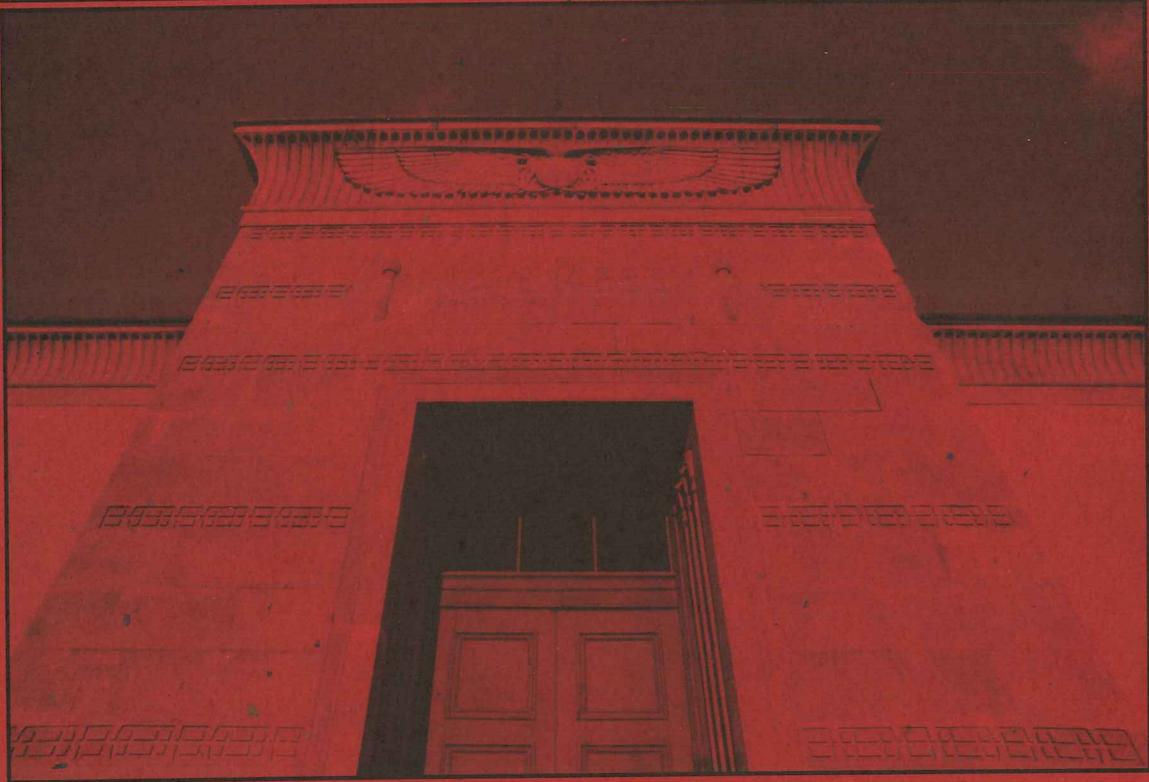


A Restoration Plan for the



*M*ASONIC CEMETERY

and

HOPE ABBEY *M*AUSOLEUM
EUGENE, OREGON DECEMBER 1995





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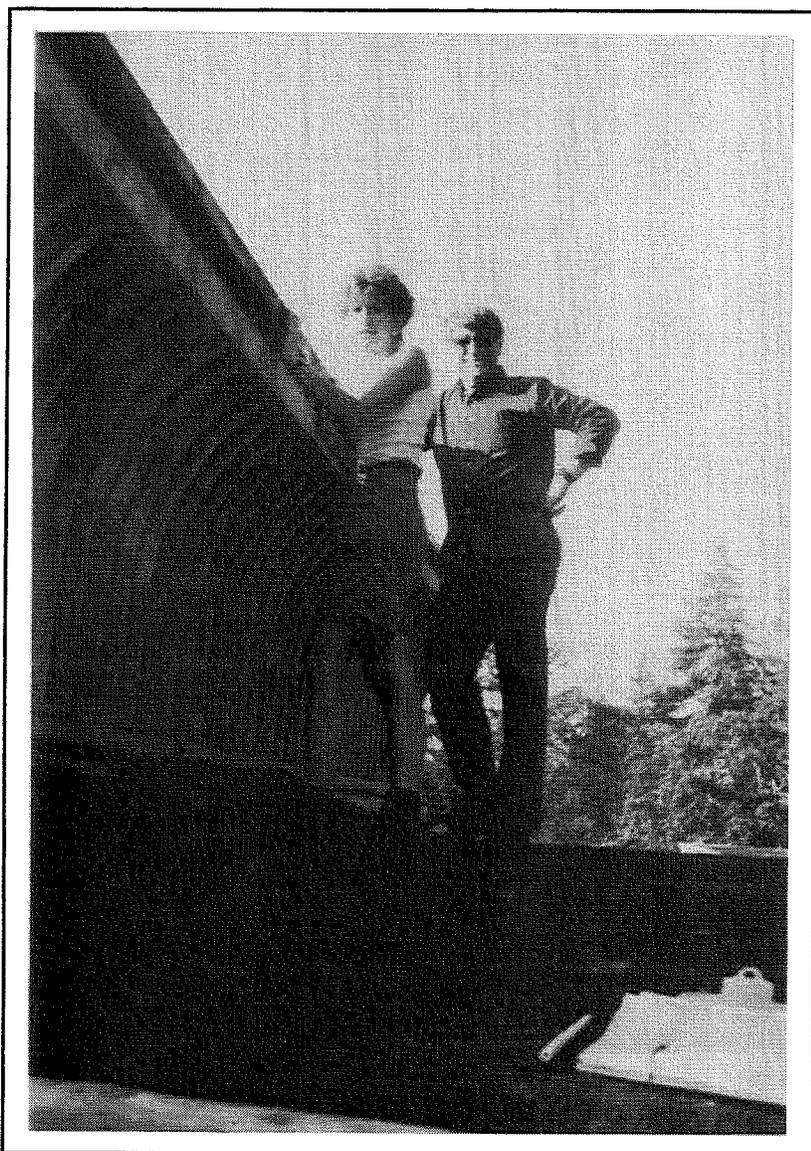
DECEMBER 1995

This project has been funded in part by a grant from the
National Trust for Historic Preservation.

Eugene Masonic Lodge #11
provided supplemental funds for completion of this project.

ACKNOWLEDGMENTS

We would like to thank those individuals and groups who contributed their time and energy to this project. Councilwoman Barbara Keller initiated neighborhood efforts and galvanized support from the City of Eugene. Jim Johnson, Executive Director of Eugene Library, Recreation, and Cultural Services, contributed staff support and promoted the project to the Eugene City Council. Kenneth Guzowski, Assistant Planner for the Eugene Planning and Development Department, provided invaluable support. His feedback, assistance, enthusiastic cooperation and personal attention played an important role throughout the various stages of research, documentation and production. Our appreciation also goes to the Eugene Masonic Cemetery Association for its support. Particular individuals from that group who deserve special recognition include President Kay Holbo for her leadership and organizational skills, Alice Adams for sharing her extensive knowledge about the cemetery's history, and Rich Fish for representing the support of the Eugene Masonic Lodge #11. Professional expertise was contributed by Chris Luebke on concrete construction, as well as Tom Giesen and Dixie Maurer-Clemons for identifying cost ranges for treatment. We extend our warmest thanks to these groups and individuals for their roles in supporting the preservation of one of Eugene's finest cultural resources.



Donald Peting
Richa Wilson

Richa Wilson (left) & Don Peting (right), the consultants

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1.0 ADMINISTRATIVE BACKGROUND

The Masonic Cemetery and Hope Abbey Mausoleum, both of which are listed on the National Register of Historic Places, were owned and operated by Eugene Masonic Lodge #11 since 1859. In February of 1995 the property was deeded to a newly-formed non-profit organization named the Eugene Masonic Cemetery Association.

This preservation plan has been developed for the cemetery and mausoleum with the assistance of the City of Eugene and the Eugene Masonic Cemetery Association. This project has been funded in part by a grant from the National Trust for Historic Preservation. Additional funds were contributed by the Eugene Masonic Lodge #11.

Efforts toward the preservation of the cemetery and mausoleum have been underway during 1994 with the support of the City of Eugene, the University of Oregon Historic Preservation Program, the Lane County Historical Society, and Lane Community College. Work parties were organized to cut back rampant vegetation and clean the mausoleum over the past year. Grave marker repair is currently being conducted by the Eugene Granite and Marble Works in conjunction with volunteers from the community and the University of Oregon Historic Preservation Program. Preservation consultant Sally Donovan was hired to conduct a survey of the gravemarkers and significant features during fiscal year 1994-95. Ms. Donovan taught a new course on cemetery preservation and survey methodology Spring term of 1995 in the University of Oregon Historic Preservation Program. A class from Lane Community College identified and documented native plants during the Spring of 1995 under the direction of Dixie Maurer-Clemons. George Jette of the Masonic Cemetery Association is developing landscape plans for enhancements of the entrances and public spaces at the cemetery. The Eugene Masonic Cemetery Association is developing a database of plot owners.

Contact was made with people who have relatives buried in the cemetery. Beginning with a ten-year old list of 60-70 family members, this list was updated and expanded to include 275 family members. This contact was part of a fundraising effort in early 1995, which raised a working budget for the year and established a donor base of 175. Contributions came from 100 neighbors, 50 family members, and 25 people from the general community.

This document presents guidelines and recommendations for preservation of the Eugene Masonic Cemetery and Hope Abbey Mausoleum. Section 2.0 is a project overview, including a brief history, methodology, and an executive summary. Section 3.0 focuses on the Hope Abbey Mausoleum, while Section 4.0 addresses the Masonic Cemetery. These latter two sections consist of condition assessments, treatment recommendations, ranges of costs, and maintenance guidelines. The primary focus of the plan are the mausoleum and the built elements of the cemetery, such as curbs, fences, and grave markers. General recommendations are made for contemporary design issues and landscape features such as views, vegetation, and circulation. Finally, Section 5.0 presents suggestions for future research.

2.0 PROJECT OVERVIEW

2.1 Historical Background

Early History

The Eugene Masonic Cemetery was established on land originally received as part of a 320-acre Donation Land Claim by Fielding McMurray in 1850. By 1854, the Point of the Hills School was founded by McMurray and built at the northwest corner of the present-day cemetery. Classes were taught by Sarah Ann Moore in this one-room log structure, which was the first private school in the newly-incorporated Lane County.

While it is believed that burials had taken place on McMurray's land during his early years of ownership, the date of the first recorded burial is 1854 when 22-year old Elizabeth H. Parsons was laid to rest. A search for a burial place for Eugene City citizens was initiated by a letter dated November 27, 1857 to the Masonic Lodge No 11 AF & AM. In this letter, Mr. S. Ellsworth, attorney, stated:

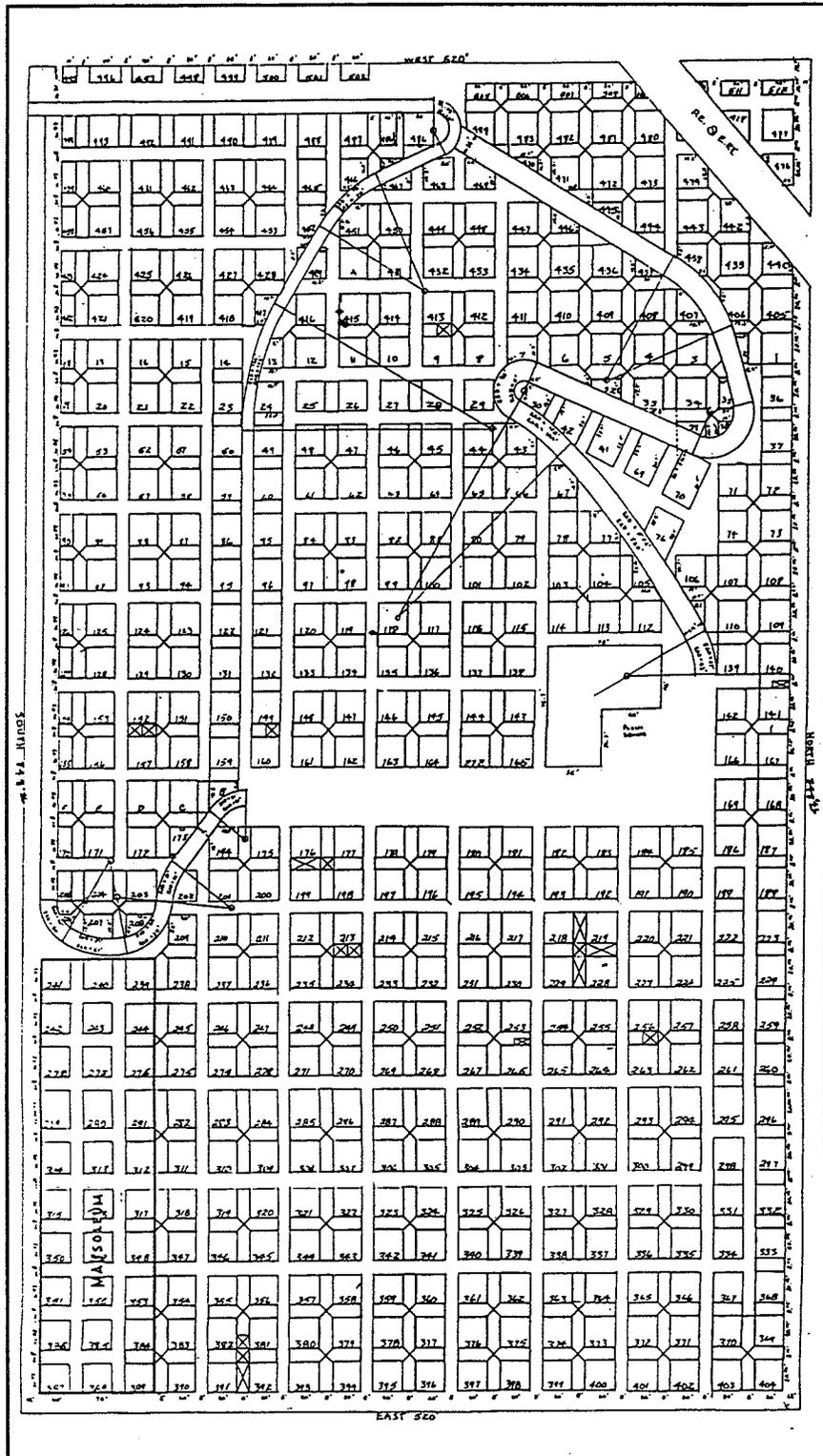
" . . . our town . . . is wholly unprovided with a place of burial for the dead. It is well known to you doubtless that your respected Fraternity rarely omits to provide at a very early day, a suitable cemetery for their own use, at least."

The Lodge, which had organized in 1856, accepted this responsibility and quickly appointed a committee to search for a suitable site. Members of the committee included T. W. Aubrey, A. A. Smith, and Mr. Bremen. McMurray's land, located four miles southeast of Eugene City, was identified in 1857 as a prime location for a cemetery. It was not until April 2, 1859 that six acres of grassy hillside were purchased from him for \$200 and the provision of a family plot. That same month, the area was surveyed and laid out in 20' x 20' lots with 8-foot wide alleys. Four acres were designated for use by Masons, while two acres were sold to the general public. The sale of lots, for \$15 each, was offered first to the Masons. One hundred lots were sold, while four were selected for burial of transient and/or poor Masons. On April 30, 1859 the two acres of public lots were offered to Eugene citizens with the requirement that purchasers bear the expense of a fence, which was estimated at \$392. It is not known if the fence was ever constructed. In October of that year, an additional four acres were purchased, bringing the total cost of the cemetery to \$336.66.

In addition to the Point of the Hills School site, the cemetery boasts another significant archeological resource. A clay pit, located in the northeast corner, provided raw clay for bricks used in the construction of Deady Hall (1876) and Villard Hall (1885), both of which are National Historic Landmarks located on the University of Oregon campus. Fielding McMurray's son, James, is credited with making the brick. The cemetery serves as the final resting place for

many Lane County pioneers, founders and faculty of the University of Oregon, early legislators, and Eugene merchants and businessmen. Some of the more well-known historic figures include the city founder, Eugene F. Skinner; the University of Oregon's first president, John Wesley Johnson; and the first governor of Oregon, John Whiteaker. Whiteaker is interred in an unusual barrel-vaulted mausoleum with other members of his family.

While the grid layout of the Masonic Cemetery indicates a tendency to maximize the land for burials, other characteristics are indicative of the Rural Cemetery movement. The movement, which is marked by the establishment of Boston's Mount Auburn cemetery in 1831, was a reaction to overcrowding, abandonment, and vandalism of urban graveyards. It promoted the idea of an ornamental burial ground located outside of the city limits. The romantic landscape, with its naturalistic plantings, lakes and winding paths, was



Grid plan and layout of carriage roads and public square at Eugene's Masonic Cemetery.

considered ideal for escaping the crowded city and providing people with the virtues of rural surroundings. During this time, the word "cemetery," a derivation of the Greek word for sleeping chamber, replaced the terms "graveyard" or "churchyard."

Unlike many cemeteries of this era, the Masonic Cemetery did not develop from a master plan, but rather as an evolutionary process supported by natural forces, various funerary trends of the time, and preferences of plot owners. No records have been found to indicate a formal policy regarding use, care, development or maintenance of the plots. The landscape of the cemetery was improved with owners planting trees, shrubs and flowers, while the plots were developed with curbs, cast iron fences, and a fascinating array of marble, zinc, and sandstone grave markers. The cemetery was used like many other rural cemeteries of the period. The Fairmount Trolley #3 provided convenient access to families, who would visit not only to pay respects to the deceased, but to use the site for family outings and picnics. The public square, located at the top of the hill just north of the Eugene Skinner plot, was often the site of these types of gatherings.

The early part of the twentieth century witnessed additional development, including the vacation of some lots for the construction of the carriage road in 1905. Typifying the trends of the Rural Cemetery movement, the carriage road winds along the contours of the hill and is on axis at the center of the site. The most significant element within the cemetery appeared during these early years with the construction of the Hope Abbey Mausoleum.

The Hope Abbey Mausoleum

The Portland Mausoleum Company was an example of a new entrepreneurial business found throughout the country during the early twentieth century. These speculative companies promoted community mausoleums and pursued patents (many of which were denied or invalidated) for their innovative construction. Typically, the company contracted with a cemetery association to erect the structure, reimbursed itself from the first sales of the crypts, and then turned over the mausoleum to the cemetery association after their profit had been realized. These companies were blamed for constructing showy buildings to impress the community and leaving the cemetery associations with inadequate funds for maintenance and repair.¹ Much debate occurred during this time regarding the method of construction, materials, ventilation, waterproofing, and perpetual care of the community mausoleum.

On November 12, 1912 the Eugene Masonic Lodge signed a contract giving the Portland Mausoleum Company rights to build a community mausoleum in the cemetery and to sell "tombs"² at a minimum cost of \$200. The contract stipulated that the "right, title and interest" of the tombs would be conveyed to the Company or to the purchasers of tombs. This conveyance

¹*The Cemetery Handbook* (Chicago: Allied Arts Publishing Co., c. 1927), 396-397.

²The word "tombs" is used throughout the contract; elsewhere throughout this document, they are referred to as "vaults."

would not include eight tombs which would be used as temporary receiving vaults by the lodge.³ The contract stipulated that for each crypt sold, the Company would pay the Lodge \$10 to be placed in a fund for maintenance and repair of the mausoleum. However, if purchasers of tombs formed an association, they could request that the money be turned over to them for the same purposes. The Lodge could charge for use of the receiving vaults and the chapel (which may refer to the Main Hall). The money from this would be used for maintenance of the cemetery and grounds immediately adjacent to the mausoleum.

Ellis Fuller Lawrence was ultimately responsible for the design of the Hope Abbey Mausoleum. Lawrence is recognized as a significant architect in the history of Oregon. While running a practice in Portland, he served as the first dean of the School of Architecture and Allied Arts at the University of Oregon from 1914 to 1947. He was responsible for the first campus plan and the design of numerous fine buildings.

Lawrence recognized the opportunities in the mausoleum business for his architectural firm. He invested \$1500 in stock of the Portland Mausoleum Company, with the assurance that his firm would be retained as architects.⁴ On June 13, 1913, after some misunderstandings regarding this agreement, the firm of Lawrence and Holford was asked to begin preparing plans and specifications for a 250-crypt mausoleum in Salem and a 250-crypt mausoleum in Eugene.⁵ These were followed by additional commissions for the company, including the Riverview Abbey Mausoleum in Portland (1916), the Ocean View Mausoleum in Astoria (1917), the Olney Abbey Mausoleum in Pendleton (1917), and the Mount Hope Mausoleum in Baker City (1919).

It is interesting to note that, with the exception of the Gothic-style Mount Hope Mausoleum, Lawrence's other mausoleums were more Classical in design. Before Lawrence was hired to design the Hope Abbey Mausoleum, an advertisement by the Portland Mausoleum Company featured a Classically-inspired mausoleum that bears a striking resemblance to the illustration found on their letterhead.⁶ This image for the Hope Abbey Mausoleum was replaced by Lawrence with an Egyptian Revival design. The mausoleum, with its entrance pylon, cavetto cornice, disc-and-wing motif, and lotus blossom urns, represents a style considered rare in Oregon.

³According to a building section drawn by Ellis F. Lawrence, these receiving vaults were located in the southeast corner of the mausoleum. At some point these vaults were designated as permanent crypts. Prince Lucien Campbell, the University of Oregon president who selected Lawrence to design the campus and establish the School of Architecture and Allied Arts, is buried in one of these.

⁴Ellis Lawrence to John Bain, 29 March 1913, Ellis F. Lawrence Collection, Special Collections, University of Oregon, Eugene.

⁵Portland Mausoleum Company to Lawrence & Holford, 13 June 1913, Ellis F. Lawrence Collection, Special Collections, University of Oregon, Eugene.

⁶Advertisement, *Eugene Daily Guard*, 20 November 1912.

Before Lawrence had been officially hired, specifications dated November 12, 1912 were drawn up by Chicago engineer Cecil E. Bryan. While it is apparent that much of the mausoleum was built as specified, certain items were changed due to cost. For example, a less-expensive Alaskan marble was chosen over the originally-specified Colorado Yule marble.⁷

Construction of the Hope Abbey Mausoleum on a western slope of the cemetery began in September of 1913 and was guided by F.H. Miles, Construction Superintendent. This concrete structure was cast in-place utilizing board forms. Precast elements such as the cavetto cornice and entrance pylon were provided by the Sterling Stone Company of Portland.

On June 4, 1914 the Hope Abbey Mausoleum was dedicated in a formal ceremony led by Dr. H.S. Wilkinson of the Methodist Church in Eugene. Wilkinson's address referenced the mausoleum as a tradition of ancient civilizations and traced it through the different ages. A time capsule containing newspapers, the dedication program, historical documents, photographs, and statistical information was sealed in a designated location, with the intention that it be opened in 1000 years.

Recent Preservation Efforts

The Masonic Cemetery has a history of repair and preservation efforts. Because lots were sold so cheaply and little or no perpetual care funds were established, there were few resources to provide for basic maintenance and repair. Vandalism and neglect were noted as early as 1910 when an effort was made to inventory the graves and address the prevailing vandalism.

During World War II the Hope Abbey Mausoleum Crypt Owners Association Inc. was formed to address "the disgraceful condition of the mausoleum due to lack of maintenance and attention." Officers of the Association included D.E. Yoran, President; Marion Veatch, Vice-President; H.J. Wells, Secretary; and S.R. Mosher, Treasurer. Mrs. W.H. Hodes, Elisha Large, and Fred Broders served on the Board of Directors. The Association cleaned the mausoleum, installed water, connected the rest room with the city sewer and repaired the roof, replaced broken windows, and cleaned the grounds. A caretaker was hired to provide maintenance and prevent vandalism. Although some money was available from trust funds and government bonds, the association appealed to crypt owners and relatives to pay \$1 per year for each crypt into an operational fund.⁸

During the 1960s, fraternity hazing in the mausoleum resulted in extensive damage to the windows and clerestories, as well as to the marble crypt faces. To prevent further damage, the windows were closed up with brick or concrete block in 1965 and a dead bolt was installed on the door. In the 1970s citizens again became concerned. The Lane County Historical Society

⁷[Ellis Lawrence] to the Colorado Yule Marble Company, 15 August 1913, Ellis F. Lawrence Collection, Special Collections, University of Oregon, Eugene.

⁸The Hope Abbey Mausoleum Crypt Owners Association, Inc., to crypt owners, relatives or representatives, c. 1945, Ellis F. Lawrence Collection, Special Collections, University of Oregon, Eugene.

became involved in 1972 and in the next few years, volunteers and hired crews cleared brush, located and replaced grave markers, and collected trash. Articles presenting the history and promoting restoration were published in the 1974 summer issue of the *Lane County Historian* and helped to galvanize public support.

Despite these periodic preservation attempts, the cemetery and mausoleum fell into further disrepair. As a result, some family members began moving their loved ones from burial plots and crypts to more properly maintained cemeteries in Eugene. Memorial parks such as West Lawn and Rest-Haven represented current trends in funerary practice and were more desirable for their tidy appearance, regular maintenance and personal attention.

The significance of the Masonic Cemetery and Hope Abbey Mausoleum was recognized on January 28, 1980 when the property was designated a Eugene Historic Landmark. That same year, the cemetery and mausoleum were listed in the National Register of Historic Places. (see Appendix B) The Cemetery was deemed significant for its role in the early development of Eugene and as the first incorporated cemetery in the city, while the mausoleum carries the distinction of being Oregon's best example of monumental Egyptian Revival architecture.

In 1995, with the transfer of ownership from the Masonic Lodge to the non-profit Eugene Masonic Cemetery Association, the future of the cemetery and Hope Abbey Mausoleum looks brighter than ever. In addition to this preservation plan, significant efforts toward revitalization and repair have begun. These include the hiring of a consultant to survey all of the burial plots, markers, and features. The on-going identification of native plant species, genealogical research, establishment of a donor base, and grave marker repair. The culmination of these efforts will ensure the preservation of one of Oregon's most significant historical, cultural, and natural sites.

2.2 Methodology

The project began with an examination of historical information gathered by volunteers and the City of Eugene Planning and Development Department. This included newspaper and journal articles, as well as the contract and specifications for the construction of the Hope Abbey Mausoleum. (see Appendices C and D) Additional research was undertaken to develop an understanding of cemetery and mausoleum development during the historic period. Literature review included the periodical *Park and Cemetery*, 1900-1920.

Field visits were undertaken to assess the condition of the mausoleum and certain elements in the cemetery. This visual process was facilitated by the use of a condition assessment form developed specifically for this project. Conditions were documented by photographs and sketches. Utilizing a computer program called Lateral Design Graph (LDG), which was developed at the University of Southern California, the mausoleum was analyzed for its ability to withstand seismic activity. Certain assumptions regarding the building's construction were made based on the specifications and visual evidence. These are discussed later in the document.

After analyzing the existing conditions and identifying their causes, recommendations for

treatment and maintenance were developed based on the *Secretary of the Interior's Standards for Preservation*. These recommendations rely on technical information regarding the latest methods and materials approved and tested by authorities such as the National Park Service, the Association for Gravestone Studies, and the Association for Preservation Technology International. Design recommendations for the Hope Abbey Mausoleum were based on early descriptions of the mausoleum, photographic evidence, architectural evidence, and similar details found in Ellis Lawrence's designs for mausoleums located in Salem and Portland.

The final task involved gathering cost ranges for treatment. Tom Giesen, Certified Professional Estimator, was consulted for most prices; Dixie Maurer-Clemons provided estimates for repair of the mausoleum windows. These ranges are intended to serve as a guide in pursuing grants, donations, and volunteer labor, and should not be considered as final cost estimates.

2.3 Executive Summary

This section is intended to give a concise overview of the major conclusions regarding the condition and treatment of the cemetery and mausoleum. These issues are discussed in further detail in Sections 3.0 and 4.0.

The Masonic Cemetery

The Masonic Cemetery is significant as the first incorporated cemetery in Eugene, its association with important individuals, and its role in the early development of the city.

- A. The cemetery is important as the site of a unique collection of native plants. The naturalistic landscape contributes to the overall character of the cemetery and should be preserved.
- B. The cemetery contains a fine collection of stone, precast, bronze, and zinc markers. These, along with unique elements such as the Whiteaker Mausoleum, cast-iron fences, and cast-concrete benches, contribute to the overall character of the cemetery and should be preserved.
- C. Treatment of the cemetery should conform to the *Secretary of the Interior's Guidelines for Preservation*. Testing of materials and methods should be incorporated into the treatment plan.
- D. A serious problem to the cemetery is vandalism. Measures should be taken to reduce these incidents as soon as possible.
- E. A landscape master plan addressing historical and future elements such as vegetation, circulation, views and boundaries should be developed. This plan should also address maintenance and management issues.
- F. The locations of significant plant species should be identified and documented.

G. Repair of grave markers should be performed only by trained professionals or by personnel supervised by such professionals.

H. Contemporary issues such as interpretation, security, and use should be addressed in a manner sensitive to the sites cultural, historical, and natural significance.

The Hope Abbey Mausoleum

The mausoleum is significant as Oregon's best example of monumental Egyptian Revival architecture as well as for its association with noted architect Ellis F. Lawrence.

A. The mausoleum is structurally sound. The quality and workmanship of the concrete is quite high, given its date of construction.

B. While the mausoleum structure would respond favorably to seismic activity, certain elements such as the precast urns could be at risk.

C. Treatment of the mausoleum should conform to the *Secretary of the Interior's Guidelines for Preservation*. Testing of materials and methods should be incorporated into the treatment plan.

D. A serious problem to the mausoleum is vandalism. Measures should be taken to reduce these incidents as soon as possible.

E. The most serious problems at the mausoleum result from inadequate roofing and foundation drainage systems. These problems require immediate attention and should be addressed first.

F. The mausoleum requires measures to improve ventilation and reduce condensation before most of the interior repairs are undertaken.

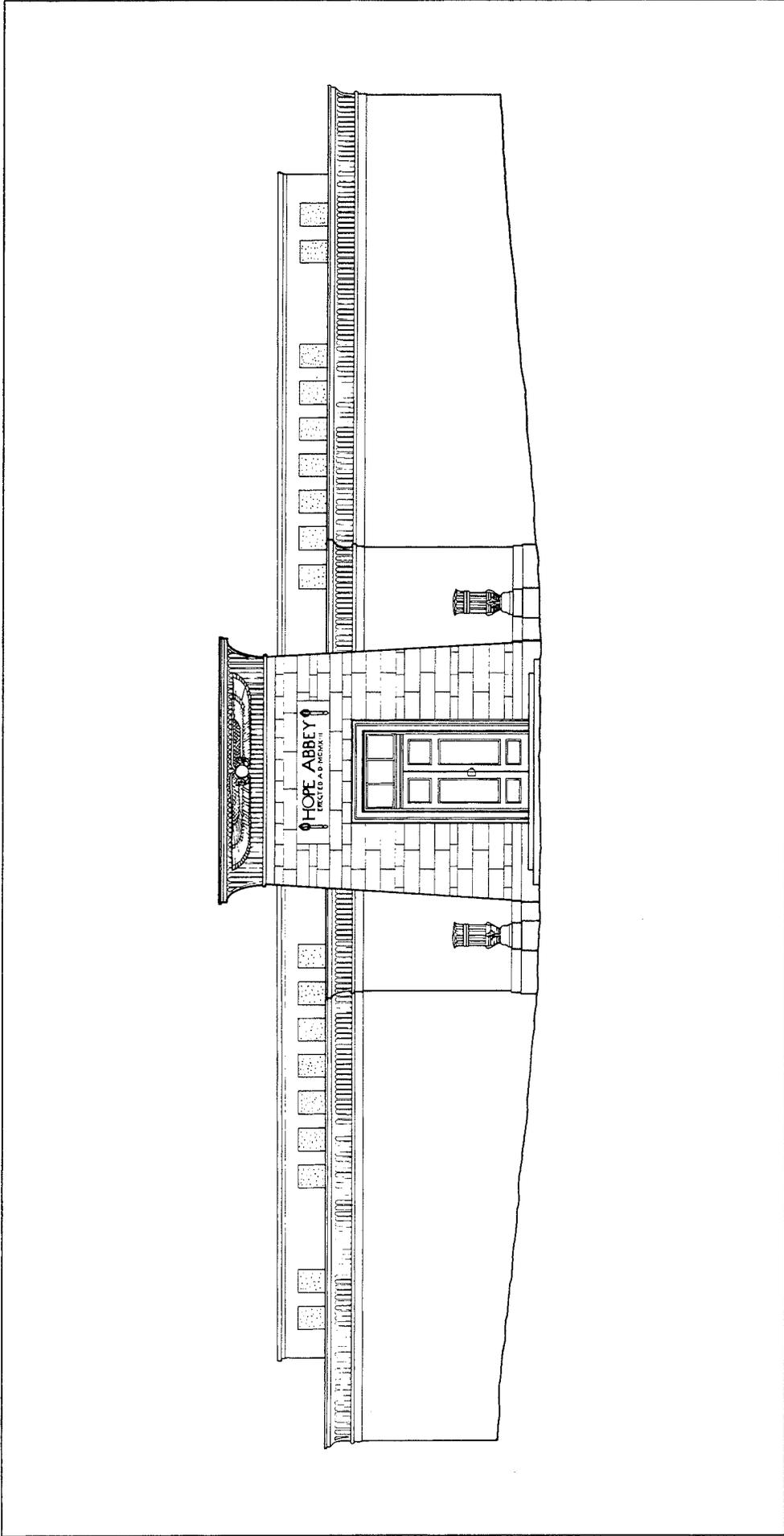
G. Interior plumbing and electrical systems should be restored in the mausoleum.

H. The required treatment for many problems are primarily cosmetic. These include cleaning, polishing, and light repairs of interior and exterior surfaces.

Many of the repairs to the interior of the mausoleum can be done in phases as funds become available.

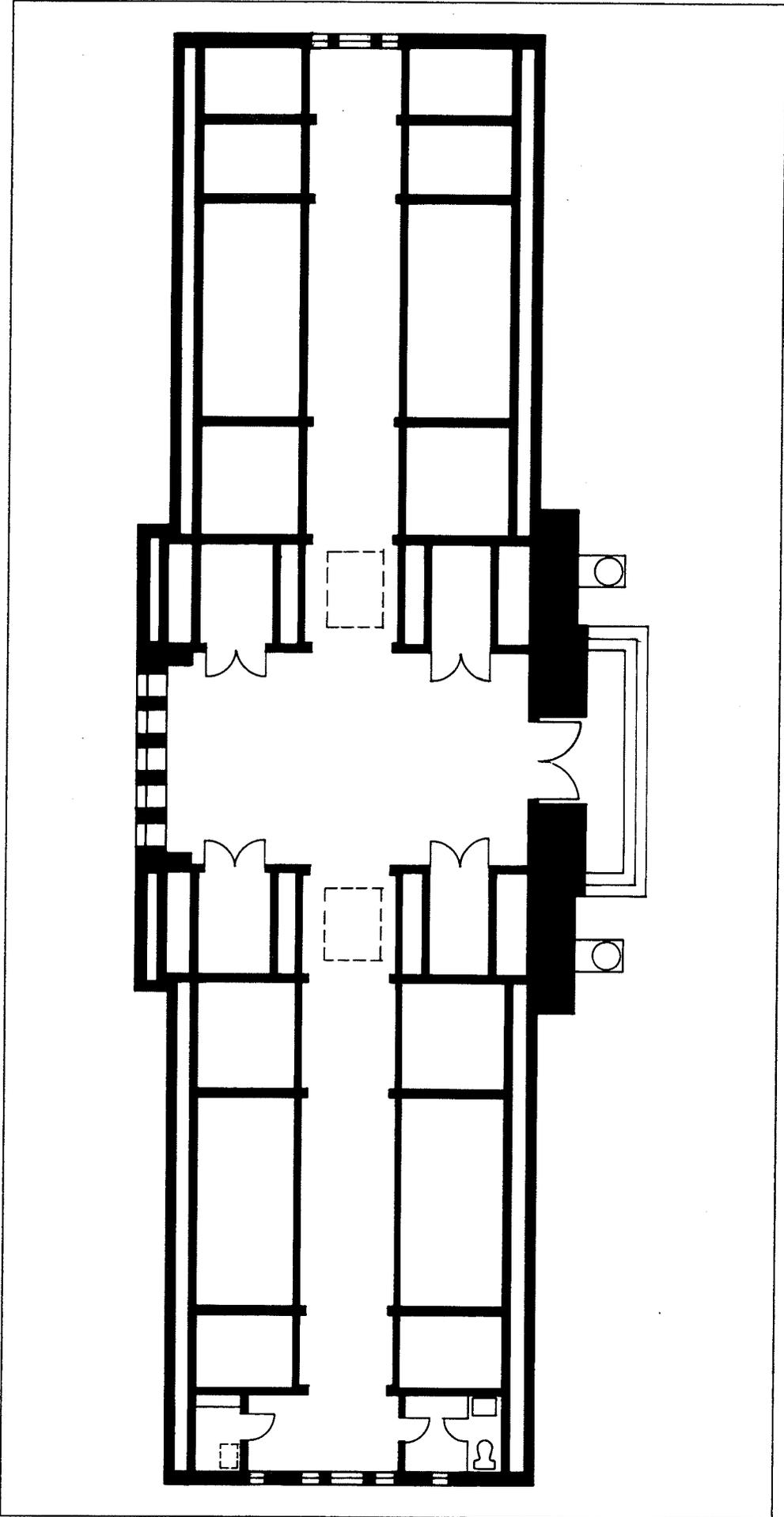
*T*HE HOPE ABBEY MAUSOLEUM





Hope Abbey Mausoleum

• NORTH ELEVATION •



Hope Abbey Mausoleum

• FLOOR PLAN •

3.0 THE HOPE ABBEY MAUSOLEUM

3.1 Condition Assessment

3.1.1 Site

Topography and Site Drainage

The mausoleum is placed on a western slope near the intersection of East 26th Avenue and University Street in Eugene, Oregon. It is arranged longitudinally from north to south, with the higher ground to the east, and the main entry to the west. A dirt and gravel carriage road, which begins at the northwest corner of the cemetery climbs south toward the mausoleum where it curves to lead up the hill on the west. On the west side of the mausoleum, a drive extends down from the carriage road to provide access to the main entrance.

The grade immediately around the mausoleum is fairly level on the higher east side and slopes down to the west on both the ends of the building (the north and south sides). Along the west elevation, the grade slopes from the far corners of the building down toward the central entrance at the center of the facade. Depressions in the earth immediately adjacent to the building, particularly on the north side, are potential sites for pooling of water. Although it is apparent that bituminous waterproofing was previously applied below grade, the mausoleum's location on a hillside, with its east wall serving as a retaining wall, contributes to extensive water penetration through the concrete walls. This indicates failure or lack of a perimeter drain tile and proper waterproofing materials applied below grade.

Adjacent Planting

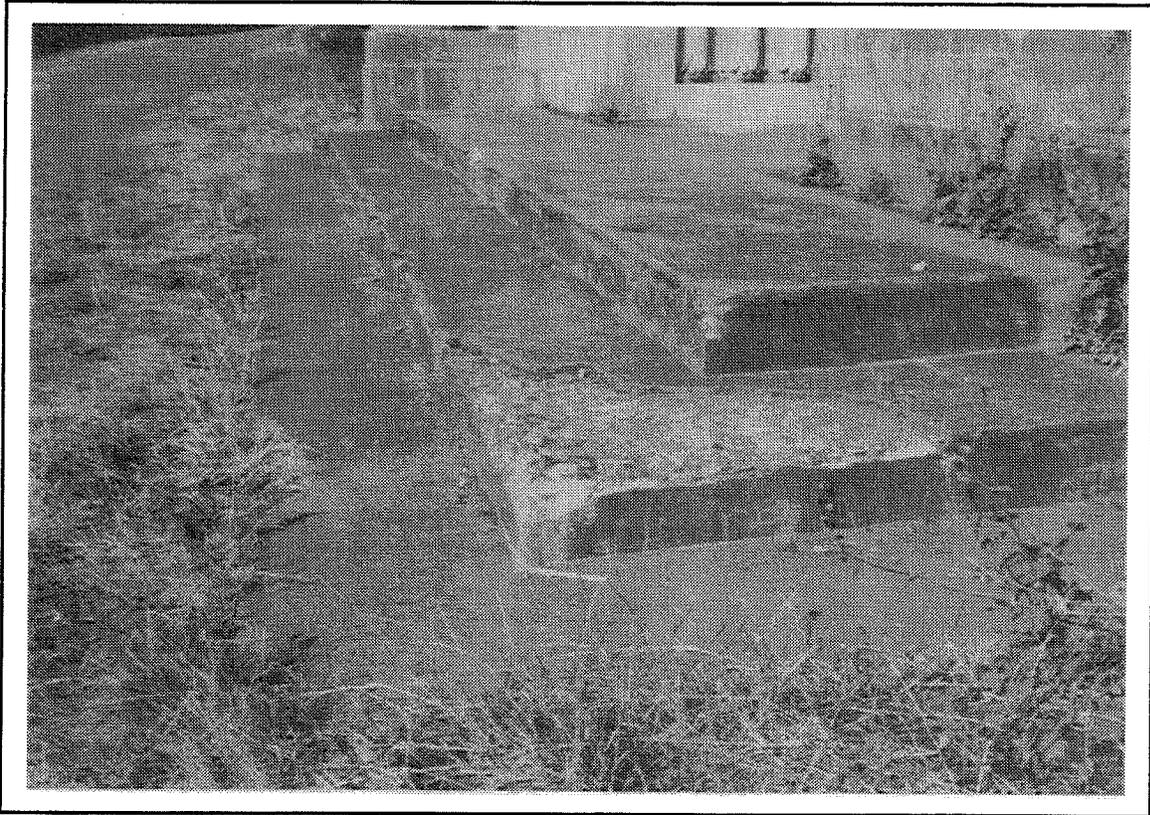
A raised planting bed delineated by a concrete curb extends about 5'-6" beyond the building. It begins at the northeast corner of the building and extends along the north around to the west elevation, where it is interrupted by the monumental urns and entrance steps, and terminates at the building's southwest corner. Three firethorn bushes (*pyracantha coccinea*) are located in this bed on the west, as do stumps from previous plantings. Historic photographs indicate that these plantings included cypress trees on either side of the entrance, a feature typical of several of Ellis Lawrence's designs. Portuguese laurels (*prunus lusitanica*) are located on the northwest and southwest corners of the building. A rendering of the mausoleum by Ellis Lawrence portrays the mausoleum as being surrounded by mature trees which form a heavy canopy high above.⁹

Approach/Entry

Access by vehicle is limited by a secured gate at the northwest corner of the cemetery. There is no organized parking in the immediate vicinity of the mausoleum. Pedestrian access is provided to the southwest of the building at the intersection of East 26th Avenue and University Street, which are narrow gravel roads at this point.

⁹Chris Scovill and Neal Vogel, "Hope Abbey Mausoleum, Eugene, Oregon, 1913," 18 December 1986, Class report, University of Oregon, Eugene.

The mausoleum has only one entrance. It is accessed by concrete entrance steps, which suffer from severe spalling and invasive plant growth. The first of the three risers is nearly flush with the ground as movement of soil has resulted in a higher grade than when the building was first constructed.



View north of the entrance steps at the Hope Abbey Mausoleum

3.1.2 Overall Structural Integrity

Concrete Structure

The walls, roof, and floor of the mausoleum are constructed of cast-in-place, reinforced concrete. The apparent quality of the concrete mix and workmanship is fairly high for its time. Impressions on the exterior surfaces indicate that traditional board form work was used for the walls and roof. The quality of the finish varies, suggesting the concrete mix was somewhat dry, even for its time period when stiffer mixes were used. Some surface patching was done on the exterior walls, most likely during the construction period to cover the voids exposing the coarse aggregate. These do not appear to cause any problems in the moisture resistance of the walls.

Structurally, the concrete system appears to be in good to excellent condition, with no evidence of structural failure. Most of the deterioration is on the surfaces, in the form of spalling or cracking, and can be attributed to water penetration due to the failure of other systems and normal exposure to weather. This is particularly evident near the roof drains from the attic story

that release water on to the main roof where there has been some minor damage.

There are many non-progressive cracks that can be attributed to modest settling or changes in cold joints formed during construction. Some larger, vertical cracks have formed as a result of what appears to be water penetration. In previous maintenance efforts, some parging has been applied over these cracks in an attempt to control this problem. The most significant cracking is at the roof-to-wall juncture where a horizontal crack extends around the three sides of the attic's southern bay.¹⁰ It has been filled with sealant.

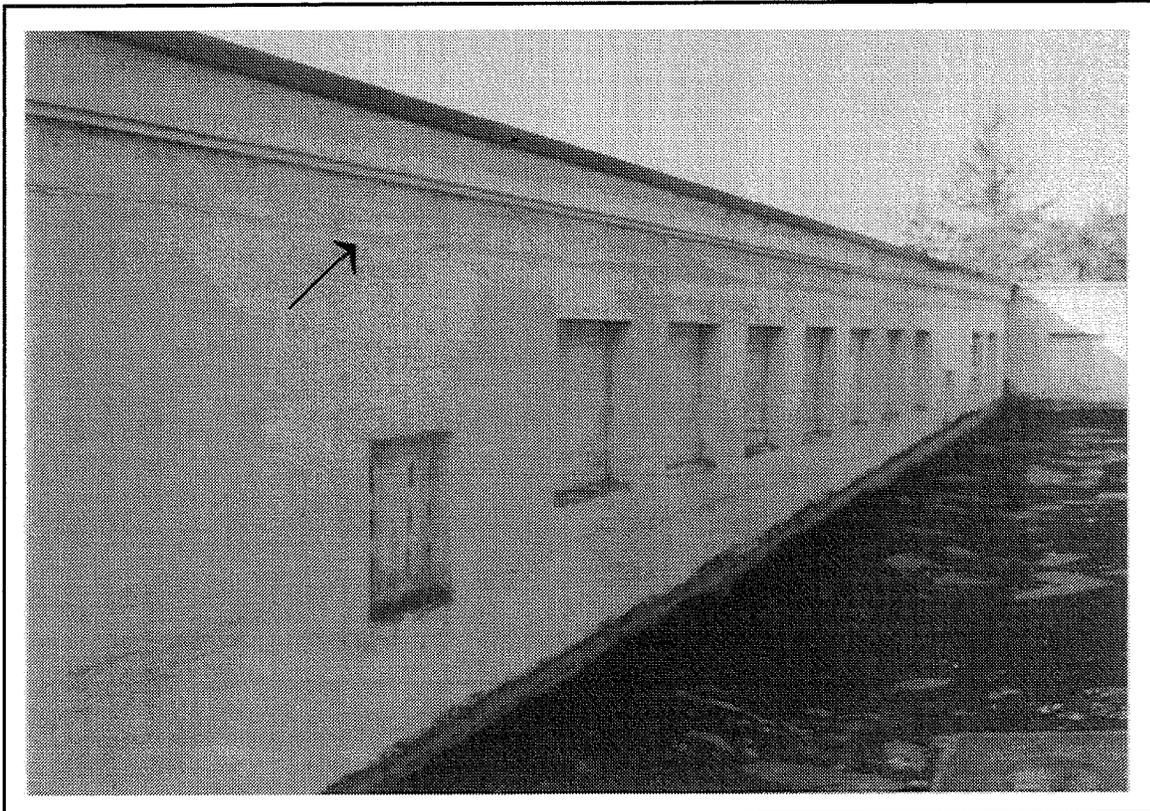


Illustration of horizontal cracking where roof connects to clerstory

Large diameter holes have been bored into the concrete, presumably to facilitate drainage of water from the now inoperable, failed drains that were integrated into the concrete walls during construction. Three holes, approximately 1/2" in diameter, are located on the south elevation and have caused extensive staining of the exterior walls. The stains are from roofing material and indicate serious internal moisture problems.

¹⁰"Attic" refers to that portion of the building extending above the main mausoleum spaces and crypts.



Detail of drainage holes and stains

Five 1 1/4" holes are found on the east elevation, but due to recent painting, it is unknown if they have the same serious problems. There are also three 1/2"-3/4" holes near the west corner on the north elevation, just below the cornice. These holes do not exhibit any staining, indicating moisture has not been a problem.

Seismic

The mausoleum, built in an era of early reinforced concrete technology, is worthy of review and evaluation regarding current seismic codes. While heavier concrete frame or shear wall buildings are very prone to damage during seismic activity, the massing and enclosed nature of this structure makes it less worrisome. As an approximate numerical check, a computer program called Lateral Design Graph (LDG) was utilized to understand the magnitude of a lateral loading and building response. The initial results are interesting and optimistic.

To use the program, some assumptions were made. While there is no absolute assurance that the steel described in the 1912 specifications was placed as described, other items in the specifications were met. So, one can assume that the steel in the 10" thick floor is "5/8" high carbon steelbars, 16" centers crosswise and 3/8" bars-18" centers lengthwise" as noted in the specs. The 5" crypt walls are described as "reinforced with high carbon steel bars as shown on plans" but since the plans are not extant, one can only assume some reinforcement exists. The

outer walls are not described so it is assumed that there is some reinforcement, consistent with the construction of the remainder of the building. The roof is 4" thick "with 1/2" bars, 7" on center with pitch of roof and 3/8" bars, 18" on centers, running horizontal." Another assumption is that the many crypt walls connect to the principle walls of the structure, thereby adding considerable stiffness.

Based on these assumptions and a generous 200 psi design weight in earthquake zone 3, the earthquake shear force determined was 118 kips. With 220 feet of symmetrically-placed walls in the east-west direction, the required resistance in the walls is an easily-achieved 550 lbs. per foot. Similarly, in the north-south direction, with 540 feet of symmetrically-placed walls, the required resistance is 220 lbs. per foot. Both of these figures are very low for the usual potential for the wall type, quality of mortar, and steel used.

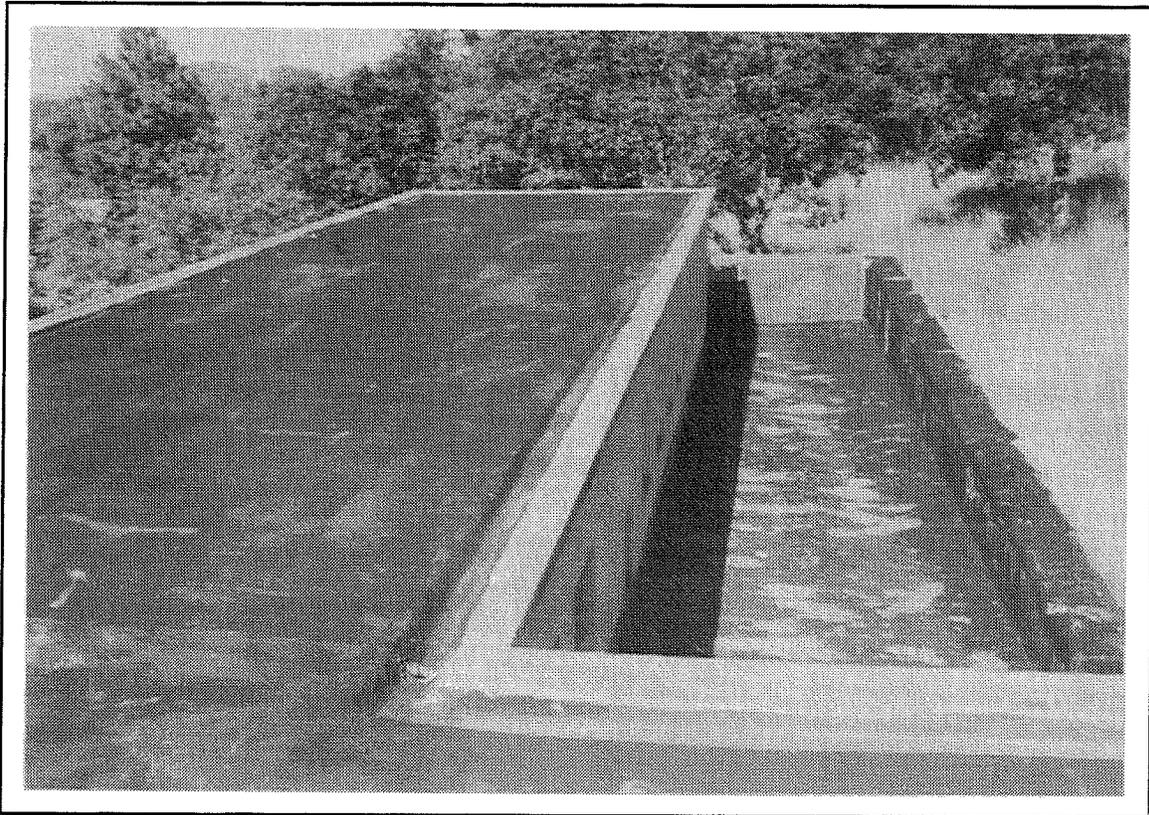
The conclusion one must draw is that there appears to be little concern for inappropriate performance of the structure in total during seismic activity. However, elements such as precast urns at the entry doors could be at risk since it is unclear how they are anchored to the supporting slabs. Finally, some precast decorative elements may be prone to damage if their anchors have deteriorated over time.

3.1.3 Roof

The original specifications identify the roof as being vitrified tile on three-ply asbestos sheets over a 4" concrete slab. A letter from Ellis Lawrence indicates that the final roofing membrane was from the Biturine Company of America, located in San Francisco. Within a year after construction, Lawrence wrote to the company requesting they replace the membrane because the original material was "a too brittle grade . . . which was not elastic enough to stand the expansion and contraction of the roof structure."¹¹ It is not known if the Biturine Company complied with the request, but this and other correspondence by Lawrence indicate a history of roofing problems with the mausoleum.

Evidence indicates that a previous roof repair involved the construction of a new roof surface over the original. This newer wood structure can be seen through holes in the concrete ceiling above the relights. It appears that the addition of wood forms increased the roof slope, thus improving drainage. In addition, it raised the surface of the attic roof high enough to eliminate its parapet. It is likely that the crack along the attic walls reflect the junction of the original roof to the wall.

¹¹Ellis Lawrence to Biturine Company of America, 16 June 1915, Ellis Lawrence Collection, Special Collections, University of Oregon, Eugene.



Clerestory roof with drainage gutters and mineral surface membrane roofing

Currently, the top roofing layer is standard mineral surface membrane roofing applied on underlying roll roofing. A lack of maintenance, coupled with exceeding the normal life of the roofing without replacement, has led to its failure. It is unclear, given the amount of moisture inside from wall seepage, how much leakage can be attributed to the roofing, but the membrane failure in the form of alligatoring and buckling is pronounced.

The most serious problem is the inability of the original drainage system to handle normal rain conditions. The roof of the entrance pylon is drained by one undersized interior drain. The attic roof has gutters that lead water to four drains, all of which release water to the main roof and its drains. The depth of these gutters is marginal and in some places, due to the application of many roofing layers over time, does not perform as expected. During periods of heavy rain, the shallow depths are not sufficient to carry the water, thus resulting in spillage over the attic cornice. The main roof has only two 2" internal drains, one at each of the north and south ends. Evidence indicates the operation of these drains was marginal when the building was constructed and depended on constant care. Today, they are barely operational - if at all - due to the corrosion of the conduit and/or clogging by organic debris. During an earlier maintenance effort, holes were drilled in the concrete faces of the exterior walls to alleviate water build-up in the walls. The lack of operable drains creates additional problems by allowing the ponding of water on the roof. This places excessive loads on the roof, causing additional deflection and

contributing to failure of the roofing membrane.

The condition of the copper coping ranges from good to poor, with some pieces missing, others deformed, or having lost their fasteners. Failure of the coping in these places have contributed to the deterioration of the structure through water penetration, particularly at the cornice detail. The coping has slightly stained the cornice, though this is not seen as a major problem.

3.1.4 Interior Systems

Electrical

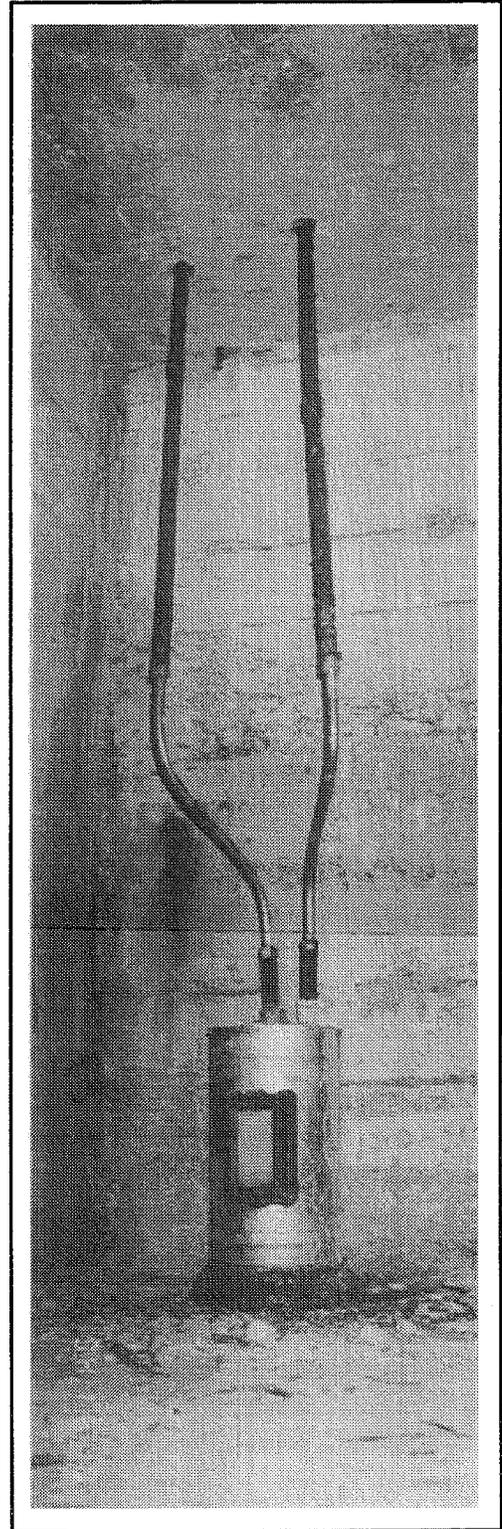
Although the building previously had electrical service, it is no longer connected to the power grid. Originally, light fixtures were located in the Main Hall, the North Hall and the South Hall. Currently, all but one of the globes for these fixtures are missing. The glass globe of the remaining light fixture, located at the south end of South Hall, is broken. The light fixture in the bathroom is missing.

Plumbing

The restroom was included in the mausoleum's original design, but it may not have been operable until 1945 when the Hope Abbey Mausoleum Crypt Owners Association, Inc. had water installed and a connection made with the city sewer system. Presently, plumbing service is not connected. Refer to Section 3.1.9 for additional information.

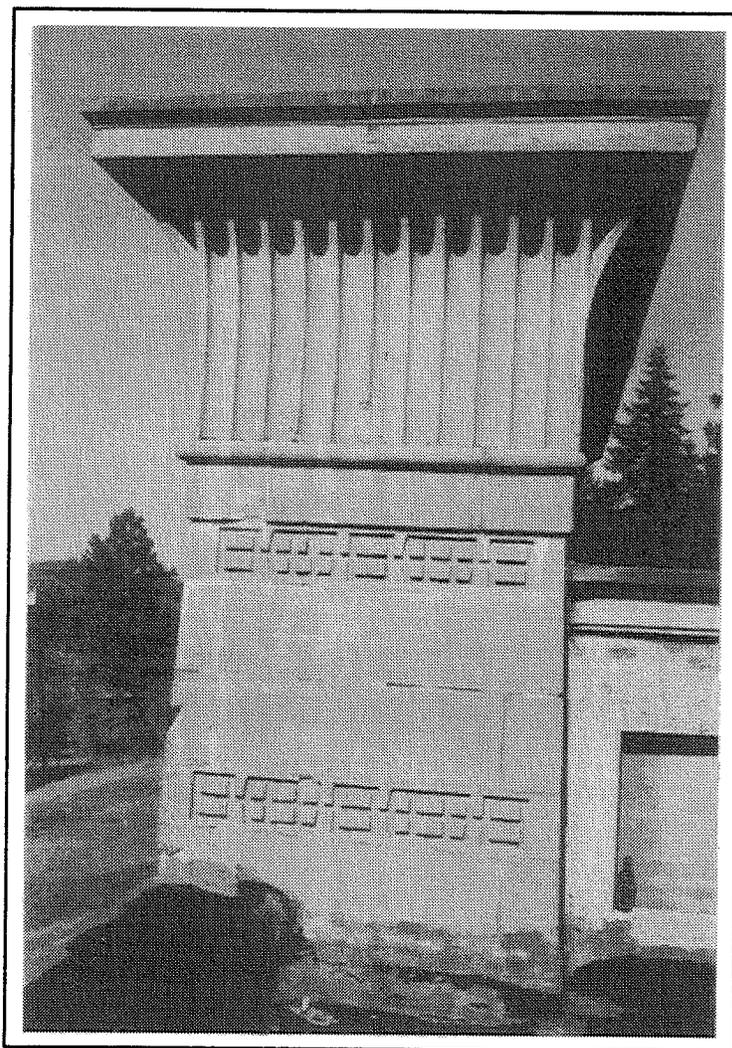
Venting

The 1912 specifications describe a venting system that represented one of two schools of thought regarding mausoleum construction of the era. While one school advocated tightly sealed caskets, crypts, and structure, another promoted a venting system to direct air from the crypts. The Hope Abbey Mausoleum followed this second approach. An air space was provided between the exterior walls of the building and the back walls of the crypts. Located in these back walls were two holes: one for drainage of fluids into a jar of quicklime and one for venting of gases. In consideration of safety issues, these gases were to be vented through 1/2" copper pipes



The inoperable deoderizer

to a "Walter and Inman deodorizer." These deodorizers are located in the sub-ceiling space above the storage closet, and appear to be inoperable. Since the building was unheated, another venting issue addressed the flow of air throughout the mausoleum space to prevent condensation. Ellis Lawrence sought to determine proper methods for dealing with this issue after the Hope Abbey Mausoleum exhibited problems with condensation.¹² Some mausoleum companies felt the building required maximum air circulation, while others suggested the buildings should be sealed tight or heated. Presently, condensation is still a problem within the Hope Abbey Mausoleum as evidenced by peeling paint, mildew and dampness.



¹² Ellis Lawrence to John Bradley, 18 March 1916, Ellis Lawrence Collection, Special Collections, University of Oregon, Eugene.

3.1.5 Concrete

Cast-in-Place Concrete

In addition to the problems with the exterior concrete described in Section 3.1.2, there are serious cosmetic issues. These include graffiti and stains from mildew and leached roofing materials. Mildew is most prevalent on the north elevation.

Originally, the exterior concrete was probably not painted. It is likely that the decision to paint was based on an early problem with graffiti. Graffiti is still a problem, particularly on the southside, and is currently being treated by periodic painting.



Loss of concrete from the high relief ornamental string courses

Precast Concrete

Exterior precast concrete elements include the entrance pylons, the cavetto cornice, and the two decorative urns on the west side. The quality and workmanship of the precast concrete is quite high and greatly contributes to the architectural significance of the mausoleum. With the exception of minor spalling, chipping and efflorescence, the ashlar units comprising the entrance pylon are in good condition. The ornamental string courses, however, have suffered severely from loss of material. Some of this has seemingly been caused by compressive stresses placed on the precast units during settlement of the building. This is evidenced by the appearance of vertical cracks in both the ashlar units and the ornamental units. These hairline cracks are currently

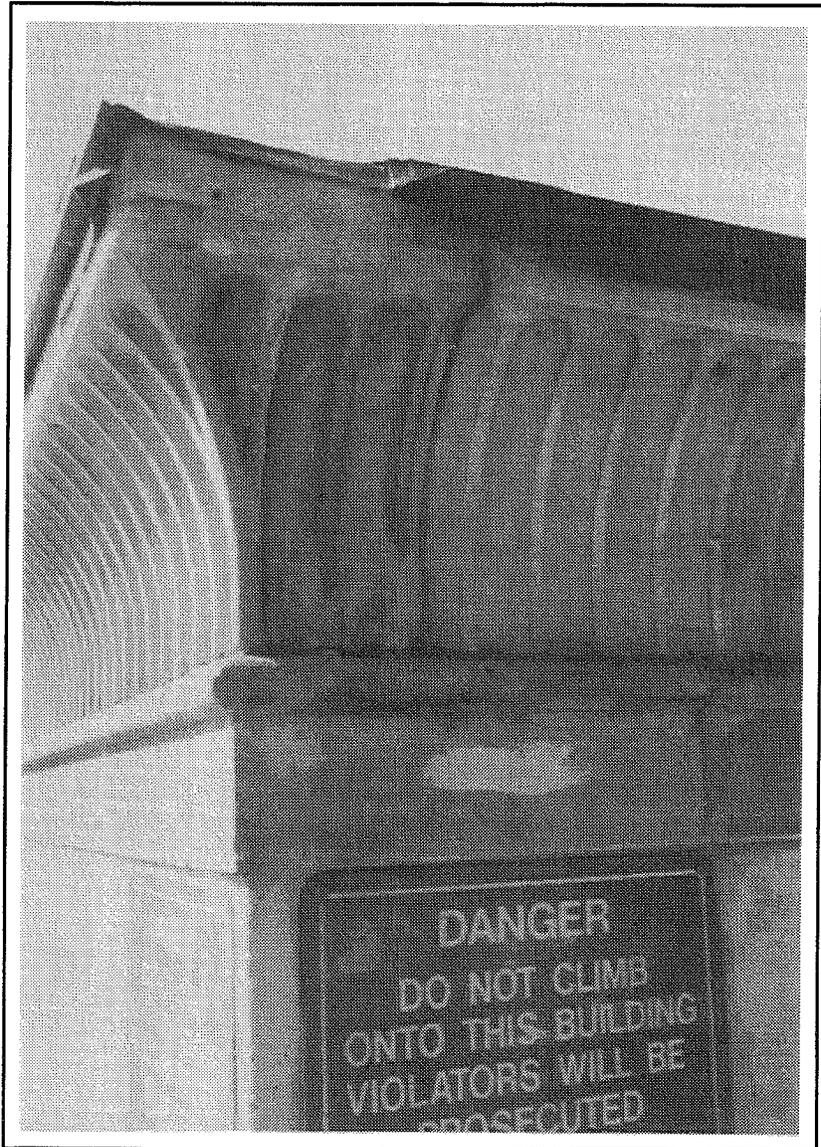
stable and appear to pose no threat toward failure.

Gaps are found between the precast side panels of the recessed entry and the blocks comprising the west facade. Continued investigation and monitoring will determine if these were formed during building settlement and are now dormant and stable, or if they are indicative of active movement and subsequently structural problems.

Cavetto cornice

The cavetto cornice of both the main building and the entrance pylon exhibit spalling, chipping, staining, and efflorescence. More severe problems are experienced at the principal corners, where exposure to the weather and failure of the coping have contributed to deterioration. There is also, due to easy accessibility, ongoing graffiti on the south cornice of the main building and the east cornice of the entrance pylon. In some areas, this has been treated by painting.

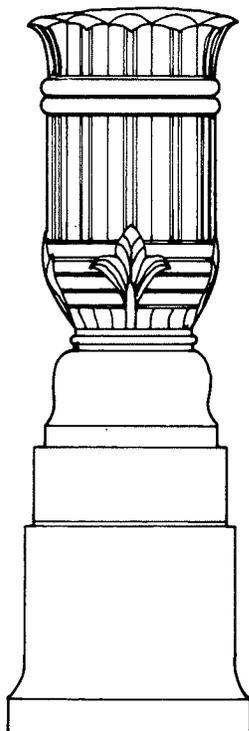
The mortar between the precast units is in fair condition. It is popping in some places, especially in areas of water problems. Although some of the 1/4" - 3/8" joints have been repointed, this has been poorly or improperly done in some places.



Detail of cavetto cornice

The urns

Two significant features of the mausoleum are the monolithic (over 6 feet) precast urns set on concrete bases gracing each side of the entry. Exposure to the weather has caused erosion of the horizontal surfaces of these urns. Lichen and calcite are present on the urns, indicating constant moisture is present. The metal ties that serve to secure the individual pieces are badly corroded and have contributed to the detachment of two pieces on the south urn. One of these fragments is currently stored in the mausoleum and may be used as a pattern for the necessary replication.

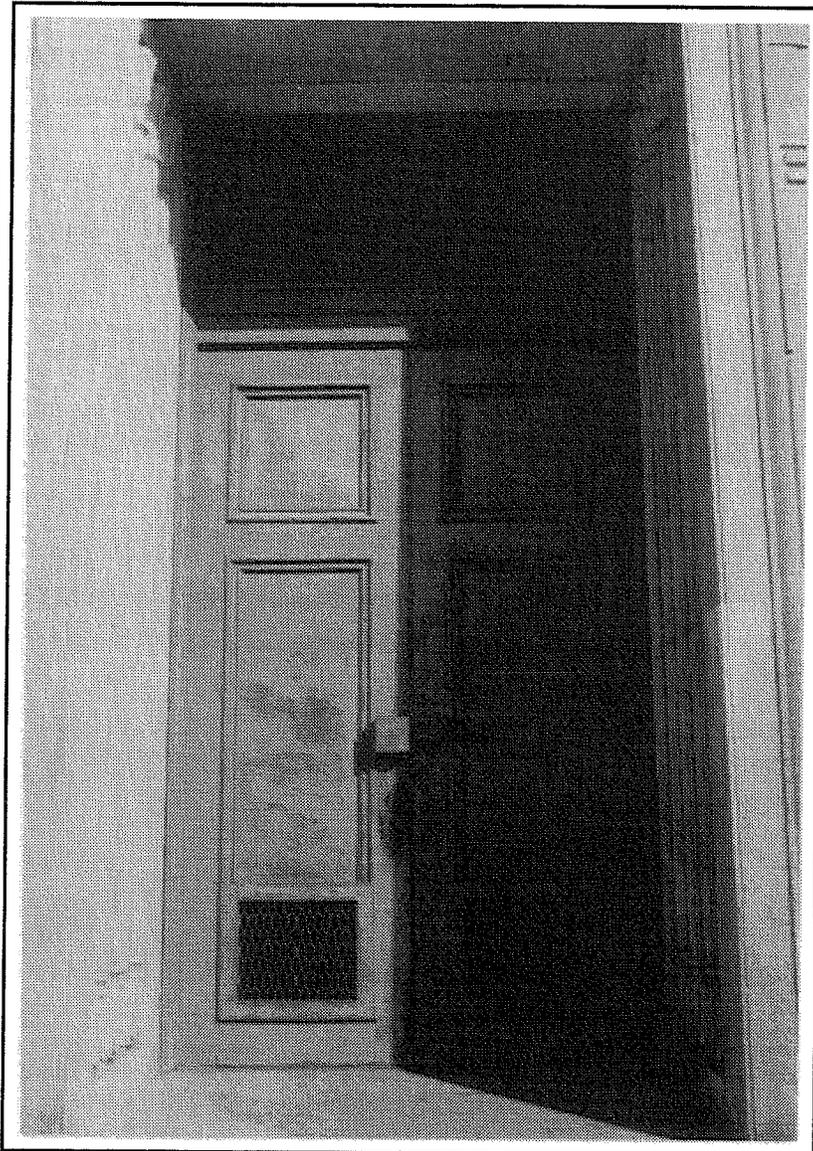


3.1.6 Openings

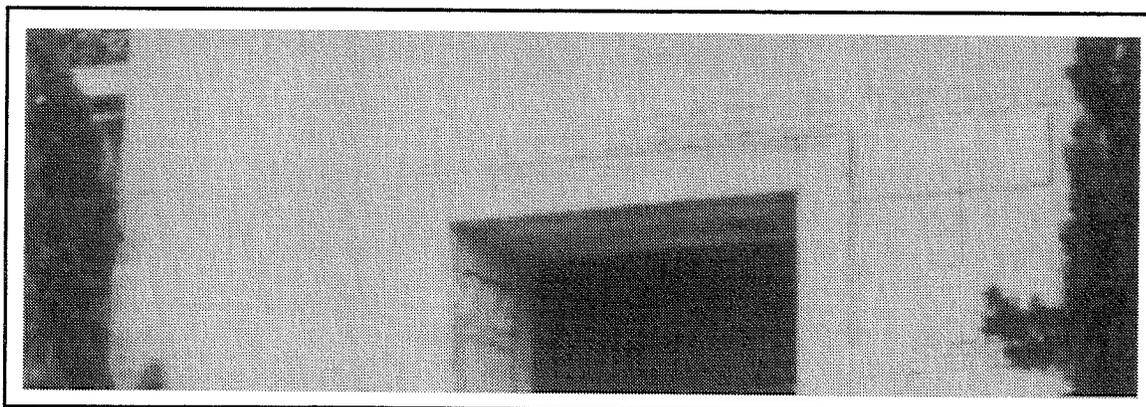
Entrance

The 6'-6" x 12'-0" wood entry doors are in very poor condition. The extreme denting and loss of the bronze cladding was caused by vandals. Original hardware and holdbacks, which were secured to the precast concrete, are missing. The grilles in the door and the hypaethyrum (lattice transom above both doors) have been replaced with a functional but unattractive welded wire mesh. A 1987 survey and historic photograph indicate that the hypaethyrum was similar to the windows, with bronze grillework and glass.

Note historic image below.



Cedar entrance doors with vandalized bronze cladding



Interior Doors

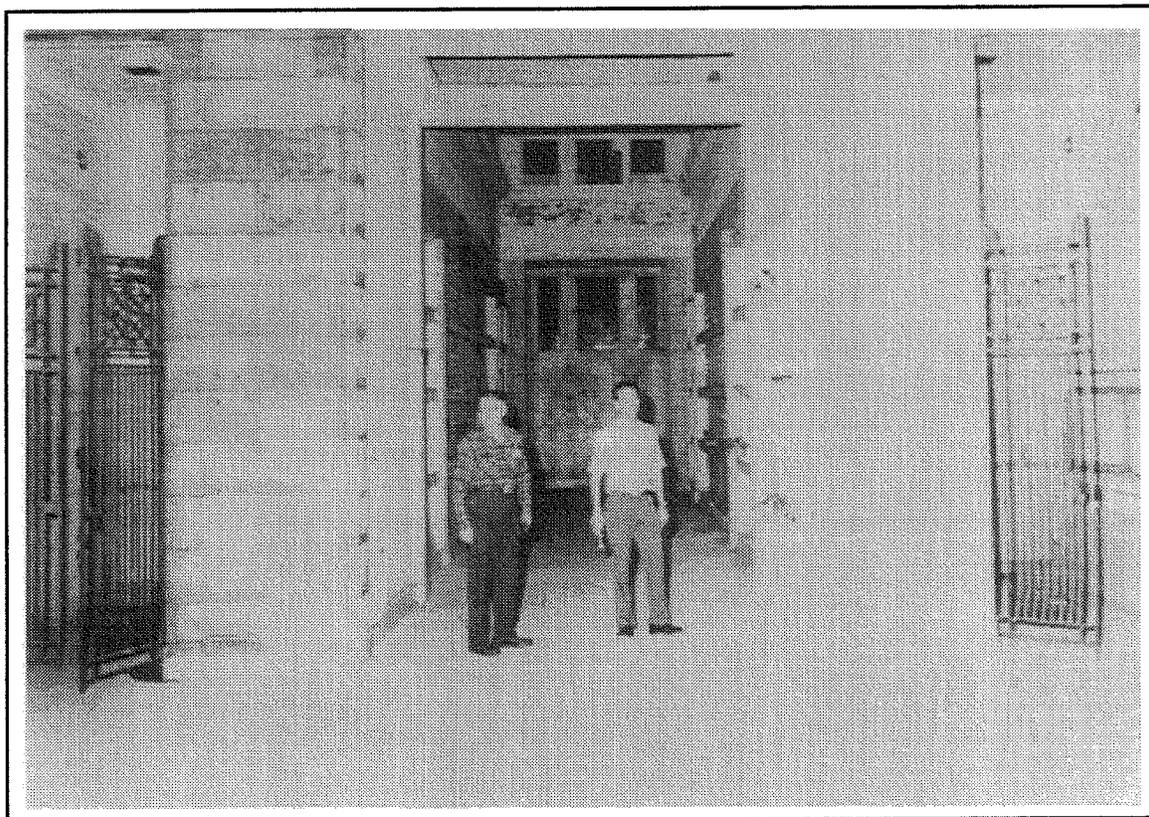
Bronze-clad doors provide access to the restroom and the storage closet, both of which are located on the north end of the building. Though dirty and in need of polishing, the doors are in good condition.

Windows

The original windows and clerestories consisted of amber-colored glass in bronze grilles. To deter further vandalism, the window openings were closed in 1965 with brick or concrete blocks, which have typically been parged on the exterior. Four of the clerestory windows were also secured with bars at one time. Some windows retain the bronze grilles which can be viewed from the interior. Whole and broken glass remain in some of these grilles, while others exhibit efforts to recreate the original look by replacing missing glass with thin, amber-colored fiberglass panels.

Relights

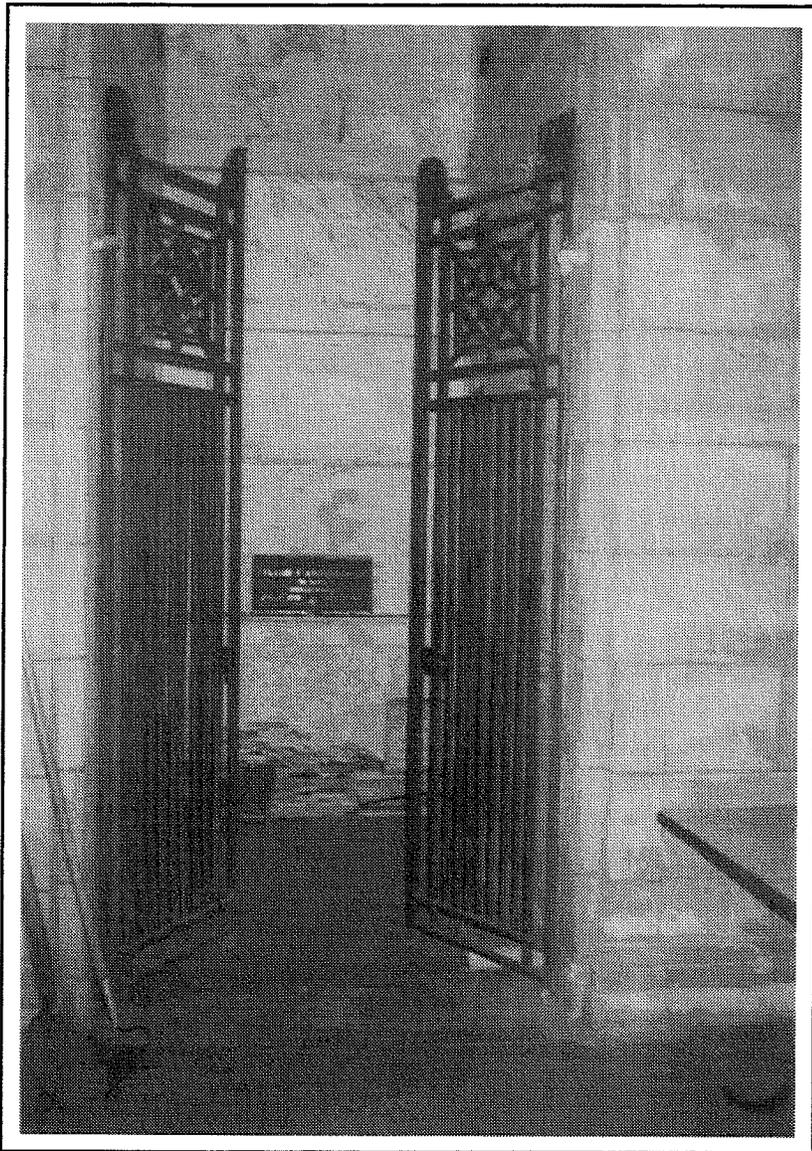
Two large relights were located in the ceilings of the North and South Halls, just off the Main Hall. The frame and materials that formed the relights are missing.



Historic image depicting clerestory, windows and bronze gates

Bronze Gates

The bronze gates leading to the private (family) crypts (four) are in good condition, although they require cleaning and polishing. Some corrosion exists at the hinges and all but one of the gates are missing their locking mechanisms. The extant locking mechanism can be used as a model to reproduce the missing sets in the future.



Bronze gates at one of the family crypts

3.1.7 Interior Finish Materials

Precast Concrete

Throughout the interior, precast concrete is used in the form of ashlar blocks and fluted pilasters between groups of crypts. Both exhibit minor chipping and most pilasters are missing their antefix caps; a few are missing shaft blocks. More serious problems are found on the precast blocks in the southeast corner of the Main Hall. Efflorescence and water stains are indicative of severe water problems here. Black stains from fire and/or mildew are found on the cornice and near the clerestories on the east side of the North Hall. The mortar between the precast units is in good condition, though some deterioration is present.

Paint

The exposed concrete walls and ceilings have been painted and exhibit severe deterioration in the form of peeling and blistering. This represents a lack of adhesion between the paint and the concrete, as well as problems with condensation. Some of the paint in the crypt inscriptions has also worn away. There is a strong possibility that the interior was only painted once, in a cream color.

Marble

The marble used on wall surfaces and crypt faces was previously identified as Alaskan marble, which was a lower-grade substitute for the Colorado Yule Creek marble originally specified. Most of the surfaces are polished and aesthetic considerations are reflected in the bookface orientation of the slabs on the larger wall surfaces.

Although some deterioration and popping of the mortar is present, the joints are in fairly good condition. Staining of the

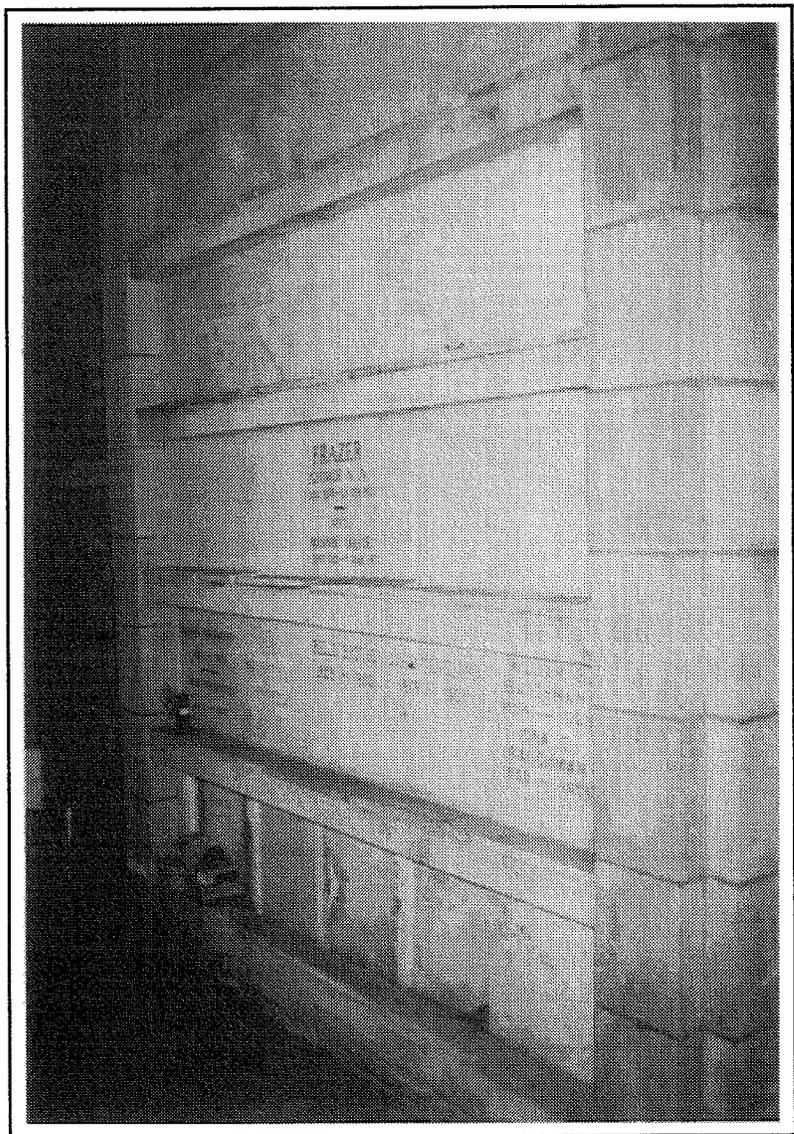


Image of deteriorated and broken marble at cremation crypts

marble slabs appears to be a result of previous cleaning efforts. Some slabs are loose as a result of corrosion of the metal ties that fasten them to the structure. This problem is most evident in areas experiencing water penetration, particularly at the 5 1/2" marble base.

The marble slabs in the private crypt spaces have suffered the most damage due to the method of fastening the slabs to the walls. This is particularly evident in the narrow, horizontal courses of marble that have been secured between each crypt face with metal bolts. These bolts expand at a different rate than the marble, resulting in cracking. Previous repairs to the marble have, in some areas, been done improperly. For example, missing portions of the string courses were replaced with pieces that made up the base. In other places, pieces were set in mortar without sufficient attention to placement and joint size.

Terrazzo Floor

Although cracks have resulted from settlement and a lack of expansion joints, the terrazzo floor is in good condition. The cracks are dormant and pose no threat to the structure. Cosmetic problems are caused by the existence of rust stains and water seepage.

3.1.8 Crypts

A number of marble crypt faces exhibit breakage, either from vandalism or from accidental falling or dropping. Several have been repaired in the past, sometimes improperly. Other crypts are missing marble faces as well as the precast concrete crypt heads. Bronze pulls, some of which are missing, were secured to crypt faces in the family crypts. Cracking of the marble in these locations indicate the pulls may have been attached with ferrous metal connectors, which expanded because of rust.

3.1.9 Restroom

Unlike the floor in the main spaces of the mausoleum, the floor of the restroom is exposed concrete. The paint on the concrete walls and ceiling is peeling severely, demonstrating problems with condensation and a lack of adhesion. A light fixture originally located on the north wall is missing. The marble toilet partition, with its bronze-covered door, is intact and remains in good condition. The toilet and mop sink are also intact, although the wooden toilet seat is cracked. For additional information, see "Plumbing" in Section 3.1.4.

3.1.10 Storage Closet

The storage closet has an exposed concrete floor. The walls and ceiling are covered with tinted stucco or parging. Stains on the walls indicate water penetration through the concrete. Wooden shelves located on the south wall are in good condition. An opening in the ceiling provides access to a sub-ceiling space in which the two deodorizers are located. For additional information, refer to "Venting" in Section 3.1.4.

The New Bomgardner Mausoleum Elevator



No. 1



No. 2

THESE illustrations taken from the same point show how the new **Bomgardner** Mausoleum Elevator can be adjusted to meet all conditions.

In illustration No. 1 the casket is being placed in the top or fifth crypt, while No. 2 shows the same elevator reduced in height to 7 feet, 6 inches and the casket is being rolled into a lower crypt.

The casket is moved by means of rolls upon which it rests, the operator turning a crank and quietly moving the casket forward into its last resting place.

The elevator can be made for a six or even seven crypt mausoleum, as may be required.

We also make a special elevator for private mausoleums.

For Further Particulars, Write the

Bomgardner Manufacturing Company
CLEVELAND SIXTH CITY

3.2 Recommendations for Treatment

3.2.1 *General Guidelines*

Because the distinctive materials, features, and spaces of the Hope Abbey Mausoleum are essentially intact, thus conveying the building's historic architectural significance, the approach to treatment is preservation, rather than restoration or rehabilitation. **Preservation**, as defined by the Secretary of the Interior, includes the protection and stabilization of the building, issues of maintenance, and repair, *rather* than extensive replacement, of historic materials and features. It also includes the "limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work."

With this approach toward the preservation of the mausoleum, some general guidelines should be followed. These are based on the *Secretary of the Interior's Standards for Preservation*.

1. Distinctive materials, features, spaces, and spatial relationships shall be retained.
2. Intact or repairable historic materials shall be repaired rather than replaced. Distinctive features, spaces, and spatial relationships shall not be altered.
3. It should be recognized that the mausoleum is a physical record of its time, place, and use. Measures to preserve historic materials and features shall be physically and visually compatible, identifiable upon close inspection, and fully documented through photographs, drawings, and written descriptions.
4. Past alterations to the mausoleum that have acquired historic significance shall be retained and preserved.
5. Distinctive characteristics of the mausoleum, including materials, finishes, design, and construction techniques, shall be preserved.
6. New materials used in the repair or replacement of distinctive features shall match the old in composition, design, color, and texture.
7. Any chemical or physical treatment shall be undertaken with the gentlest means possible. No treatment should result in damage to historic materials.
8. Archeological resources near the mausoleum shall be protected and preserved in place. If resources are discovered and must be disturbed, mitigation measures shall be taken.

Although the recommended methods and materials in this preservation plan are based on the most recent developments by recognized authorities, the application of these treatments may be affected by such factors as climate, age, previous treatments, and personnel. Therefore, it is recommended that a policy of testing be developed. This should include testing of small areas for compatibility of materials, durability, and reversibility before proceeding with large-scale application. Although the time involved with testing may impact goals of immediate restoration, the importance of such a policy should be understood. It would be detrimental to rush forth with methods or materials that may not be appropriate for the character defining features found in this mausoleum.

Care should be taken to conduct repairs in the most appropriate conditions. For example, exterior repairs involving water or cleaning agents should only be undertaken in dry, mild weather to prevent potential damage caused by freezing. Use of any commercial products should be done in strict accordance with the manufacturer's instructions.

3.2.2 Site

Topography and Site Drainage

The seriousness of water infiltration from a number of ground sources requires an extensive reworking of the site. The entire drainage system at the base of all foundation walls will have to be either repaired or reconstructed. There likely was a drainage system in place, but it has been ineffective for a long time and has been at the root of interior water problems in the mausoleum.

Although a precise treatment will have to be determined depending on the conditions found, the following steps are required at the very minimum:

1. Excavate around the total perimeter of the foundation wall. This will require some major earthwork in that the east side contains soil at a vertical distance of fifteen feet or more. This should be done during the driest time of the year to avoid problems with water-soaked soil.
2. Clean the exterior surfaces of the foundation/retaining walls down to the footing.
3. Repair and/or replace the existing waterproofing materials, depending on quality, not necessarily based on condition. Parging is recommended.
4. Apply 2" rigid insulation to the foundation wall to minimize condensation.
5. Replace the existing drainage system, providing at least two levels of large diameter, filtered drain tile, set in gravel.
6. Completely regrade the site around the perimeter, insuring positive surface drainage around and away from the structure, placing compact fill in depressions. The grade along the east side should be at least six inches below the windows. On the west side, the grade should also be dropped to its original location. As seen in historic photos, the grade permitted exposure of all three entrance steps, the cornerstone and the urn pedestals.

Adjacent Planting

Repair of the foundation drainage system will necessitate removal of vegetation located immediately adjacent to the mausoleum. After these repairs have been completed, new plantings should be introduced based on several criteria. The first should consider the historic intent. Photographs indicate that the first plants on the west side included cypress, a plant traditionally associated with funerary places. Additional research on the Hope Abbey Mausoleum, as well as other mausoleums in Oregon, may also provide a basis for decisions regarding vegetation. Other considerations in plant selection include maintenance, impact of the plants on the soil and the building, and aesthetic enhancement. A landscape professional versed in historic landscapes should be retained to provide guidance for future plantings around the mausoleum. Climbing vines and ivy are to be avoided.

Approach/Entry

The existing steps at the entrance require replacement. To retain the historic character, the riser and tread dimensions, as well as the layout, should be matched. Handicap accessibility may be provided by using a lightweight portable ramp that could be stored inside the mausoleum when not in use. Information regarding street access, parking, and paving is provided in Section 4.5, Contemporary Issues.

3.2.3 Roof

The failure and lack of maintenance of the roofing materials, flashing, coping, and drainage should be corrected before any treatment of the concrete and precast exterior is performed. The most pressing issue is the restoration of a proper roof drainage system. All other decisions are linked and dependent on this key resolution. The direct approach, and therefore most satisfactory, would be to employ additional opportunities for drainage of the roof and connect them directly to the new or restored perimeter drainage system. Three options are listed below, from most expensive to least expensive:

1. Repair the original drains and the drain leads imbedded in the poured concrete wall. This requires opening the wall on the exterior (perhaps the interior also), replacing the defunct roof drains and leads with ones more adequate in size and material, connecting to the perimeter drainage system, and restoring the wall. While this method retains the original design with existing roof slopes and is visibly non-intrusive, it involves damage to some historic fabric, high cost, and may lead to unknown related problems.
2. Install an active sump pump method, tripped by valve, that pumps water out of the roof area through a retrofitted drain system which would connect to the new perimeter drainage system. The new drain system can be designed to meet the maximum flow needed, is easily repaired as it would be external, and can be altered easily. The disadvantages of this option include visual intrusiveness and a requirement for continuous power. In addition, failure could be critical to the restored roof and noise of the sump pump may be invasive.
3. A passive system would involve the introduction of scuppers and exterior leads connected to the perimeter drain system. This option would be the least expensive and could be sized to provide adequate drainage. It could be designed to be compatible and to have minimum maintenance. While it alters the historic appearance, it requires only minimal damage to the historic fabric.

Treatment of the roofing material will be dependent on existing conditions found when the old roofing is removed. This demands the presence of an architect specializing in historic preservation or similarly qualified professional during this phase. The architect can evaluate existing conditions and make recommendations for the extent of removal (e.g. the later wooden roof) and final roofing materials. At this time, it is recommended that the roofing material be

replaced with an EPDM (ethylene propylene diene monomer) membrane, accompanied by proper flashing at all roof/wall intersections. In addition, replace damaged sections of copper coping.

3.2.4 Systems

Electrical

Electrical service should be re-established to facilitate preservation measures and use. This includes upgrading the system to meet modern code requirements, while providing adequate service for future heating and ventilation equipment, should those ever be required.

The one existing light fixture globe should be carefully removed, documented with photographs and drawings, and stored in a secure location. Based on this documentation, globes can be replicated and installed in the locations of the original fixtures in the halls. Since no evidence exists about the appearance of the original wall-mounted light fixture in the restroom, one of a compatible design should be installed.

Exterior lighting is a major consideration since it can play a significant role in reducing vandalism, as well as enhancing safety in the cemetery. Lighting adjacent to the mausoleum, which should be sensitively placed, could be of three kinds. The first, architectural accent lighting, should be utilized to highlight the building in an aesthetically pleasing manner during all hours of darkness. A second light source would consist of motion-sensitive lights that would provide security by being activated and shining out away from the building toward intruders. Finally, path lighting would delineate a safe approach to the mausoleum. It should be subtle, hidden and directive and may be turned on for events.

Plumbing

Re-establish plumbing service to the existing toilet room. The existing water closet and service sink can still be used, though they will require cleaning and some repairs, including the replacement of the wooden toilet seat.

Venting

Because condensation was a problem since shortly after completion of the mausoleum, alternative systems to reduce interior moisture must be considered. The type and extent of such systems can be determined only after measures have been taken to correct the serious water infiltration problems. Specifically, this includes repair of the roofing, roof drainage, and foundation drainage. At the minimum, the installation of dehumidifiers at the north and south ends of the building are recommended. This should be done as unobtrusively as possible; placement of equipment in empty crypts may be an option. If condensation, as evidenced by peeling paint, dampness, or deterioration of interior elements is still apparent, a mechanical venting and/or heating system may be required. This too should be installed in a manner sensitive to the architectural significance of the interior and exterior of the mausoleum.

3.2.5 Cast-in-Place Concrete

Concrete should be repaired only after the significant causes leading to its deterioration have been corrected. This specifically requires correction of the roof and drainage problems. The damage to the concrete requires different treatments and are addressed below. After the damage has been corrected and the surfaces cleaned, the exterior concrete surfaces (excluding precast concrete elements) should be painted in a color matching the exposed concrete, for it is believed that the original design intent was to leave the mausoleum unpainted. See Section 3.2.11 for Painting.

Spalling

Remove loose, deteriorated concrete from the spalled area. If reinforcing bars are exposed, they must be treated by removing any rust with a wire brush and immediately applying an epoxy coating to prevent further corrosion. To ensure a good bond between the new patching material and the existing surface, proper preparation is required. Roughen the surfaces of smooth areas with a hammer and chisel. Keep the area moist with running water and sponges for at least an hour before the patching material is applied. In small areas, the patching material may be applied directly to the cleaned and moistened area. In larger areas, reinforcement may be needed. This can be provided by the use of stainless-steel hooked pins or threaded nylon rods drilled into the structure and secured with epoxy. The patching material should match the composition of the original concrete as closely as possible to insure compatibility of color, strength, appearance and thermal expansion. Final finishing of the patch may require texturizing with a brush or wet sponge.

Crack and Holes

All cracks need to be monitored to determine if they are progressive or stable. Most hairline, non-structural cracks do not need to be repaired. Cracks larger than hairline and up to one-sixteenth of an inch, which are not active, can be repaired with a mix of cement and water. Add fine sand to the mix for greater compatibility and reduction of shrinkage if the crack is wider than one-sixteenth of an inch. A sand, cement, and water mix may also be used to patch the holes previously drilled into the concrete.

If, after monitoring, cracks are determined to be opening and closing due to recurring movement of the building, they should be treated as expansion-contraction joints. This will require the use of a silicone or acrylic sealant that matches the adjacent material in color. Sealant in existing cracks should be monitored for deterioration and replaced as required.

Cleaning

Cleaning should be undertaken only after cracks and spalling have been corrected to prevent penetration of water and cleaning agents into exposed surfaces. This should be coordinated with the repair and cleaning of the exterior precast concrete. Care should be taken to protect windows, doors and vegetation. Stains and dirt can be removed with a low-pressure wash utilizing cold water and a non-ionic detergent. In some areas, it may be necessary to loosen residue with a natural bristle brush or by hand-scraping with a non-metallic tool. The areas

should be carefully washed after cleaning to remove the gummy film left by the detergent. After the concrete has been cleaned and painted, graffiti may be treated either by repainting (with a matching color) or with commercial cleaners.

3.2.6 Precast Concrete

The architectural importance of the precast elements is very significant. They are the most representative components describing the design and technology of precast concrete at the time of the building's construction. They represent those elements that give architectural style and visual clarity to the Lawrence design, while the poured-in-place components are probably the design of the mausoleum company. Restoration of these elements is absolutely necessary. The different treatments are discussed below. Repair of the decorative urns is discussed separately in the last paragraph of this section.

Patching and Repair

Patching of the precast concrete is not necessary for minor chips. More significant chipping can be patched by cutting a dovetail into the existing material and adding new material using a mold. The patching material should match the composition of the original concrete as closely as possible to insure compatibility of color, strength, appearance and thermal expansion. Keep the area moist with running water and sponges for at least an hour before the patching material is applied. In small areas, the patching material may be applied directly to the cleaned and moistened area. In larger areas, reinforcement may be needed. This can be provided by the use of stainless-steel hooked pins or threaded nylon rods drilled into the substrate and secured with epoxy. Final finishing of the patch may require texturizing with a brush or wet sponge.

Replacement of antefix capitals and shaft blocks for the interior pilasters should be re-created using an original as a mold. Secure new pieces with stainless steel ties.

Repointing

Not all joints between the precast concrete units require repointing. Only those that exhibit deterioration or softness should be removed back to stable mortar and replaced with a repointing mix. To ensure compatibility of the color, texture, hardness, and strength of the repointing mortar, the original mortar should be analyzed by a trained professional. This analysis will determine the ratio of binder to the aggregate, the type of binder, and the composition of the sand. This mortar should then be duplicated for use as the repointing mix.

Cleaning

Cleaning should be undertaken only after repointing and patching have been completed to prevent penetration of water and cleaning agents into exposed surfaces. This should be coordinated with the repair and cleaning of the cast-in-place concrete (Section 3.2.5). Care should be taken to protect windows, doors and vegetation. Dirt, efflorescence and pollutants may be removed with a low-pressure wash utilizing cold water and a non-ionic detergent. In some areas, it may be necessary to loosen residue with a natural bristle brush or by hand-scraping with a non-metallic tool. The areas should be carefully washed after cleaning to remove the

gummy film left by the detergent. Lichen that remains after the low-pressure washing may be removed with dilute ammonia. Stains from the copper coping can be removed with a poultice utilizing an ammonia solution (aqueous ammonium hydroxide). Remove paint and graffiti with an alkaline paint remover (ammonia, potassium hydroxide, or trisodium phosphate) or an organic solvent paint remover (methylene chloride).

After allowing the precast concrete units to dry thoroughly, apply a silicon-based concrete masonry coating to stabilize deterioration caused by erosion. Consult with the manufacturer for proper application procedures. Testing of coatings is imperative, as are continual monitoring and re-application on a periodic basis.

Urns

The two decorative urns framing the entrance to the mausoleum are significant architectural features and require the care of an experienced conservator. Missing pieces should be reproduced and, because the urns are exposed to the weather, replacement of the corroded ties with stainless steel ties is recommended. This will require disassembly and perhaps the drilling of holes for the new ties. The old ties should be removed to prevent future damage caused by expansion as rusting occurs. Cleaning of the individual pieces may be done utilizing the methods discussed previously in this section. After re-assembling the urns, apply a silicon-based concrete masonry coating to the horizontal surfaces (top of the urn, top of the lotus petals) to stabilize deterioration caused by erosion. Consult with the manufacturer for proper application procedures. Testing of coatings is imperative, as are continual monitoring and re-application on a periodic basis.

3.2.7 Marble

Cleaning

Interior marble walls may be cleaned with water and a non-ionic detergent, applied and lightly rinsed with sponges and cloths. Care should be taken to prevent streaking. Remove rust stains with a poultice of sodium citrate in water plus glycerine or a solution of ammonium oxalate. These are available as commercial products; follow the manufacturer's instructions closely. Typically, this requires an application at least 1/4-inch thick and covering the poultice with plastic for 1-2 days to allow maximum working time.

Repointing

Not all joints between the marble slabs require repointing. Only those that exhibit deterioration or softness should be removed back to stable mortar and replaced with a repointing mix. This mix should be ASTM Type N, a soft mortar of white Portland cement, hydrated lime and sand. Alkali-stable pigments or marble dust may be added to match the color of the older mortar.

Patching and Repair

Missing pieces and slabs should be replaced with marble that matches in color, direction of graining, and dimensions as closely as possible. Small chips and areas of spalling should be filled with a mortar/synthetic resin composite. Mix this composite with stone dust to match the

original color and texture as closely as possible. Repair fractured slabs with a polyester-based adhesive. Patching and adhesion of larger slabs may require threaded nylon pins as reinforcement. Loose pieces of marble, such as the base trim at the floor-to-wall junction, should be carefully removed to permit replacement of corroded ties with stainless steel ties. This may require the drilling of holes into the concrete structure and the use of a high-modulus epoxy to hold the ties.

3.2.8 Terrazzo

Clean with water and a non-ionic detergent. Remove rust stains with a poultice of sodium citrate in water plus glycerine or a solution of ammonium oxalate. Buff the floor after all traces of cleaners are removed.

3.2.9 Bronze

Archival records suggest that some of the bronze elements may actually be electro-plated bronze and that Lawrence had some concerns about this material.¹³ Elements of the mausoleum made of bronze or electro-plated bronze include the doors, the crypt pulls, and the grilles at windows, relights, and vents. Bronze, a durable material contributing to the architectural elegance of the building, typically develops a brown patina formed by oxidation. While this patina can eventually blacken as it is combined with dirt, soot or dust, the patina of the bronze materials in the mausoleum exhibit no immediate danger of deterioration. Cleaning with deionized water, a non-ionic detergent, and natural bristle brushes should be done gently enough to remove surface dirt and corrosion while removing as little of the patina as possible.

¹³Ellis Lawrence to John Bradley, 18 March 1916, Ellis Lawrence Collection, Special Collections, University of Oregon, Eugene.

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3.2.9 Bronze

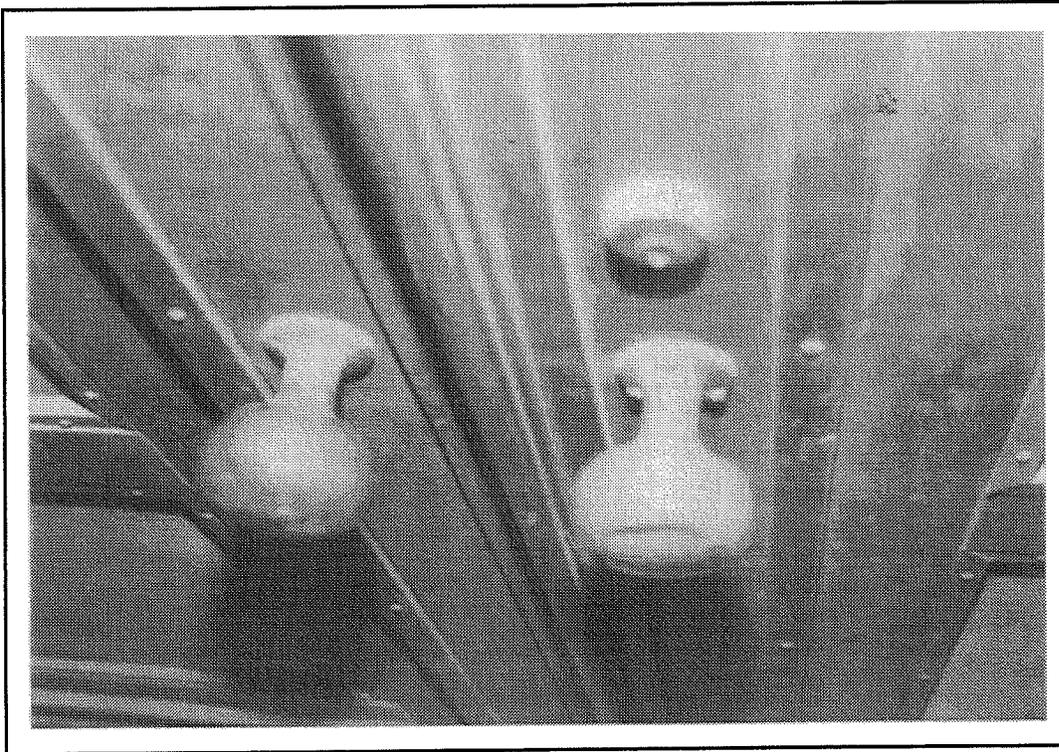
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¹³Ellis Lawrence to John Bradley, 18 March 1916, Ellis Lawrence Collection, Special Collections, University of Oregon, Eugene.

3.2.10 Openings

Doors

The grilles in the bottom of the door should be removed and the opening patched to reflect the design of the original doors. If possible, repair rather than replace, the existing bronze cladding. This will require patching in such a manner as to reduce the visibility of seams. Replace missing elements, such as the doorknobs, holdbacks, and locks. The doorknobs should match the doorknob found on toilet room door. This is consistent with Ellis Lawrence's designs for the mausoleums in Salem and Portland. Unless evidence of the original holdback designs is found, these should be created based on the design of the holdbacks found at the Mount Crest Abbey Mausoleum in Salem. Clean and polish the restored door.



Bronze door knobs on the entrance doors of Mount Crest Abbey, Salem, Oregon

Windows and Hypaethyrum

Due to the relatively high cost, restoration of the windows should be approached only after measures to reduce vandalism have been taken. Remove brick and concrete block from window openings. When possible, the bronze grilles and glass should be repaired and cleaned rather than replaced. Missing grilles and glass should be replaced in-kind. The decision to add a protective covering over the windows must be weighed against the probability of damage by vandals at the time of repair. Should it be required, plexiglass may be attached to the exterior of the windows in such a way as to diminish its individual impact. This may require securing the plexiglass directly to the window frame or by attaching it to the structure with small flanges. In any case, weepholes in the plexiglass will be required to prevent condensation.

Relights

Information regarding the design of relights at Ellis Lawrence's other mausoleums indicate that the grillwork of the relights matched the grilles found in the windows. Unless further research turns up the actual design of the relights in the Hope Abbey Mausoleum, they should be designed following the same premise with the grillework in a lotus blossom design and amber-colored glass.

Gates

With the exception of cleaning and polishing (see Section 3.2.9, Bronze), little work on the bronze gates is required. Depending on the use of the family crypts and the role the families wish to be involved in the future, replacement of the locks may be eventually necessary, but is a low priority at this time.

3.2.11 Painting

Interior

Since most of the paint on the interior concrete surfaces has detached from the surface, it will need to be removed to allow proper adhesion of new paint. This may be done by a low-pressure water wash, and/or use of natural-bristle brushes. The existing paint should be analyzed to determine the composition and color of all layers. While paint removal and analysis may be done at any time, final painting should not be done until a year after the water-infiltration problems have been corrected and the surface thoroughly cleaned. This will allow the concrete to dry out and reduce the potential of sealing in moisture which would lead to damage of the concrete. After this time, apply one coat of penetrating masonry primer, allow it to dry, then paint with 1-2 coats of acrylic latex paint of an appropriate color. Paint analysis should be performed on sample chips of the original paint to determine the appropriate color.

The lettering of some marble crypt faces has been accented by the application of gold paint. This should be touched-up as necessary and applied to all lettering that has not been gilded.

Exterior

Since no evidence exists that the mausoleum was originally painted, the cast-in-place concrete should be painted a color that matches the original exposed concrete. After cleaning the exterior, allow it to dry thoroughly. Apply 1-2 coats of acrylic latex paint with sand added to provide texture. If future research reveals that the concrete was originally painted, repaint the mausoleum in the color of the original paint.

3.2.12 Crypts

The crypts require replacement or repair of elements that are exposed to the public spaces. This includes the replacement of missing precast concrete crypt heads, repair or replacement of marble crypt faces (in-kind), and the replication of bronze crypt pulls.

3.3 Ranges of Costs for Treatment

Listed below are two costs, representing a low-to-high range, for required repairs to the mausoleum. Actual costs will be determined by prices of local labor, equipment, and materials. Most importantly, they may be affected by factors that will remain unknown until repairs begin. This is especially true for the foundation drainage, roofing, and roof drainage.

Foundation drainage:	LOW	HIGH
Excavation and haul off	1,624	3,480
Remove waterproofing, cleaning	1,361	2,916
Waterproofing & insulation	3,969	8,504
Drains	1,418	3,038
Backfill	3,251	6,966
Surface grading	315	675
Storm drainage lines	2,800	6,000
SUBTOTAL	\$14,738	\$31,579
Replace entry stairs	1,400	3,000
Roof:		
Remove existing roofing & coping	2,604	5,580
Reshape drainage of roof	5,208	11,160
Add drainage	3,500	7,500
Repair roof substrate	1,823	3,906
Re-roof	7,812	16,740
Re-flash	5,250	11,250
SUBTOTAL	26,197	56,136
Electrical		
Restore service (underground)	1,400	3,000
Replicate light fixtures, repair wiring	3,080	6,600
Safety and security lighting	3,500	7,500
SUBTOTAL	7,980	17,100
Plumbing		
Restore sanitary sewer service	2,450	5,250
Restore water service	1,400	3,000
Clean, restore fixtures	630	1,350
Replace toilet seat	140	300
SUBTOTAL	4,620	9,900
Mechanical ventilation	1,540	3,300

Repair & replacement of cast-in-place concrete	350	750
Repair of precast concrete		
Cleaning	2,688	5,760
Joint repair	2,260	7,200
Patching (small)	560	1,200
Patching (large)	1,050	2,250
Replacement, new ties, etc.	2,450	5,250
Sealing	1,386	2,970
SUBTOTAL	11,494	24,630
Clean and paint exterior	3,542	7,590
Clean and paint interior concrete	2,240	4,800
Clean terrazzo	893	1,913
Clean bronze	700	1,500
Replace bronze elements	945	2025
Restore doors	2,800	6,000
Restore windows, relights, and clerestories	XX	XX
<u>TOTAL*</u>	<u>\$79,439</u>	<u>\$170,223</u>

***Add marble replacement at \$21-30 per square foot.**

3.4 Maintenance Guidelines

While the following does not present a detailed maintenance plan for the Hope Abbey Mausoleum, it can be utilized as guidelines to ensure the continued preservation of this significant historic resource.

3.4.1 Site

- Maintain the grade around the mausoleum to provide positive drainage away from the building.
- Plantings should be pruned to prevent invasive damage on the building.
- Keep the entry stairs free of ice and water to reduce the potential of spalling due to freeze-thaw action. Use cinder or sand rather than salt or chemical agents.
- Maintain electrical lighting in good working order.

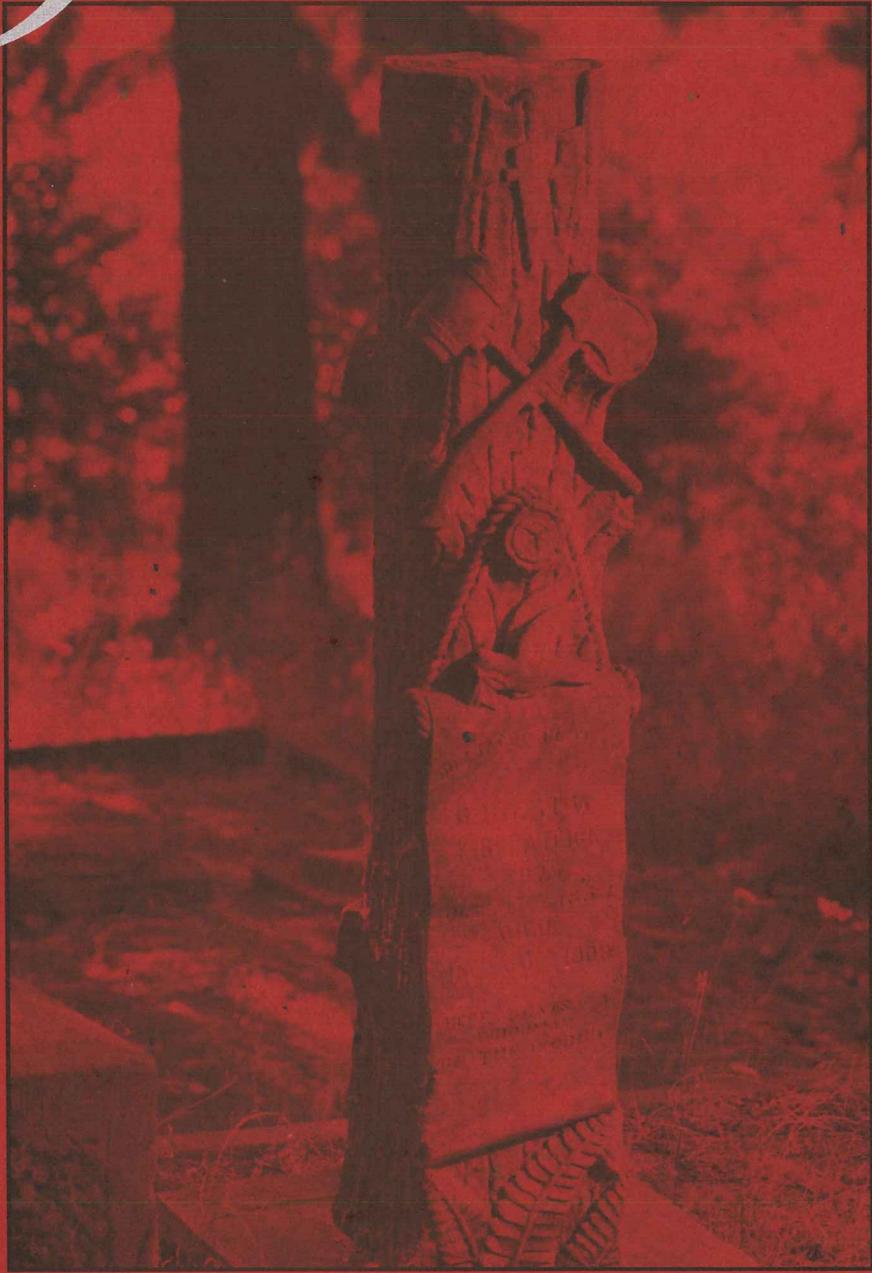
3.4.2 Exterior

- Treat graffiti immediately by removing with a commercial product or painting over with paint recommended in this document.
- Clean the exterior periodically of efflorescence, lichen, mildew and dirt.
- Monitor bronze elements for deterioration that may be caused *either* by the patina formed by oxidation *or* by the repeated removal by oxidation, weather, and pollutants of the patina which may serve as a protective layer.
- Every other month, clear roof membrane and drains of debris. Maintain membrane per manufacturer's instructions. Immediately repair any damage to the roofing membrane, flashing, and coping.
- Replace damaged glazing immediately
- Replace sealer on precast concrete on a periodic basis per manufacturer's instructions.

3.4.3 Interior

- Keep interior surfaces clean by periodic dry wiping and cleaning.
- Maintain interior systems (plumbing, electrical, and mechanical) in good working order.
- Monitor for moisture problems. Correct problems immediately to prevent damage.
- Maintain door hardware in good working order.

*T*HE MASONIC CEMETERY



4.0 THE MASONIC CEMETERY

4.1 Condition Assessment of the Cemetery Landscape

4.1.1 Site

Boundaries and Features

The Eugene Masonic Cemetery is located on a hill southeast of the intersection of West 25th Avenue and University Street. Though undeveloped, a right-of-way for University Street forms the west edge of the cemetery. Just southwest of the Hope Abbey Mausoleum is the intersection of West 26th Avenue and a portion of University Street, both of which are dead-end gravel roads at this point. Portions of the east and south sides of the cemetery abut residential property and are typically delineated by private fences. West 26th Avenue forms the boundary of a majority of the south edge of the cemetery, which is not fenced. Mature plantings exist along this border.

In the northeast corner is a clay pit that once provided materials for bricks used in the construction of Deady and Villard Halls on the University of Oregon campus. This clay pit is one of two identified archeological sites in the cemetery. The other is the marker identifying the Point of the Hills School. A one-room log structure was located in the vicinity of the northwest corner of the cemetery. Another notable feature is the public square, centrally located at the top of the hill at the terminus of the carriage road, just north of the Eugene Skinner plot. Trolley car access allowed the townspeople to use the cemetery for respectful visits, picnics and other low-key recreational outings during the early part of this century. The trolley tracks once cut through the northeast corner of the cemetery. This small triangular piece of land has subsequently been sold to a private owner.

Vegetation

Douglas-firs, ponderosa pine, Oregon white oak, and madrone create an environment of filtered and dappled light through much of the cemetery and frame spectacular views toward Spencer Butte (south), the south hills (west) and downtown Eugene (north). These mature trees are complemented by plantings of ornamental shrubs and conifers, including holly, yew, laurel, spirea, lilac, roses and numerous perennials. These plants have been introduced by humans, probably by plot owners. A few of the native species populating the site include big leaf maple, Oregon ash, incense-cedar, tall Oregon grape, California hazel, and Indian plum. Of great significance is the unique collection of native wildflowers and grasses. Most well-known is the meadow of blue camas, yellow buttercups, and white saxifrage just south of the mausoleum. Vinca major, blackberry, poison oak and scotch broom are some of the plants that run rampant through various parts of the cemetery. For a listing of native plant species, refer to Appendix F.

Circulation

In 1859 the cemetery was laid out in a grid of 20' x 20' plots separated by 8-foot wide streets and alleys. Since that time, the grid plan has been modified by the sale of burial lots in a few of the alleys. With the construction of Hope Abbey Mausoleum at the southwest corner, numerous burial plots were vacated. The grid layout reflects a logical rationale to gain the maximum

number of plots available. The grid layout ignores a more curvilinear and site-sensitive approach found in other cemeteries of this time period. However, there are certain characteristics of the Masonic cemetery site design that reflect the nineteenth century Rural Cemetery movement. These include the construction of the carriage path along the hill's contours in 1905 and a naturalistic, rather than manicured, landscape. Access to this carriage road is from a gate on the northwest corner of the cemetery. This gate is typically locked in an effort to control vandalism. The cemetery has no designed footpaths; pedestrians walk along the streets and alleys between plots.

Problems

Many of the site problems in the Masonic Cemetery can be attributed to vegetation and soil drainage. Due to lack of maintenance and funds, rampant vegetation such as ivy, blackberries, and Scotch broom, have caused damage to or obscured the curbs and markers, as well as partially obscured desirable views. Uncontrolled vegetation also contributes to a look of neglect and abandonment, thus providing an atmosphere conducive to vandalism.

In addition to invasive vegetation the grid layout of the cemetery has been obscured by erosion of the soil, in some places. The dramatic effects of erosion are most obvious at the



English ivy and grasses obscure the curbs and markers of a family plot

northeast corner of the cemetery where stabilization of the land was undermined by the excavation of clay in the late nineteenth century. This has caused plot enclosures and grave markers to slide downhill. Evidence indicates that the soil has since stabilized and no significant erosion is occurring. Erosion is evident at numerous locations throughout the cemetery.

4.1.2 Plot Enclosures

Concrete and Masonry Plot Enclosures

A number of the twenty-foot square burial plots are delineated by plantings, while others are physically defined by concrete and masonry plot enclosures. Many of these enclosures are low, 6" wide concrete curbs, while others are constructed of two or more courses of brick parged with concrete. These types of curbs are quite simple in design and usually conform to the irregular terrain, but a handful are more elaborate in design with low entrance pillars and steps centrally located on a plot. The corners are sometimes articulated by cornerstones made of concrete or stone.

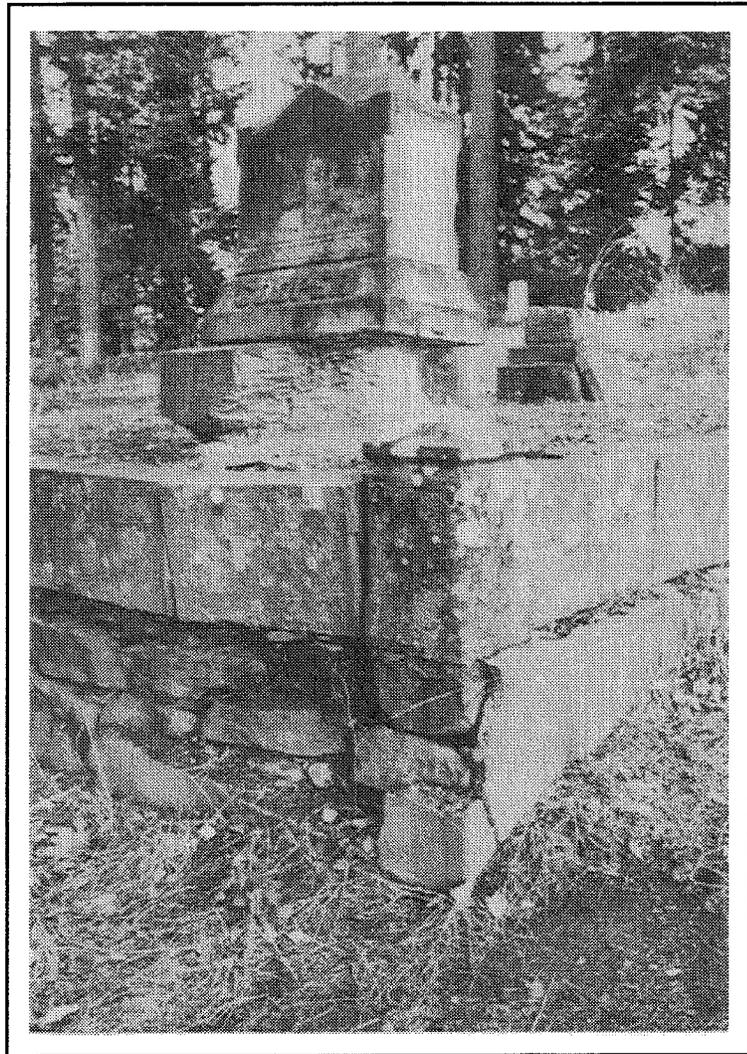


Moss covered concrete curb with entrance steps

The condition of these curbs ranges from good to severely deteriorated, with damage in the forms of cracking, spalling, delamination and sinking. The majority of damage to curbs throughout the cemetery has been caused by root systems of trees, shrubs and ornamentals, or by volunteer seedlings. Other damage has been caused by improper drainage, which has eroded the earth causing failure to the curbs. In some parts of the cemetery, the plot enclosures are located on steep slopes without terracing or other strategies for stabilization. In these instances the plot enclosures have deteriorated and fallen downhill.

One plot enclosure at the Thompson-Cooper plot in the southeast quadrant of the cemetery is constructed of carved sandstone set on a base of stone which is covered with 2"-3" of concrete.

Because of the hilly setting this particular plot enclosure suffers from a loss of the concrete surface texture, severe spalling, failure of mortar joints, and severe cracking due to soil erosion.



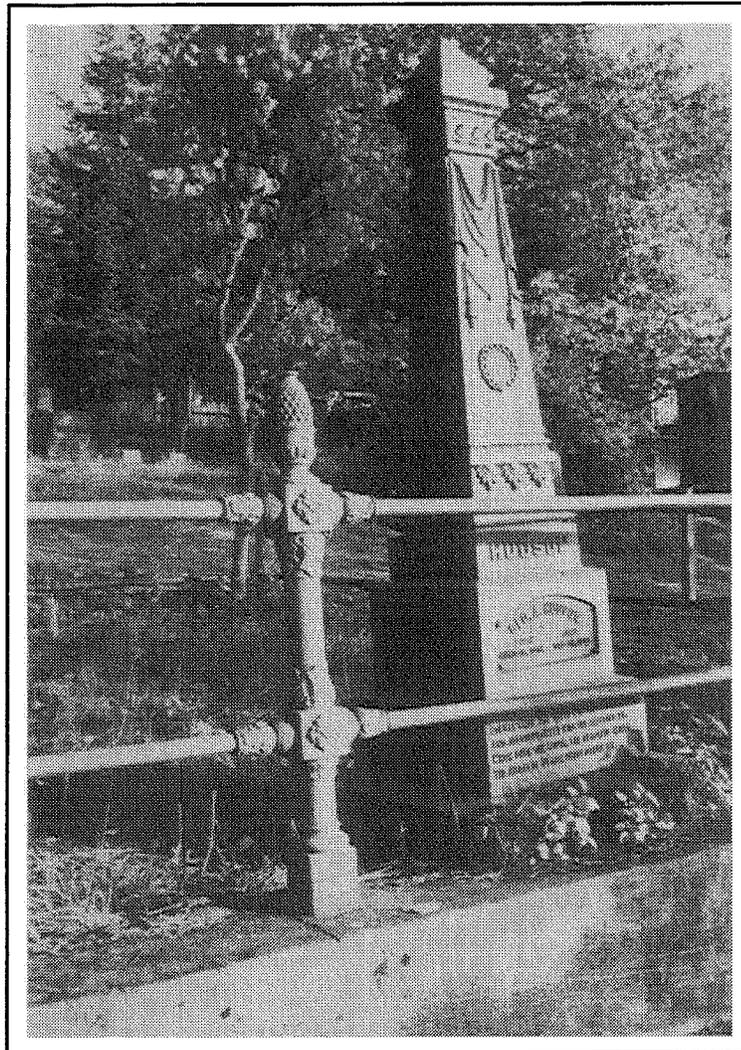
Deterioration to the plot enclosure at the Thompson-Cooper plot

Cast-iron Fences

In the nineteenth century, it was common to construct cast-iron fences around family burial plots. Because so few of these exist today,

they are considered a valuable historic resource within cemeteries throughout the country. Only four fenced plots have been identified in the Masonic Cemetery. Two of these are elaborate in design with pineapple finials, flower urns, and heavily detailed by the use of floral motifs, and though missing some parts, are in fairly good condition. The markings on the posts of the enclosure located around the Hudson plot indicate it was manufactured at the E.T. Barnum Company in Detroit, Michigan. The other two are much simpler in design and low to the ground. Rust and failure of the fasteners have caused several pieces to fall to the ground.

Other plots are clearly defined by a concrete slab over the entire plot. In some cases, markers are set on top of the slab, in others the markers are set into the concrete. This was often done to decrease maintenance or to protect markers from vandalism or theft.



Hudson family plot with cast iron fence and pineapple finials manufactured by the E.T. Barnum Co. of Detroit

4.1.3 Grave Markers

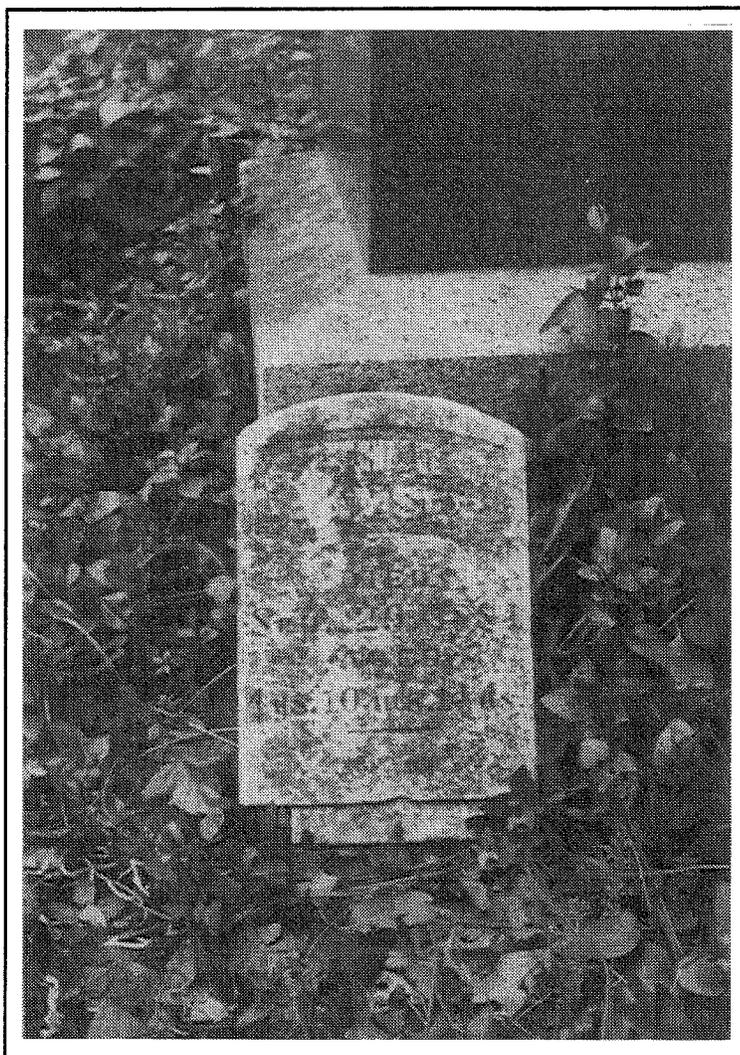
Materials & Types

Most of the grave markers in the Masonic Cemetery are made of stone, although some are made of precast and cast-in-place concrete, bronze, and zinc. They represent a variety of forms, including bevel markers, flush markers, ledgers, monuments, obelisks, and tablets. These markers are important for the information, both textual and ichnographic, they convey regarding the social status, wealth, historic trends and availability of materials. Many suffer from a combination of invasive plant materials, weather, pollution, vandalism, and improper maintenance. These are discussed below.

Invasive Plant Materials

Most markers in the Masonic Cemetery are stained or discolored by biological growth such as lichen and moss. Though not considered a significant threat, this type of growth may actually contain acids that etch the stone. Vines, leaves, and other heavy foliage are more threatening for they may keep the marker in a state of dampness, thus contributing to biological growth as well as water penetration.

Trees and bushes pose a formidable threat to markers as they grow. Root systems and trunks may push markers out of place, causing them to lean or actually fall. Tilted markers suffer a greater risk of breakage and accelerated deterioration as stresses are placed on the stone and as original vertical surfaces

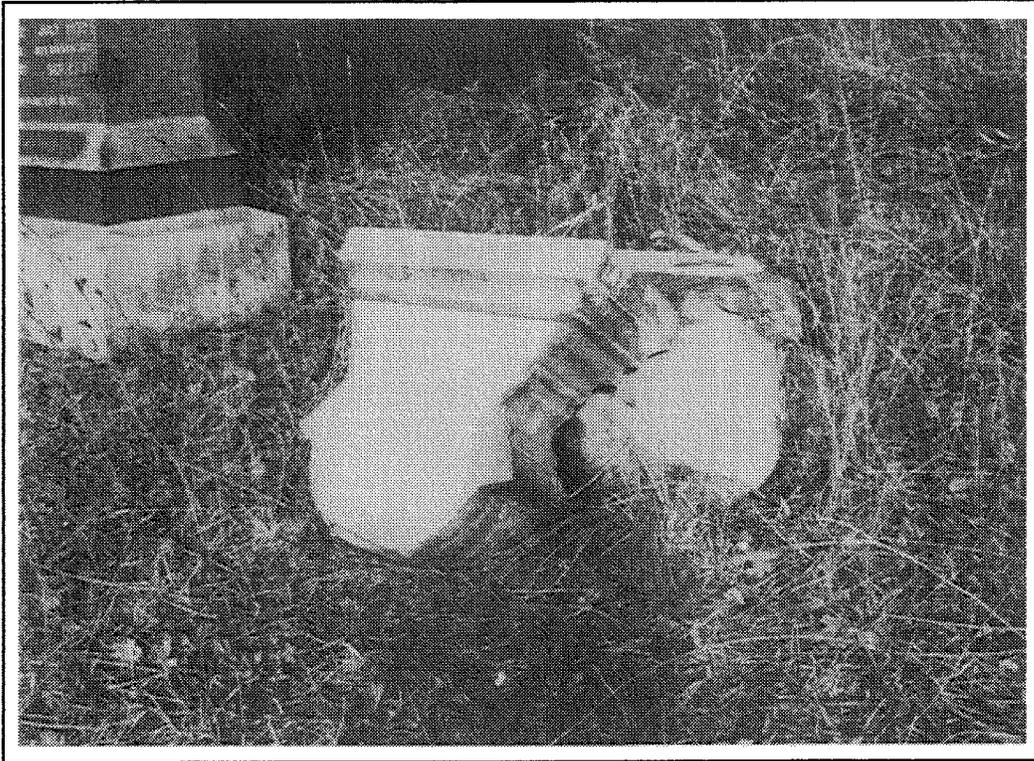


Lichen and moss covered marble tablet

became more exposed to the elements. In addition, falling limbs may actually chip or break markers.

Weather and Pollution

The freeze-thaw cycle can cause exfoliation of stone, spalling of concrete, and deterioration of mortar joints. Pollution in the atmosphere can leave carbonaceous deposits on markers. It also carries sulfur dioxide that produces acid rain. Acid rain and wind play a significant role in the erosion of markers. The degree of erosion depends on the age, material, location, and orientation of the marker. Erosion leads to loss of the binding material in stone and concrete and weakening of the atomic structure of metal monuments.



Marble marker toppled from its base

Vandalism

Much of the breakage, tilting, and toppling of markers can be attributed to vandals who have long been a problem to the cemetery. Fragments from broken stones are highly susceptible to theft. Vandals have moved markers, thrown them over the hills, and in some instances removed them completely from the cemetery. In other instances zinc monuments have had the inscription plates removed and fires have been ignited on the interior of these monuments. Curbs and fences have also been compromised by vandalism.

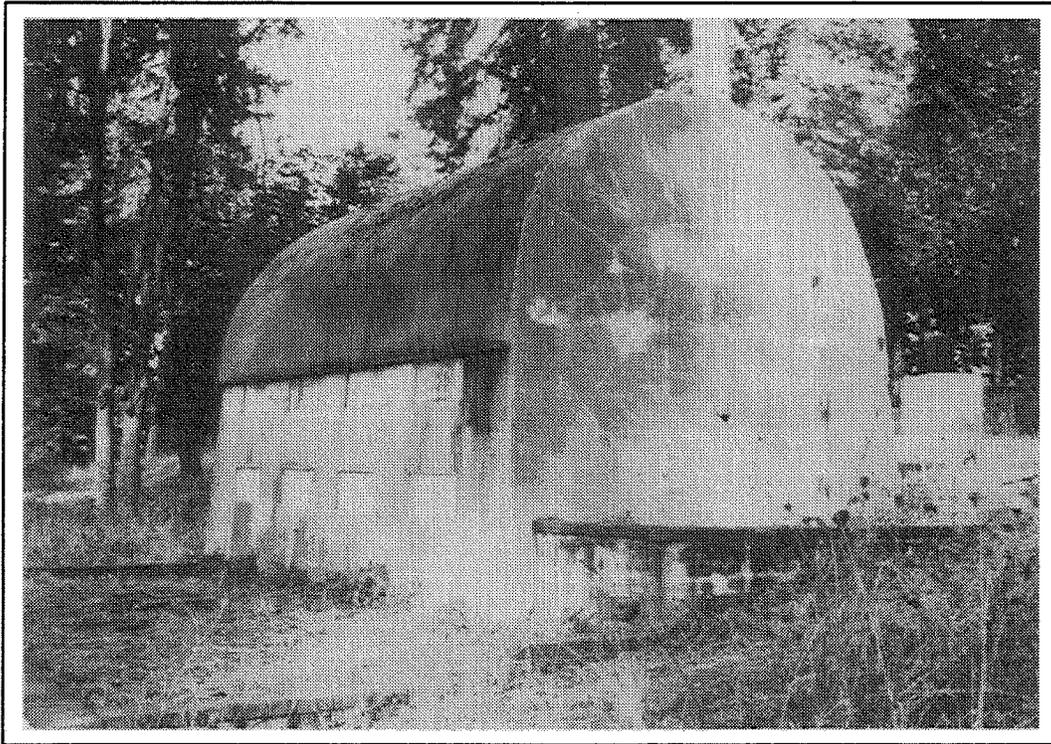
Improper Maintenance

Markers also suffer breakage, chipping, or deterioration from the use of maintenance equipment like lawn mowers and weed-eaters. This is caused either by improper use or by inappropriate equipment. The Masonic Cemetery has seen several cycles of restoration and clean-up attempts over previous decades. Though well-intentioned, these efforts may have contributed to the destruction, loss, or deterioration of markers. The use of improper cleaning methods, relocation or improper resetting of stones, unintentional removal or shifting of fragments, and other such repairs are often not reversible and may result in accelerated deterioration.

4.1.4 Unique Elements

Whiteaker Mausoleum

The Whiteaker Mausoleum, approximately 12' x 20' x 10', has been altered with an application of a cement covering system consisting of expanded galvanized metal lath, corner beads, and an impervious stucco that is seriously cracked with surface cracks and exhibits some evidence of water damage.



The Whiteaker crypt

The cement coating has greatly changed the mausoleum's exterior texture, the details of the corners and edges, and slightly altered its overall shape. In addition, the identifying marble plaques are now inset several inches. It is unclear what damage occurred during its application or how it has changed its resistance to moisture. No historical research has been done at this time to determine original materials, but several sources have indicated that the Whiteaker Mausoleum was once sheathed in copper, which was removed during World War II. Paint has been applied in patches to cover graffiti.

Benches

Two concrete benches are located in the cemetery. One is in the southeast corner of the cemetery, while the other is situated west of the Eugene Skinner plot. Though exhibiting surface dirt, these are in good condition.

4.2 Recommendations for Treatment

4.2.1 General Guidelines

As with the Hope Abbey Mausoleum, the distinctive materials, features, and spaces of the Masonic Cemetery are essentially intact, thus conveying the site's historic significance.

Therefore, the recommended approach is to preserve rather than restore or rehabilitate.

Preservation, as defined by the Secretary of the Interior, includes the protection and stabilization of the site, issues of maintenance, and repair, *rather* than extensive replacement, of historic materials and features.

With this overall approach toward the preservation of the cemetery, some general guidelines should be followed. These are based on the Secretary of the Interior's Standards for Preservation.

1. Distinctive materials, features, spaces, and spatial relationships shall be retained.
2. Intact or repairable historic materials shall be repaired rather than replaced. Distinctive features, spaces, and spatial relationships shall not be altered.
3. It should be recognized that the cemetery is a physical record of its time, place, and use. Measures to preserve historic materials and features shall be physically and visually compatible, identifiable upon close inspection, and fully documented through photographs, drawings, and written descriptions.
4. Past alterations to the cemetery that have acquired historic significance shall also be retained and preserved.
5. Distinctive characteristics of the cemetery, including materials, finishes, and design, shall be preserved.
6. New materials used in the repair or replacement of distinctive features shall match the old in composition, design, color, and texture.
7. Any chemical or physical treatment shall be undertaken with the gentlest means possible. No treatment should result in damage to historic materials.
8. Archeological resources, including graves, shall be protected and preserved in place. If such resources must be disturbed, mitigation measures should be undertaken.

Although the recommended methods and materials in this preservation plan are based on the most recent developments by recognized authorities, the application of these treatments in any situation is unique due to such factors as climate, age, previous treatments, and personnel. Therefore, it is recommended that a policy of testing be developed. This should include testing of small areas for compatibility of materials, durability, and reversibility before proceeding with large-scale application. Although the time involved with testing may impact goals of immediate restoration, the importance of such a policy should be understood. It would be detrimental to rush forth with methods or materials that may not be appropriate for elements found in this cemetery.

Care should be taken to conduct repairs in the most appropriate conditions. For example, exterior repairs involving water or cleaning agents should only be undertaken in dry, mild weather to prevent potential damage caused by freezing. Use of any commercial products should be done in strict accordance with the manufacturer's instructions.

4.2.2 Site

Future work at the cemetery should include a master plan for the treatment of landscape elements, particularly vegetation. This plan should include a comprehensive survey of plants and address priorities and methods for such issues as their removal, maintenance, new plantings, and propagation. This document does not attempt to present such a master plan. Instead, several recommendations are presented to ensure preservation of elements that contribute to the historic significance of the cemetery.

Vegetation

The decision to remove invasive vegetation should be done on a case-by-case basis. In general, invasive vegetation that is obscuring plots or grave depressions should be removed, as well as plants that undermine plot enclosures and grave markers. English ivy, blackberry, and Scotch broom are the most invasive plants, but deciduous and coniferous bushes and trees can also cause problems. Coordinate the removal of vegetation with documentation of grave markers to ensure that no markers or fragments are prematurely disturbed.

Remove young trees or shrubs that have seeded in at the base of gravestones or might be obscuring, rubbing, or lifting a marker. If a marker is disturbed by a young tree, the recommended treatment is removal of the tree. It is important to retain a marker in its original location for the traditional reason of knowing where the internment is located, but also to maintain the site integrity of the burial plot. Relocation of a marker should not be ruled out entirely, if evaluation of the tree's significance is rated higher than that of the marker's. However, even if a marker is slightly moved (after thorough documentation), it will only be a matter of time before the tree has grown larger and the same problem will arise. The completion of a master landscape plan would assist in evaluating the significance of vegetation.

Consideration should be given to the type and use of maintenance equipment. The use of the smallest mowing equipment possible is encouraged. Hand clipping around stones and curbs is ideal, but weed-eaters are also acceptable. When operating weedeaters near stones, use a plywood shield in front of the stone for protection. Lawn mowers should be fitted with rubber bumpers made from old tires or inner tubes and should have blade guards to protect against flying rocks. Avoid riding mowers since they are more prone to damage plot enclosures and curbs. Fertilizers and herbicides should also be avoided since the salts or acids they contain may damage markers and are harmful to the water table. Vegetation removed from the plots should be recycled into a compost pile for use throughout the cemetery.

Ground covers may be introduced near markers and in hard-to-mow areas to reduce maintenance and mower damage. It is best to introduce Ground covers that have been found in the cemetery

historically (like vinca major and vinca minor), but avoid vines that will attach to stones (the ivy family). Recommended ground covers include clover, creeping phlox, creeping sedum, vinca, Oregon oxalis, and lily-of-the-valley.

Special consideration should be given to the collection of native plants in the cemetery. Recordation of the various species and their locations in a master landscape plan will facilitate planning and treatment guidelines. To promote the significance of these historic plant types, seeds might be collected and sold at local nurseries. This may also serve as a fundraising opportunity for the Eugene Masonic Cemetery Association.

Views

The enhancement of desirable views from the cemetery by pruning limbs and eliminating some vegetation should be considered. These views include those overlooking the town toward the west and the view to Spencer Butte to the south. Less desirable views, such as toward residences located immediately adjacent to the cemetery, may be controlled by new plantings.

Special Features

The clay pit located in the northeast corner of the cemetery should be monitored for erosion and fenced for safety. A permanent path with steps should be installed in the vicinity of the clay pit, as the trail is treacherous right now. Little treatment is required by the schoolhouse site or the public square, although future archeological work may be considered. The public square should be maintained by regular cutting of the grass. Since these elements are unique to the cemetery, provide information about them to the general public through interpretive signage and walking tours.

4.2.3 Plot Enclosures: Concrete and Masonry

The problems causing damage to plot enclosures should be identified on a plot-by-plot basis and evaluated before repairs proceed. These problems include invasive vegetation, inadequate drainage, soil erosion, and deterioration of curb material.

Vegetation

As discussed above, the value of vegetation should be weighed against that of the cemetery elements. Some curbs in the cemetery display a higher level of design and workmanship than others, thus requiring more consideration toward their preservation. In other cases, the upheaval of simple curbs by a mature tree may be allowed to continue.

Drainage

Drainage systems should be improved by adding weepholes and/or drain tiles around enclosures of significant height and by modest contouring to create positive drainage away from the enclosure,

Soil Erosion

Plots damaged or threatened by erosion of soil should be evaluated by careful consideration of

both surface and subterranean water movement. This may require removal of vegetation that alters proper water flow or, in contrast, the introduction of ground covers to stabilize the soil.

Repair

Repair to curbs and walls should be done with the least amount of replacement. In some cases, broken curbs can be realigned without attachment, much like dry laid stones. Curbs constructed of stone or brick may require reassembly to ensure a stable structure. Some curbs are topped with a stone coping which are particularly well done and replacement in-kind of missing or damaged stone is recommended. Fill large cracks with no-shrink impervious hydraulic grout to prevent further damage by water penetration. Brick curbs exhibiting deterioration of mortar joints should be repointed with mortar deemed compatible based on analysis of the original mortar.

Curbs exhibiting more serious damage can have sections recast, pinning the new and old sections to insure continuity. Matching of materials in texture, strength and color should be the goal. Concrete curbs exhibiting extensive spalling should be treated by removing loose, deteriorated concrete from the spalled area. To ensure a good bond between the new patching material and the existing surface, proper preparation is required. Roughen the surfaces of smooth areas with a hammer and chisel. Keep the area moist with running water and sponges for at least an hour before the patching material is applied. In small areas, the patching material may be applied directly to the cleaned and moistened area. In larger areas, reinforcement may be needed. Final finishing of the patch may require applying a texture with a brush or wet sponge.

An enclosure requiring special attention is the Thompson-Cooper plot, located in the south end of the cemetery. Complete reconstruction of the elaborate retaining wall, stone coping, parging and details is required. The provision of proper drainage is also necessary to prevent future problems.

4.2.4 Plot Enclosures: Cast Iron

The cast-iron plot enclosures should be cleaned, repaired and measures taken to control deterioration. To prevent deterioration of rails lying on the ground, replace missing posts. Cracks should be sealed with an architectural-grade polyurethane sealant to prevent rusting from the inside-out. Small holes may be filled with polyester-based putties such as those used in auto body repair. Failed connectors should be replaced with stainless steel bolts and screws having larger diameters to compensate for deteriorated metal at the connector holes. After repair has been completed, clean the cast-iron of dirt, old paint, and rust by hand scraping and wire brushing. Immediately following cleaning, paint with two coats of alkyd rust-inhibitive primer. Finish with 1-2 coats of alkyd enamel paint, applied with a brush. The color selected should be based on historical evidence, preferably existing paint.

4.2.5 Grave Markers

General

Before any treatment is undertaken, all existing grave markers and fragments should be documented *in situ*. Documentation should include the completion of a survey form noting details on the location, marker type, material, markings, condition, and specific problems. In addition, photographs of markers and marker fragments should be taken and locations of all recorded on a base map. Without disturbing markers or fragments, plant material and debris should be carefully removed to permit documentation. Copies of documentation materials should be deposited with the City of Eugene Planning and Development Department, the Eugene Masonic Cemetery Association, the University of Oregon Library, and the State Historic Preservation Office.

Upon final documentation of grave markers, an analysis of findings should be performed to establish treatment priorities. These priorities should consider the level of damage, ease of treatment, funding, and visibility to the general public. Since improper techniques or materials may result in further damage, repairs should be performed or supervised by trained professionals.

Since grave depressions facilitate identification of grave sites, they should not be filled in, especially if the grave is unmarked. Prodding the site with a slender metal rod may help to locate buried markers.

4.2.6 Grave Markers: Cleaning

Markers should be cleaned only to halt or slow down deterioration, not for purely aesthetic reasons. Decisions to clean markers should be weighed against the long-term effects of such treatments. In other words, cleaning should be avoided if removal of lichen, pollutants, or deposits will lead to accelerated deterioration. A survey of markers should identify these types of threats, as well as the current condition of the stone.

Once the decision is made to clean a marker, do so with the gentlest means possible. Avoid the use of harsh treatments such as wire brushes, sandblasting, hose spraying, metal instruments, acidic cleaners, and household cleaners. The best tool for cleaning is a soft-bristled brush. For inscriptions, carvings, or engravings, it is preferable to use a soft toothbrush or a cotton swab for cleaning. If this is not successful, these recesses may be cleaned with a wooden stick such as a tongue depressor or ice cream stick. Be cautious, however, since the wood may cause damage to soft, grainy stones.

Cleaning procedures should not be carried out in cold weather, since freezing will only result in further damage. Cleaning may be done by volunteers or maintenance personnel who have been properly trained. This training should take place on site by a professional who can assist in the identification of weak markers and supervise the cleaning activity. All cleaning methods outlined below should first be done on a test area. Choose a small area in an inconspicuous place on the marker and follow each step, noting any problems that arise. If the test cleaning is successful, proceed with the entire marker.

Stone and Concrete Markers

Cleaning of porous stone, such as sandstone, marble, and limestone should be avoided unless it is clear that rapid deterioration is occurring. Don't clean markers that are cracked, brittle or tilted, or have a grainy surface that easily falls away. Avoid cleaning markers that sound hollow when lightly tapped. This is indicative of potential spalling or exfoliation. The gentlest cleaning solution for stone and concrete markers is water. After removing loose, dry materials with a soft brush, thoroughly wet the stone with water. Then, start scrubbing gently with the brush and water from the bottom up to prevent streaking. If water alone does not sufficiently clean the stone recommended cleaning solutions may be used. It is important to pre-wet the stone before application of any solution. After scrubbing from the bottom up, thoroughly rinse the stone with water and scrub again with clean water. Rinse thoroughly a final time to avoid penetration of solutions into the stone, which could cause future problems.

Porous stones such as sandstone, marble, and limestone may contain soluble salts, requiring extensive washing for several months. These salts can be removed with poultices. The poultice may consist of diatomaceous earth, fuller's earth, or kaolinite and is applied directly to the surface. Depending on the temperature, the poultice may need to be covered with plastic to slow the drying process.

If cleaning of stone and concrete markers is not effective with water alone, certain detergents and chemicals may be used. These are summarized in a table of cleaning techniques from the National Park Service publication titled *Keeping It Clean* by Anne E. Grimmer. Refer to Appendix G.

Zinc Markers

Since the zinc markers are fairly resistant to accumulation of dirt and debris, only gentle cleaning



The finely detailed zinc Castleman monument

with water and natural bristle brushes is recommended.

Bronze Markers

Most of the bronze markers are standard government markers issued to personnel of the armed forces. These are typically in good shape and require only gentle cleaning with de-ionized water, a non-ionic detergent, and natural bristle brushes. Cleaning should be done gently enough to remove surface dirt and corrosion while removing as little of the patina as possible.

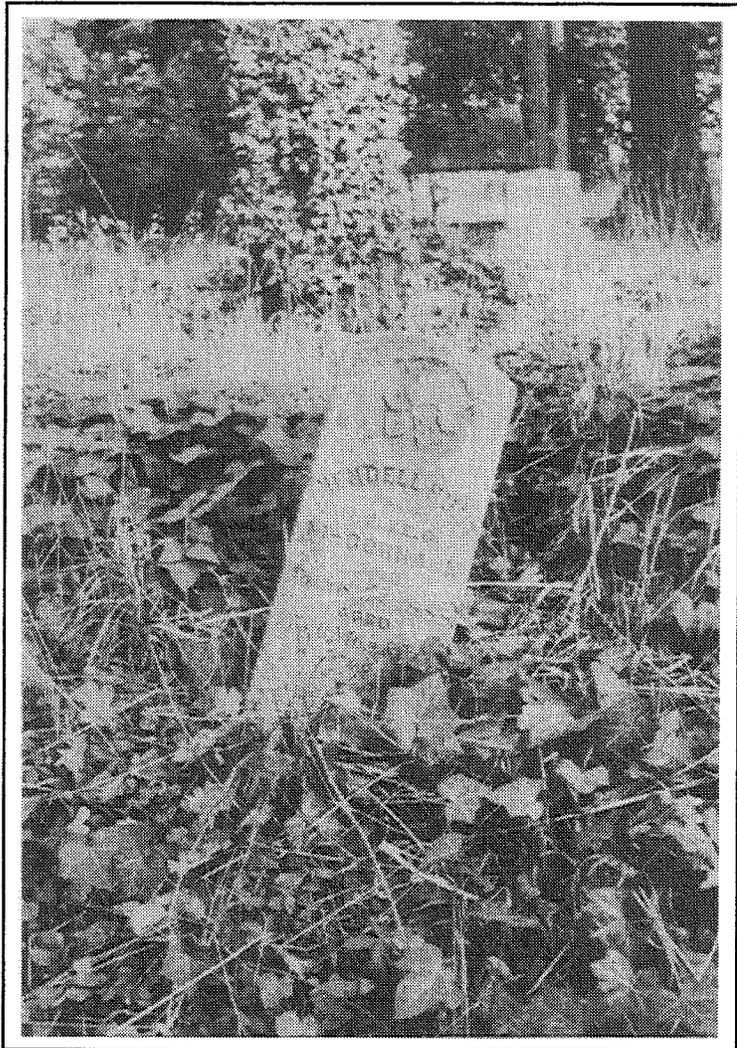
4.2.7 Grave Markers: Stabilization

Temporary Measures

Several approaches may be taken to stabilize the condition of markers or to slow down deterioration. As a temporary measure, small wooden and canvas shelters can be placed over the marker to prevent further damage from wind, rain, weather, and falling plant debris. Do not use plastic or any other impenetrable membrane since it is important to maintain air flow around the marker. Wooden frames may be constructed to shore up unstable markers. Missing panels in zinc markers can be replaced with a temporary material such as wood to prevent further interior deterioration by water and debris.

Consolidation

Porous stones that have experienced a loss of binder material, thus causing the stone to crumble, may require consolidation treatment. Consolidation enhances the cohesion of stone by filling its pore structure with a binding material. This is a more drastic treatment to be performed by qualified stone conservators only. If budget restrictions do not allow this highly technical approach to stabilizing the marker, replacement of the stone may be considered. As always, removal of any original element in the cemetery should be extensively documented and the element stored in a designated repository.



The tilted marble tablet marker of Wendell Hunt

4.2.8 Grave Markers: Resetting

Stones that are leaning or tilting should be reset, not only for aesthetic reasons, but also to relieve the stresses caused by unbalanced weight distribution. Although it is preferred to have specialists reset stones, this work may be done on smaller markers by volunteers or maintenance personnel who have been trained on site.

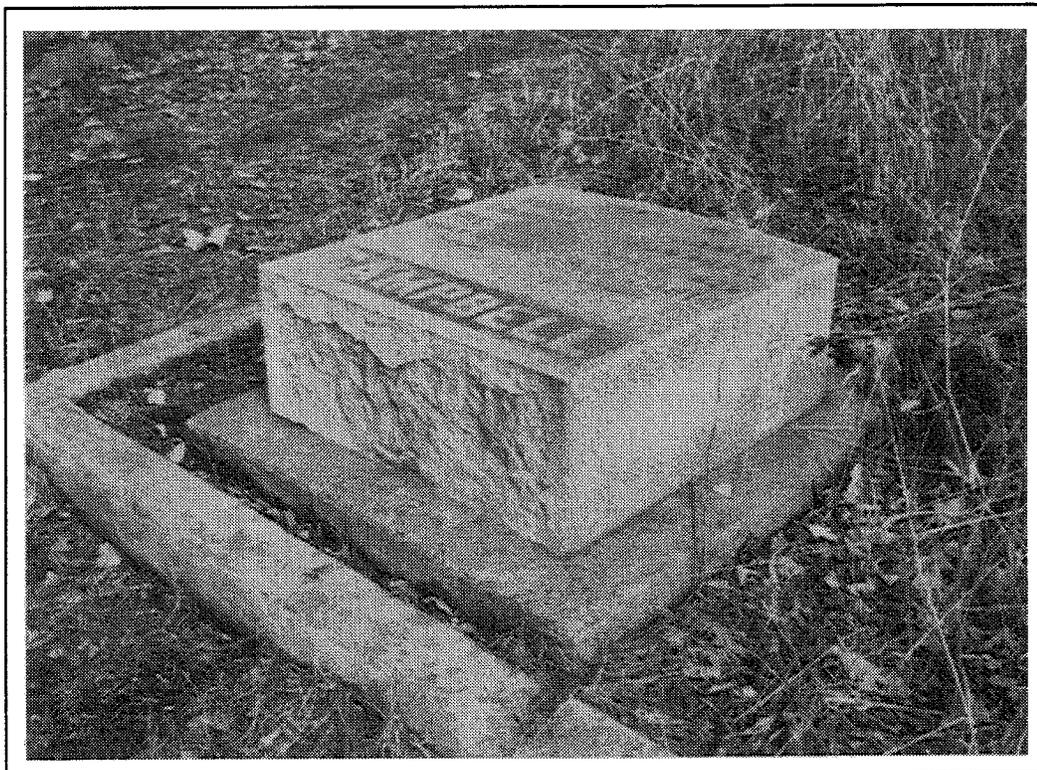
Soft Base

The methods for setting stones depend on the type of stone and potential threats. The least invasive is to simply reset the stone on a stable base. Care should be taken when digging around the stone to avoid damaging the stone with the shovel. Do not disturb the soil on at least one side of the monument, preferable the primary face side. Remember that a significant portion of the stone may be below the ground level. This may require the efforts of several strong people as well as ropes and levers. Once the stone has been carefully removed, document any markings not previously visible. At the proper level, prepare a bed of dry-laid brick covered with 1"-2" of sand. Rest the stone against the undisturbed side of the hole, fill the bottom half with sand and pea gravel for drainage. Finally fill the rest of the hole with soil, tamping every few inches and providing positive drainage away from the stone.

Concrete Base

Another method is to set the marker in a concrete base. Unless done properly, this may lead to serious

problems. If there is no expansion joint between the concrete and the marker, breakage at the base is likely. Also, wicking of salts from the concrete into the marker may cause



The granite Campbell marker that has been set in concrete, on its back

efflorescence or staining. The primary disadvantage of setting stones directly into concrete is that the stone cannot be removed in future for conservation treatment. Despite these disadvantages, in some cases it is the best method to prevent damage by vandals. This is particularly true for easily removable markers such as tablet stones. The decision to set a stone in concrete should be done only after a marker survey has evaluated these risks.

If, after careful consideration, a concrete base is to be constructed, it should be done in a manner to prevent further damage and should be reversible to facilitate future conservation methods. Once finished, the base should be completely below grade. The following procedure is recommended by the Association for Gravestone Studies:

Construct the base with dimensions extending at least 6" beyond the stone and 6"-8" deep. Utilizing oiled 2x4s, provide a 3" deep slot in the concrete sized to accept the stone and a 1/4" clearance space. After the concrete has cured for several days, set the base level on a stable bed of pea gravel topped with three inches of clean sand. Fill the slot, which should be clean of dirt or debris, with a wet mortar mix consisting of 1 part white Portland cement, 4 parts hydrated lime, and 8 parts clean graded sand. Set the stone into the mortar using 2x4s as props. By setting the stone in soft mortar rather than concrete, this method will help prevent breakage of the stone at the base and reduce the potential for efflorescence and staining.

4.2.9 Grave Markers: Repairs

Much of the damage to markers in the Masonic Cemetery is in the form of breakage. This is true for both stone and concrete markers. If the broken fragments are found, re-attachment is recommended. This should be performed or supervised by trained specialists. If re-attachment of fragments is not possible soon after documentation, the fragments should be protected from visitors, vandals, and maintenance equipment by burying them behind the parent stone. This requires careful documentation and a systematic approach. The fragments should be laid face up in a twelve-inch hole on two inches of clean, graded sand. The sand provides drainage and supports irregularities of the fragments. After covering the fragments with several more inches of sand, fill the rest of the hole with six inches of soil and replace the ground cover. In cases where fragments cannot be buried next to the parent stone, for example in a plot that has been covered with a concrete slab, they should be cataloged and stored. Refer to the Section 4.2.10 for this procedure. This methodology requires careful and accurate record keeping, so that future caretakers will understand the location of such fragments.

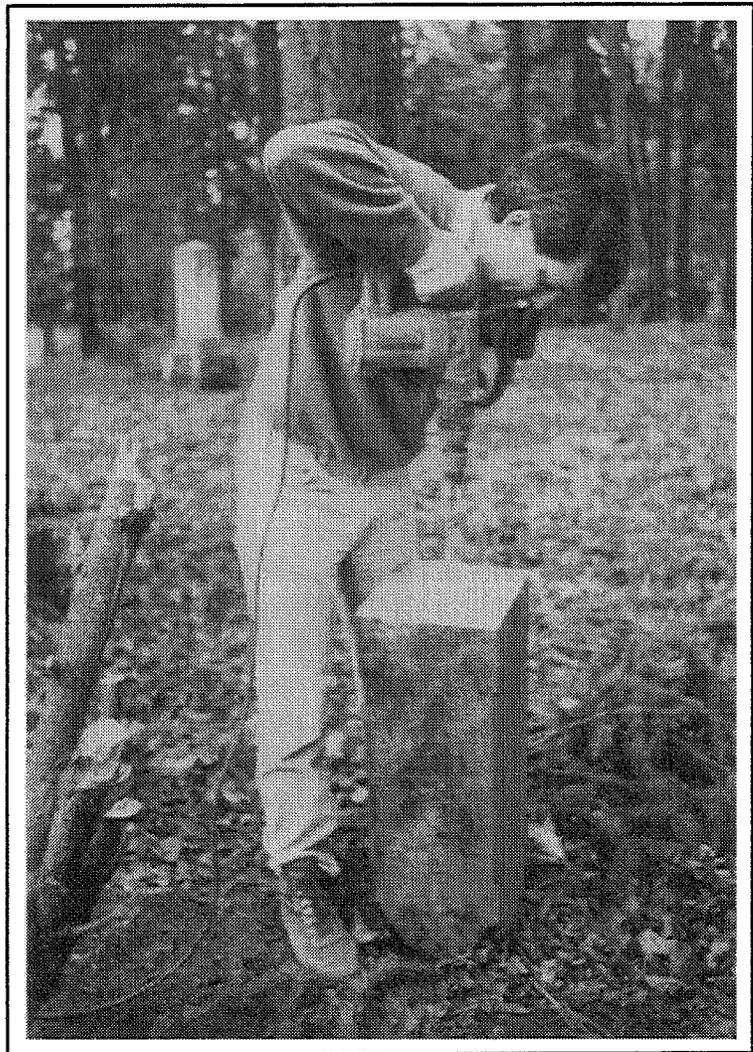
Reconnecting Fragments of Stone, Cast Stone, and Concrete Markers

Care should be taken to ensure the accurate connection of fragments. Orientation of the various pieces of the marker should be based on evidence, not conjecture. Check to make sure all pieces, such as plinths and bases, are included in the repair and that they are in the proper location. It appears that pieces of some markers in the cemetery may not be in their original locations. The proper location of these loose markers should be determined before they are repaired.

For minor clean breaks on stable stone or concrete markers, the recommended method is to use a polyester-based adhesive between the fragments. This type of adhesive can be colored easily, cleaned with acetone, and will not set up too quickly. In general, the use of epoxies should be avoided because they can discolor or deteriorate when exposed to ultraviolet rays. In addition, they often result in a joint stronger than the stone. If pressure is exerted on the stone, it may break in a new area, rather than at the old break. The polyester-based adhesive may not be effective in repairing large granite markers. In these cases, use of a high-modulus epoxy may be required. When using epoxy as an adhesive, rubber cement can be applied to adjacent surfaces first to prevent staining by the epoxy. After the epoxy has been applied, the rubber cement can be easily removed.

Follow the adhesive manufacturer's instructions for surface preparation. In general, the fragments should be dry and clean for proper adhesion. Dry fit the fragments to ensure an exact fit. For small fragments, apply the adhesive to both surfaces.

For structural breaks on stable stones, use threaded nylon pins (1/8"-1/4" diameter and 4"-6" in length, depending on the size of the stone and fragment), and adhesive to hold the fragments together. Begin by drilling holes in a staggered pattern to prevent splitting. The holes should be 1/8" larger than the pin and have a depth of at least four times larger than the pin diameter. Once again, prepare and dry fit the fragments before applying the adhesive. This method should not be used on weak or soft stones such as sandstone. Brace frames or clamps may be necessary to hold fragments together with the proper pressure until the adhesive has set. Some markers may require adhesion on a horizontal table or vertical frame set up.



Dave Pinyerd drilling holes in a marker to accept the threaded nylon pins and polyester-resin adhesive

If a marker is broken into several fragments that cannot be repaired by the above mentioned methods, several approaches may be taken depending on their number, size and condition. As discussed above, the pieces can be buried at the grave site as a protective measure until improved conservation methods are developed. They may be stored off-site in a dry, secure location although this may present problems in the future. (See Section 4.2.10) If large enough, they may be set in a temporary frame. The fragments should *not* be laid horizontally into a bed of concrete. This is often irreversible and destroys the integrity of the marker.

Zinc Markers

Remove all debris and water from the interior of the markers before replacing missing panels. Install cast replacement panels with galvanized connectors.

4.2.10 Grave Markers: Removal

If it is determined that threats to the stone are so pressing as to warrant temporary removal of the marker, precautionary measures should be taken to insure proper cataloging and storing. After thorough documentation by photographs and site plans, fragments should be clearly and securely marked, and stored in a box made of breathable material, such as wood in a bed of sand or on styrofoam. Place these containers in a clean, dry repository which will facilitate cataloging and allow easy retrieval.

4.2.11 Unique Elements

Whiteaker Crypt

While it may be that past maintenance has been helpful in preserving the Whiteaker Crypt, the proper and complete restoration of the structure is recommended given the historical importance of Governor Whiteaker. Further historical research should be conducted to determine original materials before extensive restoration measures are taken. For the present time, "mothballing," or stabilization of the altered structure, is recommended until research has been completed and funding has been established. After patching the stucco, clean the surface with a low-pressure wash or by hand-scrubbing with a natural bristle brush. A non-ionic detergent may also be used. To avoid the displeasing appearance of paint patches over graffiti, paint the entire structure in an appropriate concrete color. Apply a fiber-reinforced roof coating to the exterior surface to restore its imperviousness and prevent accelerated water damage. If research reveals that the crypt was clad in copper, every effort should be made to restore this original material and finish.

Benches

Clean benches with a low-pressure wash or by hand-scrubbing with a natural bristle brush. A non-ionic detergent may also be used.

4.3 Ranges of Costs for Treatment

Until the cemetery is documented and the extent of labor needed to repair its varied elements is unknown, only some generalizations regarding costs can be made. Since the quantity of repair work in the Eugene Masonic Cemetery are unknown at this time, unit cost ranges are given.

Vegetation removal and maintenance (per hour)	\$7-\$15
Repair cast-iron plot enclosures (each)	\$261-\$558
Repair masonry/concrete plot enclosures (plf)	\$7-\$30
OR (psf)	\$11-\$27
Repair grave markers	\$25-\$100
Whiteaker Mausoleum ("mothballing")	\$2373-\$5085

4.4 Maintenance Guidelines

The key to preservation of the Eugene Masonic Cemetery is maintenance. This includes regularly scheduled site work, periodic repair of built elements, and constant vigilance against damage. Although this section provides general guidelines, a comprehensive maintenance plan should be developed. The detailed plan should address such issues as landscape treatment, scheduling, training of staff and volunteers, documentation methods, clean-up activities, hours of operations, equipment, and trash collection as well as procedures for implementation.

4.4.1 Site

As mentioned previously in this document, a master landscape plan should include a detailed maintenance plan addressing scheduling, personnel, and appropriate methods for mowing, removal of invasive plants and fallen branches, pruning deadwood, trimming bushes, introduction of ground covers and other plantings, and removal of seedlings or shoots of new trees. Refer to Section 4.2.2 for general recommendations.

4.4.2 Plot Enclosures

Periodic inspections should identify threats or damage to plot enclosures. Threats such as rust on cast iron fences, soil erosion, or cracking should be treated as soon as they are discovered. Removal of invasive vegetation four times a year should be included in the overall landscape maintenance plan.

4.4.3 Grave Markers

The maintenance of markers should include periodic inspections for damage by vandals. Repair markers when damage is found. Markers should be kept free from debris and leaves to prevent moisture build-up. Removal of invasive vegetation should be included in the overall landscape maintenance plan. Cleaning of markers should not be done more than once every several years to prevent damage by over cleaning.

A policy addressing marker rubbings should be adopted. If it is decided that rubbings will be allowed, develop criteria regarding proper rubbing materials and techniques. No rubbing should

be done on weak stones. These include stones that exhibit cracks, sound hollow when tapped lightly, or if stone granules become detached when rubbed with a fingertip.

4.4.4 Unique Elements

Whiteaker Mausoleum

Until further research is undertaken to determine the original appearance of the mausoleum, maintain the mausoleum to prevent damage by water penetration or vegetation. Future applications of paint over graffiti should match the concrete in color.

Benches

Monitor for damage and clean periodically.

4.5 Contemporary Issues

The Eugene Masonic Cemetery is currently enjoyed by many community members and represents a continuum of Eugene history. As preservation efforts are implemented, contemporary issues arise that will impact the use, understanding, and care of this special site. Decisions will need to be made regarding such items as boundaries, circulation, interpretation, and security as the goals of the Eugene Masonic Cemetery Association, the City of Eugene, local citizens, and others evolve. The following is intended to address these issues by raising certain questions and reinforcing an attitude that is sensitive to the historical, cultural, and natural significance of the cemetery.

4.5.1 Boundaries

While boundaries are clearly delineated on much of the north, west and south edges, they are less distinct on east side of the cemetery. Consideration should be given to the appropriateness and impact of elements that will demarcate these boundaries. Elements may include vegetation, fences, gates, and walls. Issues such as the impact on vandalism, perception of neighbors and the general public, open hours, security, aesthetics, sense of entry, and enclosure should be addressed. Elements chosen should be compatible with the character of the cemetery.

4.5.2 Circulation

Access through the cemetery should be maintained by regrading and topping the carriage road with gravel as needed. Hours of access on this road will need to be addressed as well as the availability of parking near or within the cemetery. While minimal parking may be necessary near the mausoleum, care must be taken not to disrupt the character of the site. Consideration should be given to the impact of through streets (e.g. University Street & West 26th Avenue) on neighbors and on the use of the cemetery. Pedestrian access should be encouraged and supplemented with interpretive elements and amenities such as benches and trash bins. These elements should be unobtrusive in design. Pedestrian paths will need to be clearly defined and enhanced throughout the cemetery. There are numerous pedestrian paths that could be enhanced with the installation of steps and hand rails.

4.5.3 Interpretation

The cemetery provides a wealth of opportunities for public education. Through signage, tours, special programs, and publications, visitors may learn about the cemetery's history, development, and preservation. The unique vegetation, the architecture of Ellis Lawrence, the history of cemetery movements, and the symbolism on grave markers are only a few of the subjects that could be addressed. To maximize the potential of this educational resource, a comprehensive interpretation plan should be developed. In addition, further research on the history of the people interred in the cemetery is encouraged, whether it be archival research, the gathering of oral histories, or on-site investigations.

4.5.4 Security

The provision of security is vital to the health of the cemetery. The hiring of a security agent could provide immediate relief from vandalism. A sensitive exterior lighting system along paths and in areas of potential criminal activity (the mausoleum) is recommended. The control of vegetation will also contribute to a safer environment. Hiring a caretaker to maintain the site and serve as a "guard" is most crucial. A possible location for a caretaker's residence would be in proximity to the Hope Abbey Mausoleum (southwest corner), thus providing vigilance against potential vandals.



5.0 RECOMMENDATIONS FOR FURTHER RESEARCH

The Eugene Masonic Cemetery offers a wealth of opportunities for research by students, genealogists, family members, neighbors and other volunteers. Not only will additional investigation lead to a better understanding of the cemetery and the funerary context in Eugene, but it will also shed light on the trends of cemeteries in the region. This is particularly helpful, given the lack of information on funerary practices of the Pacific Northwest. Research can be modeled on the extensive studies done on cemeteries of the eastern United States, especially in New England. In particular, the following questions could be pursued:

The Cemetery

How does the Masonic Cemetery compare with other Eugene cemeteries? How does it compare with other Masonic cemeteries in the Northwest or throughout the country? How does it compare with cemeteries owned by other fraternal organizations?

The Cemetery Business

What is the cemetery's history of management? How was the cemetery marketed? What, if any, efforts were made toward the establishment of perpetual care funds? What was the role of the family? What was the role of the Masons? Were there any regulations about plantings, improvements, or maintenance of the lots? What relationship did local funeral homes have with the cemetery? What types of services were held in the mausoleum? Who was responsible? What was the impact of new cemeteries in Eugene, such as West Lawn and Rest Haven?

Mausoleums

What was the Portland Mausoleum Company? Who was involved with it? Did similar companies exist in the region? How did it compare with mausoleum companies around the country? What was Ellis Lawrence's role in the Portland Mausoleum Company? What will further study of his other mausoleums yield? What was the impact of mausoleum development in the Northwest? How was the Hope Abbey Mausoleum marketed?

The Landscape

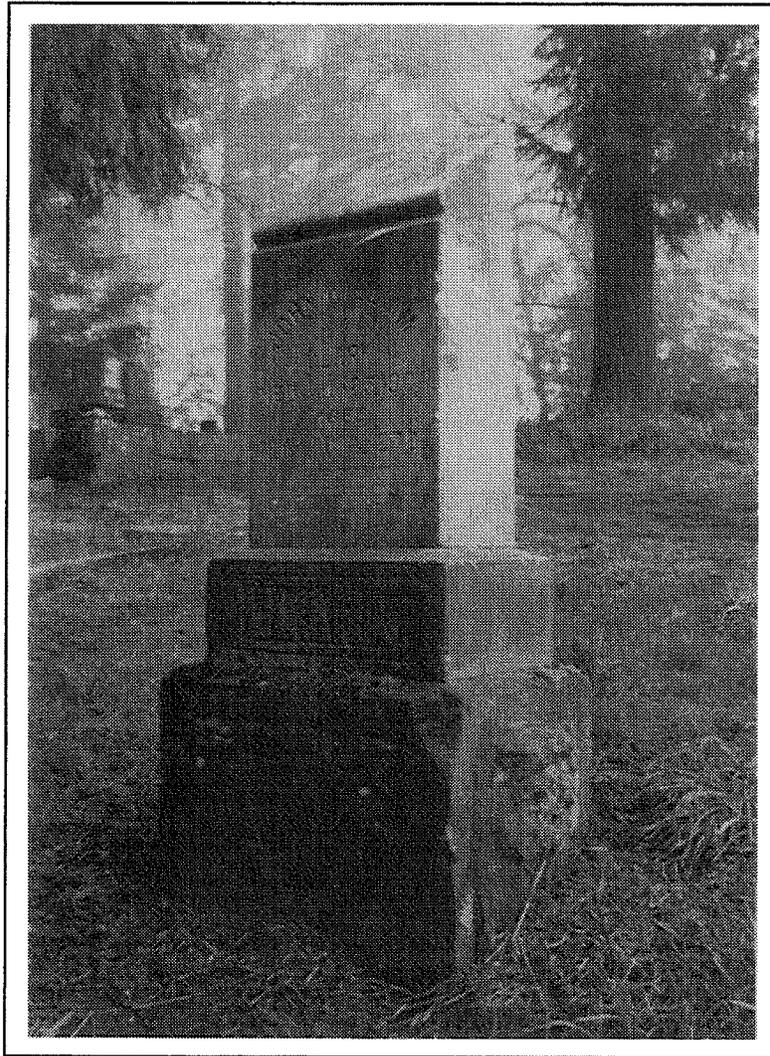
What more can be determined about the schoolhouse, the clay pit, and the public square in terms of use, events, and context? What were the intentions of the Masons in the layout of the cemetery? What were Ellis Lawrence's design intentions relative to the Hope Abbey Mausoleum? How did the roads, landscape, and views connect to the City of Eugene? Were there plans for expansion, prior to residential development in the area?

Grave Markers and Cast Iron Plot Enclosures

Where did the grave markers and fences come from? Which are from local sources and which were purchased through nationwide companies? Who were the local carvers? What can the imagery and text of markers tell us? What were the most popular designs for cast-iron plot enclosures? What is the history of the zinc monument?

The People

Who is buried in the cemetery? What were their roles in the history of Eugene? Did epidemics or disasters play a role in the number of deaths? What patterns can be revealed from a demographic study? How can this information be made available to local citizens for genealogical research?



GLOSSARY

Antefix - A decorative upright slab used as an ornament in classical architecture on roof ridges or to cover joints of roof tiles.

Ashlar - Squared building stone.

Bevel Marker - A rectangular gravemarker, set low to the ground, having straight sides and uppermost, inscribed surface raked at a low angle.

Cavetto - A large cavetto shape decorated with vertical leaves. Also called Egyptian gorge.

Coping - A protective cap over a parapet wall.

Crypt Head - A slab that seals a crypt and over which is placed a more finished material such as marble.

Delamination - Deterioration caused by failure in a laminated structure and characterized by the separation or loss of adhesion between plies.

Efflorescence - An encrustation of soluble salts, commonly white, deposited on the surface of stone, brick, plaster, or mortar; usually caused by free alkalies leached from mortar or adjacent concrete as moisture moves through it.

Exfoliation - Peeling, swelling, or scaling of stone or mineral surfaces in thin layers caused by chemical or physical weathering, or by heat.

Flush Marker - A flat, rectangular gravemarker set flush with the lawn or surface of the ground.

Headstone - An upright stone marker placed at the head of the deceased.

Hypaethyrum - A latticed window constructed over the door.

Ledger - A large rectangular gravemarker usually of stone, set parallel with the ground to cover the grave opening or grave surface.

Monolith - A large, vertical stone gravemarker having no base or cap.

Monument - A structure or substantial gravemarker erected as a memorial at a place of burial.

Obelisk - A four-sided, tapering shaft having a pyramidal point.

Parging - A coating of cement mortar, usually over rough masonry or below grade.

Pylon - A monumental entrance to an Egyptian temple.

Slant Marker - A rectangular gravemarker having straight sides and inscribed surface raked at an acute angle.

Spalling - Flaking of masonry or concrete due to frost, chemical action, or movement of the building structure.

String Course - A horizontal band of masonry, often decorative, extending around the building. Also called a belt course.

Tablet - A rectangular gravemarker set at a right angle to the ground, having inscriptions, raised lettering or carved decoration predominantly on vertical planes, and top surface finished in straight, pedimented, round, oval or serpentine fashion.

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A PPENDICES



Vandalized
amber glass
window with
decorative
muntins.

APPENDIX A

APPENDIX A TIMELINE

- 1850 Fielding McMurray arrives, receives DLC of 320 acres upon which people were already being buried
- c. 1854** **One room log school known as Point of the Hills School built at the northwest corner of the cemetery**
- May 6, 1854 Elizabeth H. Parsons is first recorded burial on McMurray's land.
- June 10, 1856** **Masonic Lodge No. 11 AF & AM organized.**
- December 1857 Masonic Lodge choose a site on McMurray's land.
- April 2, 1859** **Masonic Lodge purchases 6 acres for \$200 to be used by Masons and the public.**
- April 16, 1859 Cemetery surveyed and laid out. Four acres for masons, two for public.
- October 8, 1859** **Four more acres purchased. Total of 10.1 acres at a cost of \$336.66.**
- 1905 Carriage road constructed.
- 1910** **Early effort to inventory graves and address problems with vandalism in the cemetery.**
- November 12, 1912 Contract between Masonic Lodge and the Portland Mausoleum Company signed.
- February 5, 1913** **Plans & specifications amended.**
- June 13, 1913 Contract for mausoleum design awarded to Lawrence & Holford, Architects.
- September, 1913** **Construction began on Hope Abbey Mausoleum**
- June 4, 1914 Dedication of mausoleum
- c. 1945** **Hope Abbey Mausoleum Crypt Owners Association Inc. formed.**
Building is cleaned, water installed, city sewer connected, caretaker employed.
- 1960s Fraternity hazing in mausoleum led to damage, especially of windows and crypt facings.
- 1965** **Windows bricked up, dead bolt installed on door.**
- 1972-74 Efforts by citizens and Lane County Historical Society to repair damage to mausoleum and cemetery.
- January 1980** **Cemetery and mausoleum designated as Eugene Historic Landmark.**
- February 1980 Cemetery and mausoleum listed on the National Register of Historic Places.
- February 1995** **Eugene Masonic Lodge #11 deeded the cemetery to the newly-formed non-profit organization, the Eugene Masonic Cemetery Association.**

APPENDIX B

Return to K

**United States Department of the Interior
Heritage Conservation and Recreation Service**

For HCERS use only

received

date entered

**National Register of Historic Places
Inventory—Nomination Form**

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Masonic Cemetery and Hope Abbey Mausoleum

and/or common

2. Location

street & number 25th and University Streets not for publication

city, town Eugene vicinity of congressional district Fourth

state Oregon code 41 county Lane code 039

3. Classification

Category	Ownership	Status	Present Use	
<input type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input checked="" type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial	<input type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military	<input checked="" type="checkbox"/> other: Cemetery

4. Owner of Property

name Masonic Temple AM & FM, #11

street & number 2777 Centennial Boulevard

city, town Eugene vicinity of state Oregon 97401

5. Location of Legal Description

courthouse, registry of deeds, etc. Lane County Courthouse

street & number 124 East 8th Street

city, town Eugene, state Oregon 97401

6. Representation in Existing Surveys

title Eugene Historic Landmark has this property been determined eligible? yes no

date 28 January, 1980 federal state county local

depository for survey records Eugene City Hall

city, town Eugene state Oregon 97401

8. Significance

Period	Areas of Significance—Check and justify below					
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion		
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science		
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture		
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input checked="" type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/		
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian		
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input checked="" type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater		
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input checked="" type="checkbox"/> politics/government	<input type="checkbox"/> transportation		
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)		

Specific dates: 1859 - Cemetery
1913 - Mausoleum

Builder/Architect: Portland Mausoleum Company, builder
Ellis F. Lawrence, architect (attributed)

Statement of Significance (in one paragraph)

Eugene's Masonic Cemetery was significant in the early development of the city. Eugene's first schoolhouse and brickyard were located on the property. The cemetery was the earliest incorporated in what was then Eugene City and now contains the graves of the first governor of Oregon and the founder of Eugene, among others. Highly significant and the most prominent landmark on the heavily planted acreage is the Hope Abbey Mausoleum, constructed in 1913 in the "Egyptian" style--a 20th century Period style frequently adopted for funerary architecture, but only rarely used in Oregon. This is the earliest and largest example of the style. The cemetery land was originally owned by Fielding McMurry, an Oregon pioneer who arrived in 1850 and received a Donation Land Claim of 320 acres. That year, he constructed the Point-of-the-Hills school -first school in the Eugene area - on the northwest corner of what is now the cemetery acreage. His son, James McMurry, made the brick used in the construction of the first three buildings at the University of Oregon on what is now the northeast corner of the cemetery acreage. Two of these buildings, Deady Hall (1877) and Villard Hall (1885), are listed on the Register.

McMurry's land had been used for burials as early as 1854 and was chosen by the Masonic Lodge No. 11, AF & AM, as the best location for their cemetery. The search for an appropriate burial place for the citizens of Eugene City was precipitated by a letter, dated 27 November 1857, to the Lodge from Mr. S. Ellsworth, an attorney and resident of Eugene City. He commented on the increase in the size of the city and stated that:

...our town...is wholly unprovided with a place of burial for the dead. It is well known to you doubtless that your respected Fraternity rarely omits to provide at a very early day, a suitable cemetery for their own use, at least.

A committee was formed to search for a suitable site and reported on 2 April, 1859 that six acres on the McMurry claim could be purchased for \$200 plus a family plot in the cemetery. This was accomplished and in October of that year, four more acres were purchased, resulting in the ten acres currently nominated. The lots were laid out in twenty foot squares with eight foot alleys and were originally offered at \$15 each. Masons were given first choice of the lots before the property was opened for public sale.

Today, walking through the cemetery, the gravestones of many persons significant to city, county, and state history dot the hilly acreage. Although vandalism to the stones and other monuments has been a constant problem, numerous pioneer graves can still be found. Many Lane County Donation Land Claim families; early Eugene and Lane County merchants and businessmen; University of Oregon founders and faculty; and early legislators are buried there. A few are especially significant:

Eugene F. Skinner (1809-1864)

Founder of the city of Eugene, Skinner was born in Essex County, New York. He arrived with his wife and Elijah Bristow, founder of Pleasant Hill, Oregon, in 1846. He took a

a professor of Geology and Natural History at the University of Oregon in 1876, a position he held until his death. He was Oregon's foremost geologist and paleontologist.

Lord Nelson Roney (1853-1944)

Oregon's greatest covered bridge builder, Roney was born in Ohio. He came to Oregon in 1856 and apprenticed as a bridge carpenter to A.S. Miller, Oregon's first large-scale bridge builder. He became his own contractor after a flood in 1881, which destroyed many bridges over the Willamette River. During his subsequent career, spanning forty years, Roney built over one hundred covered bridges in Oregon and California. He is also credited as having constructed nearly every important building in the city of Eugene during the period between 1886 and 1905.

The Eugene Masonic Lodge and the Portland Mausoleum Company entered into an agreement on 12 November, 1912, to construct a mausoleum on the western slope of the cemetery. The Hope Abbey Mausoleum was completed in 1913 at a cost of \$40,000. "Egyptian" buildings are rare in Oregon. The examples are fewer than half a dozen, and all are mausoleums. Hope Abbey Mausoleum is distinctive among the two or three pin-pointed examples because of its exceptionally grand scale and because of its early date. The genuine revival of the Egyptian style in American architecture took place between 1830 and 1850. The style, earlier used for houses and other types of buildings, was not extensively used again until the 20th century when, in the Beaux Arts tradition, it was selected as the appropriate style for specific types of buildings, particularly mausoleums. After 1920, certain decorative, or stylistic elements of the "Egyptian" style were incorporated into the Art Deco, or Moderne style. Constructed of concrete, Hope Abbey Mausoleum is an early and "pure" example of the 20th century Period style and, therefore, the foremost "Egyptian" building in Oregon.

The Eugene Masonic Lodge and the Portland Mausoleum Company entered into an agreement on 12 November, 1912, to construct a mausoleum on the western slope of the cemetery. The Hope Abbey Mausoleum was completed in 1913 at a cost of \$40,000. The use of the Egyptian-revival style for buildings was rare in Oregon. This rareness was enhanced by the date of construction. Previously popular between 1830 and 1850, this style was not extensively used again until after 1920, when its decorative qualities were especially utilized in Art Deco or Moderne architecture. The mausoleum, constructed in concrete, anticipated this revival in its decoration while looking to the original revival in its massing

As originally contracted, there was no architect for the structure. Rather, an engineer from Chicago, Cecil E. Bryan, supplied the specifications to the Portland Mausoleum Company. Questions have been raised as to whether or not Bryan's original design was Egyptian. A 1912 newspaper advertisement depicted a Classical design for the building. Unfortunately, there are no exterior drawings extant. However, the original contract agreement was amended on 5 February, 1913 and it can be assumed that any stylistic change would have occurred at that time.

The name of Ellis F. Lawrence, Portland architect, appears at this point. There is some evidence that he was hired to either supervise the construction or to redesign the specifications. As first dean of the School of Architecture and Allied Arts at the University of Oregon (1914-37), Lawrence was commissioned to develop the master plan for the University. He believed in the use of appropriate styles for the type of specific use; a condition he pursued in designing all of the major buildings on the campus between 1916 and 1939. As Egyptian monumental architecture has more connotations with death than the Classical, this might have been the inspiration for a change in design. There is, however, no definitive evidence to support the claim that Lawrence was involved in such a degree with the project. The original advertisement rendering could have been conjectural.

The mausoleum was dedicated on 4 June 1914 with an impressive memorial ceremony. At that time a time capsule was placed inside the building, to be opened in 1000 years. It contained newspapers, the dedication program, historical documents, statistical information on the city, and photographs.

FHR-8-300A
(11/78)

UNITED STATES DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR HCRS USE ONLY

RECEIVED

DATE ENTERED

Masonic Cemetery and Hope Abbey Mausoleum

CONTINUATION SHEET

ITEM NUMBER 10

PAGE 1

Beginning at the iron rod marking the northeast corner of the Amended Plat; thence Westerly 118.10 feet along the north line of said cemetery, to a point marked by an iron rod; thence Southerly 41 degrees 8 minutes East 179.54 feet to an iron rod set on the east line of said cemetery; thence Northerly 135.22 feet to the point of beginning.

APPENDIX C

THIS AGREEMENT, made and entered into this 20th day of November, 1912, by and between Eugene Lodge No. 11 A.F. & A.M., party of the first part, and Portland Mausoleum Company, party of the second part, WITNESSETH:

That for the considerations hereinafter named to be performed and paid on the part of the party of the second part, the party of the first part does hereby give and grant unto the party of the second part the right and privilege to erect in the cemetery of the party of the first part, situated South of the City of Eugene, Lane County, Oregon, on a certain piece of ground described as follows, to-wit:

Beginning at the N.E. Corner of Lot No. 240 and running W. 48 feet, thence S. 132 feet, thence E. 48 feet, thence N. 132 feet to the place of beginning, all situated in the Masonic Cemetery of Eugene Lodge No. 11 A.F. & A.M. in Section 5, Township 18, South of Range 3 West of the Willamette Meridian, Lane County, Oregon

a Mausoleum for burial purposes, said mausoleum to be constructed by the party of the second part according to the plans and specifications agreed upon by the parties hereto, which plans and specifications shall be identified by the signatures of the parties hereto and a copy thereof attached to this agreement and made a part of the same, and the said party of the second part shall have the right to sell the tombs in said Mausoleum at such price as it may determine, provided however, that the minimum price shall never be less than two hundred Dollars (\$200.00) for a single tomb.

NOTE.

The party of the first part further agrees that it will by good and sufficient conveyance convey to the party of the second part or to the purchasers of tombs in said mausoleum (at the option of the party of the second part) all the right, title and interest of the party of the first part in and to

all of the tombs in said mausoleum, reserving, however, to the party of the first part eight of said tombs to be used by it, the party of the first part, as receiving vaults for keeping ~~bodies temporarily and reserving also the perpetual use~~ of the chapel in said mausoleum.

The party of the second part covenants and agrees that it will erect said mausoleum in said cemetery according to said plans and specifications and have the same completed on or before the 1st day of January, 1915, and that it will pay over to the party of the first part the sum of Ten Dollars (\$10.00) from the sale of each tomb situated therein. That the said party of the first part shall hold the fund created by the payment of said Ten Dollars (\$10.00) from tombs in trust and invest the same and expend the income thereof in maintaining and keeping in repair the said mausoleum. Provided, however, that if the purchasers of said tombs shall form an association among themselves, permanent in character, and shall desire to handle said fund in the manner above specified, then the party of the first part agrees to pay over said fund to said association.

It is further understood and agreed that the party of the first part shall have a right to make a reasonable charge for the use of said receiving vaults and the chapel in said mausoleum and the income arising from such charge shall be expended by it in maintaining the said cemetery and the grounds adjacent to said mausoleum.

It is further understood and agreed that the said mausoleum, after its completion in accordance with the plans and specification aforesaid, shall be under the exclusive control

as soon as the same is formed except such rights as may accrue to the purchasers of tombs therein in accordance with this agreement.

It is further understood and agreed that when the party ~~of the first part shall have conveyed to the party of the~~ second part or to the purchasers of tombs from the party of the second part, in said mausoleum, such title therein, all the liability and obligation of the party of the first part either to the party of the second part to the said purchasers shall be at an end.

IN WITNESS WHEREOF, the party of the first part has caused these presents to be executed by the Worshipful Master and Senior Warden and Junior Warden, and the party of the second part has caused these presents to be executed by its Manager by authority of its Board of Directors, the day and year above written.

Eugene Lodge No. 11 A.F. & A.M.

By Geo. C. Norris
Its Worshipful Master

By B. Patterson
Its Senior Warden

By Karl K. Miller
Its Junior Warden

Party of the first part

Portland Mausoleum Company

By J. H. Hubert
Its Manager

Party of the second part

APPENDIX D

S P E C I F I C A T I O N S

For Mausoleum to be built at Engene, Ore.

By

Portland, Oregon Mausoleum Co.

CECIL E. BRYAN
Chief Engineer

1139 First National Bank Building, Chicago, Illinois.

4
BUILDER'S SPECIFICATIONS OF THE LABOR AND MATERIAL TO BE

FURNISHED IN THE ERECTION OF A MAUSOLEUM TO BE CONSTRUCTED BY

PORTLAND, OREGON MAUSOLEUM COMPANY

at Eugene, Oregon, in accordance with the accompanying drawings and specification.

(1) SCOPE OF SPECIFICATIONS:

These specifications are intended to embrace all the labor and material for the erection of a Mausoleum at Eugene, Oregon.

Entire supervision of construction to be in charge of _____ who will be designated Chief Engineer, and who will purchase all materials, supplies and necessary equipment for the completion of the building. The Chief Engineer will also make all necessary sub-contracts, either in his name or name of the Owners, and perform all other services ordinarily performed by the General Contractor.

(2) GENERAL CONDITIONS GOVERNING ALL CONTRACTS- SUB-CONTRACTOR.

Each contractor shall furnish all material, labor, transportation, scaffolding, utensils and so forth, of every description required for the full performance of the work herein specified, except as otherwise particularly mentioned. He shall lay out his work and be responsible for its correctness; shall keep a competent foreman on the premises; shall obtain all necessary permits to properly carry out his work, paying the lawful fees therefor; shall give to the proper authorities all requisite notices relating to the work in his charge; shall be responsible for all violations of law, or damage to property or persons caused by him or his employees and shall properly protect his work during progress.

(3) MATERIALS, ETC.

All materials, supplies and equipment are to be furnished by the owners, but selected and purchased by the Chief Engineer.

All the materials are to be the best of their several kinds, in quality as herein specified; all labor to be performed in the best manner by skilled workmen, and both to be subject to the approval of the Chief Engineer.

All work and material must conform to the laws, rules and regulations in force in the locality in which the building is to stand, anything hereinafter specified to the contrary notwithstanding.

(5) DRAWINGS:

The drawings referred to in this specification consist

NOTE
(4)

of:

Sheet 1 Sheet 3
Sheet 2 Sheet 4

which will be supplemented by detailed drawings to be furnished as the work progresses. All these drawings are intended to co-operate with and form a part of the specifications and the accompanying contract. Where figures are given they are to be followed in preference to measurement by scale.

Anything which is not shown on the drawings, but which is mentioned in the specification, or vica versa, or anything not expressly set forth in either, but which is reasonably implied, shall be furnished and performed, without extra charge, the same as though specially shown and mentioned in both. Should anything be omitted from the drawings or specifications which is necessary to a clear understanding of the work, or should any error appear either in the various instruments furnished or in the work done by other contractor affecting the work included in this specification, it shall be the duty of the contractor to notify the Chief Engineer. In the event of a contractor failing to give such notice, he shall make good any damage to, or defect in his work caused thereby.

The drawings and specifications furnished for this work are to be considered instruments of service; are to be used for this building only; are the property of the Chief Engineer, and must be returned to him immediately on completion of the work set forth therein.

(6) OBSTRUCTIONS AND REPAIR

At any time that is directed by the Chief Engineer, each contractor shall clear out any of his rubbish or material which may constitute an obstruction to the progress of the work, and at completion shall clear out all rubbish and surplus material left by him; shall repair any damage to his work, no matter by who, caused, loss or damage by fire excepted, and leave the premises broom clean and in perfect repair and order so far as his work is concerned.

(7) AWARD

The owner reserves the right to accept or reject any or all proposals presented. The Owner also reserves the right to reject any of the sub-bids, and substitute for the same, such sub-bids as he may desire.

(8) THE SUB-CONTRACTOR FOR LABOR

Must attend to every part of the work personally, and must constantly be on the work; he must lay out all necessary lines, levels, grades, patterns, etc. He must also see that all drawings and specifications are carefully followed. He must inspect and properly store all materials as they arrive on the work.

(9) CHANGES

The Owner reserves the right to make any changes he may desire without impairing the contract, the value of which to be decided by the Chief Engineer.

C O N C R E T E

(10) GENERAL CONDITIONS

To apply to this work. No sub-contractors for labor on this work to be done under direction of Chief Engineer for the Portland, Oregon Mausoleum Company.

~~(11) WATER~~

To be furnished by this Contractor and must be clean and free from all deleterious substances.

(12) LOCATION

center lines
better
prop
red stakes and give loc. of

Clear away all rock rubbish and dirt which may be necessary to leave the site of the building clear.

(14) TRENCHES

Excavate outside wall trenches to a depth of 4'-6" below grade; inside trenches 2'-6" below grade. In case good foundation is not obtained at this depth, footing must be continued until proper foundation is obtained.

(15) DISPOSITION OF EARTH

All earth to be placed where directed by owners.

(16) GRADING

This contractor is to grade and finish all the outside surface to grade designated and replace all sod taken up.

(17) CONCRETE FOR FOOTINGS

To be of one part by measure cement, three parts clean, ~~sharp torpedo sand, five parts crushed gravel, or crushed stone.~~

(18) GREAT FLOOR

To be concrete, of one part cement, three parts clean torpedo sand, and five parts crushed gravel or crushed stone, 10" thick, exclusive of marble. Floor to be reinforced with 5/8" high carbon steel bars, 16" centers crosswise and 3/8" bars-18" centers lengthwise. The first floor of crypts to be placed 6" above top of main corridor floor and to be 8" thick reinforced in same manner overlapping main corridor floor at least 18".

(19) CRYPTS

All walls and floors in crypts to be 5" thick of concrete and made of 1 part Portland cement, 3 parts clean torpedo sand, 4 parts crushed gravel or crushed stone and reinforced with high carbon steel bars as shown on plans.

(20) CRYPT HEADS

To be of same proportions and reinforcing as crypts and poured into a mould in such consistence that it can be puddled instead of tamped.

(21) JOINING

In running crypts one complete section must be run in one continuous operation.

(22) PLACING CONCRETE

Concrete must be placed immediately after mixing; re-tempering of either concrete or mortar will not be permitted.

(23) PORTLAND CEMENT

All Portland cement must be manufactured by the

_____ except where otherwise specified.

(24) FORMS

Must be approved by the Chief Engineer before using.

They must be made of either steel or 1" x 6" ship lap put together in a neat and workmanlike manner, and must be well oiled, all lines of concrete must be within 1/2" of true line or level.

(25) CRYPT FLOORS

All floors of crypts must be finished with a smooth finish floated down with three (3) drain lines to drain pipe.

(26) CRYPT WALLS

Inside of all crypts to be finished white as directed by Chief Engineer.

(27) STEEL

All steel in this building to be high carbon twisted steel bars, except where 3/8 bars are used in which cases they may be plain round bars.

MASON WORK

(28) OUTSIDE WALLS

hollow concrete blocks manufactured under

Patents American State Hydraulic Stone of

quality equal to or better than No.1 Blue Bedford Indiana Stone.
Bond every other course to crypts with 1/8 x 1-1/4 galvanized metal ties.

(29) AIR VENTS

To be 4" x 6 and 6 x 8 leading to outside air.

(30) ALL MORTAR FOR STONE WORK

To be of one (1) part Atlas White cement, four (4) parts sand, with 26% lime mortar added, made up in small quantities to avoid setting.

(31) ALL MORTAR FOR TILE

And other work to be one (1) part Portland cement, three (3) parts clean sharp sand, and 25% lime mortar.

R O O F

(32) Roof

To be reinforced concrete 4" thick, with 1/2" bars, 8" on center with pitch of roof and 3/8" bars, 18" on centers, running horizon-
to roof, covered with three-ply sheet asbestos laid in Trinidad
Lake Asphalt, furnished by the Johns-Manville Company, Chicago, Illinois,
or an equivalent. This is to be covered with No.2 Promenade Vitrified
tile. Provide drainage by means of 18" gargoyles placed at points on plan

I N T E R I O R W O R K

(33) MARBLE

As shown by plans, to be Vermont Light Vein, or equivalent, and must be approved by the Chief Engineer; must be set with concealed fasteners, equal in quality to marble in light corridors of the new \$2,500,000. Hyson Bldg. Chicago.

(34) FLOOR TILE

To be Florence marble tile from Vermont Marble, or Colorado Uhl Company's quarries, or tile equivalent in quality, of size required, in cement and flushed with white Atlas cement.

(35) PLASTER

To be of Atlas White Portland Cement and White Sand.

APPENDIX E

OREGON INVENTORY OF HISTORIC PROPERTY
ELLIS LAWRENCE BUILDING INVENTORY
COUNTY: Lane

HISTORIC NAME: HOPE ABBEY MAUSOLEUM

COMMON NAME:
OTHER NAMES:

RESOURCE TYPE: Building
STATUS: built & survives

LAWRENCE

(JOB#) YEAR: (0281)

(JOB#) YEAR: ()

(JOB#) YEAR: ()

FIRST DATE: Nov. 1912

DESIGN BEG: June 1913

DESIGN END: Aug. 1913

CONSTR BEG: Sept. 1913

CONSTR END: June 1914

LOSS DATE:

ORIGINAL USE: mausoleum

PRESENT USE: mausoleum

SITE: 1.0 acres, approx.

CITY: Eugene Oregon
STREET: 26th & University St.
OWNER: Eugene Lodge no. 11 AF&AM
2777 Centennial Blvd. Eugene, 97401

TOWNSHIP: 18S RANGE: 03W SECTION: 05
MAP#: Eugene E. Quad TAX LOT: 18-03-05-00-0042

ADDITION: ORIGINAL USE: mausoleum

BLOCK: LOT: QUAD: PRESENT USE: mausoleum

ASSESSOR #:

THEMES: 20C Architecture, Fraternal Movements

DATA BELOW IS ON LAWRENCE FIRM'S DESIGN AS-BUILT:

ARCHITECT: Lawrence & Holford, Assoc. Arch. CHIEF DESIGNER: E F Lawrence
ENGINEERS & CONSULTANTS:

CONTRACTORS:

Portland Mausoleum Company (General), F.H. Miles Construction Superintendent;
Burgoyne Stone Company, Portland; Sterling Stone Co, Portland (Cast Stone,
made by Timms-Cress Co.).

ARTISTS & CRAFTSMEN:

STYLE: Egyptian

PLAN TYPE/SHAPE: rectangular (front long)

FOUNDATION MATERIAL: concrete

STORIES: 1 BASEMENT: no

ROOF/MATERIAL: monitor /Bitum. builtup

WALL CONSTR: concrete

STRUC.FRAME: concrete frame

PRIME WINDOW TYPE: steel fixed sash

EXTERIOR SURFACE MATERIAL: concrete, cast stone

DECORATIVE FEATURES/MATERIALS:

Marble-faced interior walls; terrazzo floors; cast stone urns, cornice, and
main entrance; copper-covered wood doors, bronze hypaetherum and window grills.

OTHER:

CONDITION: fair

MOVED: not moved

ALTERATIONS/ADDITIONS (dated):

Clerestory windows bricked up (1965); restrooms added (c.1945); exterior
concrete walls painted (date unknown).

LANDSCAPE FEATURES:

At edge of hilltop cemetery with mature trees and winding carriage paths.

ELLIS LAWRENCE BUILDING INVENTORY

HISTORIC NAME: HOPE ABBEY MAUSOLEUM

ASSOCIATED STRUCTURES:

none

SETTING:

Forested hillside at edge of historic Masonic Cemetery; residential area to the west.

SIGNIFICANCE OF LAWRENCE FIRM'S DESIGN:

EXTER.DETAILS/CRAFTSMANSHIP: Better than average workmanship and materials.

INTER.DETAILS/CRAFTSMANSHIP: High-quality skilled work: some fine materials.

EXTERIOR INTEGRITY: Minor changes, but original character intact.

INTERIOR INTEGRITY: Moderate changes; some original character remains.

SITE INTEGRITY: Essentially intact as originally built.

SETTING INTEGR: Minor changes to character and relationship of surroundings.

SIGNIFICANCE STATEMENT:

The Masonic cemetery (1859) containing Hope Abbey Mausoleum is significant to Eugene as the earliest incorporated burial place in the city and as the final resting place of the city's founder, Eugene Skinner, and the first governor of Oregon, John Whittaker. Prince Lucien Campbell, UO President who selected E.F. Lawrence to design the campus and form the School of Architecture, is buried in the mausoleum. Hope Abbey Mausoleum was Ellis Lawrence's first building in Eugene, and it is one of the first two of five mausoleums which he built throughout Oregon. It is Oregon's oldest example of "egyptian" style architecture, a twentieth-century style frequently used for funerary architecture elsewhere, but only rarely seen in Oregon. Hope Abbey Mausoleum is listed on The National Register of Historic Places.

SOURCES/DOCUMENTS: Description (Location)

Construction Section Drawing Print (Lane County Historical Museum)

Photo of architect's rendering of building on site (University of Oregon Main Library Special Collections).

Historic photos (Lane County Museum and UO Main Library Special Collections).
PORTLAND DAILY EXAMINER 7/12/13p1, 11/1/13p1, 8/7/13p1

Hamrick, James, National Register of Historic Places Nomination Form, 2/10/80.

Preliminary Specifications, Nov. 20, 1912 (file HD 79-3, Eugene Planning Office)

EUGENE DAILY GUARD, 11/20/12; PACIFIC BLDR.& ENGINEER 7/19/13 p28, 9/6/13 p137

PUBLICATIONS:

Clark, Rosalind. ARCHITECTURE OREGON STYLE, 1983, p178; Huntington, Hallie, "Ancient Masonic Cemetery...", LANE COUNTY HISTORIAN, Vol. 9, p.34-5

SLIDE NO.:

SHPO INVENTORY NO.:

RESEARCH BY: MS, T. Brink

DATE: 10/27/87

RECORDED BY: M. Shellenbarger

DATE: 12/02/87

OREGON INVENTORY OF HISTORIC PROPERTY
ELLIS LAWRENCE BUILDING INVENTORY

E V A L U A T I O N

HISTORIC NAME: HOPE ABBEY MAUSOLEUM

<u>INTEGRITY OF:</u>	<u>NUMERICAL</u>
1. EXTERIOR: Minor changes, but original character intact.	7
2. INTERIOR: Moderate changes; some original character remains.	3
3. SITE: Essentially intact as originally built.	9
4. SETTING: Minor changes to character and relationship of surroundings.	3

INTEGRITY TOTAL 22

DISTINCTION OF:

1. EXTERIOR DETAILS & CRAFTSMANSHIP: Better than average workmanship and materials.	3
2. INTERIOR DETAILS & CRAFTSMANSHIP: High-quality skilled work: some fine materials.	7
3. STYLE: (Egyptian) It is a prime example of its identified style. Compared to Lawrence's other surviving Oregon buildings, this style is unique in Oregon.	5
4. ORIGINAL USE: (mausoleum) Compared to Lawrence's other surviving Oregon buildings, this use is unique in its city/town or rural area; one of few in Oregon	9
5. ARCHITECTURAL DESIGN: Compared to Lawrence's other surviving Oregon buildings, this design is above average quality and significance.	5
Is it part of an ensemble of surviving buildings by Lawrence? No other Lawrence buildings are nearby.	0
Are structural or technical aspects of the design significant? Of little significance.	0
6. LAWRENCE'S PERSONAL INVOLVEMENT IN THE DESIGN PROCESS: Lawrence is known to have been the chief designer.	9

DISTINCTION TOTAL 45

EDUCATIVE OR ASSOCIATIVE VALUE:

1. HISTORIC EVENTS OR ACTIVITIES: Some association with historic events or activities.	2
2. HISTORIC PERSONS: Some association with significant historic person(s).	2
3. SYMBOLIC ASSOCIATION WITH AN IDEAL, INSTITUTION, OR POLITICAL ENTITY: Some significant symbolic association.	2

EDUCATIVE OR ASSOCIATIVE TOTAL 6

GRAND TOTAL 73

RANK: PRIMARY

NOTE: Only the built, surviving buildings in Oregon were evaluated.

APPENDIX F

NATIVE PLANT LIST FOR THE MASONIC CEMETERY

25th and University, Eugene, Oregon

Latin Name	Common Name
Trees	
<i>Acer macrophyllum</i>	bigleaf maple
<i>Arbutus menziesii</i>	madrone
<i>Cretægus douglasii</i>	Douglas' hawthorn
<i>Fraxinus latifolia</i>	Oregon ash
<i>Libocedrus decurrens</i>	incense-cedar
<i>Pinus ponderosa</i>	ponderosa pine
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Quercus garryana</i>	Oregon white oak
Small Trees, Shrubs and Woody Vines	
<i>Berberis aquifolium</i>	tall Oregongrape
<i>Corylus cornuta</i> var. <i>californica</i>	California hazel
<i>Oemleria cerasiformis</i>	Indian plum
<i>Prunus virginiana</i>	chokecherry
<i>Rosa gymnocarpa</i>	baldhip rose
<i>Rosa nutkana</i> var. <i>nutkana</i>	Nootka rose
<i>Rhus diversiloba</i>	poison-oak
<i>Rubus leucodermis</i>	blackcap
<i>Rubus parviflorus</i>	thimbleberry
<i>Symphoricarpos albus</i>	snowberry
Forbs	
<i>Actæa rubra</i>	baneberry
<i>Apocynum androsaemifolium</i>	spreading dogbane
<i>Brodiaea congesta</i>	cluster-lily
<i>Brodiaea hyacinthina</i>	hyacinth brodiaea
<i>Calochortus tolmiei</i>	cat's ear or mariposa lily
<i>Calypso bulbosa</i>	fairy-slipper or calypso orchid
<i>Camassia quamash</i>	common camas
<i>Cardamine pulcherrima</i>	spring beauty
<i>Claytonia parviflora</i>	small-flowered claytonia
<i>Claytonia perfoliata</i>	miner's-lettuce
<i>Claytonia sibirica</i>	candy flower
<i>Delphinium trolliifolium</i>	tall larkspur
<i>Dodecatheon hendersonii</i>	Henderson's shooting star
<i>Erythronium oregonum</i>	giant fawn-lily
<i>Fragaria virginiana</i> var. <i>platypetala</i>	broadpetal strawberry
<i>Fritillaria lanceolata</i>	checker lily

<i>Latin Name</i>	<i>Common Name</i>
<i>Galium aparine</i>	bedstraw or cleavers
<i>Geranium oreganum</i>	western geranium
<i>Heracleum lanatum</i>	cowparsnip
<i>Lomatium nudicaule</i>	barestem lomatium
<i>Lupinus bicolor</i>	two-color lupine
<i>Osmorhiza chilensis</i>	sweet cicely
<i>Polystichum munitum</i>	sword fern
<i>Ranunculus occidentalis</i>	western buttercup
<i>Ranunculus orthorhynchus</i>	straightbeak buttercup
<i>Sanicula crassicaulis</i>	Pacific sanicle
<i>Saxifraga oregana</i>	Oregon saxifrage
<i>Sidalcea virgata</i>	rose checker-mallow
<i>Sisyrinchium angustifolium</i>	blue star
<i>Smilacina racemosa</i>	false Solomon's seal
<i>Tellima grandiflora</i>	fringe cups
<i>Trillium albidum</i>	giant trillium
<i>Veratrum sp.</i>	California false hellebore
<i>Viola glabella</i>	woods violet
<i>Wyethia angustifolia</i>	narrow-leaf wyethia
Grasses, Rushes, and Sedges	
<i>Carex densa</i>	dense sedge
<i>Carex tumulicola</i>	foothill sedge
<i>Danthonia californica</i>	California oatgrass
<i>Juncus bufonius</i>	toad rush
<i>Juncus patens</i>	spreading rush
<i>Juncus tenuis</i>	slender rush
<i>Luzula campestris</i>	field woodrush

Compiled by Bruce Newhouse, spring 1992.

Additions from Ken and Robin Lodewick.

Please send additions to the address on this letterhead.

APPENDIX G

Summary of Cleaning Techniques*

Substance to be Removed	Acid-Sensitive Masonry	Non-Acid-Sensitive Masonry
	Limestone, Marble, Calcareous Sandstone, Glazed Brick, Architectural Terra Cotta, Polished Granite	Sandstone, Slate, Granite, Unglazed Brick, and Unglazed Terra Cotta, Concrete
Dirt and/or Pollutant Crusts	Water wash Water + non-ionic detergent Alkaline cleaner (ammonia or potassium hydroxide)	Water wash Water + non-ionic detergent Acidic cleaner (hydrofluoric acid)
Paint (oil, latex, acrylic coating, vinyl, epoxy, urethane-type coatings)	Alkaline paint remover (ammonia or potassium hydroxide or trisodium phosphate) Organic solvent paint remover (methylene chloride)	Alkaline paint remover (ammonia or potassium hydroxide or trisodium phosphate) Organic solvent paint remover (methylene chloride)
Whitewash and Cementitious Paints	Acetic acid or very weak solution of hydrochloric acid	Acetic acid Hydrochloric acid
Stains - Iron (Rust)	<i>Poultice with:</i> Sodium citrate in water + glycerine or Ammonium oxalate	<i>Poultice with:</i> Oxalic acid or orthophosphoric acid + sodium salt of EDTA in water or Dilute hydrofluoric acid
Stains - Copper	<i>Poultice with:</i> Ammonium chloride or Aluminum hydroxide + ammonia	<i>Poultice with:</i> Ammonia (+ EDTA) or Dilute hydrofluoric acid
Stains - Industrial (smoke, soot, grease, oil, tar, asphalt, waxes)	Scouring powder with bleach Water-based household detergent Ammonia Mineral spirits Alkaline cleaner <i>Poultice with one of the following:</i> Sodium bicarbonate Acetone (baking soda) Ethyl acetate Naphtha Amyl acetate Mineral spirits Toluene Methylene chloride Xylene Perchloroethylene Trichloroethylene Ethyl alcohol Dry ice/carbon dioxide (Tar, Asphalt, Gum)	Scouring powder with bleach Water-based household detergent Ammonia Mineral spirits Alkaline cleaner <i>Poultice with one of the following:</i> Sodium bicarbonate Acetone (baking soda) Ethyl acetate Naphtha Amyl acetate Mineral spirits Toluene Methylene chloride Xylene Perchloroethylene Trichloroethylene Ethyl alcohol Dry ice/carbon dioxide (Tar, Asphalt, Gum)
Stains - Plant and Fungal (lichens, algae, moss, fungi)	Dilute ammonia Bleaches Hydrogen peroxide Sodium hypochlorite Chloramine-T	Dilute ammonia Bleaches Hydrogen peroxide Sodium hypochlorite Chloramine-T
Stains - Graffiti (paint, spray-paint, felt-tipped marker)	Organic solvent or alkaline paint remover Lacquer thinner or acetone Organic solvent (methylene chloride) See also Paint , above	Organic solvent paint remover Lacquer thinner or acetone Organic solvent (methylene chloride) See also Paint , above
Salt/Efflorescence	Water wash Water (poultice)	Water wash Water (poultice)
Bird Droppings	Water wash Water + detergent + chelating agent such as EDTA	Water wash Water + detergent + chelating agent such as EDTA Acidic cleaners (hydrofluoric acid)

*Cleaning techniques are listed in order starting with the "gentlest means possible."

