DAVID	NOV. 23, 1804					
10	ROBBINS	JOHN	MAY 21, 1831					
11	N/A	N/A	N/A					
12	ROBBINS	MRS. SIBBEL	SEPT. 4, 1821					
13	ROBBINS	DEA. EPHRAIM	JULY 29, 1820					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
KEY TO MAP

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
14	ROBBINS	AZUBAH	OCT. 11, 1810					
15	ROBBINS	MISS ESTHER	FEB. 5, 1803					
15F	ROBBINS	MISS ESTHER	FEB. 5, 1803					
16	BARRETT	MRS. MARTHA	FEB. 26, 1795				CARVER: ITHAMAR SPAULDIN	
17	ROBBINS	MARY	APRIL 6, 1794				CARVER: ITHAMAR SPAULDIN	
18	ROBBINS	MRS. SARAH	JULY 13, 1819					
19	HEALD	LUCY	FEB. 22, 1785					
20	ANDREWS	OTIS	DEC. 1, 1810					
21	ANDREWS	MARY	JULY 16, 1810					
22	FOSTER	MRS. MARTHA	AUG. 22, 1832					
23	FOSTER	LT. BENJAMIN	APRIL 2, 1819					
24	ANDREWS	CAPT. ISSACHAR	JULY 16, 1796				CARVER: ITHAMAR SPAULDIN	
24F	ANDREWS	CAPT. ISSACHAR	JULY 16, 1796					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
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12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
25	ANDREWS	REBEKAH	MAR. 20, 1796				CARVER: ITHAMAR SPAULDIN	
25F	ANDREWS	REBEKAH	MAR. 20, 1796					
26	ANDREWS	ABRAHAM	DEC. 27, 1782					
26F	ANDREWS	ABRAHAM	DEC. 27, 1782					
27	ROBBINS	AZUBAH	DEC. 26, 1786				CARVER: ITHAMAR SPAULDIN	
28	SPAULDING	ZEBULON	APR. 11, 1829					
29	SPAULDING	MARY	JUNE 9, 1803					
30	SPAULDING	MR. THOMAS	AUG. 13, 1795				CARVER: ITHAMAR SPAULDIN	
31	SPAULDING	SOLOMON	APR. 25, 1783					
31F	SPAULDING	SOLOMON	APR. 25, 1783					
32	SPAULDING	MRS. MARY	OCT. 17, 1788					
32F	SPAULDING	MRS. MARY	OCT. 17, 1788					
33	ANDREWS	MR. SOLOMON	SEPT. 18, 1778					
34	ANDREWS	EDMUND	MAY 17, 1808					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
KEY TO MAP

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
35	SPAULDING	ABEL	AUG. 7, 1802					
36	SPAULDING	MR. WILLIAM	SEPT. 27, 1825					
37	SPAULDING	MRS. LUCY	APRIL 15, 1821				CARVER; J. PARK, LITTLETON	
38	SPAULDING	WILLIAM	MAR. 17, 1797					
39	SPAULDING	LUCY	MAY 24, 1788					
40	SPAULDING	WILLIAM	APRIL 21, 1793				CARVER: "CONCORD" (ITHAMAR SPAULDIN)	
41	HEALD	SARAH	DEC. 5, 1814					
41F	HEALD	SARAH	DEC. 5, 1814					
42	HEALD	MRS. SARAH	JULY 17, 1788					
42F	HEALD	MRS. SARAH	JULY 17, 1788					
43	HEALD	JONATHAN, ESQ.	DEC. 28, 1815					
43F	HEALD	JONATHAN, ESQ.	DEC. 28, 1815					
44	BLAISDELL	MRS. ABIGAIL	FEB. 5, 1810				CARVER: NATHANIEL STONE, GROTON	
44F	BLAISDELL	MRS. ABIGAIL	FEB. 5, 1810					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
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12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
45	HEALD	ELIZA SHOBAL	SEPT. 18, 1807 JULY 16, 1810					
45F	HEALD	ELIZA SHOBAL	SEPT. 18, 1807 JULY 16, 1810					
46	BARRETT	CHAMBERLIN	SEPT. 11, 1805					
47	BARRETT	MR. HUGH CARGILL	JUNE 2, 1814					
48	JOHNSON	GEORGE W.	SEPT. 3, 1818					
49	BROWN	AARON	JULY 9, 1819					
50	BROWN	HORACE T. ERIE.	SEPT. 9, 1805 OCT. 3, 1817					
51	HEALD	LT. SILAS	JUNE 21, 1811					
52	FLETCHER	HANNAH E.	SEPT 7, 1821					
53	FLETCHER	MARY H.	SEPT 3, 1821					
54	NUTTING	SARAH	JAN. 9, 1832					
55	FIELDSTONE	UNKNOWN						
56	TAYLOR	MISS LUCY	JULY 3, 1798					
56F	TAYLOR	MISS LUCY	JULY 3, 1798					
57	TAYLOR	SARAH	MAY 13, 1815					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
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12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
58	BOYNTON	AUGUSTUS	OCT. 18, 1818					
58F	BOYNTON	AUGUSTUS	OCT. 18, 1818					
59	HUTCHINSON	MR. NATHANIEL	JULY 30, 1820					
59F	HUTCHINSON	MR. NATHANIEL	JULY 30, 1820					
60	TAYLOR	WIDOW ESTHER	AUG. 8, 1809					
61	TAYLOR	MR. NATHANIEL	AUG. 7, 1795					
62	HUTCHINSON	JOSEPH	APR. 30, 1804					
		INFANT	SEPT. 29, 1793					
		DAUGHTER						
63	DUREN	MR. REUBEN	MAY 20, 1819				CARVER: J. PARK, LITTLETON	
64	DUREN	MRS. SUSANNA	NOV. 20, 1821				CARVER: E. KEN- DALL, LITTLETON	
65	DUREN	GEORGE	MAY 9, 1804					
66	RUSSEL	LIEUT. JAMES	AUG. 17, 1801					
67	RUSSEL	LYDIA PORTER	N/A					
68	RUSSEL	MISS MARY	JAN. 15, 1799					
69	WHEAT	MRS. BETSY	NOV. 14, 1809					
70	WHEAT	LIEUT. DANIEL	JAN. 17, 1827					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
KEY TO MAP

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
71	WHEAT	MISS BETSEY	1815					
72	HEALD	ELEAZER	1812					
73	HEALD	MRS. LUCY	NOV. 20, 1822					
74	HEALD	GERSHOM	1835					
		LUCY HARRIS	1822					
		ELEAZER	1836					
		REBECCA	1831					
		HUTCHINSON						
		DORCAS	1834					
75	CLARK	JONATHAN P.	SEPT. 24, 1817					
76	SPAULDING	MRS. DORCAS	MAR. 19, 1825					
77	PARKER	LT. NATHANIEL	OCT. 17, 1802					
77F	PARKER	LT. NATHANIEL	OCT. 17, 1802					
78	PARKER	MRS. OLIVE	JAN. 16, 1817					
78F	PARKER	MRS. OLIVE	JAN. 16, 1817					
79	PARKER	CHARLOTTE	OCT. 22, 1806					
80	OARKER	NATHANIEL	SEPT. 9, 1808					
81	HARTWELL	RUFUS	N/A					
81F	HARTWELL	RUFUS	N/A					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
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12/20/16
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MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
82	HARTWELL	RUFUS	SEPT. 14, 1801					
83	HARTWELL	JONAS	SEPT. 14, 1813					
84	HARTWELL	MRS. SALLY	NOV. 7, 1819					
85	HARTWELL	MR. FRANCES	APRIL 1, 1825					
86	LITCHFIELD	REV. PAUL	NOV. 5, 1827					
86F	LITCHFIELD	REV. PAUL	NOV. 5, 1827					
87	LITCHFIELD	MRS. MARY	JULY 27, 1809					
87F	LITCHFIELD	MRS. MARY	JULY 27, 1809					
88	LITCHFIELD	MR. ROLAND	SEPT. 2, 1841					
89	WILKINS	MRS. MARY	JAN. 28, 1820					
90	WILKINS	MR. TIMOTHY	FEB. 5, 1820				CARVER: ENOCH KENDALL	
90F	WILKINS	MR. TIMOTHY	FEB. 5, 1820					
91F	P.	J.	N/A					
92	WILKINS	MRS. LUCY	AUG. 18, 1821					
93	WILKINS	MR. TIMOTHY	APRIL 28, 1812					
93F	WILKINS	MR. TIMOTHY	APRIL 28, 1812					

CENTRAL BURYING GROUND
CARLISLE MA

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MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
94	HEALD	FRANKLIN	1800					
		RUHAMMI	1805					
		AMMI	1803					
95	HEALD	MISS LUCY	MAY 17, 1819					
96	HEALD	MR. THOMAS	APRIL 14, 1843					
96F	HEALD	MR. THOMAS	APRIL 14, 1843					
97	LITCHFIELD	MR. WILLIAM	OCT. 20, 1827					
98	LITCHFIELD	RUTH	1820					
99	ROBBINS	LIEUT. JOHN	AUG. 5, 1812					
99F	ROBBINS	LIEUT. JOHN	AUG. 5, 1812					
100	ROBBINS	CAPT. AARON	JULY 26, 1821					
100F	ROBBINS	CAPT. AARON	JULY 26, 1821					
101	HARTWELL	ESTHER	1862				CARVER: J. S., LOWELL	
102	FIELDSTONE	N/A	N/A					
102F	FIELDSTONE	N/A	N/A					
103	WILKINS	MRS. MARGARET	FEB. 21, 1790					
104	WILKINS	LIEUT. ISAAC	JAN. 10, 1826					
105	WILKINS	MARY	FEB. 6, 1806					

CENTRAL BURYING GROUND
CARLISLE MA

PRESERVATION MASTER PLAN 2016:
KEY TO MAP

12/20/16
FANNIN•LEHNER

MAP #	LAST NAME	FIRST NAME	D. OF DEATH	TYPE	MATERIAL	TREATMENT	NOTES	PR/COMP
106	PARLIN, JR.	MR. DAVID	JULY 19, 1803				CARVER: CALEB LAMSON II	
106F	PARLIN, JR.	MR. DAVID	JULY 19, 1803					
107	NICHOLS	REBECKAH	1805					
107F	NICHOLS	REBECKAH	1805					

CENTRAL BURYING GROUND

**COST ESTIMATE FOR CONSERVATION OF
GRAVESTONES AND MONUMENTS**

Total number of gravestones and monuments, requiring conservation as
determined by assessment----- 73

Estimated cost of conservation of 73 gravestones and monuments, including
expenses: ----- \$40,000

*These estimates are based upon 2016 costs and no inflation factor has been
included.

CENTRAL BURYING GROUND

EXPLANATORY NOTES FOR CONSERVATION COST ESTIMATES

1. Cost Estimates – The cost estimates state the expense of conserving gravestones, footstones and monuments in Central Burying Ground.
2. Professional Services - The estimate of conservation costs is based upon Fannin • Lehner’s analysis of the professional time requirements for conservation efforts using the firm's experience gained over twenty-eight years of historic burial ground conservation. The figures reflect the firm’s estimated labor costs, and expenses for the conservation of the gravemarkers along with the requisite documentation. In this documentation, Fannin • Lehner Preservation Consultants provides for each conserved gravestone or monument “before and “after” photographs as part of a conservation form on which is recorded a summary of the markers’ deficiencies and all conservation procedures employed, the complete inscription and epitaph (if one exists.) The completed conservation forms and photographs would comprise the report to the Carlisle Historical Commission.
3. Expenses - An estimate for expenses is included in the cost of conservation figure. These expenses include conservator’s supplies (adhesives, pins, material for new bases, etc.), along with photographic, administrative, crew labor and other costs associated with the project and the report.
4. Expenses not included in the expense estimate - The costs estimated do not include a supply of sand and peastone for resetting stones or water for cleaning markers, the removal from the site of excess soil excavated from around and under stones and monuments. The cost of lifting equipment to move, disassemble and reassemble large markers and monuments is also not included in the expense estimate. These are all items normally supplied by the client and coordinated by Fannin • Lehner Preservation Consultants. Monument companies, coordinated by Fannin • Lehner Preservation Consultants, may also be contracted for the heavy lifting portion of conservation, which would involve larger gravestones and monuments.

CENTRAL BURYING GROUND

GRAVESTONE AND MONUMENT DETERIORATION

Causes of Deterioration

Gravestones represent some of the earliest examples of sculptural art created in America. Despite this, they exist in a basically hostile environment, one far different from other precious art objects. In Carlisle, Massachusetts, as elsewhere in New England, the effects of freezing and thawing are particularly severe. In the summer months stone temperatures often exceed 120 degrees while in winter, -20 degrees is not unusual. Many of the gravestones and monuments difficulties result from their existence in this harsh climate; others result from acts of individuals, both careless and deliberate.

Environmental

Freeze/Thaw Damage. The classic problem experienced by markers is tilting and eventually falling or breaking off. The frost depth in Carlisle is below the bottom of almost all of the markers and foundations, where these exist. Over the years, frost pushes the stones upward; they become unstable and eventually fall. In addition, tabletstone markers, which have no base but are set directly into the earth are weakened at the freeze/thaw line along the ground level and often fail at that point when they tilt. As a rule of thumb, any tabletstone that is tilting more than 1" to 1 ½" out of plumb should be reset. The Central Burying Ground has a large number of slate stones, each having a laminar (layered) composition, which provides opportunities for water to seep between the layers. The moisture then freezes and forces the layers apart (delamination) during cold weather.

Deterioration of Marble and Limestone Due to Acidic Attack. Calcareous stone (stones containing substantial amounts of calcium - including marble and limestone) is subject to degradation due to the acidic environment in which it exists. This type of marker loses surface in such a way that "sugar decay" is the

term used to describe the results of the degradation. As more mass is lost to the acidic environment, the inscription is ultimately obliterated and the marker becomes thinner and weaker. There are not many marble markers but those that exist suffer from varying degrees of this type of deterioration.

Deterioration of Slate Markers Due to Inherent Weakness of the Stone. Some slate markers in the Central Burying Ground had incorporated into their makeup layers of ferrous material when they metamorphosed from the shale that was the original sedimentary stone source. This ferrous inclusion has now oxidized (rusted) resulting in the slate coming apart in those rusting areas. Since the inscription is carved only 1/8" deep, a thin layer of stone lost from the face of a slate marker can render it unidentifiable. About a half dozen markers with delaminations have been identified in the Central Burying Ground.

Topography. The types of soil and slopes in some cemeteries contribute to the instability of gravestones and monuments. Over time, the effects of erosion and the migration of soil down slopes destabilizes some markers causing them to tilt and some to fall. There is evidence of this on the sloping sections of Central Burying Ground.

Biological Degradation. Stones of all types are subject to biological activity, including fungal, algae and lichenous growth, mosses, vines and bird droppings. Lichens produce oxalic acid that can cause surface loss, particularly in marble and limestone. As lichen, etc., need relatively clean air to thrive, biological growth is a serious problem in the Central Burying Ground. If biological growth is covering a stone so as to obscure the inscription, it is recommended that the marker be cleaned.

Trees and Plantings. These can be both intentional and volunteer and often cause great harm to gravestones. Falling branches and tree trunks can devastate a number of markers and the action of roots frequently causes stones of all sizes to tilt, fall and shatter. Trees present a definite problem in the Central Burying Ground. Shrubs that were originally small and decorative may grow to the point where they are encroaching on the gravestones and monuments. These oversized shrubs should be pruned back well away from stones or removed completely. Any stump remaining after removal of a tree or large shrub should be ground.

Manmade

Vandalism. The Central Burying Ground has a few stones that display examples of this type of damage, which may have occurred some years ago. Evidence of this scourge of burying grounds is present in traumatically broken stones which otherwise would not have fallen. A couple of markers in the Central Burying Ground have been vandalized. Maintaining a yard in good condition is considered to be the best deterrent to vandalism. Still, instances occur so the markers need frequent monitoring.

Grounds Maintenance. With the time and financial pressures faced by cemeteries, larger and faster mowers have been brought into the burial grounds and substantially closer passes made to avoid time-consuming trimming. This has caused an increase in the number of mower strikes found in almost all cemeteries. While not usually "fatal" in that they don't cause immediate failure of the marker, the chipping found at the lower edges and the deeper scratches provide openings in the stone envelope, which allow the penetration of water. This can eventually be very detrimental to the long-term survival of the gravestones. Overall there has been quite careful grounds maintenance in the Central Burying Ground. Still, occasional discussions with the grounds maintenance crew regarding the fragility of old gravestones and monuments are recommended.

The use of string trimmers around gravestones has been debated for some time. On softer stones such as sandstone and to some degree, slate and marble, there is concern that damage can result from long-term use of these units. The use of string trimmers around stones assists greatly in the reduction of the mower strikes that cause such major damage to markers. Although more time is required to maintain the cemetery, the need for frequent conservation is greatly reduced.

Fannin • Lehner Preservation Consultants recommends against using herbicides (such as "Roundup") around gravestones and monuments for two reasons. First, it leaves a "dead zone" around the marker, which turns to mud in rain and splashes considerable dirt onto the stone. This provides a perfect medium for the propagation of biological growth on the marker, which is detrimental to the stone and ultimately obscures the carving. Secondly, there is a growing concern that herbicides, defoliant, fungicides and fertilizers may have a very detrimental long-term effect on gravestones. Unfortunately, there is only the

smallest beginning of research into this matter, but "less is more" is the most prudent course when these interventions are considered.

Previous Stone Repair. Over the years a standard well-meaning repair of markers broken off parallel to the ground was to stand them in a bed of concrete poured into a hole dug into the ground. Experience has proved that the differential expansion of this very hard concrete and the softer stone it surrounds can cause eventual failure of the marker, although this may require many years to transpire. Another common repair has been the strapping of broken stones with iron straps and bolts. Due to the rusting and subsequent expansion of the iron bolts, these repairs have caused further fragmentation of stones. Repair of broken markers with concrete or other inappropriate adhesives, which then fail, often results in substantial time-consuming work on the part of a stone conservator to remove these materials before proper conservation can be initiated.

CENTRAL BURYING GROUND

STONE CONSERVATOR: TECHNICAL RECOMMENDATIONS FOR PROJECT COMPLETION

SECTION I - GENERAL

A. STANDARDS OF PRACTICE -- All work performed should be accomplished in accordance with the Code of Ethics and Standards of Practice of the American Institute for the Conservation of Historic and Artistic Works (AIC). Conservators not holding membership in AIC should secure these documents and utilize them for guidance during the project.

For projects in the Commonwealth of Massachusetts, a burial ground permit must be obtained from the Massachusetts Historical Commission, Archives Building, 220 Morrissey Boulevard, Boston MA 02125, ATTN: Burial Ground Officer. To satisfy the requirements of this permit, a photocopy of the completion report must be transmitted to the Massachusetts Historical Commission.

B. DOCUMENTATION -- The stone conservator is responsible for the documentation of all conservation work he/she executes. All work done by the conservator must be documented thoroughly with "Before" and "After" photographs along with a two-page inventory form similar to the one included with these materials. All conservation procedures performed will be described on the form and a complete inscription included. All forms become the property of the Carlisle Historical Commission.

SECTION II – BASIC PROCEDURES

A. PREPARATION -- Of primary importance in the performance of any conservation procedure is extremely thorough preparation of the gravestone or monument as well as the site. Resetting requires careful attention to the preparation of the hole into which the base of the stone is set along with meticulous care in setting the stone level and plumb. Adhesive repairs require clean, degreased and dry surfaces and careful adherence to temperature restrictions of the repair material. When performing conservation procedures there is no substitute for careful, thorough preparation.

B. CLEANING -- Washing with water and scrubbing with soft to medium bristle brushes can dramatically improve the appearance of many gravestones and monuments. It is important to gently remove biological growths such as algae or lichen as they trap moisture against the stone.

All markers must be entirely and thoroughly cleaned before conservation procedures, including resetting, are undertaken. Washing with water at hose pressure, using brushes is permissible. Pressure/power washing of the soft stone markers (marble, slate, and sandstone) is not allowed due to the adverse and irreversible effects of this method. Use of a non-ionic detergent such as Photo-Flo 200 (Kodak) is permitted. D/2 Biological Solution is a very effective product for stone cleaning and is in widespread use by gravestone preservation professionals. (See Advanced Cleaning, Page 3) When using D/2, it is very important to follow the application guidelines noted by the manufacturer.

C. RESETTING -- This is a basic procedure to prevent serious damage to tilting markers. It involves the excavation of the stone and resetting in a sand and peastone mixture, which is carefully compacted and provides the proper support and drainage. Tabletstones, small monuments, etc., which require resetting will be reset in a 1:1 sand/peastone mixture. A large enough excavation must be made to allow the stone to be supported on all sides by this mixture. There must be a minimum of 3 inches below the bottom of any tabletstone and 10 inches

below the base of any monument. The mixture must be wet down and compacted thoroughly in 4-inch lifts to make certain complete compaction takes place. All markers must be level and plumb after resetting.

In no case should marble, slate, soapstone or sandstone fragments be placed in concrete due to the deleterious effects of this method. Stones currently set this way generally should be left as is, unless the concrete is failing, since attempts to free the marker can result in even more damage to the stone.

SECTION III – ADVANCED PROCEDURES

A. ADVANCED CLEANING -- Conservation cleaners are available specifically designed for stone and similar materials, e.g. Vulpex. D/2 Biological Solution, (Available from A.H. Harris and Co. with offices in New England, Mid-Atlantic and the Southeast. Website: ahharris.com) is a very effective product for stone cleaning and is in widespread use by gravestone preservation professionals. When using D/2 it is very important to follow the application guidelines noted by the manufacturer. Calcium hypochlorite is a useful chemical for elimination of biological growth on gravestones. It should be used in a solution of 1 oz. to 1 gallon of warm water. Since the solution may react with some elements within a stone, careful testing through the use of test patches is strongly advised.

The goal is to remove atmospheric dirt and biological growth, not to return the stones to "like new" coloration. On any surfaces to be adhesively repaired, final cleaning with acetone after initial cleaning with water is required to assure proper bonding.

B. ADHESIVE REPAIR -- For repairs of any stone type, surfaces to be adhered must be clean and free of all contaminants. The stones should be initially cleaned with water and a non-ionic detergent (Photo-Flo 200, Vulpex or D/2), then the faces of the break cleaned with acetone. Care should be taken to avoid any handling of cleaned break faces before the adhesive is applied once the acetone application has been completed.

SLATE: Repair should be made using Akemi Akepox 2010 Knife Grade stone epoxy (available from Stone Boss, Inc. 888-868-BOSS) or equal as submitted to and approved in writing by the client.

MARBLE: Repair with epoxy alone will be performed with "Barre-Pak" two-part stone epoxy (available from Miles Supply, Barre VT 802-476-3963) or Akemi Akepox 2010 Knife Grade stone epoxy or equal as submitted to and approved in writing by the client.

SANDSTONE: Repair with epoxy alone will be performed with "Barre-Pak" two-part stone epoxy (available from Miles Supply, Barre VT 802-476-3963) or Akemi Akepox 2010 Knife Grade stone epoxy or equal as submitted to and approved in writing by the client.

REQUIREMENTS FOR ADHESIVE REPAIRS: Extreme care must be taken to keep a minimum of adhesive from squeezing onto the face or back of the stone during the procedure. Any adhesive that does squeeze out of the break must be removed before it sets up using a solvent for epoxy adhesive, such as acetone. Utilizing the "squeeze" as infill and grinding it down when set is not recommended. For sandstone the adhesive should be applied in dots, not spread over the surface to permit moisture to pass through the repair. Clamp all repairs for a minimum of 8 hours.

Previous Repairs: Often there will be adhesive or concrete covering the faces of the breaks. In order to have a successful repair, this material must be removed from the break faces to the maximum extent possible. Usually this requires careful removal with a hammer and chisel. Since new adhesive needs stone to adhere to and will not adhere to old adhesive, this is a most necessary step. Grinding them down may reduce very thick layers, but removing the last portion should be done by hand.

Previous repairs that are holding should be treated very carefully in order to preserve the bond. This includes cleaning, resetting, drilling and other procedures that might cause the repair to fail.

C. **BLIND PINNING** -- The gravestone conservator is responsible for determining when drilling and blind pinning is necessary in the conservation of damaged stones. Slate stones are rarely pinned, especially under field

conditions. Usually, broken marble, limestone and sandstone gravestones and monuments are pinned.

Pins used will be consistent with the pinning technique selected and secured in place with an appropriate adhesive such as Akemi AkepoX 2010 knife grade stone epoxy as available from Stone Boss Inc. (888-868-BOSS). Pin materials may be fiberglass (Available online from: www.trippplastics.com), stainless steel, carbon fiber and bronze. No aluminum, copper or iron pins are permissible.

D. MORTARING INTO A BASE -- Markers will be reinserted with mortar into the slots of their original bases, if in the judgment of the gravestone conservator, the slot will properly support the stone. The mortar utilized must be a moderately soft, high lime type to permit expansion and contraction of the stone while continuing to hold it in place. A formulation of 3 parts Type I/II white Portland cement, 2 parts hydrated lime and 8 parts fine sand or 1 part cement, 4 parts hydrated lime and 8 parts fine sand are two recommended mortars. Limeworks Ecologic Mortar (www.limeworks.us) is a good premixed mortar for this purpose. Straight cement or other commercial pre-mixed mortars should never be used for this procedure as they are much too hard and may cause serious damage to these soft stones over time.

E. REPLACEMENT BASES -- In cases where replacement bases are necessary to reerect a marker, a base will be cast from concrete (Sakrete Concrete Mix, Quikrete Concrete Mix or equal) with a slot set into it that is sized to contain the stone with sufficient space around it to permit solid packing with soft, high-lime mortar. Slot forms can be constructed of Styrofoam and removed just prior to mortaring in the stone. Bases must be of a size to securely support the stone. Replacement bases are to be set in the ground with the top 1-3 inches below grade in a sand/peastone mixture (minimum 4" below and 2" on all sides.)

Forms may be made from scrap lumber or a reusable form with hinged sides. In cases where the stone to be inserted into the replacement base is very large, a bigger base should be cast in the ground with width and breadth dimensions that provide for a broad, stable foundation for the stone. 1"x 8" lumber is recommended for the form. The top of in-ground bases should be 1 to 2 inches below grade and a base of at least 4" of well-compacted sand and peastone should be provided.

The mortar to hold the stone in the slot must be of a soft or moderately soft high lime type to permit expansion and contraction of the stone while continuing to hold it in place. A formulation of 3 parts Portland cement, 2 parts hydrated lime and 7-8 parts fine sand is one that is recommended. Limeworks Ecologic Mortar is an excellent premixed mortar for this purpose. Straight cement or any other commercial pre-mixed mortars should never be used for this procedure as they are much too hard and may cause serious damage to these soft stones over time. In some cases, where the size and design of the damaged original base is known, new matching marble or granite replacement bases can be obtained through a monument company.

F. DELAMINATIONS -- Layered stones, particularly slate and sandstone sometime open up along the plane of the layers, an unfortunate event referred to as delamination. For stable delaminations the treatment is a fill or profile cap (The cap conforms to the profile of the stone and is not particularly visible.)

Tacking: Delaminations that move when tested must be stabilized or any capping will quickly fail. Using an adhesive such as Akepox 2010 gel at several spots along the delamination usually stabilizes it so a mortar cap/fill will stay in place for an extended period.

Stabilization: Delaminations on the face or back of a stone, particularly slate, can be treated (stabilized) using either gel or liquid adhesive. Care should be taken to clean the pieces to be joined as thoroughly as possible on the surfaces where adhesive is to be placed. Rundown of the adhesive should not be permitted. Infills and capping along the treated areas may be necessary.

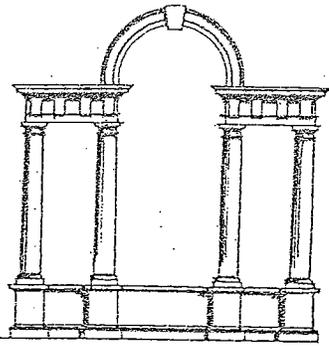
G. INFILLS -- Areas of loss along breaks must be infilled in a neat and workmanlike manner using a cementitious material, which closely matches the stone being patched. For marble, an infill material consisting of 2 parts white Portland cement, 1 part hydrated lime, and 7 parts marble dust (calcite grains) or white sand is recommended. For slate, a mortar consisting of 2 parts gray cement, 1 part hydrated lime and 7 parts very fine dark sand may be used. For sandstone, a mortar consisting of 2 parts gray cement, 1 part hydrated lime and 7 parts colored mortar aggregate is acceptable. All infills must be kept moist for 48 hours to assure proper curing. Use of Natural Hydraulic Lime (NHL) mortars

(U.S. Heritage Co. - usheritage.com) for infills is another material that performs well. More time is needed for curing of lime mortars and freezing during curing must to be avoided. Other formulations regularly used by the conservator are acceptable alternates, including Jahn Patching Mortars (Cathedral Stone Co., (800) 684-0901), and Edison Coating products Custom System 45 and Rosendale Mortars (Edison Coatings, Inc. (800) 697-8055) and Limeworks St. Astier Lithomex Repair Mortars as long as they meet the color guidelines.

H. FRAGMENTS -- Whenever possible, slate fragments should be readhered to the marker in a neat fashion, using approved adhesives and providing infills if aesthetics or water shedding needs require. Small infills for slate may be done as noted in Section G. When attaching fragments to marble and sandstone, whenever possible they must be drilled and pinned. Very small infills for marble may be created from white Portland cement and lime, while larger ones must have a proper colored aggregate added to preclude shrinking. Tinting of infills is permitted within limits specified by the manufacturer of the colorant. Limeworks St. Astier Lithomex Repair Mortars, Jahn Marble Patching Mortar or Edison mortars may be used for infills if color match is acceptable. (See Section G.)

Backer: When fragments are too weak for a successful adhesive repair, a “backer” stone of similar size and material is sometimes used to permit the fragments to be joined. Marble and sandstone should be drilled and pinned when attached to a “backer stone”. The procedure is to adhere the fragments to the “backer” stone and then reset the repaired stone. This “backer” may be only along the immediate repair area or it can be long enough to permit resetting the repaired stone in sand and peastone. In addition, a slotted concrete base can be utilized to secure the “backer” and attached fragments in a vertical position.

I. STONES IN TREES/ROOTS: -- Stones trapped in tree roots or tree trunks are extremely difficult to remove. Care must be taken not to seriously injure the tree during the stone removal attempt. Aggressive efforts may be undertaken if it is decided to remove the tree. A chain saw can be very helpful in effecting a removal, but chisels, hammers, hand saws (arborists), pry bars, and 2” x 4” boards are also useful in removing a stone.



FANNIN • LEHNER

PRESERVATION CONSULTANTS

April 7, 2007

Paul Holtz, Historical Architect
Massachusetts Historical Commission
Archives Building
220 Morrissey Boulevard
Boston MA 02125

Dear Paul,

Pursuant to your memo of October 14, 1994 regarding limited scope conservation work in cemeteries, Fannin • Lehner is submitting this notification of limited work to be undertaken in the Old Burying Ground, Brookline MA during the field season of 2007. The work to be accomplished includes resetting, drilling and blind pinning, cleaning, adhesive repair and the conservation and resetting of several large monuments and obelisks.

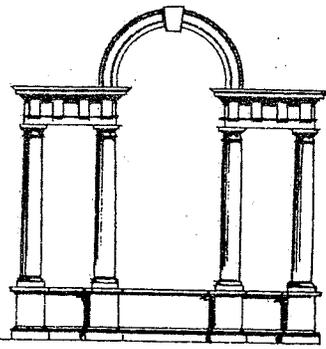
The Old Burying Ground project is sponsored by The Friends of the Old Burying Ground with the cooperation of the Parks and Open Space Division. A report on the conservation of the markers will be forwarded to you by the end of March 2008.

If you have any comments or questions, please let me know.

Sincerely yours,


James C. Fannin, Jr.
Senior Associate

cc: Mrs. Dorothy Baldini, Friends of the Old Burying Ground
Erin Chute Gallentine, Parks and Open Space Division



FANNIN • LEHNER

PRESERVATION CONSULTANTS

December 19, 2016

Paul Holtz, Historical Architect
Massachusetts Historical Commission
Archives Building
220 Morrissey Boulevard
Boston MA 02125

Dear Paul,

Fannin • Lehner performed a limited scale conservation project on gravemarkers in the Second Burying Ground, North Andover, Massachusetts during the past two field seasons. The work involved cleaning, resetting, adhesive repair of tabletstones, casting new bases and mortaring stones into them and erecting a fallen obelisk. This work was completed under the sponsorship of the North Parish Church with the goal of conserving the burying grounds historic markers for the edification and enjoyment of future generations.

Enclosed with this letter is an updated condition assessment list noting the stones conserved and photocopies of the 40 conservation forms from the project.

If you have any comments or questions, please let me know.

Sincerely yours,

Jim Fannin

James C. Fannin, Jr.
Senior Associate

cc: Debb Putnam, North Parish Church
Kathy Stevens, North Parish Church

Fannin•Lehner Gravestone Conservation Form - Page 1
Cemetery: Central Burying Ground, Carlisle MA

Record Date:

Name:

Date of Death:

Marker Type: Headstone Detail: _____

Stone Carver: _____

Material: Slate Other: _____

Carved Surfaces: Front

Motif: Winged Face Detail:

Border: Simple Detail

Carving: Clear but Worn

Bases: None Other: _____

Ref / Sec:

Orientation: N

No. of People Commemorated: 1

Dimensions: (In) W H D

Digital: Before Set: 1 Photo

Digital: After Set: 1 Photo:

CONDITIONS _____

Sound:

Broken: _____

Tilted Details:

Previous Repair: None Evident

Detail: _____

Chipped:

Cracked: _____

Biological Activity

Soiling/Stains:

Delamination: _____

Sugar Decay: Detail:

Flaking: Detail: _____

Fragments: _____

Losses: Original pins

NOTES: _____

Before Photo

Fannin•Lehner Gravestone Conservation Form - Page 2
Cemetery: Central Burying Ground, Carlisle MA

Name: **Date of Death:** **Ref/Sec:**

Conservation Notes:

Inscription:

After Photo:

Fannin•Lehner Gravestone Conservation Form - Page 1
Cemetery: Old Burying Ground, Cambridge, MA

Record Date: August 6, 2015

Name: Moore, Francis

Date of Death: Aug. 20, 1671

Marker Type: Footstone **Detail:** _____

Stone Carver: _____

Material: Sandstone **Other:** _____

Carved Surfaces: Front

Motif: None **Detail:** _____

Border: None **Detail:** _____

Carving: Clear but Worn

Bases: None **Other:** _____

Ref / Sec: M-1133/1134

Orientation: E

No. of People Commemorated: 1

Dimensions: (In) W 20 H 13 D 4

Negative: Before-Roll: 2 Photo: 197-9796

Negative: After-Roll: 6 Photo: DSC-0043A

CONDITIONS _____

Sound: _____

Broken: Yes- proper left shoulder

Sunken Details: Yes

Previous Repair: Adhesive Repair

Detail: Front to back- failed. Date of attempted repair unknown

Chipped: Along edges

Cracked: Horzintal crack from proper right edge

Biological Activity: Heavy lichen, algae

Soiling/Stains: Atmospheric, biological

Delamination: Total delamination of front to back

Erosion: **Detail:** Moderate

Flaking: **Detail:** Yes

Fragments: Three

Losses: Along break

NOTES: _____



Fannin-Lehner Gravestone Conservation Form - Page 2
Cemetery: Old Burying Ground, Cambridge, MA

Name: Moore, Francis Date of Death: Aug. 20, 1671 Ref/Sec: M-1133/1134

Conservation Notes: 8/16/15- 1) Footstone excavated. It had completely delaminated front to back. There was an earlier repair, which had failed. 2) Remnants of earlier repair removed. 3) The two fragments, plus a shoulder fragment, treated with D2 Biological Solution to help remove heavy lichen and algae and retard future biological growth. 8/7/15- 4) In the beginning of the workday, an adhesive repair, using Akepox 2010 Stone Epoxy, was effected between the two fragments. A this time, a fragment was re-attached to the proper left shoulder, 5) At the end of the day, the footstone was reset, level and plumb, in well-compacted sand and peastone. 4/27/16- Infill along the break using St. Astier's Lithomex "White Marble." 9) Sod replaced around footstone.

After Photo:

Inscription:

FM



CENTRAL BURYING GROUND

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Bell, Edward H. Vestiges of Mortality and Remembrance: A Bibliography on the Historical Archaeology of Cemeteries. Metuchen, New Jersey: Scarecrow Press, 1994. (A helpful bibliography divided into five categories of which No. 3 "Deathways, Ethnography and Theoretical Perspective" and No. 4 "Gravemarkers and Cemetery Landscapes" would be the most useful to preservationists. It also has a subject index of more specific topics.)

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CENTRAL BURYING GROUND

SELECTED GLOSSARY

This glossary attempts to clarify the meaning of terms commonly used in the field of gravestone conservation.

Acidic Deposition: Laying down of acidic matter, either wet or dry on a marker's surface.

Atmospheric Soiling: Combustion products such as soot, as well as dust.

Adhesive Repair: Rejoin fragments using appropriate adhesives.

Backer Stone: A stone similar in type and size to the original fragmented gravestone onto which fragments are adhered to provide sufficient length and strength for either resetting in sand/peastone or mortaring it into a base.

Base: Usually used with marble headstones. Often made of marble, sandstone or granite into which a slot has been cut and the marker mortared in. Bases also may be multiple with the die (see below) pinned to the top one. We call the base immediately below the die Base #1, the next lower Base #2, etc. Occasionally new concrete slotted bases have to be made for slate and marble gravestones if they are broken off at ground level and an adhesive repair is not feasible. These new bases are set with the top just below grade and covered with earth after the stone is mortared into the slot.

Blister: Air spaces that form slightly below the surface of the stone and eventually cause the top layer to slough off.

Calcareous: Composed of, containing or characteristic of calcium carbonate, calcium or limestone. Marble is a calcareous stone.

Cap: Placing a cementitious mortar cap along a delaminated area of a stone to prevent direct water infiltration.

Cementitious: Repairs and infills made with a cement-based product, not an adhesive or caulk.

Crack: Narrow fracture or break across or through a material, either straight-line or branching in form.

Delamination: Peeling away or separation of layers of stone that were previously a solid mass.

Die: The upper portion of a gravemarker, which stands upon a base or bases, and usually carries the identification or inscription.

Efflorescence: Crusty accumulation of salts or minerals on the surface of stone.

Ferrous: The inclusion of iron in the matrix of a stone which, when it oxidizes (rusts), can cause the stone to lose portions of the surface or even come completely apart in multiple fragments.

Fragment: A portion of a gravestone, which can be large or small.

Granite: A very hard igneous rock, with a somewhat speckled appearance; its surface can range from a rough, naturally occurring finish, to a highly polished one. Colors range from white to black, red, pink, or brown.

Marble: A dense crystalline or granular metamorphosed limestone (Calcareous); it is usually white or grayish with black mottling and streaks, but can be red, green, pink, etc.

Mortar into Base: Reinsertion of marker into existing slotted base or new slotted cast base and securing it using a high lime content cementitious mortar.

Pin: Reinforcing an adhesive repair by drilling the fragments and inserting rods (pins) to strengthen the connection and contain shear forces. Pins may be stainless steel, fiberglass or carbon fiber.

Previous Repair: Adhesive or concrete left on the fragments of a broken stone from previous attempts to repair a break. This material must be removed from the faces of the break before any further repairs, as stone adhesive must have stone material in order to work properly.

Raised: The gravemarker is sitting much higher in the ground than originally intended.

Repin: Reuse loose rods (pins) that were originally used to stabilize a marker.

Reset: Excavate and carefully set level and plumb (in a compacted sand/peastone mixture) a marker or base, which is tilted or out of the ground.

Setting Compound: A putty-like material that is placed between elements of a monument to hold them in place. The compound is rolled into “ropes” and set along the edges of the elements so that some of the compound squeezes out. (See Setting Cushions).

Setting Cushions: Square, ($\frac{3}{4}$ inch) pieces of flat plastic in varying thicknesses (1/16”, 1/8”, 1/4”) placed under the corners of elements of a monument in conjunction with setting compound. This prevents the entire compound from being squeezed out, and leaves a neat “seam” after the compound that squeezes out is cut off.

Slate: A relatively soft metamorphic stone, which has a layered composition.

Sugar Decay: A calcareous stone (most frequently marble) whose surface is roughened due to attack by the acidic environment (see Acidic Deposition). As the process advances, the carving of both the design and the inscription become gradually fainter and eventually illegible.

Tack: Applying adhesive in several locations along a delamination to stabilize the layers before cementitious capping is applied.

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