SACRAMENTO
HISTORIC CITY CEMETERY
MASTER PLAN
Final December 2007

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A Negative Declaration was prepared for this project pursuant to the provisions of CEQA
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Prepared for the
CITY OF SACRAMENTO
Convention, Culture & Leisure Department

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INTRODUCTION
1. INTRODUCTION

Purpose

Sacramento’s Historic City Cemetery was created in 1849 to fulfill an important municipal need for a growing city. Located to the south of downtown on higher ground (an important geographic feature due to the annual flooding of the Sacramento River), the cemetery has served this need well for over 150 years. (See Figure 1.1) The cemetery suffered a period of neglect and indifference, but today it enjoys a revival and new life as a cultural attraction. Its plots have all been sold, but it still sees between 15 to 30 burials a year, and this is expected to continue in the future. The cemetery is transitioning to a new role of cultural attraction and community resource. The new uses, and the aging condition of much of its infrastructure and monuments, present new challenges for the future of the cemetery. The goal of this master plan is to address these challenges and plot a course for the future of the Sacramento Historic City Cemetery.

The master plan is a preservation plan, assuring a smooth transition from an active cemetery to a new role as a cultural and historic community resource, without diminishing the cemetery’s existing integrity. The master plan examines the issues that face the cemetery, establishes goals for the future of the cemetery, and lays out a plan to achieve these goals.

Through the remarkable advocacy and volunteer efforts of the Old City Cemetery Committee, and labor from the Sacramento County Sheriff’s Department Work Release Program, the cemetery has been transformed in recent years from a neglected burial ground to a vibrant historic cemetery that is a horticultural attraction and a significant historic resource for Sacramento and California.

The cemetery has a long tradition as a horticultural attraction. This began with donations of many plants from Margaret Crocker’s Bell Conservatory, and today the cemetery continues to have one of the finest collections of roses in the state. Currently there are three major areas dedicated to gardens:
• Historic Gold Rush Era roses (Historic Rose Gardens, Bruner area, Cadwalder area)
• Perennial Plants (Hamilton Square area)

Cemetery Facts:
Established: 1849
Burials: over 25,000
(possibly as many as 40,000)
Acres: 31.8
Ownership: City of Sacramento
• Native Plants (near Veterans Sections E & F)

Many important early Californians are buried in this cemetery, including Mark Hopkins, Edwin Bryant Crocker, and Albert Maver Winn. The markers in the cemetery include everything from old wooden headboards to elaborate mausoleums and statues, demonstrating the diversity of California history and culture.

Cemetery Policies & Guiding Principles

The following policies and guiding principles have been developed to guide development of the Master Plan and can be used to evaluate future proposals for development and activities.

1. The Historic Old City Cemetery is an active cemetery and will continue to be so in the foreseeable future. All activities, programs, and proposals shall be respectful to the traditional cemetery functions.

2. The cemetery is a historic resource and all activities, programs, and proposals shall preserve or enhance the historic integrity of the cemetery.

3. The vision for the future of the cemetery has been stated as “historic cemetery, museum, and gardens.” All activities, programs, and proposals shall be compatible with, or contribute to that vision.

4. The cemetery landscape shall be managed to preserve the historic character of the cemetery. Major canopy trees shall be maintained and replaced when necessary. Gardens shall be contribute to, or complement, the historic character of the cemetery.

5. Architectural features, site furnishings, other physical features shall contribute to, or complement, the historic character of the cemetery.

6. Sufficient staff and resources shall be provided to ensure the safety and security of volunteers and all cemetery features.

7. Proposals for new monuments, mausoleums, and other structures shall be evaluated for consistency with the vision for the future of the cemetery and for their compatibility with the cemetery’s historic character. All future work shall comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

8. A water-efficient irrigation system should be provided with the following criteria:
   - an automatic control system to allow overnight watering
   - a reliable system that requires minimum maintenance
   - a system that can adapt to the individual needs of plots, gardens, and lawn areas
   - system that minimizes impacts to plants, monuments & structures
Cemetery Issues

The following list of issues focused the development of the Master Plan.

Conservation Issues:
- documentation
- mausoleums and large monuments
- marble and stone deterioration
- brick masonry deterioration
- subsidence
- stability of walls
- missing metalwork

Infrastructure Issues:
- water supply and irrigation systems
- storm drainage and sanitary sewer system
- electric system

Facilities
- entry structure
- maintenance building
- restrooms
- chapel
- storage building
- existing office

Circulation Issues:
- drives and pedestrian paths
- accessibility
- parking

Horticultural Issues:
- canopy trees and large shrubs
- cemetery gardens

Cemetery Management Issues:
- security and vandalism
- maintenance and staffing
- managing volunteers
- managing sheriff’s crew
- legal issues of plot ownership

Programming, Use, and Recreation Issues:
- interpretation of cemetery history
- identifying appropriate use
- horticultural attraction
- tours and school groups
- relation to other Sacramento historic sites
Local & Regional Setting

At the time of the establishment of the City Cemetery, 1849, California was experiencing a major influx of migrants. The discovery of gold in the Sierras in 1848 drew people from all around the world looking for their fortunes. “Sacramento, being the gateway to the Northern Mines, became the assembly point for thousands of would-be miners who brought with them their hopes and dreams.” California and Sacramento were never again the same. The small town that was Sacramento before this time boomed with people. California gained statehood in 1850, and Sacramento became the capital in 1855.

Sacramento’s tourism economy is based largely on the attraction of its historic sites. It attracts visitors from elsewhere in California, and shares in California’s large number of visitors from outside of California. Sacramento tourism also includes many local visitors from the Sacramento metropolitan area as well as the San Francisco Bay area. The Sacramento Historic City Cemetery is part of a rich number of historic and educational attractions within the city. Some of these attractions include:

• Old Sacramento
• The State Capitol & Capitol Park
• Sacramento Archives & Museum Collection Center
• The Crocker Art Museum
• The Governor’s Mansion
• The California State Railroad Museum

The following maps, found at the end of this section, are provided to illustrate the cemetery’s context, layout, and history.

• Figure 1.2 Aerial View of the Cemetery, circa 2001
• Figure 1.3 Local Context Map delineating adjacent cemeteries and local neighborhood information.
• Figure 1.4 1902 Plot Map showing the carriageways, cemetery zones, and plots.
• Figure 1.5 Cemetery Layout showing current cemetery zones
• Figure 1.6 Master Plan Summary
Executive Summary

The cemetery faces a number of issues and preservation needs. These issues and needs are addressed in depth in this document, while the following gives a summary of the Master Plan elements and recommendations. For a graphic representation of the Master Plan recommendations see Figure 1.2.

Architectural Conservation
- Document the architectural features of each plot, including type, condition, and repair records.
- Repair and maintain the cemetery’s mausoleums and large monuments.
- Repair and maintain the cemetery’s marble and stone monuments.
- Repair and maintain the cemetery’s brick masonry.
- Fill and recompact soil in subsided locations.
- Repair unstable walls. Rebuild footings and walls where damaged or dangerous conditions occur.
- Clean, maintain, and rebuild any missing or broken ironwork.

Infrastructure
- Rebuild the irrigation system with automatic control that reduces over-spraying, allows for plant-specific irrigation, and limits water damage to cemetery features.
- Provide a new drain box, pump, and sewer connection to eliminate flooding.
- Provide new site-appropriate lighting and electrical outlets.

Facilities
- Provide space for the following structures. No other structures should be allowed:
  - Construct a new Entry Structure with City Staff Offices and Visitor Center.
  - Construct a new Multipurpose Building that may include restrooms, archive, meeting room, tool and equipment storage, and a Sheriff’s office.
  - Designate the chapel as a museum.
  - Consider acquiring a nearby property for the location of some Cemetery facilities.

Circulation
- Consider certain drives for one-way traffic.
- Identify and maintain all pathways in need of repair.
- Provide an accessible route of travel to all new buildings, existing primary facilities, and important site features.
• Provide improved markings for on-site parking and provide additional parking off-site through acquisition of nearby property.
• Provide signage appropriate to the historic setting.

Historic Landscape
• Provide site furnishings appropriate to the historic setting.

Horticulture
• Manage the cemetery’s canopy trees to preserve historic character.
• Establish a program to replace the historic elms.
• Prepare a master planting plan for implementation over time and using the lists of recommended and forbidden trees for the site.
• Oversee garden development to ensure the appropriateness of the gardens.

Cemetery Management
• The OCCC will need to grow as an organization to take on a larger role in the management of the cemetery.
• Prepare a memorandum of understanding between the City and OCCC to establish roles and responsibilities.
• Support and encourage volunteer programs and the Sheriff’s work program.
• Provide a site manager/administrator for the cemetery.
• Clarify and enforce legal issues regarding plot ownership.
• Seek funding sources for capital projects and maintenance of the cemetery.

Programming, Uses & Recreation
• Provide events and programs that support and advance the mission of the cemetery.
• Events and programs should not harm the cemetery’s historic resources and be appropriate for the setting.
VISION STATEMENT
- Historic Cemetery, Museum, and Gardens

PRESERVATION
- Preserve cemetery's historic design
- Repair monuments and mausoleums
- Replace canopy trees
- Maintain and expand gardens

INFRASTRUCTURE
- New water supply & irrigation system
- Underground electrical systems
- Pathway lighting
- Electrical outlets throughout cemetery
- Storm drainage improvements

CONSERVATION
- Digitize archives, records
- Digitize plot and monument data
- Preserve & repair walls, plots, monuments, and mausoleums

FACILITIES
Consider acquisition of nearby offsite property for facility needs
- Archives
- Administrative use

Entry Structure, City Staff
- Office, Visitor Center (1100 SF)
- Future administrators office
- Maintenance supervisor office
- Restrooms
- Exhibits, & retail space

Historic Mortuary Chapel
- Cemetery museum
- Redesign accessible ramp

Multipurpose Building (up to 3,650 SF)
- Restrooms
- Archives
- Meeting rooms
- Tool & equipment storage
- Restrooms

New Storage Facility (500 SF)
- Material and equipment storage
Figure 1.3
Aerial View of the Cemetery c.2001 (Scale: 1" = 300')
Figure 1.4  
Sacramento City Cemetery Layout Map  
Scale: 1" = 200’
Figure 1.5
Local Context Map Scale 1” = 300’
Figure 1.6
Sacramento City Cemetery 1902 Plot Map
CEMETERY HISTORY
2. CEMETERY HISTORY

The Sacramento City Cemetery in Historical Context of American Cemeteries

In early American towns and cities, church yards and town greens were the only locations for burials. Over time, these burial grounds reached capacity and concerns over them causing health problems increased. Yellow fever epidemics in 1794 and 1795 caused a crisis in New Haven, Connecticut where the New Haven Green overflowed with the dead. In 1796, the city planned a new cemetery on the edge of town. This land, The New Burying Ground (now known as the Grove Street Cemetery), was the first planned cemetery landscape in the United States. Rather than the arbitrary burial layout that was common practice at the time, the New Burying Ground was divided into plots for families. Areas were also set aside for parishioners of churches, Yale College, the indigent, and persons of color.

The motives for creating The New Burying Ground in New Haven, overcrowded urban burial grounds and health concerns, led to the creation of other pioneering cemeteries across America. While health concerns may have some validity, this concern arose from the common, but incorrect, fear of disease-causing “miasmas” created from rotting corpses.

During the early Nineteenth Century, America’s views on death and mortality changed. The severe views on death and mortality of Puritanism and Calvinism were being replaced with sentimentality, hope, and benevolence. This led to the idea that cemeteries were places to visit loved ones, mourn, and gain inspiration. Where old burial grounds were crowded with simple markers, new cemeteries were pleasant landscapes with architectural expressions of sentimentality. These cemeteries demonstrated a range of emotions from melancholy to whimsy and humor.

Mount Auburn Cemetery in Cambridge, Massachusetts is the first example of this new type of cemetery. Established in 1831 by the public-spirited Massachusetts Horticultural Society, the goal was to create a well-designed cemetery to soothe the bereaved and to inspire future generations. The cemetery was created in a picturesque landscape of forested hills and wetlands with winding roads and paths. The design concept was modeled after the Père-Lachaise Cemetery in Paris, which was created in 1804 on a former estate. While Mount Auburn was the first of America’s “rural” cemeteries, over time,
Mount Auburn evolved from a picturesque, forested landscape to a gardenesque landscape with an emphasis on horticultural plantings.

Rural cemeteries quickly gained popularity across America. Other early examples include Laurel Hill Cemetery in Philadelphia (1836), Greenwood Cemetery in Brooklyn (1838), Holly-Wood Cemetery in Richmond, Virginia (1848), and Forest Lawn Cemetery in Buffalo (1849). Within a short time, these cemeteries became extremely popular places for people to visit, whether they were mourning loved ones or not. There was an undeniable attraction to stroll through these pleasant landscapes, which had previously only been available on private estates. The rural cemetery phenomenon quickly led to the creation of New York’s Central Park in 1858, and the American parks movement.
The City Cemetery in Context: A Timeline of Other Early Cemeteries

1789  St. Louis Cemetery, New Orleans, LA. Burials in above ground vaults due to high ground water.

1796  New Burying Ground (later Grove Street Cemetery), New Haven, CT. First chartered burial ground in United States.


1831  Mount Auburn Cemetery – Cambridge, MA. First large designed landscape open to the public in US. 175 acres.


1836  Laurel Hill Cemetery – Philadelphia, PA.


1845  Spring Grove Cemetery – Cincinnati, OH.

1848  Holly-Wood Cemetery – Richmond, VA.

1849  **City Cemetery – Sacramento, CA.**

1849  Bellefontaine Cemetery, St. Louis, MO.

1849  Forest Lawn Cemetery – Buffalo, New York. 269 acres. 152,000 graves.

1850  Oakland Cemetery – Atlanta, GA. 88 acres.

1860  Graceland Cemetery – Chicago, IL.

1863  Mountain View Cemetery – Oakland, CA. 226 acres. Designed by Frederick Law Olmsted.

1877  Evergreen Cemetery – Los Angeles. Oldest existing cemetery in Los Angeles. Very large – 300,000 grave sites.
A Cemetery for Sacramento

The need for a proper cemetery in Sacramento began in 1849 with a committee of the Sacramento Common Council, tasked with finding a site for the cemetery. In a settlement mostly within the river floodplain, a good site for a cemetery would be one that was high and dry. They found such a site on a sandy knoll, well above the flood plain, at the south edge of the recently mapped city. The committee approached the land owners, John Augustus Sutter and H.A. Schoolcraft, who generously agreed to donate 10 acres for the cemetery.

Previously, most burials were done at a burial ground at Sutter’s Fort, but this site was less than ideal due to its susceptibility to flooding. Other burials had been done at a sandy mound known as Buckeye Knoll, two blocks north of City Cemetery. This site, which was commonly used as a source of sand for city builders, was less than ideal because it was within the city street grid and was thought not large enough for future needs.

At the time, Sacramento was in rapid transformation from an agricultural settlement to a major destination with the discovery of gold. In December of 1848, William Warner and William Tecumseh Sherman, surveyed and established Sacramento’s grid of streets. In 1849, Sacramento’s city government was formed with the adoption of the second City Charter. The public and civic needs of the city included a new burial ground. The city trustees established “the public graveyard” on December 3, 1849 when it passed an ordinance accepting John Sutter’s gift of land.

In 1850 a cholera epidemic hit Sacramento, killing almost a thousand people in about three weeks. Many of the victims were buried in mass graves in Sacramento’s original burial ground near Sutter’s Fort, but were later transferred to the City Cemetery due to flooding. During its early years the cemetery had minimal development. The graves were simple, often marked only with carved wooden grave markers. Plots were commonly enclosed with small picket fences.

An engraving and description of the cemetery in its early years was published in the Sacramento Union on May 1, 1852;

*The cemetery is on the highest ground in the vicinity of the city, and commands an unobstructed view of the Sacramento, the Coast Range, the Sierra Nevada, and the city itself. The hill is composed of sand and every portion of it is pure above high-water mark, which circumstances render it a peculiarly*
favorable location for a cemetery.

The friends and relatives of many of the deceased buried in these grounds, have exhibited their love and remembrance for the departed, by adorning and beautifying their graves by the planting of shrubbery, and the erection of neat and substantial palings.

Formal development of the cemetery was delayed until the hiring of a superintendent in 1856. This was reportedly prompted by complaints of the poor condition of the cemetery. A formal design of lots and tiers was established and sections were acquired by families and groups including the Freemasons, the Odd Fellows, Volunteer Firemen and the Pioneers Society. Carriage Ways divided the cemetery into sections. A gate house with bell tower and lodge were constructed circa 1857 at the 10th Street entry. The hillsides were terraced with brick and stone walls to create level burial plots. The cemetery expanded to 60 acres in 1880 with the donation of additional land by Margaret Crocker. In 1893, the city constructed a stone mortuary chapel.

The city designed its cemetery in a rational way, with neat rows of plots divided by paths and framed by carriage ways. This was quite different from the trend of other cemeteries in the East. Mount Auburn Cemetery in Cambridge, Massachusetts started the “rural” cemetery movement, characterized by a picturesque or naturalistic landscape setting with winding pathways. Most of the other major cemeteries that predate the City Cemetery were created in this fashion. The notable exception is the New Burying Ground in New Haven, Connecticut (1796), the first purpose-built cemetery in the United States. Like the City Cemetery, it was organized in a rational form, with plots in straight rows. New Burying Ground and the City Cemetery are also unique in that they are both...
The City Cemetery, shown on this 1893 map, was located on the southern edge of the city’s original street grid. The site of the Bell Conservatory, directly across Y Street (now Broadway), can also be seen on the map. (Sacramento Room, Sacramento Public Library)

There are remarkably few historic photographs of City Cemetery, but this is the best one that has been found. This view, published as a stereograph by Lawrence & Houseworth, shows the 10th Street entry area sometime between 1860 and 1870. It shows the entry structure, burial plots, monuments, low fencing, and young trees and shrubs. In the distance, just to the right of the clock tower, is the new state capitol building under construction. (Library of Congress, Society of California Pioneers)
municipal-owned cemeteries. Almost all of the other significant cemeteries were privately developed and owned.

Currently, we do not have records explaining why City Cemetery took this form. We can only speculate the reasons, including that the western frontier ethic called for a more rational design. At the time of City Cemetery’s creation, Sacramento was a newly established town in a riparian setting, so the need and desire for a “rural” experience likely did not exist. All of the cities with “rural” cemeteries were much larger than Sacramento, which in 1850, had a population of only about 10,000 (compared to Cincinnati, population 115,000, and Richmond, Virginia, population 28,000). Another factor is that the “rural” cemeteries, being privately developed, were a speculative business model that relied on “marketing” to attract potential buyers of plots. The park-like setting proved very popular and was successful in selling plots.

City Cemetery, like the other cemeteries around the country, attracted visitors, particularly on Sundays. In these days before urban parks, people visited cemeteries, not just to visit their departed loved ones, but to walk and ride in the pleasant surroundings the cemeteries provided. The Sacramento Bee of February 10, 1860 noted this phenomenon:

> At this season of the year, before the rough ocean winds of the Summer months have commenced to blow, there is a quiet beauty about our metropolitan Cemetery which attracts many visitors. Now may be seen carriages winding among the circuitous avenues which lead to the last resting places of the dead; and here and there silent groups of relatives and friends of the departed loved ones, reviving sad memories, or coming to strew the cherished spot with flowers.

The horticultural importance at the City Cemetery began in 1878 when “Mrs. Margaret Crocker built the Bell Conservatory at a cost of $38,000.
This structure overlooked the cemetery along what is now Broadway and was used to grow flowers for use in the cemetery. Mrs. Crocker's plan was to sell flowers to those who could afford them and give them to those who could not so that all could decorate the graves of relatives in the City Cemetery across the street. Colored glass, which once made the Bell Conservatory a thing to behold, was ordered through Tiffany's in New York and shipped from Belgium. The spot was later bought by Safeway and is now a parking lot.” (Source: http://www.oldcitycemetery.com/bell_consv.htm)

The cemetery includes a number of fraternal sections. This started in 1859 with the Masons, in what is now known as the “Old Masonic Cemetery.” The trend continued with the Odd Fellows in 1861, and the Sacramento Pioneers Association in 1862. Other fraternal organizations represented include the Improved Order of Redmen, the United Ancient Order of Druids, and the Sacramento Turn Verein. The city also donated sections to honor volunteer firemen (1858) and Civil War veterans of the Grand Army of the Republic (1878). Labor organizations with plots for burial of members include the Printers' Union and the Painters' Union.

Between 1850 and 1855 there were approximately 3,000 burials in the new cemetery in what was later known as the “old tier grounds”. In 1856 the cemetery was redeveloped with a new layout, carriage ways, and plots for sale. Most of the area of the “old tier grounds” was resold as plots. It is not clear whether the earlier burials were removed as part of the reorganization, or if they were left in place.
Cemetery History

Sacramento Historic City Cemetery Master Plan

A 1936 view of the Cemetery entry structure. The bell tower and chapel structures are of brick construction. A wood addition is seen at right.
(Sacramento Archives and Museum Collection Center, 1985/024/3386 Eugene Hepting Collection)

Demolition of the entry structure is shown in this 1949 photo. The structure was removed to make way for the widening of Broadway.
(Sacramento Archives and Museum Collection Center, 1985/024/3411 Eugene Hepting Collection)

This aerial view shows most of the cemetery (upper right) circa 1938. The photo can be dated by the construction of the Tower Theater which opened in November of 1938.
(Sacramento Archives and Museum Collection Center, 2001/057/0023 Bob McCabe Collection)
Starting in 1875, parts of the City Cemetery were sold to the Masons and Odd Fellows, who created their own cemeteries on the land. These cemeteries are classic examples of the later “lawn-park” cemeteries, which are characterized by large expanses of lawn. The “lawn-park” cemeteries reflected a growing professionalization of cemetery management, where there was greater control over the landscape. In addition, lawns were easier to maintain than the complex picturesque and garden-esque landscapes of the “rural” cemeteries.

At the same time he donated the land for the City Cemetery in 1849, John Sutter also donated an additional 10 acres of land at Alhambra and J Street which was known as the Sutter Fort Burial Ground. This land became the New Helvetia Cemetery. It operated until the 1950s when all remains were removed, some of which were reinterred in City Cemetery. The site is now Sutter Junior High School.

Over the course of the 20th Century, the care and maintenance of City Cemetery diminished to the point of near-abandonment. In 1949, the 10th Street gate and entry were torn down to make way for the widening of Broadway. In 1986, concerned citizens organized the Old City Cemetery Committee in reaction to the deteriorating condition of the cemetery and growing vandalism. Over the recent years, the group has begun repairs and transformed and greened the cemetery.

The primary map of the cemetery that is in use today dates from 1902. There would likely have been a number of earlier maps, which were particularly needed as the cemetery acquired new land, but the 1902 map is the only map that is known to be extant.
Cemetery Timeline Including Notes on City Acquisition of Cemetery Properties

(The following information was taken, in part, from a timeline prepared in May 1970 by Solon “Doc” Wisham, Jr., Director, Recreation and Parks.)

December 1848 – A grid of streets for Sacramento is surveyed and established by William Warner and William Tecumseh Sherman.

November 28, 1849 – John A. Sutter and H.A. Schoolcraft donated ten acres of land to the City of Sacramento, located south of “Y” Street, between 9th and 11th Streets, for the development of a cemetery.

December 3, 1849 – The City of Sacramento passed an ordinance establishing the City Cemetery and appointed a committee to layout the site and to sell family plots to the public.

Circa 1850 – The City Cemetery site was laid out by officials of the City of Sacramento, about the same time as the great cholera epidemic. The City Cemetery was referred to as “The Sand Hill Cemetery of our City.”

June 12, 1851 – The Sacramento Union, in an editorial, complained about the maintenance standards of the City Cemetery and called on the City officials for corrections.

July 9, 1851 – The City acted to correct maintenance standards and purchased ten additional acres from John Claybrook for $1,500.

December 24, 1855 – The City officially adopted the name “Evergreen Cemetery.” The popular usage, however, continued to be “City Cemetery,” as it is now used.

1856 – A cemetery superintendent is hired. A formal design of lots and tiers is established.

Circa 1857 – Gate house and chapel constructed at the 10th Street entry.

Circa 1858 – Several society and family plots had been established by this date. These plots were enclosed with brick and stone copings and retaining walls, all under private ownership.

April 26, 1866 – The City purchased another ten acres of land from Israel Luce for $100.00, bringing the cemetery acreage to 30.
Circa 1875 – The City sold approximately 5.5 acres to the Masons, establishing the present Masonic Lawn Cemetery.

1878 – Bell Conservatory is built by Margaret Crocker across Y Street (Broadway) from the cemetery.

June 30, 1880 – Mrs. Margaret E. Crocker, widow of E.B. Crocker, donated 23 acres to the City for cemetery purposes, bringing the total to over 50 acres.

1893 – Stone mortuary chapel is constructed.

February 27, 1911 – The City purchased the Southside Cemetery for $100.00 from the Tehama Lodge of the Masonic Order. This parcel of 2.07 acres was not contiguous to the existing cemetery and was used primarily for pauper burials.

Circa 1940 – The construction of the Helvetia Housing Project and the development of Muir Way detached additional land from the City Cemetery.

1949 – Broadway is widened resulting in the demolition of the gatehouse and chapel.

October 12, 1955 to March 27, 1956 – All remains at the New Helvetia Cemetery were removed and distributed to other cemeteries. Remains with name markers, but unclaimed by heirs, were reinterred at City Cemetery.

May 5, 1957 – The Sacramento City Cemetery was designated as State Historic Landmark, No. 566, by the State Historical Landmarks Commission, under the sponsorship of the Native Sons of the Golden West and the Native Daughters of the Golden West.

February 9, 1962 – The City sold a 4’ x 720’ parcel to the Masonic Lawn Association. This sale enabled the Masons to enlarge their present holding capacity. This sale reduced the City’s holdings to the existing 44 acres.

1986 – Concerned citizens organize the Old City Cemetery Committee (OCCC) to address the cemetery’s poor condition and vandalism.

1987 – OCCC becomes a standing committee of the Sacramento County Historical Society.

January 2002 – OCCC becomes an independent nonprofit organization.

Circa 2002 – By City ordinance the official name is “Historic City Cemetery of the City of Sacramento.”
Cultural Landscape Evaluation

**Topography**

Most of Sacramento lies within a floodplain and is generally flat. Located on a small sand hill, the cemetery site provided a well-drained, flood-free site. (See Figure 2.1) The existing topography at the site ranges from an approximate elevation of 15 - 42. The northern half of the cemetery is on a small knoll (Center Run section) on axis with 10th Street. The knoll is approximately 12 feet above the entrance at 10th Ave., but it is about 24 feet above the edges of the cemetery along Muir Way and Riverside Boulevard. Two smaller knolls exist in the west side of the cemetery in the Van Voorhies and Pioneers’ sections. The terrain on the western quarter of the cemetery is steep and the land has been terraced by a series of walls. The southeast section of the cemetery is flat. The drives are generally arranged without regard to the terrain, so the topography can be seen where the drives rise and fall.
Land Uses
Cemetery plots are densely arranged across the entire site with the exception of the drives and the area of the Chapel and maintenance building.

Circulation System
The circulation system consists of asphalt-paved drives (carriage ways) that are approximately 12 to 14 feet wide, and pedestrian paths that include a wide variety of surfaces including turf, wood chips, brick stone, and concrete. (See Figure 2.2)
Spatial Relationships
The spatial organization of the cemetery generally consists of a series of rectilinear sections that are bounded by the paved drives. While most of the sections are rectangles, some have rounded ends. The drives are generally straight and travel over the terrain without regard to the topography. Tightly grouped smaller rectangles of individual plots exist within the sections. The straight linear drives and paths create vistas along their axis.

Views
When first established, the cemetery had expansive views across Sacramento, due to its topographical position. As trees within the cemetery and throughout the city matured, the views disappeared. Currently, a visitor to the cemetery can see the taller buildings of downtown Sacramento. Within the cemetery, the linear drives and paths create internal vistas along their straight lines.

Vegetation
Common with most other cemeteries of this era, vegetation played an important role in creating a park-like setting to comfort the grieving and make a pleasant environment for remembrance. Canopy trees, primarily elms, provided a large deciduous canopy over much of the last century. Other common trees include pines, oaks, magnolias, cypress, and other species. An eclectic variety of small trees and shrubs were also present. Much of the planting was apparently done by plot owners, so there is no distinct plan or order. Turf was typically used as the most common ground cover. Special planting within plots often included other ground covers and flower plants. In the years between the 1940s and 1980s, much of the cemetery was untended and un-irrigated, with weeds and grasses greening with winter rains, but turning brown the rest of the year. (see Figure 2.3) Starting in the 1980s, the Old City Cemetery Committee has worked to transform the cemetery planting, maintaining, and generally greening the cemetery. This work has transformed parts of the cemetery into gardens, including a significant collection of rare and historic roses. Irrigation has been installed and maintenance has improved greatly through the OCCC volunteers, city staff, and the Sheriff’s work program. Canopy trees, particularly the elms, are being lost due to age and disease. There is currently no program to replace them. The current state of the gardens includes a variety of garden styles and plant types. This is likely not that different than the conditions in the cemetery when it was tended primarily by plot owners.
Cemetery History

Landscape Dividers
The cemetery is organized into plots, most of them raised. The plots are defined by low walls of brick, stone, or concrete. Where the terrain is not flat, larger walls are used to create level sections for plots. Most of the larger walls are of stone or brick. Some of the plots also include metal fences, generally cast or wrought iron. A new fence around the perimeter of the cemetery was installed in 2005. It is likely that there were previous versions of a perimeter fence. (Note that the fence extends around the perimeter to include the Masonic Cemetery. There is no internal fence or other divider at the boundary between the City Cemetery and the Masonic Cemetery.)
Site Furnishings
Site furnishings at the cemetery include benches, trash receptacles, drinking fountains and signs. The benches include a wide variety of styles most of which are appropriate to the cemetery’s historic setting, but some of which are not appropriate. In general, traditional bench designs are considered more appropriate than contemporary designs. The trash receptacles include several that are a basic woven wire mesh, and others are steel drums. A drinking fountain consists of a contemporary steel model designed to be accessible to persons in wheelchairs. There are a wide variety of signs for different purposes throughout the cemetery. There is a system of blue signs on a wood base that provide street names, but it is not particularly consistent with the historic setting. There are a variety of signs for other purposes including interpretive, historical, and horticultural. These generally do not conform to a particular standard.

Trash receptacles
Acceptable
Not acceptable

Drinking fountain
Street signs do not contribute to the historic character.
### Site Utilities and Lighting

Various features of the water supply and irrigation system are the most evident site utility. A backflow and booster pump sits near the front of the cemetery and various irrigation heads are placed on fixed risers throughout the cemetery. Electricity to the buildings is provided by overhead wires supported by wood poles. A few cobra-head light fixtures are located on the poles. There is a lack of adequate storm drainage facilities in the cemetery, and ponding and flooding sometimes occur.
Buildings
Cemetery buildings include the office at the 10th Street gate, the chapel, the maintenance building, and a storage structure at the east end. The mortuary chapel dates from 1893 and was previously used to store corpses prior to burial. The chapel now houses the cemetery archives and records. The office at the front entry gate serves as the office for the cemetery maintenance staff. The building was constructed sometime after the signature entry gate and chapel were removed in 1949 to make way for the widening of Broadway. The office is a simple brick structure with metal roof that does not have architectural style or articulation. The maintenance building is also a simple brick structure that contains storage and an office for the sheriff. Storage is provided by a metal storage container with a wood structure built around it. With the exception of the mortuary chapel, the existing buildings do not have any architectural qualities that contribute to the historic character of the cemetery.
Monuments
The monuments are the most important cemetery feature. There are a wide variety of styles representative of a large portion of the cemetery’s history. The monuments range from a modest wood slab (at least one), to simple stone markers, to elaborate monuments with stone statues and carvings, to stone mausoleums. The collection is a remarkable survey of stone carving, architectural styles, and funerary symbols and icons.
Period of Significance
City Cemetery has evolved over its entire history, and it will likely continue to evolve. With several layers of history both visible and buried, the cemetery should be considered a traditional, cultural landscape. The period of significance is the period of time in which the property achieved the qualities that make it eligible for the National Register of Historic Places. For this study, the period of significance is determined to be 1849 to 1957. The beginning date represents the earliest development of the cemetery. The end date extends 108 years beyond this, exceeding the National Register's criteria that properties that achieve significance be at least fifty years old.

Historic Context
Established in 1849, Old City Cemetery is among the earliest designed cemeteries in the United States and is likely the oldest in the West. Although it is somewhat different in design, it is a western adaptation of the American rural cemetery movement that began with Mt. Auburn Cemetery in 1831. The cemetery was laid out with Sacramento’s original street grid, so it coincides with Sacramento’s establishment as a city. (See the beginning of this chapter for additional information on the historic context of City Cemetery in relation to other early cemeteries.)

Character Defining Features
The character defining features are those features of the cemetery, dating from the period of significance, that contribute to the historic status of the cemetery. These features include:
• the collection of monuments and mausoleums
• the layout and organization of drives and pathways
• terrace retaining walls
• plot walls and metalwork fences
• historic vegetation (see 1953 aerial photo)
• the Mortuary Chapel
• existing topography

Integrity
The integrity of the cemetery is generally high. A number of the monuments are damaged or missing parts, but overall the collection is intact. The largest issue is the loss of the historic entry gate and chapel that was removed in 1949 to make way for the widening of Broadway. Several feet of the cemetery were removed and a retaining wall built along the Broadway frontage to accommodate the widened street. Some of the historic elm trees have been lost to age and disease.

Significance
City Cemetery was one of the important civic amenities identified when the Sacramento street grid was planned. The cemetery is likely the oldest designed cemetery in the West. At rest in the cemetery are numerous people important to the history of California, including several governors, senators and judges. The most significant burials are John A. Sutter, Jr., founder of Sacramento; and Mark Hopkins, one of the “Big Four” builders of the Central Pacific Railroad. The cemetery is already listed as a California Historical Landmark, so it can be presumed that the
The cemetery has already attained statewide significance. The cemetery is also likely eligible for listing on the National Register of Historic Places due to its important role in the history of Sacramento (local significance), the significant collection of monuments and funerary architecture, and the historical significance of many of the people buried in the cemetery.

**Treatment**

Future changes in the cemetery should respect the historic character, and should comply with the *Secretary's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. The guidelines include standards for *preservation, rehabilitation, restoration, and reconstruction*. In most cases work in the cemetery will be best categorized as rehabilitation.

**Rehabilitation** is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. (For more information see: http://www.nps.gov/hps/hli/landscape_guidelines/index.htm)

<table>
<thead>
<tr>
<th>Standards for Rehabilitation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.</td>
</tr>
<tr>
<td>2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.</td>
</tr>
<tr>
<td>3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.</td>
</tr>
<tr>
<td>4. Changes to a property that have acquired historic significance in their own right shall be retained and preserved.</td>
</tr>
<tr>
<td>5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.</td>
</tr>
<tr>
<td>6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.</td>
</tr>
<tr>
<td>7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.</td>
</tr>
<tr>
<td>8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.</td>
</tr>
<tr>
<td>9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.</td>
</tr>
<tr>
<td>10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.</td>
</tr>
</tbody>
</table>
Before and after examples of transformation of the cemetery in recent years due to the work of Old City Cemetery Committee volunteers, the Sheriff’s Department Work Program, and the City of Sacramento maintenance staff.
3. ISSUES AND RECOMMENDATIONS

One of the main goals of this master plan process was to identify issues facing the cemetery, now and in the future. The issues are discussed relative to the stated goals and vision for the cemetery - historic cemetery, museum and gardens. The following pages identify and examine these issues, while also providing recommendations (denoted with a box: □).

Architectural Conservation
The cemetery is facing a wide variety of issues associated with its conservation. Some of these issues include normal cemetery maintenance while others may be due to vandalism. All repair and preservation work should be directed by or reviewed by a conservatory or preservation architect to ensure that work is done in accordance with best historic preservation practices. See the Cemetery Preservation Report in the Appendix for more detailed discussion and recommendations.

Documentation
Organized documentation of the architectural features of each plot will be useful in the management of cemetery resources. Documentation can include information on the type, condition, repair records and other data on each plot

□ Create an electronic database of cemetery plots that includes known burial information, wall and fence features, monument type and condition, inscriptions, and photographs.

□ The collection of monuments and other cemetery features should be curated as an important collection of historical artifacts.

□ Establish a working relationship with an architectural conservator to provide ongoing consultation for various conservation issues to ensure that correct methods and practices are applied.
Mausoleums and Large Monuments
The cemetery’s mausoleums and large monuments are important architectural features and focal points that contribute to the cemetery’s character. Water intrusion and organic growth damage the structure and imperil their integrity.

- Establish periodic inspections and cleaning of mausoleums.
- Repair and refurbish doors and locks.
- Repair cracks and roof joints where water intrusion can cause damage.
- Remove Plexiglas covers for windows to allow free flow of air and avoid trapping moisture inside. Where necessary, repair or install grates and bars for security.
- Repair open stone joints with lime mortar.
- Install lead weather caps to avoid water intrusion into newly pointed joints.

Marble and Stone Monuments
Stone, particularly marble, deteriorates as it weathers. Many markers throughout the cemetery have become illegible and/or broken.

- Remove organic growth and other foreign matter from stone monuments.
- Minimize direct impact from irrigation sprays.
- Fallen or damaged monuments should be repaired and pinned by professionals. Footings of leaning monuments should be re-set.
- The tops of delaminating stones may be treated with resin to minimize further deterioration.
- Provide a secure storage area for broken and displaced headstones and monuments.
Brick Masonry Deterioration
Many plots are enclosed with mortared brick walls that are susceptible to cracking, settlement, and damage from tree roots.
- Minor cracking can be repaired by repointing bricks with lime-based mortar.
- More extensive wall repairs should be done by disassembly and rebuilding. Rebuilt walls should be built on concrete footings.

Subsidence
As underground crypts decompose the earth caves in on the empty space, causing irregular grading hazards at the surface. (see further discussion in Appendix V: Preservation Assessment Report)
- Where subsidence is identified, consider recompacting, placing additional backfill, and regrading plot.
- Where walls have been damaged, remove walls, compact and regrade plot, and rebuild walls with proper footings.

Stability of Walls
Many plots are surrounded by short walls, providing a barrier between the plot and the pathway. Many of these walls were built without footings, causing them to fail over time. Subsidence and tree roots also contribute to wall failures. The crumbling walls cause dangerous conditions along the paths, and the stairs up to the individual plots are uneven and in need of repair.
- Concrete copings and walls should be reconstructed to match original walls with proper footings added.
- Brick walls should be repaired using the original brick. New brick should be used only when historic brick is not available. Mortar strength should be formulated not to exceed the strength of the brick.
- Where tree roots have damaged walls, consider rebuilding walls to allow for future growth of roots. Consider “pier and grade beam” type footing to protect existing roots and allow for future growth.
- Steps should be repointed to original conditions.
**Missing Metal Work**

The Sacramento Historic City Cemetery has a large collection of ironwork, both wrought iron and cast iron. Much of the ironwork is in need of maintenance and missing sections or elements are common. In some areas, this metal work has been replaced by temporary measures. The lack of the metal work and/or its condition causes potential hazards throughout the site. Where metal work posts are set in holes drilled in stone, moisture has caused corrosion and expansion of the metal resulting in split stones.

- To prevent deterioration, metal work should be cleaned of corrosion and coated with paint formulated to protect outdoor ferrous metals.
- Missing segments of wrought or cast metal work should be replaced to match remaining sections.
- Where metal posts are set in stone holes, add drainage holes as feasible to minimize corrosion.

Infrastructure

The cemetery's infrastructure can be best described as aging, patchwork, and inadequate. Water, electric, sewer/drainage systems are all in need of extensive upgrades. The cemetery infrastructure needs major investment; infrastructure projects should be identified and placed into the city's Capital Improvement Program (CIP) process. Other funding sources should also be explored. For more information see Appendix VI: Infrastructure Report.

**Water Supply and Irrigation Systems**

The water supply system enters the site with a 6” supply line from Broadway. (See Figure 3.1) The water pressure is not sufficient for the site, so a booster pump is used to increase the pressure. Irrigation is distributed throughout the site, but it is activated with manual valves. The irrigation includes several types of heads and emitters, but the majority are large scale rotors. The high-pressure rotor streams cover large areas, but cause problems for stone monuments and plants. They also waste water by overspraying walks and other non-planted areas. The existing irrigation system is not in good condition and requires a significant amount of maintenance. A new irrigation system will function more efficiently, and will save water and staff time.

- A new irrigation system should have automatic control that allows watering at night.
- The new system should minimize overspray by limiting irrigation.
Figure 3.1
Existing Utilities
Scale: 1” = 400’
to planted areas only.

- The new system should be adaptable to the individual needs of plots, gardens, and lawn areas by using a variety of heads and bubblers that can be interchanged as the gardens evolve.
- The new system should minimize impacts to plants, monuments, and structures through the use of bubblers, small scale sprays, and other alternatives to high impact rotors.
- Potable water supply for drinking fountains and building use (including proposed buildings) should be provided separate from the irrigation supply.

**Storm Drainage and Sanitary Sewer System**

The cemetery area is served by a combined storm drainage/sanitary sewer system. (See Figure 3.1) There is only one storm drain in the cemetery, located in a low area near the maintenance building. The storm drain has an automatic pump that sends drainage to the sewer line in Riverside Ave. The pumping capacity and the storage capacity of the sump are not sufficient to avoid flooding during rain events.

- A new higher capacity drain box and pump should be installed to eliminate flooding.
- A new sanitary sewer connection will be needed to serve a proposed restroom building (see facilities).

**Electric System**

Electric service is provided by Sacramento Municipal Utilities District and is supplied by overhead wires to the existing buildings. (See Figure 3.1) The minimal site lighting consists of wood poles and “cobra head” fixtures. These lights are not compatible with the historic character of the cemetery. Due to the popularity of events and tours, there is desire to have better site lighting for evening events.

- Underground electric distribution lines.
- Provide new lighting along primary circulation paths with small scale bollard lights that are appropriate (not intrusive) for the cemetery’s historic setting.
- Provide accent spot lighting of selected monuments and trees.
- Provide outdoor electrical outlets convenient to all garden areas.
Facilities
The cemetery is primarily an outdoor experience, but there are some activities that require indoor spaces. The existing facilities can generally be described as minimal. The new facilities described below are important for the future of the cemetery and its growth as a cultural resource. A major question is where to put these facilities. There is almost no space within the cemetery for new buildings except on the sites of existing buildings that may be removed. To meet the program needs and protect the cemetery’s historic resources, consideration should be given to moving some facilities to a nearby, off-site location.

General Recommendations:
- With the exception of the new facilities identified in this master plan, additional structures should be not permitted.
- All new structures and facilities should be architecturally appropriate for the historic cemetery setting and comply with the Secretary’s Standards for rehabilitation (particularly standards 9 and 10 - see page 37).
- Given the large program needs listed below, it may not be possible to fulfill these needs within the cemetery without negatively impacting the historic resources. Consider acquisition of a nearby, off-site property to provide additional space.

Program and Needs
The following facilities have been identified as being needed for the future of the cemetery, see Table 3.1 for summary of recommendations:
- Restrooms: A modern restroom building is desperately needed for staff, volunteers and cemetery visitors. Currently there is a staff restroom in the office structure at the entry. Portable toilets are located near the existing maintenance building for use by the Sheriff’s crew, volunteers, and visitors.
- Archives: The archives are currently located in the chapel and they house the historic records of the cemetery. The archives are staffed by volunteers and also serves as a visitor information center. The archives should have a secure, climate-controlled facility for the protection of cemetery resources and computers.
- Meeting room for volunteers: An all-purpose room for meetings and educational sessions is needed to support the volunteer activities. The meeting room should have a small kitchen, lockable storage, and library space.
- Tool and Equipment Storage: A storage space with lockable storage areas is needed to support the volunteer activities. This should include storage space for electric vehicles (golf carts).
- Maintenance Storage: A minimum of 500 square feet is needed for the City maintenance crew storage of tools, equipment and materials.
- Sheriff’s Office: An office area is needed for administration of the Sheriff’s crew. An outdoor muster space for the crew should be located adjacent to the Sheriff’s office.
- City Staff Office: Office space for city staff should include a facility for maintenance staff and space for a recommended cemetery administrator/volunteer coordinator. The office space should
### Table 3.1

**Summary of Proposed Structures**

<table>
<thead>
<tr>
<th></th>
<th>Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multipurpose Building</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Restrooms</td>
<td>750 sf</td>
<td>Serves visitors and volunteers.</td>
</tr>
<tr>
<td>- Archives</td>
<td>500 sf</td>
<td>Consider moving to a nearby offsite location.</td>
</tr>
<tr>
<td>- Meeting room</td>
<td>1000 sf</td>
<td>Multipurpose space for volunteers. Consider moving to a nearby offsite location.</td>
</tr>
<tr>
<td>- Tool and equipment storage</td>
<td>750 sf</td>
<td>Separate storage for City staff and OCCC volunteers</td>
</tr>
<tr>
<td>- Sheriff’s Office</td>
<td>150 sf</td>
<td>Also requires outdoor space for 150 workers</td>
</tr>
<tr>
<td>- Sheriff’s crew tool &amp; equip. storage</td>
<td>500 sf</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>3650 sf</strong></td>
<td></td>
</tr>
<tr>
<td><strong>City Staff Office</strong></td>
<td></td>
<td>Located at 10th Street entry</td>
</tr>
<tr>
<td>- Future administrator's office</td>
<td>200 sf</td>
<td></td>
</tr>
<tr>
<td>- Maintenance supervisor's office</td>
<td>150 sf</td>
<td></td>
</tr>
<tr>
<td>- Support space</td>
<td>150 sf</td>
<td></td>
</tr>
<tr>
<td>- Restrooms</td>
<td>200 sf</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>700 sf</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Visitor Center</strong></td>
<td>400 sf</td>
<td>Separate building or incorporate into City staff office. Includes visitor information, exhibits, retail sales.</td>
</tr>
<tr>
<td><strong>Storage Facility</strong></td>
<td></td>
<td>New structure on site of “Summer House” storage</td>
</tr>
<tr>
<td>- Tool, material, and equipment storage</td>
<td>500 sf</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>500 sf</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Mortuary Chapel</strong></td>
<td>no change</td>
<td>Rehabilitate the existing mortuary chapel into a cemetery museum.</td>
</tr>
</tbody>
</table>
anticipate the future staffing needs of the cemetery.
- Visitor Center: A visitor information point is needed near the cemetery entrance to orient the visitor. This could take the form of a kiosk staffed by a volunteer and would likely include sales of books and other items.
- Museum: A display space for historical exhibits and artifacts of the cemetery is needed to create an interactive visitor experience.

**Entry Structure - City Staff Offices and Visitor Center**

Historic cemeteries typically have a signature architectural statement at the primary entry. These structures, whether elaborate gate houses or chapels, set the architectural style for the cemetery and provided an important visual component. The Historic City Cemetery housed such a structure until it was removed in 1949, reportedly to make room for the widening of Broadway. This brick structure, which was likely built in the late 1850s or 1860s, consisted of a bell tower, gateway, and a small chapel. Its loss has left the cemetery without a distinctive entry feature. A small, nondescript replacement building was built, and now serves as the cemetery office for city staff.

- Construct new city staff offices, restrooms, and visitor center at the Broadway/10th Street gate. The new structures should provide architectural identity for the cemetery in a similar way that the bell tower and chapel structure previously did. (The expanded offices and the visitor center may require the relocation of some burials and monuments.)
- The visitor center would include cemetery information, exhibits, and retail sales. It would be staffed by volunteers.
- Include small restrooms for staff and visitors.

**New Multipurpose Building**

The existing maintenance building is in poor condition and subject to flooding. This building should be removed and replaced with a new multipurpose building. As a major new building in the cemetery, its design must complement the historic setting. Program elements for this building include restrooms, archives, meeting room, library, tool and equipment storage space (separate storage for OCCC, City staff, and Sheriff’s program), and office for the Sheriff’s program. The Sheriff’s program also needs outdoor assembly space for up to 150 workers (the work crew varies from approximately 70 to 140 workers per day). The potential program for this building may exceed the space available. The options include going to two stories, or moving some of
the program element to a nearby off-site facility (ie. across Broadway). There is also a desire for outdoor gathering space that is protected from sun and rain. This might be accomplished by an extended roof or by raising part of the building and providing an open area below:

- Conduct an architectural study to review options - one story or two; and confirm which program elements must be located here and which ones can be located elsewhere.
- The priority program elements for this site include restrooms, storage for OCCC volunteer activities, Sheriff’s office and storage.
- Other program elements include archive, meeting room, and offices.
- The new building should be architecturally appropriate and be compatible with the Chapel and the cemetery as a whole.

Chapel

The stone chapel is the cemetery’s only historic building. It currently houses the archives, but it is not well suited for that purpose. It is not large enough for archives, volunteer offices and meeting space.

- It is proposed that the historic chapel structure become the cemetery museum with historic exhibits about the cemetery.
- In the short term, while the archives are still housed in the chapel, repair the roof as needed to eliminate any leaks that could damage archive materials.

Equipment and Materials Storage Building

The existing storage building (also known as the “Summer House”) at the southeast corner of the cemetery is an ad hoc structure consisting of a storage container in a roofed enclosure. Bricks, irrigation pipe, equipment and other items are stored here. This building may not be structurally stable and should be replaced.

- Construct a new storage building on the site of the existing Summer House.

Existing Office

The existing building near the main Broadway entrance is currently used as an office of the cemetery maintenance staff. If a new entry structure becomes a reality, this building would likely be removed. Without a new entry building, this existing structure could remain, continuing as an office, or if the staff office function is relocated, the structure could become a visitor center staffed by volunteers. An architectural treatment could be employed to make the building more compatible with the cemetery’s historic context.

- Remove this structure if the office function is relocated and a new entry structure is built.
- If this structure is to remain, consider reuse as a visitor center if staff office can be relocated.

Alternative for Off-Site Facilities

Due to the lack of available space within the cemetery, and the sensitive nature of the historic resources, some of the proposed facilities may be better located outside of the cemetery boundaries. The possibility of acquiring one or more under-utilized properties near the cemetery
Issues and Recommendations
Sacramento Historic City Cemetery Master Plan
Final - December 2007

...could satisfy the need for additional land, and provide an opportunity for additional parking. Offices for city staff and Old City Cemetery Committee, and the archives could be better served by locating them off-site. The parcel between Broadway and W St. and 9th and 10th is the former site of the Bell Conservatory.

- Consider opportunities to acquire a nearby property.
- Prepare a site planning and architectural study to better understand the opportunities for an off-site location for the archives, offices, maintenance facilities, and parking.

Circulation
The cemetery's circulation was laid out in the mid-Nineteenth Century and is more suited for pedestrians and buggies than for automobiles. A series of asphalt-paved drives, or carriage ways, provide the primary circulation throughout the cemetery. Secondary paths for pedestrians are composed of a variety of materials including brick and concrete. A third hierarchy of paths is composed of turf or bark mulch.

Drives
Inherent problems with the existing circulation system are the narrow drives that do not permit passing without driving on adjacent landscape areas and the lack of parking. With minimal traffic (mostly staff and volunteers) the narrow drives are not a large problem, but during events and burials, congestion and conflicts are common. Due to the historic status of the drives and the cemetery, wholesale changes to the circulation system are not recommended.

- Consider certain drives for one-way traffic. Implement one-way traffic during events and burials.
- Drives should not have curbs, but edges should be well defined to discourage driving vehicles off of paved surfaces. This can be done with the strategic placement of small posts.

Pathways
The cemetery pathways include paved, turf, and mulch surfaces. In recent years, a number of paths have been paved with brick in a variety of patterns. These paths are attractive and compatible with the historic character of the cemetery. Other paved pathways have concrete or other surfaces. Some have been damaged by subsidence and are in need of repair. The turf pathways provide an attractive informal image for the lesser traveled paths. On pathways with longitudinal slopes, erosion can be a problem if the surface is not stabilized with paving or turf. Some pathways, particularly in the western sections, continue into...
Figure 3.2

Legend

\[\text{Slope of Street/ Path exceeds 1:20}\]

\[\text{Contour Interval = 2\text{-}0'}\]
terrace walls where stairs may have been intended but never built. This leads to hazardous conditions, particularly for visually impaired visitors.

- Inventory all pathways and identify pathway problems needing repair.
- Maintain minimum standards to keep pathways in good shape and avoid hazardous conditions.
- Pathways should be free of burials to preserve the circulation and landscape functions of the pathways.
- Where pathways terminate at terraces, consider adding stairs with handrails, or replacing plastic pipe warning rails with more historically compatible metal railing/edge warning.

**Accessibility**

Due to the existing terrain, density of burial plots, and the cemetery’s historic status, meeting all accessibility guidelines is not feasible, however there are a number of improvements that can be made to enhance accessibility, see Figure 3.2. Safety hazards should be addressed where feasible such as keeping paved surfaces in good repair and providing warnings at unprotected drops. Accessible path of travel routes can be identified with signs or handout maps.

- All new facilities should meet current accessibility guidelines including provision of accessible parking.
- Existing primary facilities and programs such as the chapel, office, and other key facilities should meet accessibility guidelines to the extent feasible. (Accessible paths should have firm paved surface, a grade of less than 1:20 [less than 5%] and a cross slope of less than 2%) 
- Key features such as the rose garden and Hamilton Square should have accessible entry paths into the gardens.
- Other pathways and secondary features should have accessibility improvements to the extent that they do not have an impact on their historic integrity or the integrity of the cemetery.
- Accessible parking should be included at the entry parking and at the chapel.
- Replace existing ramp at Chapel entry with new design that restores the historic steps while providing access.

**Parking**

Parking on the site is limited to a few spaces at the Broadway entrance and a few spaces at the Chapel and Sheriff’s office. Currently, these spaces do not provide enough parking on site, and lack designated accessible spaces. During burials, cars park on the drives effectively closing those areas. Because of the distribution of burial plots, there is
little opportunity to add parking in the cemetery. The opportunity for acquisition of a nearby property for parking and proposed cemetery facilities should be considered. The pedestrian crossing at Broadway and 10th Street needs safety improvements and Broadway will likely see more traffic in the future from new development and a proposed Broadway Bridge. Pedestrian safety should be studied and improved, particularly if cemetery parking will be provided across Broadway.

- Conduct a detailed survey to identify opportunities for adding designated parking spaces without impacting burial plots.
- Some on-site parking should be included with the construction of the proposed multipurpose building.
- Consider acquiring a nearby property to provide parking for volunteers, Sheriff’s crew, events, and to accommodate increased visitation. This will require having a funding strategy identified in advance.
- Improve the Broadway crossing for pedestrians with improved crosswalks and pedestrian-activated signal.

**Signage**

The existing signage in the cemetery includes a variety of sign types, many of which are not compatible with the historic character of the cemetery. Clear signage is needed to direct visitors to plots and cemetery features, identify roads, and inform visitors of regulations.

- Provide a comprehensive system of signs that contribute to the historic character of the cemetery.
- Signs should be made of materials compatible to historic materials in the cemetery such as cast iron.

**Site Furnishings**

Site furnishings in the cemetery include benches and trash receptacles. There is a variety of bench styles present in the cemetery. Some are compatible with the historic character of the cemetery and some are not. The variety of historic-styled benches contributes to the cemetery’s eclectic character. The existing trash receptacles are standard woven steel wire baskets.

- Add new benches and trash receptacles strategically located around the cemetery.
- Benches, trash receptacles and other site furnishings should be compatible with the cemetery’s historic character.
Issues and Recommendations

Sacramento Historic City Cemetery Master Plan

Final - December 2007

Historic Landscape
The Historic City Cemetery is a designed historic landscape and as such, consideration to historic preservation should be a factor in all projects and changes at the cemetery. The cemetery is also a State Historical Landmark and a Sacramento City Historical Landmark. Projects will be reviewed under the guidelines for the California Environmental Quality Act (CEQA). Projects that include funding from Federal agencies may also require review for compliance with the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA). In general, projects should follow historic preservation practices as outlined in The Secretary of the Interior’s Standards for the Treatment of Historic Properties, With Guidelines for the Treatment of Cultural Landscapes (published by the U.S. Department of the Interior, National Park Service, 1996). The Secretary’s Standards provide recommended (and not recommended) practices for preservation, rehabilitation, restoration, and reconstruction.

Horticulture
As in most cemeteries, the trees and shrubs of City Cemetery have historically played an important role in creating a desirable, park-like setting. The cemetery planting can be best described as eclectic, with a wide variety of trees and shrubs. Although the canopy trees are grouped in certain areas and along some drives, much of the other planting has likely occurred haphazardly over the years. In many cases, plot owners, families, or organizations planted their areas as they desired. The result is an eclectic mix. There are, however, overall characteristics of the planting that can give the cemetery a distinctive look that is worth preserving.

Canopy Trees and Large Shrubs
The canopy trees in City Cemetery do not appear to have been planted according to an overall plan, although the canopy trees are generally planted in groups and along certain drives, see Figure 3.3. Other trees and shrubs have been planted over the years by individual plot owners. The largest canopy trees, primarily American elms, are in decline due to age and disease, and are being selectively removed. Other large trees in the cemetery include a wide variety of species of pines, oaks, redwood, palms, maples, and cypress. Unlike the cemetery’s gardens, the canopy trees and large shrubs have gotten very little attention other
Legend

- 1953 Tree Canopy
- 2001 Tree Canopy

Tree Canopy Past and Present
Scale: 1” = 200’
Figure 3.3
Figure 3.4

Legend

- 2001 Existing Tree Canopy
- Proposed Additional Trees

Tree Canopy Existing & Proposed
Scale: 1” = 200'
Figure 3.4
than the removal of diseases and dying trees. It is important to manage the cemetery’s canopy trees to preserve historic character. In general, canopy trees should be replanted as trees are removed (or earlier) in the same general location with a tree of similar species (or similar form and habit). Damage from roots of large trees is to be expected and repairs should be planned for. With the eclectic mix of trees, sometimes planted haphazardly, there are problematic tree species in inappropriate locations. Decisions on individual trees, and desirability of particular species can be made by a designated tree committee. This process has begun with a report by volunteers of the Old City Cemetery Committee (Historic City Cemetery Report on Inventory of Trees, draft September 2006).

American elms are the most significant, character-defining canopy trees in the cemetery. Their classic vase shape and deciduous nature contribute to the cemetery’s historic landscape. Due to age and Dutch Elm Disease, the elms have been in decline and several mature trees have been removed. While a few of the elms seem to be in good health currently, there is a possibility that all will succumb and much of the canopy of the cemetery will be lost. The Sacramento Municipal Code 12.60 Dutch Elm Disease includes information on determining the existence of the disease and the city’s procedures for removing infected or dead trees. Before removing any significant trees, the Heritage Tree ordinance (Sacramento Municipal Code Chapter 12.64) should be reviewed.

- Historic locations of elms and other significant canopy trees and large shrubs (see 1953 aerial photograph, Page 29) should be identified and planted with trees of similar species (or similar size, form and habit), See Figure 3.4.
- Establish a program to replace the canopy elms. Consider using new American elm cultivars that are resistant to Dutch Elm Disease.
- Additional canopy tree locations can be added where shade is desired. Consider additional canopy trees along the main drives.
- An on-going committee to address tree issues should be established to continue and maintain the inventory started by the OCCC volunteers. The committee should include knowledgeable representatives from OCCC, cemetery maintenance staff, and city Urban Forest Services.
- A consulting arborist should be available on an as-needed basis.
- The existing draft tree inventory report should be further developed into a tree database and maintained as a management tool.
- New trees should be selected from an approved tree list.
- Trees and large shrubs that are determined to not support the horticultural mission of the cemetery should be removed.

Cemetery Gardens
In recent years, the cemetery planting has been transformed by the volunteer efforts of the Old City Cemetery Committee. Before their work began in the 1980s, much of the cemetery was barren and
lifeless. Significant gardens have been created making the cemetery once again a destination and horticultural attraction. The gardens have a variety of themes and plant materials with an overall eclectic effect. This is similar, however, to the historic condition when families and organization were maintaining cemetery plots.

The concept of the cemetery as a horticultural attraction is a recent idea, but its roots were formed in 1868 when Margaret Crocker built the Bell Conservatory across Broadway from the City Cemetery. “This structure overlooked the cemetery along what is now Broadway and was used to grow flowers for use in the cemetery. Mrs. Crocker’s plan was to sell flowers to those who could afford them and give them to those who could not so that all could decorate the graves of relatives in the City Cemetery across the street.” (Source: http://www.oldcitycemetery.com/bell_cons.htm). Almost from the beginning of its existence, the cemetery held its plants as a very important aspect.

There are four main gardens in the cemetery: the Sacramento Historic Rose Garden, Hamilton Square, the Pioneer Gardens, and the California Native Plant Society demonstration garden, see Figure 3.5. The following garden descriptions are from the OCCC website:

“The Sacramento Historic Rose Garden is composed mostly of old or antique roses collected from cemeteries, old home sites and along roadsides in northern California. It was conceived and established by Fred Boutin, an internationally recognized rosarian and authority on ‘found roses,” and Jean Travis, a member of the Heritage Rose Group. Members are working to collect, plant, and maintain those roses which were popular from the Gold Rush era through the
Victorian/Edwardian era (roughly 1850-1915). The collection at present numbers more than four hundred plants—over two hundred varieties. The city of Sacramento Department of Community and Visitor Services and Rose Garden Volunteers cooperate to maintain the garden.” (source: http://www.oldcitycemetery.com/roseg.htm)

“Hamilton Square is located on the southwest side of Sacramento Historic City Cemetery, near the Old Mortuary Chapel. The majority of the plants in Hamilton Square are from the five Mediterranean areas of the world—California, the Mediterranean Basin, Chile, South Africa and Southern Australia. Roses donated from the San Jose Heritage Rose Garden, City of Sacramento, Heirloom Old Fashioned Roses and Barbara Oliva, are modern versions of “old fashioned” roses. These roses bloom almost continuously for eight months of the year. Perennials are mixed with the roses.” (source: http://www.oldcitycemetery.com/hamilton.htm)

The goal of the California Native Plant Society demonstration garden “is to enlighten visitors to the beauty of California native plants, illustrate how they can be used in the home garden, show how to attract wildlife and beneficial insects, and educate them about the many medicinal, cultural and edible aspects used by the local Native Americans.” (Source: http://www.sacvalleycnps.org/)

Another program started by OCCC is the Adopt a Plot Program. Individuals, groups, and organizations sponsor and maintain cemetery plots. This also results in a wide variety of types and styles of gardens. The OCCC maintains a list of recommended and forbidden plants.

- Gardens should be appropriate to the historic setting of the cemetery and contribute to its historic status.
- A garden committee should review and oversee garden development to make determinations that gardens are appropriate for the cemetery. The committee should be made of representatives from OCCC and the city.

Cemetery Management
During its history, the City Cemetery has been something of an orphan within the city government. It has been under the jurisdiction of several departments. It has seen a number of municipal department mergers and reorganizations. With limited city budgets, the cemetery has generally been a low priority for funding of both operations and capital projects. Until the involvement of the Old City Cemetery Committee beginning in the late 1980s, there was little interest in the cemetery. The cemetery is now under the jurisdiction of the Convention, Culture and Leisure Department. It has benefitted from renewed interest thanks to the OCCC, a stable maintenance staff, and labor from the Sheriff’s Department Work Release Program. The largest capital project in the cemetery's history, a new $650,000 fence and gate was completed in 2005.
This master plan provides the opportunity for extensive discussions regarding the management of the cemetery and planning for its future. The continued outlook for limited city funding increases the need for strategic planning for the future management of the cemetery. It is clear that the cemetery’s success in the future will depend on a partnership between the city and volunteers.

**Relationship Between City and Old City Cemetery Committee**

The vision of the future of the cemetery as “historic cemetery, museum, and gardens” is an ambitious one. It is clear that the Old City Cemetery Committee will have a pivotal role in making that vision a reality. The OCCC will need to grow as an organization. Currently, OCCC provides primarily volunteer labor (gardening, and staffing the archives) and events for the cemetery. To achieve the vision for the future of the cemetery, the OCCC will likely have to take on a larger role in the management of the cemetery. This could include provision of additional staffing including volunteer coordinator, education functions, cemetery and archives administration, and other roles.

In the short term, a new memorandum of understanding is needed between the city and OCCC to formalize the roles and responsibilities of both parties. In the longer term, OCCC will need to explore ways to expand. Funding for staffing, programs, and capital projects is needed for the implementation of the recommendations of this master plan. Some recommendations may be able to be funded by the city, however it is likely that a good part of the future vision of the cemetery will need to be funded through grants and philanthropy.

- Prepare and execute a new memorandum of understanding between the city and OCCC establishing the roles and responsibilities of each party.
- OCCC should facilitate a strategic planning process for the organization to assess its potential for growth and taking on a larger role in the management of the cemetery.

**Staffing**

The cemetery currently has a supervisor (responsible for other department sites in addition to the cemetery), two full time maintenance staff dedicated to the cemetery, and one seasonal maintenance staff. The existing staffing is supplemented by significant labor from the Sheriff’s Work Release Program and from the OCCC volunteer program. The Sheriff’s program provides between 70 and 120 workers every Saturday and Sunday (labor provided by the Sheriff’s program exceeds the amount of maintenance labor provided by the City). Work is coordinated with the cemetery supervisor and overseen by the single weekend cemetery maintenance staff person and approximately 3 staff from the Sheriff’s program. The OCCC also provides an average of 80 volunteers per month. Work by city staff, volunteers and the Sheriff’s crew is coordinated at a twice-a-month meeting. Supplemented by the OCCC volunteers and the Sheriff’s crew, the current staffing for maintenance of the cemetery is considered adequate.
There is no city staff currently performing administrative functions at the cemetery. There is a need for a cemetery administrative staff person to do a variety of tasks including department liaison, budgeting, coordination of volunteers, event scheduling, management of the archives and cemetery database, and management of capital projects. In the future, if the OCCC becomes involved in management of the cemetery, this position could be provided by OCCC. In the short term, this position could be better provided by the city.

- Support the continued involvement of the Sheriff’s work program and the OCCC volunteer program. These programs are vital for the maintenance of the cemetery.
- Seek approval for an administrative staff person to manage department liaison, budgeting, coordination of volunteers, event scheduling, management of the archives and cemetery database, and management of capital projects.

**Security and Vandalism**

Security and vandalism problems have been reduced in recent years but are still ongoing issues. The installation of the new fence and gate in 2005 improved security conditions. There is still a need to improve safety for volunteers and protect cemetery resources. One issue that has been raised is that the maintenance staff generally works from 6:30 AM to 2:00 PM. After 2:00 PM, until the gate is locked, there is no city staff on site, and OCCC volunteers are generally inside the chapel. This leaves the cemetery without security surveillance and no presence near the main gate.

- A volunteer-staffed visitor information center or kiosk near the Broadway gate would provide a presence in the front part of the garden. (See Facilities section)
- Investigate a video surveillance system for monitoring and deterrence.
- A minimum of 2 volunteers should be present during hours when the archive is open.

**Cemetery Operations**

The cemetery will continue to operate as a cemetery into the foreseeable future. The traditional cemetery functions must have precedence over other cemetery activities, and future cemetery operations should not impact the cemetery’s historic setting and status.

- Burials should only be done in existing established plots.
- No burials will intrude on drives and pathways.
- New structures, mausoleums, columbariums, and large monuments should be compatible with the architectural character and historic setting of the cemetery. All new structure and large monument designs should be subject to the approval of History and Science Division Manager with review and comment by City Historic Preservation Staff.
Legal Issues of Plot Ownership
Although it was common practice to issue “deeds” to buyers of City Cemetery plots, these deeds were not recorded in the county Assessor’s Office and the plots are not considered real property. Holders of plots are granted use of their plots for the purpose of burial of human remains and are subject to rules and regulations established by the City of Sacramento. The Sacramento Municipal Code has a section on the City Cemetery (see Appendix), but it deals mostly with the other uses of the cemetery and does not address the legal rights of plot ownership. A sample cemetery ordinance for consideration from a municipal cemetery in Hyrum City, Utah is included in the Appendix. This ordinance directly addresses plot ownership rights and resale.
- Clarify the legal right of plot ownership in the Municipal Code.
  - Lot ownership should only convey burial rights.
- Limit the resale of cemetery plots to avoid speculation.
- Limit the construction of new structures, mausoleums, and columbariums.

Programming, Uses & Recreation
Recreational uses are not new to the cemetery, but they will become even more important to the cemetery in the future. As the traditional cemetery functions will continue, it is important the recreation, interpretive, horticultural, and other uses be respectful and compatible with the traditional uses. The vision of “historic cemetery, museum and gardens” will allow for a variety of appropriate uses and programs. Ongoing uses will obviously include passive uses such as walking, bird watching, and enjoying the plants, gardens, and monuments. More events, tours, and other programs are likely in the future.
- Events and programs should support and advance the mission of the cemetery
- Events and programs should not be detrimental to cemetery historic resources.
- Programs and events that would likely be appropriate include:
  - historical interpretation programs and tours
  - horticultural programs and tours
  - programs for school groups
  - theatrical programs
  - arts programs
  - appropriate music
IMPLEMENTATION
4. IMPLEMENTATION

Introduction

This master plan provides a future vision for City Cemetery. To achieve that vision a new direction must be taken by the City and its cemetery partner organization. The cemetery has been historically underfunded by the City resulting in a backlog of deferred maintenance work. The current improved condition of the cemetery is primarily the result of volunteer labor and the Sheriff’s work program. The vision provided by the master plan will require capital projects that will need significant funding on a level not seen before. The cemetery will need a new constituency to advocate for both public and private funding.

The master plan recommendations are ambitious, but it was critical that they be perceived as within the realm of feasibility. The direction of the master plan, and the need for significant additional funding, was acknowledged and ratified by the Stakeholder Committee that guided the development of the master plan; the Convention, Culture and Leisure Department; and the public.

Funding

The capital projects, operational needs and staffing will require additional funding, both capital and operational funds, for the cemetery on an unprecedented level. This will require funding from all possible sources including city funding, Federal and state grant programs, private grant programs and philanthropy. Table 4.1 describes magnitude of costs associated with the Master Plan recommendations.

City Funding

Staffing, infrastructure, and some capital projects can be best implemented with city funding. Additional staff, particularly a cemetery administrator should be funded through the Convention, Culture and Leisure Department’s budget process. Cemetery infrastructure and some other capital projects that are not good candidates for philanthropic funding should be funded through city sources such as the Capital Improvement Program and potential future bond programs.

State and Federal Grant Programs

There are several grant programs from state and federal agencies that may be appropriate for cemetery projects including programs for parks, trees and gardening, and historic preservation. In some instances, his-
Federal grant programs include:
- Save America’s Treasures Grants.
  www.cr.nps.gov/hps/treasures/
- Transportation Enhancements Funding.
  www.fhwa.dot.gov/environment/te/index.htm
- National Center for Preservation, Technology, and Training Grants.
  www.ncptt.nps.gov/NCPTT2/pttgrants.stm
- National Endowment for the Humanities - various programs including grants for preservation, museums and collections.
  www.neh.gov/grants/guidelines/pag.html
- National Endowment for the Arts
  www.nea.gov/grants/apply/Design.html
- Institute of Museum and Library Services - museum, conservation, and collections grants.
  www.imls.gov/applicants/grants/conservProject.shtml

State grant programs:
- California Cultural and Historical Endowment (from Prop 40).
  www.library.ca.gov/CCHE/

**Private Grant Programs and Philanthropic Funding**

There are private foundations that may provide funding for cemeteries, historic preservation, visual arts, conservation, community involvement and other purposes that may benefit the cemetery. These may be available to both local agencies and/or non-profit groups.
- The Getty Foundation - preservation and conservation grants.
  www.getty.edu/grants/

Philanthropic funding through campaigns or focused outreach may provide the best opportunity for significant funding for capital projects. This may be a role for OCCC, or perhaps a separate foundation organization whose sole mission is to raise funding for the cemetery. OCCC should engage in strategic planning to identify the potential feasibility for philanthropic funding and to identify the best strategies for tapping potential resources.

Philanthropic funding should be carefully coordinated with city funding. It is critical that private funding supplement the city’s public funding rather than replacing it. This should be memorialized in an agreement between the partner organization and the city.
### Table 4.1

**Master Plan Projects**

<table>
<thead>
<tr>
<th>Projects</th>
<th>Capital Projects</th>
<th>Annual Cost / Ongoing Work</th>
<th>Size</th>
<th>Comments</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Architectural Conservation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Create electronic database of cemetery plots</td>
<td>$15,000</td>
<td>Professional setup, volunteer implementation</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Repair mausoleums - McCormick</td>
<td>$75,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Repair mausoleums - all others (13)</td>
<td>$260,000</td>
<td>$20,000 / year</td>
<td>Bas $20,000 each, Professional</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>- Monument repair (ongoing budget item)</td>
<td>$15,000 / year</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Wall repair (ongoing budget item)</td>
<td>$15,000 / year</td>
<td>Professional guidance, volunteer assistance</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Architectural conservator consultation</td>
<td>$15,000 / year</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Update and extend water system</td>
<td>$100,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New automatic irrigation system:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Replace distribution main lines</td>
<td>$50,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Controller &amp; Valves</td>
<td>$30,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Site irrigation</td>
<td>$400,000</td>
<td>Professional/volunteer</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Turf irrigation</td>
<td>$200,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Designated Garden Irrigation (Rose Garden)</td>
<td>$100,000</td>
<td>Professional/volunteer</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Perimeter irrigation</td>
<td>$200,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other utilities including the following:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sewer and drainage improvements</td>
<td>$200,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Domestic water connections for new facilities</td>
<td>$100,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Underground electric service</td>
<td>$600,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Install pathway and monument lighting</td>
<td>$100,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Provide outdoor electrical outlets</td>
<td>$50,000</td>
<td>Professional</td>
<td>High</td>
<td></td>
<td></td>
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<tr>
<td><strong>Facilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multipurpose Building</strong></td>
<td>$400,000 (if separate building)</td>
<td>750 sf</td>
<td>Serves visitors and volunteers. Could become separate building if multipurpose building is delayed.</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>- Archives &amp; storage</td>
<td>$600,000</td>
<td>500 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Meeting room</td>
<td>$100,000</td>
<td>1000 sf</td>
<td>Multipurpose space for volunteers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tool and equipment storage</td>
<td>$100,000</td>
<td>150 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sheriff's office</td>
<td>$150,000</td>
<td>500 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sheriff's crew tool and equipment storage</td>
<td>$100,000</td>
<td>500 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$2,000,000</td>
<td>3650 sf</td>
<td>Best suited to site as a two-story building.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>City Staff Office</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Future administrator’s office</td>
<td>$150,000</td>
<td>200 sf</td>
<td>Located at 10th Street entry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Maintenance supervisor’s office</td>
<td>$100,000</td>
<td>150 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Support space</td>
<td>$100,000</td>
<td>100 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Restrooms</td>
<td>$100,000</td>
<td>500 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$600,000</td>
<td>700 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Visitor Center</strong></td>
<td>$250,000</td>
<td>400 sf</td>
<td>Separate building or incorporate into City staff office. Includes visitor information, exhibits, retail sales.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Material and Equipment Storage Facility</strong></td>
<td>$100,000</td>
<td>500 sf</td>
<td>On site of “Summer House” maintenance shed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tool and equipment storage</td>
<td>$100,000</td>
<td>500 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mortuary Chapel</strong></td>
<td>$150,000</td>
<td></td>
<td>Include exhibits</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>- Rehabilitate the existing mortuary chapel into a cemetery museum.</td>
<td>$150,000</td>
<td>no change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Redesign accessible ramp/store entry stairs</td>
<td>$25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Circulation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Repair pathways (annual)</td>
<td>$10,000 / year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Replace existing path to chapel</td>
<td>$30,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- New signage</td>
<td>$15,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Historic Landscape</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Benches</td>
<td>$20,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Trash and recycling receptacles</td>
<td>$10,000</td>
<td></td>
<td></td>
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<tr>
<td><strong>Horticulture</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Create electronic database of tree inventory</td>
<td>$10,000</td>
<td>Volunteer project</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Reestablish tree canopy with elms and other canopy trees</td>
<td>$10,000 / year</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Remove undesirable trees and shrubs as recommended in the Inventory of Trees Report</td>
<td>$10,000 / year</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Consulting arborist</td>
<td>$20,000 / year</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Cemetery Management</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Create a new site position</td>
<td>TBD</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>- Video surveillance system</td>
<td>$10,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>$6,980,000</td>
<td>$125,000 / year</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- The project costs shown are gross estimates in 2007 dollars. These are ballpark numbers that are not based on construction documents.
- The amounts shown should only be used for general planning use and not for project budgets.
- Additional design studies should be performed before establishing individual project budgets.
- Potential costs for acquisition of offsite property is not included in total.
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BIBLIOGRAPHY

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* all photographs of the cemetery, unless otherwise noted, were photographed by the authors.
Appendix I:

Master Plan Meetings and Process

Stakeholder Committee Meeting #1
7/11/2006
Master Plan Goals and Objectives

Stakeholder Committee Meeting #2
8/31/2006
Identifying Issues

Public Workshop #1
11/29/06
Presenting and Developing Issues and Recommendations

Stakeholder Committee Meeting #3
2/15/07
Review Draft Issues and Recommendations

Public Workshop #2
3/12/07
Presenting Issues and Recommendations

Stakeholder Committee Meeting #4
6/12/07
Review Draft Master Plan

Public Workshop #3 (with History and Science Commission)
9/27/07
Review Draft Master Plan

Preservation Commission
11/7/07
Present Draft Master Plan, recommended that City Council adopt the master plan

City Council
12/11/07
Adopted Final Master Plan and Mitigated Negative Declaration
Welcome to the Sacramento Historic City Cemetery Master Plan

The City of Sacramento, Department of Convention, Culture and Leisure has contracted with Rynerson, Haskasamo Alley & Abbey (RHAA) to prepare a master plan for the Historic City Cemetery. RHAA is a landscape architecture firm with extensive experience in cemeteries, parks, and historic landscapes. Our team also includes Architectural Resources Group for assistance with architectural conservation, and BKF Engineers for assistance with infrastructure issues.

The Historic City Cemetery is unique and that master plan will also be unique. We will rely heavily on the participation of all parties interested in the cemetery to guide and focus the master plan. A stakeholder committee will work with the planning team throughout the master plan process and there will be several public workshops.

Through the remarkable advocacy and volunteer efforts of the Old City Cemetery Committee, the cemetery has been transformed in recent years from a neglected burial ground to a vibrant historic cemetery that is a horticultural attraction and a significant historic resource for Sacramento and California.

The goal of the master plan is to plot a course for the future of the cemetery. The master plan will be a preservation plan, so there will not be any wholesale changes, but the cemetery is in a transition from its primary function as an active cemetery to a new role as a cultural and historic community resource. The master plan will examine the issues that face the cemetery, establish goals for the future of the cemetery, and lay out a plan to achieve those goals.

Stakeholder Committee Meeting:
Thursday August 31 - 1:30pm to 3:30pm
Department of Convention, Culture & Leisure
1030 15th Street, Second Floor
Sacramento

Please take a look at the list of issues and questions on the back side as we will be discussing these at the meeting.

Contact Information for the Master Plan:
Rebecca Bitter, Program Manager
City of Sacramento
Department of Convention, Culture and Leisure
916-898-5047
rbitter@cityofsacramento.org

Douglas Nelson
Cara Rappert
Alysse Elliott
Rynerson, Haskasamo Alley & Abbey
(916) 338-7000
douglas@yhas.com
caera@yhas.com
alyssae@yhas.com

Sacramento Old City Cemetery Master Plan

We have begun to create a list of issues facing the cemetery. We expect this list to grow with your help.

Preliminary List of Issues:
- Conservation Issues:
  - marble deterioration
  - brick masonry deterioration
  - subsidence
  - stability of walls
  - missing metalwork
  - missing ceramic types
- Infrastructure Issues:
  - drainage system
  - irrigation system
  - restrooms
- Circulation Issues:
  - accessibility
  - driveways and pedestrian paths
  - parking
  - bicycle use
- Horticultural Issues:
  - elm tree deaths
  - other canopy tree issues
  - heritage trees and plants
  - berms and berms from pioneer cemetery
  - arborvitae history
  - planting design
  - planting at cemetery edges
- Cemetery Management Issues:
  - security and vandalism
  - maintenance and staffing
  - managing volunteers
  - managing sheriff's crew
  - legal issues of plot ownership

Programming, Use, and Recreation Issues:
- interpretation of cemetery history
- identifying appropriate use
- historical attraction
- tours and school groups
- relation to other Sacramento historic sites

Questions for Master Plan participants:
What are the issues and challenges facing the cemetery today?
What are the current needs and deficiencies?
What role would you like to see the cemetery play in the future?
Are there features from the past that you would like to see restored or recreated?
What future uses would you like to see in the cemetery?
What uses would you like to see prohibited in the cemetery?
What is your vision for the future of the cemetery?
What changes are needed to fulfill your vision?
Are there other cemeteries that are a model for Sacramento's Old City Cemetery?

Help us fill in information about the Old City Cemetery's History:
Do you have historic maps, photographs, or other documents that you can share?
What led to the cemetery's rational (geometric) design rather than the picturesque landscapes with winding pathways of eastern cemeteries?
Who laid out the design of Old City Cemetery?
Other historical and design information?
Welcome to the Sacramento Historic City Cemetery Master Plan

The City of Sacramento, Department of Convention, Culture and Leisure has contracted with Royceon Hammack Alley & Abbey (RHAA) to prepare a master plan for the Historic City Cemetery. RHAA is a landscape architecture firm with extensive experience in cemeteries, parks, and historic landscapes. Our team also includes Architectural Resources Group for assistance with architectural conservation, and BKE Engineers for assistance with infrastructure issues.

The Historic City Cemetery is unique and the master plan will also be unique. We will rely heavily on the participation of all parties interested in the cemetery to guide and focus the master plan. A stakeholder committee will work with the planning team throughout the master plan process and there will be several public workshops.

Throughout the remarkable advocacy and volunteer efforts of the Old City Cemetery Committee, the cemetery has been transformed in recent years from a neglected island ground to a cultural historic cemetery that is a horticultural attraction and a significant historic resource for Sacramento and California.

The goal of the master plan is to plot a course for the future of the cemetery. The master plan will be a preservation plan, so there will not be any wholesale changes, but the cemetery is in a transition from its primary function as an active cemetery to a new role as a cultural and historic community resource.

The master plan will examine the intent that face the cemetery, establish goals for the future of the cemetery, and lay out a plan to achieve those goals.

Upcoming Public Workshop:
Wednesday November 29, 2006
5:00 - 7:00 pm
Sacramento Marina Administration Building
2710 Ramp Way
Sacramento, CA 95818

Directions:
Go to the intersection of Broadway and Front Street and go south on Front Street. Follow Front Street over the railroad tracks and you will see the Marina Administration building. For more detailed directions, call the Marina at 808-5712

Sacramento Old City Cemetery Master Plan
November 2006

We have begun to create a list of issues facing the cemetery. We expect this list to grow with your help.

Preliminary List of Issues:

Conservation Issues:
- nlade deterioration
- truck masonry deterioration
- subidence
- cility of walls
- missing monuments
- missing decoratives

Infrastructure Issues:
- drainage system
- irrigation system
- needed

Circulation Issues:
- accessibility
- drive and pedestrian paths
- parking
- bicycle use

Horticultural Issues:
- elm tree deaths
- other canopy tree issues
- heritage trees and plants
- bedroom roses from pioneer cemetery
- arborists history
- planting design
- planting at cemetery edges

Cemetery Management Issues:
- security and vandalism
- maintenance and staffing
- managing volunteers
- managing sheriff’s crew
- legal issues of plot ownership

Programming, Use, and Recreational Issues:
- interpretation of cemetery history
- identifying appropriate use
- horticultural attraction
- tours and activities
- education
- sites and otherSacramento historic sites

Questions for Master Plan participants:
What are the issues and challenges facing the cemetery today?
What are the current needs and deficiencies?
What role would you like to see the cemetery plan in the future?
Are there features from the past that you would like to see restored or recreated?
What features would you like to see in the cemetery?
What use would you like to see prohibited in the cemetery?
What is your vision for the future of the cemetery?
What changes are needed to fulfill your vision?
Are there other cemeteries that are a model for Sacramento’s Old City Cemetery?

Contact Information for the Master Plan:
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Carmen Ruppert
Alyssa Elliott
Royceon Hammack Alley & Abbey
(415) 381-7900
dong@aho.com
carm@aho.com
alyes@aho.com
**SACRAMENTO OLD CITY CEMETERY MASTER PLAN**

**March 2007**

**Master Plan Recommendations are being formulated**

The Master Plan recommendations are being formulated. They are based on our understanding of the issues facing the cemetery and the following Objectives and Guiding Principles:

1. The Historic Old City Cemetery is an active cemetery and will continue to be so in the foreseeable future. All activities, programs, and proposals shall be consistent with the traditional cemetery functions.

2. The cemetery is a historic resource and all activities, programs, and proposals shall preserve or enhance the historic integrity of the cemetery.

3. The vision for the future of the cemetery has been stated as “Historic cemetery museum and gardens.” All activities, programs, and proposals shall be consistent with, or contribute to, this vision.

4. The cemetery landscape shall be managed to preserve the historic character of the cemetery. Major changes shall be coordinated and explained to the community. Gardens shall be consistent with, or complement, the historic character of the cemetery.

5. Architectural features, finishes, furnishings, and physical features shall contribute to or complement the historic character of the cemetery.

6. Staff and resources shall be provided to ensure the safety and security of visitors and all cemetery staff and associates.

7. Proposals for new programs, activities, and other matters shall be evaluated for consistency with the vision for the future of the cemetery and for their compatibility with the cemetery’s historic character.

**Upcoming Public Workshop:**

To review preliminary recommendations.

**Monday**

**March 12, 2007**

5:00 - 7:00 pm

Sacramento Marina Administration Building
2710 Rampa Way
Sacramento, CA 95818

**Directions:**

Go to the intersection of Broadway and Front Street and go south on Front Street. Follow Front Street over the railroad tracks and you will see the Marina Administration Building. For more detailed directions, call the Marina at 916-5712

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**Sacramento Old City Cemetery Master Plan**

March 2007

**Objectives and Guiding Principles - continued:**

- A water-efficient irrigation system should be provided with the following outcomes:
  - A rainwater harvesting system to allow overnight watering.
  - A reliable system that requires minimal maintenance.
  - A system that can adapt to the varied needs of plots, gardens, and bare areas.
  - A system that minimizes impacts to plants, monuments, and structures.

**Summary of Draft Recommendations:**

Following is a brief summary of highlights of proposed recommendations. A more complete summary of the issues and recommendations can be found at: www.sacramentoces.com/masterplan/

**Architectural Conservation:**

- Continue existing monument rehabilitation program.
- Consolidate and digitize archive records.
- Preserve archive original materials.

**Infrastructure:**

- Provide an efficient irrigation system that can water at night.
- Provide pathway and monument lighting for evening events.

**Circulation:**

- Consider one-way traffic on some drives.
- Preserve existing pathways - do not permit buffels in circulation areas.
- Improve accessibility to cemetery facilities.
- Consider office parking if adjacent site becomes available (across Broadway)

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**Contact Information for the Master Plan:**

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Reynold Hahnmoore Avenue & Abey
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a@n.com

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**Appendix**
Appendix II:

City of Sacramento Municipal Code

Chapter 8.104 Disposition of Human Cremation Remains
8.104.010 Scattering or burial of human cremation remains—Prohibited on city-owned property.

No person shall scatter or bury human cremation remains on real property owned by the city. This prohibition applies to parks, playgrounds and other recreational facilities, golf courses, community centers, the city cemetery (except burials in privately-held plots), the Sacramento Zoo, Fairytale Town, all public rights-of-way, and all other property owned by the city, whether in fee or in easement. (Ord. 99-026 § 1 (part); prior code § 11.02.200)

Chapter 12.68 Cemeteries*

* Prior code history: 11.01.010—11.01.050

12.68.010 Designation of city cemetery.

The tract of land bounded by Riverside Boulevard, Broadway, Muir Way, and the Masonic Cemetery, having heretofore been set apart and dedicated solely for burial purposes, is hereby designated the Historic City Cemetery of the city of Sacramento. (Ord. 2002-020 § 1 (part), 2002)

12.68.020 Definitions.

As used in this chapter, the following words and phrases shall have the meaning given them in this section unless the context clearly requires otherwise:

“City” means the city of Sacramento.

“City cemetery” means the Historic City Cemetery of the city of Sacramento designated in Section 12.68.010.

“Cemetery manager” means the manager of the history and science division of the city of Sacramento or any other city employee who may be designated as the cemetery manager by the city manager or the director of the convention, culture & leisure department. “Cemetery manager” also includes the cemetery manager’s designee.

“City employee” means an employee of the city of Sacramento or a person who is authorized by the cemetery manager to provide volunteer services at the city cemetery. (Ord. 2002-020 § 1 (part))

12.68.030 City cemetery use—Restrictions.

No person, except an authorized city employee in the course and scope of his or her assigned duties, shall:

A. Plant any tree, shrub, plant, or flower on the grounds of the city cemetery without prior approval from the cemetery manager. This subsection does not prohibit the placement of cut, artificial, or potted flowers upon a grave;

B. Cut, break, pluck, remove, or in any manner destroy or injure any tree, shrub, plant, or flower within the city cemetery grounds without prior approval from the cemetery manager. This section does not prohibit the removal of weeds and dead vegetation by an authorized city employee, a person or business entity that has received approval as provided in paragraph (F) of this section, or an owner of a private plot, in the course of providing care and upkeep of plots;
C. Enter the city cemetery grounds between 5:00 p.m. and 8:00 a.m. of the following day during the months of October, November, December, January, February and March or between 7:00 p.m. and 8:00 a.m. of the following day during all other months, unless specifically authorized to do so by the cemetery manager;

D. Loiter on the grounds of the city cemetery. As used in this section, loitering means and includes entering and remaining on the grounds of the city cemetery without lawful business thereon and under such circumstances that a reasonable person would conclude that the person who has entered and remains on the grounds of the city cemetery does not have a purpose connected with the lawful and ordinary use of the city cemetery, does not have a bona fide intent to exercise a constitutional right, and is causing public inconvenience and annoyance;

E. Deposit rubbish, grass clippings, shrub clippings or other similar materials or substances on the grounds of the city cemetery, without prior written permission of the cemetery manager. This subsection does not prohibit the placement of cut, artificial, or potted flowers upon a grave;

F. Provide contract services for the care and upkeep of private plots in the city cemetery without registering with the cemetery manager and providing a list, to be updated monthly, designating the plots for which the contract services shall be provided and the name and address of the party or parties authorizing the provision of contract services to each designated plot;

G. Operate or use on the grounds of the city cemetery any motorized vehicle as defined in the California Vehicle Code in the following ways:
   1. Driving faster than the speed limit posted by the cemetery manager;
   2. Sounding the horn of any vehicle or leaving engines running in a parked car that in any way interferes or causes any disturbance or noise during funerals;
   3. Operating or parking any vehicle, except upon areas designated for such use, unless expressly permitted in writing by the cemetery manager. The cemetery manager is authorized to tow vehicles that violate this subsection. This subsection shall not apply to city employees on official business;
   4. Operating a motorcycle on the grounds of the city cemetery in a malicious or disruptive manner;

H. Bring any domesticated pet or animal to the city cemetery unless it is leashed. Pet owners shall remove any and all pet droppings from the city cemetery grounds;

I. Smoke while on the grounds of the city cemetery, unless in a smoking area designated by the cemetery manager;

J. Fail to supervise children who accompany that person to the city cemetery. No children shall be admitted unless accompanied by an adult who shall be responsible for their conduct;

K. Possess any open alcoholic beverage container or consume any alcoholic beverage on the grounds of the city cemetery, except at an organized event that has received prior written approval for the possession of alcoholic beverages from the cemetery manager; and further provided that the organizers of the event are in compliance with all state alcohol licensing requirements;

L. Intentionally remove, break, injure, deface, alter, damage or disturb any structure or item on city cemetery grounds, including but not limited to a tombstone, gravestone, monument, stake, marker, fence, post rail, curb, or wall;

M. Dispose of, within the city cemetery, trash or garbage accumulated outside of the city cemetery. Further, no person shall dispose of trash accumulated within the city cemetery other than in designated areas or receptacles provided for that purpose;

N. Engage in stone rubbing without prior written approval from the cemetery manager. For purposes of this
section, the term “stone rubbing” means the act of obtaining an impression on a piece of paper or other material by sliding a pencil or other object against it while it is placed upon a monument, tombstone, or gravestone;

O. Engage in the sale of food or beverages within the city cemetery without prior written approval from the cemetery manager. (Ord. 2002-020 § 1 (part))

12.68.040 Roadways on city cemetery property.

In the reasonable exercise of his or her discretion, the cemetery manager may modify the use of the roadways on the grounds of the city cemetery as necessary for the safety and operation of the city cemetery, including but not limited to, closing particular roadways or altering the designated use of the roadways. The cemetery manager is also authorized to regulate parking on the grounds of the city cemetery as required to accommodate events occurring at the city cemetery. (Ord. 2002-020 § 1 (part))

12.68.050 Closure of city cemetery grounds.

At the closing time designated in section 12.68.030(C), all persons other than city employees shall leave the city cemetery grounds. The cemetery manager is authorized to close the city cemetery when reasonably warranted for special events or projects and emergencies. (Ord. 2002-020 § 1 (part))

12.68.060 Public notification of restricted conduct.

The cemetery manager shall prepare a list summarizing the rules set forth in this chapter and make it available on the grounds of the city cemetery for public access and review. At the discretion of the cemetery manager, a sign or signs listing some or all of the rules may be posted. (Ord. 2002-020 § 1 (part))

12.68.070 Maintenance by city cemetery staff.

The cemetery manager is authorized to clear weeds, debris, old flowers or floral pieces, or other items from any privately owned plot on the grounds of the city cemetery that, in the Manager's opinion, is not being maintained or otherwise properly cleared. In addition, the cemetery manager is authorized to abate safety concerns by repairing or removing monuments, tombstones, retaining walls and other structures that, in the manager's opinion, are not being maintained or have been abandoned. (Ord. 2002-020 § 1 (part))

12.68.080 Administrative service fee.

An administrative service fee shall be charged for each burial in the city cemetery. The amount of the fee shall be established by resolution of the city council. (Ord. 2002-020 § 1 (part))

12.68.090 Violation a misdemeanor.

Any person who violates any provision of this chapter is guilty of a misdemeanor. (Ord. 2002-020 § 1 (part))

Other Relevant Municipal Code Sections:
The following codes can be found on the city’s website at http://www.qcode.us/codes/sacramento/

Chapter 12.56 Trees Generally

Chapter 12.60 Dutch Elm Disease

Chapter 12.64 Heritage Trees
Appendix III:

Sample Cemetery Ordinance for Municipal Cemetery in Hyrum City, Utah

CEMETERY POLICIES AND REGULATIONS

INTRODUCTION
As part of the services provided to residents of the community, Hyrum City owns and operates a municipal cemetery situated on Main Street, between 500 and 600 East. The office for Hyrum City Cemetery is located in the Civic Center at 83 West Main, Hyrum, Utah 84319. All arrangements for interment of deceased persons must be made at the office. All requests for information concerning the cemetery, including plot location and purchasing procedures, burial rights, and other records must be submitted to the office, as well.

In preparing these rules and regulations, the city desires to offer as much freedom of choice as possible while maintaining a high standard of beauty and a prominent sense of decorum. We sincerely hope you will assist us in that effort by adhering to these policies and regulations. We also solicit your comments and suggestions regarding cemetery policies and operating procedures or the information in this booklet.

MISSION STATEMENT
It is the goal of Hyrum City Corp. to operate and maintain a cemetery that is beautiful, dignified, and an appropriate final resting place for loved ones.

DEFINITIONS
The following words or phrases shall have the indicated meanings unless the context clearly indicates otherwise:

A. Lot includes the partial lots or single graves in the municipal cemetery.
B. Lot owner or purchaser and grave owner or purchaser means the owner or purchaser of burial privileges or the collateral right of use of any burial lot for approved purposes as evidenced by a deed or burial right for a described lot or by proved and recognized descent or devise from the original owner.
C. Perpetual care is defined as that general care and maintenance necessitated by the natural growth and ordinary wear which may be provided at reasonable intervals within the budgetary limits of the cemetery. It includes the planting, cutting, watering and care of lawns, upkeep of buildings, roads, walks, fences, and maintenance of proper records. It also provides for the care of trees, shrubs and flowers planted by the cemetery but does not cover such items as maintenance and care of monuments, markers, flower vases, or other approved decorations applied to gravesites by lot owner or any other person.

LOT OWNERSHIP AND PRIVILEGES

A. Nature and extent of rights acquired. Upon the payment of the purchase price of a lot, the purchaser acquires the rights of burial in said lot, subject to the rules and regulations of the cemetery.
B. Purchase contracts. Lots may be purchased on an installment plan if purchased in advance of need. No lot shall be sold without “perpetual care” and no certificate shall be issued until the contract is fully paid.
C. Descent and inheritance of burial rights. Upon the death of the lot owner, the lot descends to those named in his/her will or to his/her heirs as designated by law.

Upon the death of the lot owner or purchaser, the cemetery superintendent shall act upon his/her best judgment in determining heirship and successorship, unless an affidavit of heirship together with the power appointing one of the heirs to represent all or a certified copy of the decree of distribution of the estate of the deceased lot owner or purchaser is first filed with the cemetery superintendent. Hyrum City Corporation shall in no way be held responsible for a failure to properly determine the legal successorship of the said lot owner or purchaser.
The heirs are entitled to the same use of the lot as the original owners and are bound by the same rules and regulations.

D. Sale of lots/burial rights. No lot may be sold by a lot owner to any person or entity other than Hyrum City Corporation. Hyrum City will pay the owner an amount equal to the current price of cemetery lots being sold to new purchasers. The City will re-purchase lots previously sold to an owner only once. Buyers may not “speculate” on burial lots by buying them for resale to the City at a higher price.

E. Interment of non-human remains. It is illegal to inter anything other than the remains of human bodies in the municipal cemetery.

LOT PRICES AND BURIAL FEES

A. Prices of lots, as well as opening/closing charges and any other fees, will be furnished by the cemetery management at the office.

BURIALS

A. Permit required. Before any deceased person is buried in the cemetery, a permit properly issued by the registrar of the registration district in which the death occurred or, in the absence of such registrar, a permit duly issued by the State Division of Health or other authorized person shall be required by the cemetery superintendent. After burial, the cemetery superintendent shall endorse upon the permit a description of the location where the deceased is buried and shall enter all of the information contained in the permit in the cemetery records.

B. Certificate of burial right required. It is unlawful for any person to bury the body of a deceased person in the cemetery without first obtaining a certificate of burial right for the lot used or producing satisfactory evidence of a right to burial based on a properly acquired certificate of burial right.

C. Burial Information to be recorded. Before any deceased person may be buried in the municipal cemetery, the relatives or person having charge of the deceased shall provide the recorder/clerk with a written statement which shall be filed by the recorder/clerk, which statement shall contain, if known, information about the deceased regarding his or her name, when and where born, the date and cause of death, the name of the attending physician, date of burial, name of cemetery and the description of the location of the grave.

Directions for all interments must be given and all charges prepaid at the administrative office of the cemetery. Information given by telephone will be taken with particular care, but Hyrum City Corporation will not be responsible for errors resulting from this procedure. All such orders must be confirmed in writing.
Appendix IV:

Historic City Cemetery Report on Inventory of Trees in Cemetery - Draft September 2006

Introduction

In late 2005, a small group of gardening volunteers with the Old City Cemetery Committee discussed the need for a comprehensive survey of all existing trees in the Historic City Cemetery. With eight American elms removed in 2005 and more scheduled for 2006 (as of this writing five more elms are disappearing), concerns are: (1) what should be planted in their place; (2) how the cemetery plans to address the impact of tree removal on historic monuments or water supply lines; (3) how should the cemetery landscape will look in the next 20 years; and (4) what are the resources available to select, plant and maintain new and existing trees.

In December 2005, nine volunteers began the massive task of cataloging every tree and large shrub in the cemetery. The inventory was completed by April 2006; however, the inventory is intended as a “living” document to track tree removal and plantings over time.

Purpose

In completing the inventory, our initial purpose was to establish a baseline from which to begin planning for the future of trees and large shrubs in the cemetery landscape. We wanted to know what kinds of trees we already have, where they are planted, their current condition and recommendations for pruning or removal. We also intended to have this inventory available for the use of a consultant on a Master Plan for the cemetery. Finally, we wished to establish the cemetery’s importance in the overall scheme for the City of Sacramento known as the “City of Trees”.

Scope

The nine-person group decided to focus on trees and large shrubs (shrubs more than eight feet tall) for this inventory. While there are many interesting and noteworthy plants in the cemetery, most of these are maintained by Adopt A Plot volunteers. The City of Sacramento, under the auspices of the Leisure & Culture Division, is responsible for tree and large shrub maintenance. Furthermore, the inventory limited the scope to plants which are somewhat “permanent” in the landscape and have a major impact on the aesthetics, environment and feeling of the cemetery.

Implicit in the inventory are recommendations for removal, replacement and maintenance of existing and future trees. We used the Sacramento Tree Foundation’s Preferred Shade Tree List as our guide when assessing the appropriateness of existing trees. One criterion is how widespread and destructive a tree’s anchor roots can be, especially around fragile and historic monuments, mausoleums and headstones.

Within the scope of this inventory was our collective vision for the future of the cemetery’s trees. With the loss of each elm comes a reduction in the comfort of shade in our hot summers and the loss of habitat for birds and small animals. The cemetery is a museum as well as an informal arboretum and supports many diverse plant and animal species. Museums are meant to be enjoyed by visitors, and trees are a contributing factor in drawing visitors to hear about the history of Sacramento. Our vision is to sustain the cemetery as a botanical centerpiece in downtown Sacramento while being sensitive to preservation issues, planting appropriate trees and initiating a landscape plan which can be agreed to and implemented.
Methodology

The inventory began with the selection of nine volunteers who had the credentials and interest to complete an extensive inventory. Those members and their credentials are:

Sharon Patrician, Chair of Tree Inventory Committee (former Sacramento County Master Gardener, manager of the Hamilton Square Garden in the cemetery, Secretary of the Old City Cemetery Committee, member of the board of the Perennial Plant Club and avid gardener for 40 years)

Mitchell Alford, Native Plant Specialist (former manager of the California Native Plant Society’s Demonstration Garden at the Cemetery, past Board member of the California Native Plant Society)

Fran Clarke, ISA Certified Arborist (Stewardship Coordinator, Sacramento Tree Foundation, UC Master Gardener, Sacramento County, member of the Perennial Plant Club, CNPS, Sacramento Rose Society, Historic Rose Foundation)

Anita Clevenger, Manager of the Historic Rose Garden (Sacramento County Master Gardener, garden writer)

Judy Eitzen, Sacramento County Master Gardener (past President of the Old City Cemetery Committee, Historic Rose Garden volunteer, member of Stakeholders Group for the Master Plan for the Historic City Cemetery)

Sabrina Okamura-Johnson, AICP (Board member of the California Native Plant Society, manager of the CNPS Demonstration Garden at the cemetery, Old City Cemetery Committee board member, member of the American Institute of Certified Planners, the American Planning Association, the Association of Environmental Professionals and Associate Environmental Analyst)

Barbara Oliva (Historic Rose Garden founding member, Curator of the Historic Rose Garden, Old City Cemetery Committee board member, nationally recognized historic rose expert)

Chris Pappenheim (Adopt A Plot volunteer overseeing a large number of plots in the cemetery, former member of the Old City Cemetery Committee)

Lonnie Ratzlaff (Historic Rose Garden volunteer, Treasurer of the Old City Cemetery Committee)

Data Collection Format

Attached as Appendix ( ) is the form which committee members used to survey and record information about trees and large shrubs in the cemetery. The data descriptions follow:

• Location: Location was defined as a section with a formal name as indicated on Appendix ( ), map of the cemetery, such as Center Run, Pioneer, Hamilton, etc.
• Name of Surveyor: The name(s) of the surveyor was inserted here.
• Plot # or Location: Each plot within the cemetery is numbered, and that number would be inserted here if known. If the tree or shrub was between plots or on the road, this fact was noted.
• Type of Tree/Large Shrub: The generic name of the tree or shrub was inserted if known; otherwise, the tree or shrub would be described by its common name, such as palm, oak, cedar, and so forth. If the species was known, that information was inserted.
• Condition: To the best of the surveyor’s knowledge and observation, the condition of the tree was noted. Most apparent was a lack of vigor, few leaves, or weed eater damage.
• Recommendation: The surveyor made a recommendation to preserve, prune for health and vigor or remove. Stumps of trees were also noted for removal. Finally, the surveyor(s) made recommendations for removal and/or preservation of trees or shrubs based on their observations.
Data Collection Method

- The cemetery was divided into fourths, and a two-person team was assigned to one of the four areas; three persons surveyed the southeast section (see Appendix)
- Based on the cemetery map (revised 1975) for each named section within a quadrant, the two-person team surveyed each section and completed inventory forms for each tree or large shrub.
- The team identified live trees, tree or shrub stumps, large shrubs over eight feet tall and noted where elms had been removed in 2005 and 2006. In some inventories, more than trees and large shrubs were identified; however, for purposes of scope and focus, only trees, stumps and large shrubs are noted on the final inventory.

Data Input

As data was gathered, it was compiled onto an Excel spreadsheet. All the data categories were included on this spreadsheet including Tree number within a section, a priority designation and comments or recommendations (see Appendix ). At this point, no additional reports have been generated; however, with the spreadsheet capability, data can be selected and sorted later.

From the data assembled, we believe we will be able to generate a map of where trees are in the cemetery, what type of tree it is, where trees should be planted in the future, and how the cemetery will look when its elms have been entirely removed. We will work with the City and the Master Plan consultant to further refine this concept.

Conclusions

As the result of our inventory, we made the following observations:

- The cemetery’s existing elms are in a state of decline and decay, increasing the possibility of falling limbs especially during windstorms and the summer months when visitors are more abundant.
- Many trees within the cemetery have been planted without thought for an overall landscape plan or aesthetic.
- As some elms have been removed near structures, sizable depressions have developed threatening the integrity of historic structures.
- Trees have not been selected with thought for eventual size, propensity to surface root, damage to monuments and enclosures and ease of maintenance.
- Many trees now considered by the Sacramento Tree Foundation to be inappropriate for most landscapes have been planted. These include Liquidambar, Eucalyptus, Stone Pine and Chinese Tallow.
- To our knowledge, City maintenance staff has not been trained as urban foresters who can identify trees, know their cultural needs and maintain them properly.
- Trees which have been planted in the last 20 years in the cemetery have been haphazardly cared for, with the result many of these trees have been damaged by weed eaters and lawnmowers, and have suffered neglect and inadequate irrigation.
- To our knowledge, the City does not have a formal, stated landscape plan for the Cemetery in the 21st Century.
- Over the past 20 years, the pruning of existing trees has been done by professionals and amateurs alike, with sometimes disastrous results.

Recommendations

The Tree Inventory Committee submits the following recommendations for consideration by the various stakeholders interested in the future of the Historic City Cemetery:

1. Selected volunteers should work closely with the Master Plan consultant to ensure their data is accurate and informed.
2. Certain volunteers should be involved in City plans for tree removal and/or replacement to the extent of recommending appropriate replacement trees and where planted.
3. During conception of a tree plan for the Cemetery, the major garden areas must be considered for impact.
4. The committee’s High Priority recommendations for tree removal should be considered as soon as practical.
5. A vision for the cemetery’s horticultural future should consider the following:
   • Should there be tree lined carriageways?
   • Which trees should be replacements for the elms?
   • Should all elms have trees replanted in their place?
   • Should there be groves of trees instead of allees?
   • Should there be large open spaces committed to grass or gardens?
   • How much accommodation should be made for existing trees in plots?
   • How should the Beefwood screen on the west side be handled – remove and replace or preserve?
   • How should “nuisance” trees be handled (eucalyptus, liquidambers, etc.) – removal or preservation?
   • Should we attempt to be historically correct, i.e., planting only those trees which were common in Victorian landscapes?
   • Should we only consider native trees?
6. City staff should be educated about trees to the extent their job descriptions and pay ranges allow.
7. Volunteers and private plot owners should be educated about the trees at the cemetery and their role and responsibility for any maintenance.
8. The Sheriff’s Work Release crew should not be allowed to prune any trees or shrubs without direct supervision by either a volunteer or city staff person.
9. There must be a maintenance plan in place to care for newly planted trees, a pruning schedule and adherence to the Sacramento Tree Foundation’s guide-lines for tree care.

Acknowledgements

The Tree Inventory committee wishes to thank Jim Henley, (title & organization), the Old City Cemetery Committee, and the Sacramento Tree Foundation for their support of the inventory and acceptance of recommendations for the future of the Historic City Cemetery’s trees.
## Recommended Tree Species (Table A.2)

### Large Trees – 45 Feet and Larger in Height

<table>
<thead>
<tr>
<th>Species</th>
<th>Evergreen/Deciduous</th>
<th>Root Suitability to Confined Spaces</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer rubrum Red Maple</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Moderately fast growing; surface rooting without water</td>
</tr>
<tr>
<td>Acer × freemanii “Armstrong” Columnar Red Maple</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Moderately fast growing</td>
</tr>
<tr>
<td>Betula nigra River Birch</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Fast growing, surface rooting without water</td>
</tr>
<tr>
<td>Celtis australis European Hackberry</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Moderately fast growing</td>
</tr>
<tr>
<td>Ginkgo biloba Ginkgo</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Relatively slow growing</td>
</tr>
<tr>
<td>Gymnocladus dioica “Espresso” Kentucky Coffee Tree</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Slow to moderate growth; female trees blossom</td>
</tr>
<tr>
<td>Magnolia grandiflora Southern Magnolia</td>
<td>Evergreen</td>
<td>Poor</td>
<td>Not recommended for parking strips; major litter, surface rooting</td>
</tr>
<tr>
<td>Metasequoia glyptostroboides Dawn Redwood</td>
<td>Deciduous</td>
<td>Poor</td>
<td>Fast growing when young; very tall and somewhat conical; lovely spring leaf color</td>
</tr>
<tr>
<td>Platanus × acerifolia London Plane</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Mottled bark; some leaf litter</td>
</tr>
<tr>
<td>Quercus agrifolia Calif. Live Oak</td>
<td>Evergreen</td>
<td>Fair</td>
<td>Needs plenty of room to grow</td>
</tr>
<tr>
<td>Quercus texanum Texas Red Oak</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Fast grower; bristly leaves objectionable</td>
</tr>
<tr>
<td>Quercus castaneaefolia Persian Oak</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Very fast grower</td>
</tr>
<tr>
<td>Quercus cerris Turkey Oak</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Very fast grower; dense canopy</td>
</tr>
<tr>
<td>Quercus cocinea Scarlet Oak</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Beautiful fall color</td>
</tr>
</tbody>
</table>
### Species

<table>
<thead>
<tr>
<th>Species</th>
<th>Evergreen/Deciduous</th>
<th>Root Suitability to Confined Spaces</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Quercus douglasii</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Slow grower</td>
</tr>
<tr>
<td>Blue Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus ilex</em></td>
<td>Evergreen</td>
<td>Fair</td>
<td>Symmetrical round canopy</td>
</tr>
<tr>
<td>Holly Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus lobata</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Growth depends on water availability; very dense canopy; high maintenance but very drought tolerant</td>
</tr>
<tr>
<td>Valley Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus macrocarpa</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Tolerant of adverse conditions</td>
</tr>
<tr>
<td>Bur Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus phellos</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Narrow leaf columnar in youth</td>
</tr>
<tr>
<td>Willow Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus rubra</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Needs plenty of room to grow</td>
</tr>
<tr>
<td>Red Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus shumardii</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Tolerant of wide range of soils</td>
</tr>
<tr>
<td>Shumard Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Quercus suber</em></td>
<td>Evergreen</td>
<td>Fair</td>
<td>Beautiful bark; needs good drainage</td>
</tr>
<tr>
<td>Cork Oak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tilia americana</em></td>
<td>Deciduous</td>
<td>Poor</td>
<td>Can host aphids</td>
</tr>
<tr>
<td>Basswood/Linden</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ulmus Americana</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Consider disease resistant cultivars</td>
</tr>
<tr>
<td>American Elm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Zelkova serrata</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Moderate to fast growth</td>
</tr>
<tr>
<td>Sawleaf Zelkova</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Medium Trees – 26 to 45 feet in height

<table>
<thead>
<tr>
<th>Species</th>
<th>Evergreen/Deciduous</th>
<th>Root Suitability to Confined Spaces</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acer buergeranum</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Beautiful fall color; heavy seed crop</td>
</tr>
<tr>
<td>Trident Maple</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acer campestre</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Very attractive tree</td>
</tr>
<tr>
<td>Hedge Maple</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acer truncatum</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Fast growing</td>
</tr>
<tr>
<td>Shantung Maple</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Arbutus “Marina”</em></td>
<td>Evergreen</td>
<td>Good</td>
<td>Slow to moderate growth; plant where tree litter not problem</td>
</tr>
<tr>
<td>Madrone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Arbutus unedo</em></td>
<td>Evergreen</td>
<td>Good</td>
<td>Beautiful tree year round; some litter</td>
</tr>
<tr>
<td>Strawberry Tree</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Small Trees and Shrubs – up to 25 feet in height

<table>
<thead>
<tr>
<th>Species</th>
<th>Evergreen/Deciduous</th>
<th>Root Suitability to Confined Spaces</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acer palmatum</em>&lt;br&gt;Japanese Maple</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Slow growing; shelter from hot, dry wind</td>
</tr>
<tr>
<td><em>Ceanothus (many species)</em>&lt;br&gt;Wild Lilac</td>
<td>Evergreen</td>
<td>Good</td>
<td>Consider shrub forms where summer water not available</td>
</tr>
<tr>
<td><em>Cercis canadensis</em>&lt;br&gt;Eastern Redbud</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Fast growing</td>
</tr>
<tr>
<td>Species</td>
<td>Evergreen/Deciduous</td>
<td>Root Suitability to Confined Spaces</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------</td>
<td>------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td><em>Cotinus coggyria</em> Smoke Tree</td>
<td>Deciduous</td>
<td>Fair</td>
<td>Best in poor soil &amp; fast drainage</td>
</tr>
<tr>
<td><em>Cotinus obovatus</em> Smoke Tree</td>
<td>Deciduous</td>
<td>Fair</td>
<td>American native; good fall color</td>
</tr>
<tr>
<td><em>Crataegus phaenopyrum</em></td>
<td>Deciduous</td>
<td>Fair</td>
<td>Moderate to fast; best in lean soil</td>
</tr>
<tr>
<td><em>Lagerstroemia hybrid</em> Crape Myrtle</td>
<td>Deciduous</td>
<td>Good</td>
<td>Full sun; moderate growth</td>
</tr>
<tr>
<td><em>Magnolia x soulangeana</em> Saucer magnolia</td>
<td>Deciduous</td>
<td>Good</td>
<td>Moderate growth; protect from wind</td>
</tr>
<tr>
<td><em>Magnolia stellata</em> Star magnolia</td>
<td>Deciduous</td>
<td>Good</td>
<td>Slow growth; can take full sun w/adequate water</td>
</tr>
<tr>
<td><em>Malus floribunda</em> Japanese Crabapple</td>
<td>Deciduous</td>
<td>Good</td>
<td>Look for disease resistant varieties</td>
</tr>
<tr>
<td><em>Malus ‘Prairifire’</em> Crabapple</td>
<td>Deciduous</td>
<td>Good</td>
<td>Good disease resistance</td>
</tr>
<tr>
<td><em>Myrtus communis</em> Myrtle</td>
<td>Evergreen</td>
<td>Good</td>
<td>Moderate water; full sun or part shade</td>
</tr>
<tr>
<td><em>Osmanthus fragrans</em> Sweet Olive</td>
<td>Evergreen</td>
<td>Good</td>
<td>Moderate growth; fragrant flowers</td>
</tr>
<tr>
<td><em>Phellodendron chinense</em> Chinese Cork Tree</td>
<td>Deciduous</td>
<td>Good</td>
<td>Showy bark, graceful habit and attractive fruit &amp; leaves</td>
</tr>
<tr>
<td><em>Physocarpus opulifolius</em> Ninebark</td>
<td>Deciduous</td>
<td>Good</td>
<td>Some shade; can take heavy pruning</td>
</tr>
<tr>
<td><em>X Chitalpa tashkentensis</em> Chitalpa</td>
<td>Deciduous</td>
<td>Good</td>
<td>Lovely blooms in spring; can acquire anthracnose</td>
</tr>
<tr>
<td><em>Tecias baccata</em> English Yew</td>
<td>Evergreen</td>
<td>Fair</td>
<td>Slow growth</td>
</tr>
<tr>
<td><em>Vitex agnus-castus</em> Chaste Tree</td>
<td>Deciduous</td>
<td>Good</td>
<td>Fast growing; thrives in heat</td>
</tr>
</tbody>
</table>

Sources:
- Proposed Tree Guidelines by Fran Clarke, ISA Certified Arborist
- Shade Tree Program List, Tree Foundation/SMUD
- Tree Species List, SMUD
- Street Tree Planting Guide, Dept. of Parks & Recreation, City of Sacramento
- “Don’t Plant a Pest,” published by the California Invasive Plant Council

Prepared by the Old City Cemetery Committee, Historic City Cemetery of Sacramento
### Trees Not Recommended (Table A.2)

<table>
<thead>
<tr>
<th>Species</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia decurrens, dealbata and melanoxylon</td>
<td>Form dense stands; spread quickly and can be source of allergic reactions in humans</td>
</tr>
<tr>
<td>Ailanthus (Tree of Heaven)</td>
<td>Non-native; while historical, these trees are invasive, messy and persistent</td>
</tr>
<tr>
<td>Albizia (silk tree)</td>
<td>Non-native; messy and dense root system</td>
</tr>
<tr>
<td>Arecaceae (palms)</td>
<td>These trees must be assessed individually for planting; not recommended</td>
</tr>
<tr>
<td>Betula (birch)</td>
<td>Most species grow near water and are not suitable for confined spaces</td>
</tr>
<tr>
<td>Casuarina (beefwood)</td>
<td>Non-native; seeds profusely</td>
</tr>
<tr>
<td>Catalpa</td>
<td>Excessive litter, brittle wood</td>
</tr>
<tr>
<td>Crataegus (all species)</td>
<td>Creates dense thickets; subject to aphids, scale and leafspot</td>
</tr>
<tr>
<td>Cytisus scoparius (scotch broom)</td>
<td>Non-native; highly invasive</td>
</tr>
<tr>
<td>Elaeagnus augustifolia (Russian olive)</td>
<td>Non-native; provides poor wildlife habitat; too large and dense</td>
</tr>
<tr>
<td>Eucalyptus (all species and cultivars)</td>
<td>Non-native, invasive, fire hazard, brittle wood; red-gum psyllids on some species</td>
</tr>
<tr>
<td>Evergreens (includes redwoods, cypress, firs, yews, spruces, etc.)</td>
<td>These trees must be assessed individually for planting; not recommended</td>
</tr>
<tr>
<td>Ficus carica (edible fig)</td>
<td>Spread by birds and vegetative fragments; not appropriate for a cemetery environment</td>
</tr>
<tr>
<td>Species</td>
<td>Problems</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fraxinus (all species – ash)</td>
<td>Prone to disease and insect problems; also has root and structural problems</td>
</tr>
<tr>
<td>Fruit trees of any type</td>
<td>Includes apples, cherries, apricots, pears or any tree in commercial food production</td>
</tr>
<tr>
<td>Ligustrum (Privet)</td>
<td>Invasive; seeds lavishly and and flowers are unpleasantly scented; some allergic reactions</td>
</tr>
<tr>
<td>Liquidambar (sweet gum)</td>
<td>Roots are extremely invasive; spiny fruit balls persistent and dangerous to walk upon; structural problems</td>
</tr>
<tr>
<td>Liriodendrons (tulip tree)</td>
<td>Prone to insect problems, litter and aggressive root system</td>
</tr>
<tr>
<td>Maytenus boaria (Mayten)</td>
<td>Non-native; can be invasive; subject to a fungal disease in Sacramento</td>
</tr>
<tr>
<td>Morus (mulberry)</td>
<td>Roots become a problem in search for water; non-fruiting types need careful pruning</td>
</tr>
<tr>
<td>Myoporum laetum</td>
<td>Forms dense stands with no other vegetation permitted</td>
</tr>
<tr>
<td>Nerium (Oleander)</td>
<td>Non-native; sprouts from base; puts pressure on plot enclosures; suffers from aphid invasions; dense and poisonous parts</td>
</tr>
<tr>
<td>Olea europaea (olive)</td>
<td>Litter problems and allergic reactions by some</td>
</tr>
<tr>
<td>Pinus (any species) Pines</td>
<td>Most are short lived and very destructive of plot surrounds if planted next to or inside a plot</td>
</tr>
<tr>
<td>Platanus racemosa</td>
<td>Native best in native environment; not suitable for landscaped area; subject to insects and disease</td>
</tr>
<tr>
<td>Populus (includes cottonwoods, poplars and aspens)</td>
<td>Fast growing, water-loving with aggressive root systems; short-lived, vigorous re-seeder, subject to insects and disease</td>
</tr>
<tr>
<td>Pyracantha (firethorn)</td>
<td>Subject to fireblight; needs careful pruning</td>
</tr>
<tr>
<td>Robinia pseudoacacia (black locust)</td>
<td>Root sprouts; toxic to humans and wildlife; brittle wood; aggressive roots, suckers and excessive litter</td>
</tr>
<tr>
<td>Salix (willow)</td>
<td>Fast growing, short-lived and unsuitable for confined spaces; greedy root system</td>
</tr>
<tr>
<td>Sapium sebiferum (Chinese tallow tree)</td>
<td>Non-native; grows rapidly, pushing out other native plants; vigorous re-seeder and has brittle wood</td>
</tr>
<tr>
<td>Species</td>
<td>Problems</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Schinus molle (California peppertree)</td>
<td>Not a native; excessive litter and surface rooting</td>
</tr>
<tr>
<td>Schinus terebinthifolius (Brazilian peppertree)</td>
<td>Non-native; creates dense stands within a few years of introduction; frost damage and brittle wood</td>
</tr>
<tr>
<td>Sesbania punicea (Scarlet wisteria)</td>
<td>Spreads rapidly and pushes out native vegetation</td>
</tr>
<tr>
<td>Tamarix species (Saltcedar)</td>
<td>Non-native; uses excessive amounts of water, and has invasive roots</td>
</tr>
</tbody>
</table>
Appendix V:

Preservation Assessment Report
by Architectural Resources Group
Sacramento Historic City Cemetery
Preservation Assessment

City of Sacramento, Sacramento, California

prepared for
Royston Hanamoto Alley & Abey
Mill Valley, California

prepared by
Architectural Resources Group
San Francisco, California

May 2007
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Photograph Credit:
Architectural Resources Group, September 2006
I. INTRODUCTION

Architectural Resources Group (ARG) visited Sacramento Old City Cemetery in September of 2006 to examine the existing conditions of the site. General conditions were observed and photographs were taken in order to document some of the preservation issues. This data was used to prepare this preliminary report which presents general assessment and recommendation guidelines for repair and preservation. Because the scope of the work did not allow for a detailed assessment of every marker on site, general recommendations are made based on typical conditions found.

This report begins with general information on documentation and the recommended priority of repair. In the first section, Documentation, we discuss the importance of and the steps that should be taken to inventory the cemetery. An inventory provides background history and serves as an excellent resource for preservation. This is followed by a chapter discussing priority of repair. At a cemetery as large as and with as many historic and significant features as Sacramento Cemetery, repair work should be prioritized to address the most vulnerable features first. This section also includes a brief discussion about the division of work between volunteers and specialists.

The Conditions Assessment and Recommendations section describes the typical conditions and problems observed during our site visit. The section is broken down by material, such as stone, brick, metals, and glass. There are also sections about general topics such as preventative treatments and site circulation.

Sacramento Old City Cemetery is a historic and important cultural resource for the city and region. Serving as a final resting place for both notable and old local families and receiving thousands of visitors a year, the cemetery needs continual care and maintenance. The cemetery is a collection of artifacts, just like any museum, but found in an outdoor setting. These artifacts, therefore, require conservation of the same quality and care of any museum collection. If properly and promptly addressed today, conservation can ensure the future existence of Sacramento Cemetery for many generations to come.
II. DOCUMENTATION

Documentation not only assists in obtaining a past understanding of the cemetery and those resting there, but it provides essential information for repair and conservation. Documentation records an object at a specific moment in time and if records are kept regularly, changes can be tracked and monitored. This provides essential information on how the cemetery, the monument, and the materials age. In order to maximize conservation efforts, it is important to have good documentation before materials decay and repair is needed.

The layout of the cemetery, the gravemarkers, buildings, and landscape, should be well documented both graphically and in written form. The cemetery should standardize a system of categorization that should be simple, logical, and used consistently. Inventory work is one task that can often be effectively carried out by volunteers. All volunteers however, should be overseen by a volunteer coordinator to ensure consistency of work.

Currently, the cemetery has a system of documentation in place in which each memorial is documented with a survey card (Figure 1). The survey cards are filled out with information primarily concerning the identity of the deceased or the gravemarker’s inscription. The survey cards, however, also provide an opportunity to record data about the physical gravemarker itself.

![Cemetery Survey Card](image-url)

Figure 1- Current survey cards used for inventory
In the future, we recommend recording as much data and detail as possible. This can include the type and color of the stone, its grain and bedding patterns, a detailed description of any biological growth, and any evidence of past human activity and its effect on the stone, such as repairs, damage from rubbings, etc. Additionally, each gravestone should be photographed on all significant sides and the photos filed with the survey card.

As the historic materials of the gravemarkers age and damage occurs, continual repair and maintenance is necessary. While survey cards and photographs document the current and existing conditions of each gravestone, documentation of damage, relocation, and repair is an essential part of conservation. If a gravemarker is damaged, the damage should be documented in-place both in written and graphic form. Broken pieces or fragments should be labeled and catalogued before being relocated as necessary for repair. For each repair, a report should be written documenting what the existing condition was and what methods and materials were used in the repair.

Today, widely available and easy-to-use database software can allow for surveys to be easily computerized. We recommend the cemetery digitize their current archives, and continue all future inventories electronically. Inscriptions, photographs, descriptions, and repair records can be organized into an easy-to-use, web accessible database. Electronic data allows countless ways to see, use, and compare information. Ideally this information could be posted on the Internet so that historians, researchers, or genealogists worldwide can access information on Sacramento Cemetery.

Currently the cemetery archives are stored on site in the old Mortuary Chapel. The Chapel holds many documents original to...
the historic cemetery and some for neighboring cemeteries (Figure 2). These old, fragile documents contain information that would be irreplaceable if something tragic were to happen to the building. Upon a visit to the archive building, there was water staining on the ceiling, evidence of water intrusion (Figure 3). It is imperative that the archive building be kept watertight as even a small water leak can be detrimental to the documents stored there. Even if the roof repair is made, the existing conditions of the archive room, including its mechanical systems, humidity control, and fire or smoke control may not be proper for archiving these sensitive records. We recommended that a paper conservator be brought in to provide guidance and expertise on the collection and the existing conditions. If necessary, the archives may need to be moved off-site, into a facility where archive-quality conditions can be met.
III. REPAIR PRIORITY

Historic gravestones are markers of time, and like everything in life, deteriorate over time. This deterioration and weathering of the stone is the result of many natural processes. Environmental factors like temperature, wind, and precipitation, and pollutants like acid rain all contribute to the rate of decay. Furthermore, the properties of the stone, like its texture, porosity, and rate of absorption, will affect how the stone will weather.

The Sacramento Old City Cemetery has a rich past and an abundance of historical resources that need to be protected and repaired. In both inventory and in treatment of features at the cemetery, work should be prioritized to address the most vulnerable features first. Priority should be set by taking into account the significance of the marker, its age, and the type and condition of the materials. At the Sacramento Cemetery, the most vulnerable items include the oldest areas of the cemetery, markers of historic significance, and the mausoleums and larger monuments.

The oldest areas of the cemetery contain historic materials that today are irreplaceable. These materials have been subject or susceptible to the weather, wear, exposure, and damage longer than others. These materials may have more damage or have had more repairs performed on them in the past. Markers of significant history, character, or with unique materials or meaning are also a priority, such as the Georgia Fisher monument. The significance of this monument lays in its historical pottery. Despite the fact that the pottery can be replicated during repair, its significance can never be replaced. Its current state of disrepair only increases its chances of suffering future damage and vandalism.

Lastly, mausoleum or large monuments should be a priority. These large structures, unlike gravestones, are constructed like any building. The monuments have structural systems, and if water gets into the structure, many types of deterioration can occur, such as metal anchors rusting and failing. If a failure were to occur, serious injury could occur to people, damage to the monument itself, or damage to neighboring monuments.

The variety of work needed at the cemetery can be divided between work that can be completed by volunteers and work that needs to be carried out by specialists. While volunteer activities are more specifically detailed in the Recommendation and Assessment section of this report, in
general, a volunteer crew can likely accomplish much of the inventory, weeding, pruning, and even cleaning of the gravestones.

With volunteer efforts, one of the most important steps is to have an organized volunteer plan and program. Volunteers should be headed by a volunteer coordinator who can provide order, instruction, and give priority on tasks. It is also essential to have a clear work plan to ensure consistency in technique and quality of work between the volunteers. Explicit step-by-step instructions should be provided for each specific activity, sometimes accomplished best with on-site training workshops.

While volunteer efforts can play an important part in cemetery maintenance, some work should only be conducted by or under the direction of qualified conservation professionals. Because this report addresses only generalized conditions, we recommend obtaining a more detailed evaluation and treatment plan for each major conservation feature to be repaired. Treatment plans are tailored to address the specific problem, existing conditions, and the desired result of the conservation work.
IV. CONDITIONS ASSESSMENT AND RECOMMENDATIONS

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Over time, methods of repair commonly change according to technology and accepted practices of the day. Often it is not until decades later that the success or failure of a conservation practice is evident. Because of this, the methods and quality of repairs at Sacramento Cemetery have varied over the years. Unfortunately, in some cases, poor repairs have caused greater damage to the stones than if they had not been touched in the first place.

In general, work, including preliminary measures to protect and stabilize, should generally focus upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement. In some cases, however, nonintervention is actually the most appropriate treatment. It should be acknowledged that a cemetery inherently marks the passage of time and that a certain amount of natural decay is expected and even desirable in keeping with its historical character.

Stone

Mausoleums and Large Monuments

Mausoleums are typically the largest markers found at cemeteries. Because they are highly visible and typically mark notable local families, they become focal points and significant features of the cemetery. The mausoleums commonly found in the Sacramento Cemetery were constructed using very large slabs of stone that are pinned together.

Figure 4- Well maintained masonry joints are critical to keeping the masoleum watertight.
These structures are essentially buildings, and therefore, their preservation and lifespan is dependant on the ability to keep them watertight and structurally stable. While the large pieces of stone create few joints for water to penetrate, the strength and stability of the joint is that much more crucial. If water penetrates the joints, the stone anchors can corrode and eventually cause failure.

During our assessment of the mausoleums, we found cracked or open stone joints that should be repointed using a lime mortar. Lime mortar, unlike cement mortar, is soft, allowing it to breathe, expand, and contract with the surrounding masonry. Particular attention should be paid to mortar joints on the roof and at driplines, which are routinely exposed to water. Where feasible, it may be beneficial to insert lead weathercaps into the mortar joints at the mausoleum roofs (Figure 5). A treatment that will last almost indefinitely, weathercaps are strips of lead that are inserted into newly pointed joints to divert water before it can penetrate the joint.

Tilted or Fallen Gravestones

The majority of the historical markers at the cemetery are headstones, the oldest of which are proportionally tall and thin. Often these gravestones were originally set with little or no...
foundation in a freshly excavated grave and filled with loose backfill. This construction often contributes to the fact that many headstones tilt or sink over time. While a certain amount of settling is common, when a gravestone is in danger of falling and consequently damaging itself or neighboring markers, preventative action should be taken. With professional help and careful precision, the stone should be set upright on a new stone base (Figure 7 Left).

At Sacramento Cemetery, it seems tilted or fallen gravestones are often laid flat on the ground to prevent further damage (Figure 6). This practice however, should be strictly temporary as the stone can retain moisture, absorb salts, and erode by being in direct contact with the earth. Additionally, a flat gravestone cannot shed water, resulting in pooled water on the surface and in the carved inscription. Fallen gravestones that cannot be repaired right away should be moved from their location to protect them from further harm, vandalism, and decay. Before being moved to a secure location, the gravestones should be thoroughly and properly inventoried and photographed. All stones awaiting repair should be stored elevated off the ground.

In many cases at Sacramento Cemetery, fallen gravestones have been laid flat and encased in a concrete surround (Figure 8). The concrete, however, is often harder than the stone, preventing the stone from natural expansion and movement. This causes the stone, often in otherwise good condition to begin with, to crack and fracture. Concrete should never be used to encase a

Figure 7- (Left) A gravestones set on a new stone base. (Right) A gravestone set on a concrete base.
gravestone, to patch it, or as a base for the gravestone (Figure 7 Right). If using a concrete base is the only financially feasible option, the joint should provide room for expansion of the stone and a waterproof membrane should be used between the two materials. This membrane will help to prevent salts from transferring from the concrete to the stone.

Figure 8- Fallen gracestones have been encased in concrete, which can cause further damage to the stone.
Fractured Gravestones

Where fallen or vandalized gravestone have fractured into two or more pieces, the gravestone should be repaired so that it may stand erect (Figure 9). Whenever possible, the pieces should be pinned using threaded stainless steel pins set in epoxy and the edges of the cracked joint coated with resin. Often a gravestone is dimensionally too thin to be pinned. In one such case at Sacramento Cemetery, the thin stone was backed with a new stone cut to the same shape (Figure 10). This repair, however, alters the overall proportion of the gravestone. Several alternate methods of repair using metal bars or channels could also be considered to treat thin fractured stones. One option is to attach one or two flat non-ferrous bars to the back of the gravestone with screws. Caution should be taken with drilling to prevent any damage through to the front face and inscription. Another option is to run channels up either edge of the gravestone, attaching them with screws to the back face of the stone. In all cases, repair of fractured stones is highly specialized work and should only be executed by conservation professionals.

Delamination

Many of the types of stones used for gravestones are, by their properties of nature, susceptible to delamination. Due to the way stone is formed, it has bedding planes which largely affect its behavior and how it ages. When gravestones delaminate, layers of stone shear off from the body of the stone in varying thicknesses. Repair of delaminating stone is a complicated procedure, however, and may only be viable on the most significant gravestones. If found in the early stages of delamination, some gravestones can be repaired by injecting resin into the top. The resin will naturally flow down the layers of stone, adhering them together to prevent delamination.
Figure 10- A fractured gravestone has been repaired using a stone backing.
Clay Tile

The Georgia Fisher Monument adds both significant historical and architectural value to the cemetery. The monument, featuring pottery by artist Martin Bergman, is currently missing many original clay pieces and the voids have been haphazardly filled with bricks (Figure 11). The monument appears neglected, which only encourages continued theft and vandalism. Although the historical value of these pieces can never be recaptured, repair or replication of the pieces is necessary. The missing pottery should be replaced with pieces matched as closely as possible to the original and the existing clay pieces cleaned, patched, and repointed.

Figure 11- The Georgia Fisher monument with missing masonry units.
Brick

Many family plots are enclosed or elevated on low brick bases. Many of the bases have shifted, settled, or endured impact, resulting in cracking, spalling, and dislocation of the brick (Figure 12). This damage happens consistently at the corners which are the most susceptible to damage from foot traffic and maintenance activities. For repointing and minor joint cracking, the joints can be filled with a lime-based mortar (Figure 13). Brick bases that exhibit major separation or dislocation, however, may need to be rebuilt. Currently, there is evidence of work already underway to rebuild some of these bases (Figure 12). When being rebuilt, the existing brick should be carefully disassembled and saved for reuse. New bricks should be used as necessary but matched as closely as possible to the original. A new concrete foundation is recommended to achieve a firm and level base to lay the masonry units and to help prevent future settling. A structural engineer should be consulted to provide the specifications for the footing and the rebuilding should be performed by qualified masonry professionals.
Because the cemetery is tiered, there are multiple brick retaining walls on site. The walls have many cracked and open masonry joints, with the worst conditions typically evident at the base on the wall near the ground (Figure 13). Water and salts wick up the brick and rainwater backsplashes onto the wall, wearing away the face of the brick and the mortar. All brick should be repointed wherever necessary using a lime-based mortar.

**Concrete**

There are many family plots that have been topped with concrete rather than soft landscape. In many cases these concrete slabs are cracked or have completely collapsed (Figure 14). Left in this condition, they suggest neglect and may encourage future vandalism. The concrete slabs should be replaced under the consultation of a structural engineer.
Metals

Iron is present at the cemetery in fencing and other decorative elements. Iron, if routinely painted, will typically keep from corroding. If an element develops corrosion, however, the surface must first be prepped before repainting (Figure 15). The paint and rust should be removed with a wire brush or hand sanding to the bare surface before a primer, base, and topcoat of paint is applied. The paint should be specifically formulated to coat outdoor ferrous metals.

There are several family burial enclosures constructed of a masonry base supporting an iron fence (Figure 16). The top masonry course, typically stone, was notched to receive the balusters. Traditionally, iron balusters were set into the holes with molten lead. Over time, as water worked its way into the joint, the iron corroded, causing it to expand. The expansion and pressure on the surrounding stone eventually caused the stone to fracture (Figure 15). At one particular fence at the cemetery the stone is damaged at almost every iron baluster. Adjacent to this fence sits a similar fence no longer on a base but sitting directly on the ground (Figure 16). This suggests that the base was so damaged that it was completely removed. Without a base, however, the enclosure looks significantly different, resembling a garden more than a cemetery plot.

Figure 15- (Top) Much of the ironwork is corroding. (Bottom) The iron fencing expanded as it corroded, cracking the stone.
Missing masonry bases or bases with significant spalling should be rebuilt. The fencing should be removed and the metal stripped to remove all corrosion. The brick and stone for the base should be selected and laid as closely as possible to match the original. The fence should be repaired as possible with welding and missing or damaged pieces can be replicated to match the original. The balusters can again be set into the stone with a molten lead, but as corrosion is likely to reoccur, a better option may be to set the baluster in resin, which will create a tighter joint. The resin will allow room for the metal to expand without cracking the masonry.

Figure 16- (Top) Originally the fence was set on a masonry base. (Bottom) As the masonry cracked, the base was likely removed and the fence set onto the ground.
Glass and Plastic

One mausoleum has a sheet of protective plastic covering the window on the exterior side (Figure 17). The plastic, oversized for the opening, appears to be screwed directly into the stone slab surrounding the window. The plastic, possibly installed to prevent vandalism, is unvented, and may actually be doing harm to the windows and the interior by allowing condensation and heat to build up in the cavity. This is evidenced by the biological growth that can be seen on the interior face of the plastic.

The protective plastic covering should be removed from the window. Holes in the stone slab should be patched to match existing. If necessary to protect against vandalism, the windows should be covered with a vented glazing. This will allow air to flow through the cavity. The protective glazing should be cut just slightly larger than the size of the window, to make it less noticeable.

Figure 17- The protective plastic in unvented and biological growth is evident on the interior surface.
Cleaning and Preventative Treatment

Almost all gravemarkers in the cemetery have some form of soil or biological growth on them (Figure 18). Because cemeteries are historic, a natural soiling of the stone is natural and helps to create character and a feeling of age. Dirt and growth, however, are often so dense that it obscures the clarity of the inscription. Because the inscription is one of the most important features identifying and honoring the deceased, it may be desirable to remove some of the soil to make them legible.

Soiling is the result of both pollution and natural environmental factors. The biological growth is common in moist environments like a cemetery where the stone often sits so close to the ground and can absorb moisture. Biological growth includes lichen, algae, fungi, moss, and bacteria. Some biological growth, like lichen, which is abundant at the cemetery, can be difficult to remove if not addressed in the early stages (Figure 19). While, the biological growth does not necessarily damage the stone, it can retain moisture on the stone and may obscure inscriptions.

Figure 18- Excess biological growth is present on the roof of the masoleum.
Cleaning of stones is often controversial because what produces immediate results may actually harm the stone in the long-term. Over time, as stone is exposed to the elements, an outermost patina layer forms on the surface, comprised of mineral deposits and pollutants. This patina layer actually acts as a protector of the stone and slows down its rate of deterioration. Because aggressive cleaning of the stone can remove this layer, any cleaning instituted should be of the gentlest means possible.

While many of the markers are in relatively good condition, many could benefit from a gentle cleaning. The simplest method is lightly rubbing the surface with a medium bristle or nylon brush. As necessary, a water bath can be used to soft the soil and biological growth before brushing. More stubborn growth may require a non-acidic detergent. Cleaning is an activity that could be performed on a yearly basis by a team of trained volunteers under the supervision of a conservator.

The option also exists to implement a routine application of a biocide to the stone. A biocide can kill biological growth existing on the stone and will prevent it from reforming for one to two years. Many of the biocides made today are gentle and do not damage the stone or any vegetation surrounding the stone. Applied too often, however, they can lead to deterioration or discoloration of the stone.
Landscape

The irrigation system at the cemetery includes a field of sprinklers with large head that protrude out of the ground approximately 12”. During our site visit, many of the sprinkler heads were located and oriented so that many of the gravestones were receiving forceful impact from the sprinklers, often from just a few feet away (Figure 20). The high pressure of the water, routinely directed on the stone, will cause excess wear on the stone and joints. Stones often have a protective outer layer, either from being polished, or which develops over time from exposure to natural elements. The continual and constant impact of the sprinklers will contribute to the premature wearing away of this surface causing excess weathering of the stone at an increasingly quick rate. Furthermore, the sprinkler drives water into the joints of the gravestone, even the horizontal joints, creating excess moisture in the stone. The stone remains unnecessarily wet for excess periods of time and repeatedly has to dry out (Figure 21 Top). A drip irrigation system should be installed or the sprinkler heads should be relocated, reoriented, or the pressure of water adjusted to be less abrasive to the gravemarkers.

Figure 20-Many of the sprinkler heads are set to directly impact the monuments at close range, causing excess exposure to moisture.
While much of the vegetation of the cemetery is mature, many trees and bushes continue to grow without proper maintenance. At the cemetery there are several cases where the gravestones and trees were placed too close together. The trees have grown so large they are displacing, uprooting, and damaging the surrounding gravemarkers (Figure 21 Center). In almost all occasions, the stone markers have more significance than the tree, which, although mature and developed, should be removed.

Furthermore, many bushes and small trees are densely overgrown (Figure 22). Not only does the dense vegetation obscure the visibility of the marker, but the vegetation, above or near the markers, may block air circulation, sunlight and hold moisture. This dampness prevents the stone markers from drying out and promotes biological growth. Trees and shrubs should be pruned and thinned to allow air circulation and sunlight to reach all markers. Some of these activities, along with general clean up and weeding, can be easily accomplished through the help of volunteers (Figure 21 Bottom).

Figure 21- (Top) Sprinklers drive water into joints, causing water to remain after other surfaces have dried. (Center) An overgrown tree is damaging a nearby gravestone. (Bottom) Weeds and plant growth are typical.
Figure 22- Trees and bushes are overgrown, obscuring gravemarkers and preventing air and sun from drying them out.
**Circulation and ADA Upgrade**

In several locations, the walking paths are uneven and could become tripping hazards for visitors or difficult to navigate for those with disabilities (Figure 23). Pathways should be leveled and uneven stone reset to provide a smooth and even walking surface.

Currently, handicapped access to the Mortuary Chapel is accomplished with a concrete stair and ramp located on the front of the building. The design of the ramp, however, its layout and choice of materials, seems distracting when placed in front of the simple but thoughtful design of the historic chapel (Figure 36).

![Uneven walking surfaces can be tripping hazards.](image)

A ramp and stair is necessary to provide ADA access to the building. The ramp, however, could be designed to be more sympathetic to the layout of the cemetery and the historic materials existing there. The length of the ramp could be run parallel alongside the building rather than across the front. This will minimize the visual impact of the length of the ramp. Furthermore, the ramp could be constructed with materials that reflect those already present in the historical cemetery. Stone could be used to detail the ramp and a painted metal can be used for the railing, mimicking the iron fences found on site.
V. CONCLUSION

Sacramento Old City Cemetery is a historical and cultural resource for the community, city and region as a whole. Preservation of this resource can be best accomplished with the help, dedication, and talent of a range of individuals from trained professionals to volunteers. To preserve and care for the existing materials of the cemetery, work can be broken down into groups with responsibilities commensurate with experience, knowledge, and skill. Preservation activities at Sacramento Cemetery can most effectively be divided as follows:

Work by trained professionals (conservators, architects, engineers):

- Develop conservation plan for cemetery archives housed in Mortuary Chapel
- Structural review of mausoleums and large monuments
- Setting upright fallen gravestones
- Pinning cracked or fractured gravestones
- Resin injection for delamination
- Repair/replication of the Georgia Fisher Monument

Work under the supervision of professionals:

- Masonry repointing
- Rebuilding/repairing masonry bases and foundations
- Replace cracked concrete slabs
- Prep and repaint corroded iron elements
- Replace/repair iron fencing
- Replace plastic at windows with vented glazing
- Adjust/replace irrigation system
- Remove trees and vegetation damaging gravemarkers
- Repair uneven walking surfaces

Volunteers under the guidance of a volunteer coordinator:

- Inventory existing gravemarkers with detailed survey cards and photographs
- Digitize existing cemetery archives
• Clean gravemarkers to remove soil and biological growth
• Routinely apply biocide to masonry
• Prune and weed overgrown vegetation
Appendix VI:

Infrastructure Report by BKF Engineers
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1 EXISTING SITE CHARACTERISTICS

1.1 Property Description

The Sacramento Historic City Cemetery project site, located at 1000 Broadway (Assessor’s Parcel Number 009-0030-030-0000), has an approximate area of 30.5 acres. The cemetery is on the southern side of Broadway, between Muir Way (to the west) and Riverside Boulevard (to the east). The Masonic Lawn Cemetery is the southern border of the Sacramento Historic City Cemetery.

1.2 Existing Land Use

The Sacramento Historic City Cemetery is the oldest existing cemetery in the city. In addition to the cemetery, there is an extensive rose garden (Sacramento Historic Rose Garden), and archive building and a veteran’s memorial. There are a few existing buildings on site including the maintenance office near the entrance to the cemetery, a maintenance storage/tool building near the center of the cemetery and an archive building adjacent to the storage building. There is a series of asphalt-paved pathways that provide access throughout the cemetery.

Impervious surfaces (existing buildings and existing pavement) cover approximately 11% of the project site. The actual amount of impervious area is most likely significantly more than 11% of the entire site due to the presence of various concrete tombstone/plot features and brick walkways/walls, which were not identified on the existing topography but were confirmed during visual inspection of the site. Pervious areas include landscaping, trees, vegetation and lawn throughout the site.

1.3 Topography

The existing topography at the site ranges from an elevation of approximately 0 to an elevation of approximately 26 (based on the existing topography provided to BKF). The high point, elevation 26 +/-, of the existing site occurs approximately 280 feet south of the main entrance. From this point, the topography slopes in the south/southeast direction, with the site low point, elevation 2 +/-, occurring near the existing maintenance/storage building. A second high point, elevation 24 +/-, occurs on the western side of the site. From this point, the topography slopes toward the west and Muir Way at a slope of approximately 5 horizontal to 1 vertical, or 20%.

1.4 Existing Circulation and Access

The main access into the cemetery is provided near the intersection of 10th Street and Broadway. This intersection does not currently have any traffic controls in place, such as stops signs or traffic signals. The entrance/exit is a two lane driveway. A car exiting from this location can either turn right or left onto Broadway or continue straight onto 10th Street, which is a one-way street heading north. In addition to the main entrance/exit, there is a secondary access point, on Broadway, at the intersection of 9th Street. During field visits, it was not obvious if the general public enters the cemetery.
from this secondary access point. There is also an entrance to the Masonic Lawn Cemetery on the western side of Riverside Boulevard. The existing pathway on the Masonic property connects to a Sacramento Historic City Cemetery pathway, providing a third access point into the site.

Parking provided at the cemetery is minimal. There is a small lot provided near the main entrance, adjacent to the maintenance office. There is an existing AC paved area, adjacent to the maintenance storage building, where it was observed that a few cars were parked, but parking stalls were not well defined.

Based on visual inspection, the existing asphalt cement (AC) pavement throughout the site seems to be in good condition with some AC cracking and rutting. It is not known at this time the composition of the pavement section. The existing pathways have a width range of 9 feet to 12 feet. In general, curbs are not provided at the edge of the pathway. Rather, the existing AC pavement conforms to the existing lawn/landscaping.

1.5 Existing Infrastructure

1.5.1 Water/Irrigation

The Sacramento Historic City Cemetery obtains its water from the City of Sacramento. Existing domestic water lines are present in each of the three existing roads that front the cemetery. Muir Way contains an 8-inch cast iron water pipe as well as a 24-inch welded steel water pipe. Broadway contains a 24-inch welded steel water pipe. However, this pipe stops near the intersection of Broadway and Muir Way. Riverside Boulevard contains an 8-inch cast iron water pipe as well as a 12-inch cast iron water pipe. The existing pressure(s) within the water system is as follows:

- Static Pressure – 50 psi
- Residual Pressure – 41 psi to 48 psi
- Total Flow – 1,700 gpm to 3,200 gpm

The above results were based on two water supply tests that were conducted by the City of Sacramento Department of Utilities. One test utilized two existing hydrants located on Muir Way (hydrant numbers 301 and 604) and the other test utilized three existing hydrants located on 10th Street and Riverside Boulevard (hydrant numbers 101, 402 and 702).

The primary service point of connection for the cemetery occurs near the main entrance, at the intersection of 10th and Broadway. A 6-inch cast iron water pipe, which is within 10th Street, crosses Broadway and enters the site. The existing 6-inch pipe connects to an existing on-site water meter and backflow device. The water pipe continues to a water booster pump and flow switch, which is located just south of the maintenance office. Per the available record information, the site contains an existing 3-inch water pipe and an existing 6-inch water pipe that run north-south near the middle of the site. The site also contains a network of irrigation conduit that range from 1-inch to 2-inch in diameter. According to maintenance personnel, additional pipe has been installed in various
locations throughout the site by work release maintenance program personnel. The locations of this conduit have not been documented and the extents of the installations are not known at this time. In addition to irrigation, the site water demand is limited to a few on-site drinking fountains, one indoor bathroom at the maintenance office and a few other miscellaneous water uses.

In conversations with maintenance supervisors, it is apparent that a significant amount of time during the dry months is spent dealing with the existing irrigation system. Due to the available on-site pressure, only a portion of the irrigation system can be operated at any given time. The irrigation sprinklers are not automated. Therefore, a maintenance worker has to "activate/deactivate" each sprinkler head manually. When there is a problem with the irrigation system, that portion of the system is isolated using one of many existing valves that are part of the irrigation system.

Based on available record information, it appears that the existing on-site domestic/irrigation systems that serve the Historic Cemetery may also connect to the existing systems that serve the Masonic Property. The extent of this connectivity is unclear at this time. During a field visit, 2 water meters were identified adjacent to the Masonic Property: one on Muir Way and the other on Riverside Boulevard, which indicates that there may be more than one system within the Masonic Property.

There are two existing fire hydrants on the eastern side of Muir Way and two existing fire hydrants on the eastern side of Riverside Boulevard.

1.5.2 Recycled Water

Per conversations with City of Sacramento – Utilities Department personnel, the City of Sacramento does not currently have a distribution reclaimed water main. The Sacramento Regional County Sanitation District is currently investigating possible locations that may be able to utilize recycled water, but the extent of these studies are not yet finalized with regard to the City of Sacramento.

1.5.3 Sanitary Sewer

The Sacramento Historic City Cemetery is located within an area that is served by a combination sanitary sewer/storm drain collection system. A combination system collects wastewater that is generated from residential and commercial uses as well as storm water runoff. The collected water/effluent is then transported, via the collection system, to a sewage treatment facility where it is treated prior to discharge into existing bodies of water. Combination systems were built several years ago when water quality regulations did not exist and when it was common practice to discharge untreated wastewater into local bodies of water. The County Sanitation District 1 (CSD-1) provides wastewater collection for this portion of the City of Sacramento and the water/effluent is treated at the Sacramento Regional County Sanitation District (SRCSD) facility located in Elk Grove, California. This SRCSD Treatment Facility currently handles approximately 165 million gallons per day (MGD) on an annual basis. SRCSD has a permit that allows a maximum discharge of 392 MGD during wet weather situation.
SRCSD’s dry weather maximum discharge is 181 MGD and their average dry weather discharge is approximately 155 MGD on an annual basis.

Existing sanitary sewer/storm drain (SS/SD) lines are present within each of the three roads that front the cemetery. Muir Way contains an existing SS/SD pipeline, between 8-inch and 12-inch in diameter, along the cemetery’s frontage. Riverside Boulevard contains an existing SS/SD pipeline, between 10-inch and 22-inch in diameter, along the cemetery’s frontage. At the intersection of Riverside Boulevard and Fremont Way, the existing 22-inch SS/SD pipe becomes a 42-inch SS/SD pipe and continues south within Riverside Boulevard. Although there is existing SS/SD pipe within Broadway, a significant portion of the cemetery’s Broadway frontage does not include SS/SD pipe. The only SS/SD pipes within Broadway, adjacent to the cemetery, are one 12-inch SS/SD pipe at the northeast corner and one 12-inch SS/SD pipe at the northwest corner.

The amount of wastewater generated from the existing site is minimal. There is one existing bathroom on-site, near the maintenance office. Based on record information, it is not clear where the service lateral for this bathroom is located. For the purposes of this summary, it has been assumed that the wastewater generated by the bathroom is directed toward Broadway. Other restroom facilities are provided near the maintenance/storage building, but they are portable restrooms and are not connected to the existing city combination system.

1.5.4 Storm Drain

The Sacramento Historic City Cemetery is located within an area that is served by a combination sanitary sewer/storm drain collection system. Please refer to section 1.5.3 for additional information on a combined sanitary sewer/storm drain system.

Based on record information and field observation, the on-site storm drain collection system is limited. There is one storm drainage inlet, located on the south side of the existing maintenance/storage building near the center of the cemetery. The existing storm drain inlet contains a pump with a 4-inch +/- outlet pipe that is directed toward Riverside Boulevard. When the storm water reaches a certain elevation within the drainage inlet, the pump kicks on and begins pumping storm water out of the inlet. However, speaking with maintenance personnel, the pump appears to be inadequate for the amount of storm water runoff being collected by the inlet and the area often floods during moderate to heavy rain events. In some instances, the existing maintenance/storage building has 6 inches, or more, of standing water.

It appears, from field observation, that infiltration is utilized as the main vehicle for storm water collection. Once the existing soil becomes saturated, the storm water will then follow the existing topography toward Muir Way, Riverside Boulevard or the on-site low point near the storage building. As mentioned above, the low point of the site experiences flooding several times during the wet season.
1.5.5 Power/Gas

Presently, the site is served by overhead electric facilities provided by Sacramento Municipal Utility District (SMUD) and gas facilities provided by Pacific Gas and Electric Company (PG&E). The gas main line is located within Broadway, on the northern side of the street and the electric main lines are located along 10th and Riverside Boulevard.

The electrical service to the cemetery is provided by overhead service lines that enter into the site near the main entrance on Broadway.

The gas service to the cemetery is provided by a ¾-inch gas service lines that connect to the 20-inch steel gas main line within Broadway near the cemetery entrance.

1.5.6 Communications

AT&T is the current provider of the communication services for the project site.

2 PROPOSED SITE DEVELOPMENT

2.1 Development Summary

The project site, The Sacramento Historic City Cemetery, is the oldest existing cemetery in the city. In addition to the cemetery, there is an extensive rose garden (Sacramento Historic Rose Garden), and archive building and a veteran’s memorial. The proposed master plan will outline possible improvement opportunities within the project site with minimal disturbance to the existing cemetery core use.

The proposed improvements at the project site will include the construction of a new multi-use building in the central part of the cemetery (near the current location of the maintenance building; the existing maintenance building will be demolished) that will be used as an archive, meeting room and will be potentially used by the work-release program and possibly a new building near the Broadway entrance to the cemetery to replace the existing office. In addition, property on the northern side of Broadway, across from the cemetery, may be acquired in order to construct a new building and provide parking for the cemetery.

2.2 Infrastructure

2.2.1 Water/Irrigation System

The primary water demand on site is irrigation. From conversations with maintenance personnel, it appears that the existing system does not function properly and requires a significant amount of attention during the peak irrigation months. As explained in section 1.5.1, the system is not automated and only a portion of the cemetery can be irrigated at any given time. In addition, the maintenance personnel expressed strong interest in the possibility of a new, fully-automated irrigation system for the site.
Regardless of what new construction is proposed at the site, a new irrigation system for the site should be considered. There are a few ways that a new irrigation system could be implemented at the site:

- **Completely New System:** This option would propose to install a new, fully-automated system throughout the cemetery site. The existing system would be either removed or abandoned in place, with removal being the preferred alternative. New irrigation conduit, sleeves, sprinkler heads, controllers, etc. would be installed. To minimize the amount of runoff generated, it is recommended that high efficiency sprinkler systems, such as a drip system, be utilized.

- **Combination of Existing and New System:** This option would utilize portions of the existing system that are functioning properly and supplement the remainder of the system with new conduit. Although this option may provide material costs savings, it would require a qualified person to inspect the irrigation system, document the location(s) of the system and identify portions that are salvageable.

To determine a projected irrigation demand for the site, a water usage of 3.5 cubic feet per square feet per year has been assumed. As stated in section 1.2, approximately 11% of the site is impervious, which translates to mean that 89% of the site, or 27.1 acres, is pervious. Multiplying the assumed demand by the pervious area yields an irrigation demand of approximately 85,000 gallons per day (60 gallons per minute).

The non-irrigation water demand at the site is projected to be low. The average person uses approximately 90 gallons of water per day. Assuming that there are 15 people on-site for the duration of a work day, the projected non-irrigation demand on site would be approximately 1,350 gallons per day (1 gallon per minute).

### 2.2.2 Sanitary Sewer

As mentioned in section 1.5.3, the amount of wastewater generated from the existing site is minimal. There is an existing restroom at the office located near the main entrance and portable toilets are used near the existing maintenance building.

The improvements on site will include an expansion of the existing main entrance office or construction of a new main entrance office. Regardless of which option is selected, the existing connection to the existing city sanitary sewer system should be utilized. The location and size of this existing on-site lateral should be determined during the schematic design phase in order to confirm if this connection is feasible.

The improvements on site will also include the construction of a new multi-use building, near the center of the site, which will include a restroom. Per record information, there does not seem to be existing sanitary sewer pipelines on site. There is, however, an existing storm drain pipe that conveys storm water, with the assistance of a small pump, to the existing city system within Riverside Boulevard. Considering that the existing city system is a combination system (see section 1.5.3), this line may be a viable option for
conveying sewage (the viability of this existing line will be determined based on storm water criteria). As part of the upgrade to the storm drain system, a detention system will be installed (see section 2.1.3). However, the proposed sanitary sewer system should connect to the SD/SS system downstream of the detention facility to prevent the introduction of sewage to stagnant storm water. The sewage will most likely be conveyed by a new pipe, parallel to the existing storm drain line, to a point where the new sanitary sewer line would connect to the existing storm drain line. If possible, the sewage conveyance will occur by gravity. However, if site conditions prevent gravity flow, a pump will need to be installed.

To determine a projected sanitary sewer demand for the site, a sewage demand of 80 gallons per day per person has been assumed. Assuming that there are 15 people on-site for the duration of a work day, the projected sewage demand on site would be approximately 1,200 gallons per day (1 gallon per minute). Taking into account a peaking factor of 2 and an infiltration rate of 150 gallons per day, the project wet weather demand for the site will be approximately 2,550 gallons per day (2 gallons per minute).

2.2.3 Storm Drain

The existing on-site storm drainage system is limited (see section 1.5.4). The only drainage inlet observed on site is located near the existing maintenance building at the center of the site. Per conversation with maintenance personnel, this area floods several times a year during heavy rain events.

In an effort to minimize the frequency of flooding at the site, a storm water detention system would be installed. Detention systems are usually a series of underground pipes or structures that are designed to capture a specific volume of water and detain said water for gradual discharge into the receiving storm drain system. The receiving system usually uses gravity flow as a means of conveyance. However, based on existing conditions at the site, it is assumed that gravity flow is not an option and that storm water will need to be pumped. With that in mind, a pump will be installed at the outlet end of the detention system. The pump will be designed to “turn on” at a certain water level inside the detention facility. The storm water will then be pumped out of the detention system into the receiving storm water collection system. A detailed drainage report will be prepared during the development of the project plans that will establish the detention system layout and size and the parameters of the pump.

As part of the development of local storm water quality measures, the Sacramento Stormwater Quality Partnership has been formed which includes the County of Sacramento and the cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova and Sacramento. The Stormwater Quality Design Manual should be implemented some time in 2007. With regard to the improvements associated with the Historic Cemetery, addition or rehabilitation of impervious areas, such as paths, parking lots, building, etc., may result in additional stormwater quality measures on-site. Currently, per City of Sacramento staff, if 1 acre or more of impervious area is added or disturbed, stormwater quality measures will need to be implemented on-site. Note that as the Design manual is revised and finalized, this number may decrease. Considering that the Historic Cemetery
is served by a combination sewer/storm drain system, this may not have a significant impact on the site improvements.

2.2.4 Power/Lighting/Communications

Per record information and site observations, the existing site power and communications are provided by a series of overhead lines.

As part of the improvements on site, the existing overhead lights will be removed and replaced with more decorative lights. So as not to obstruct the aesthetics of the site, it is recommended that the existing overhead lines, both power and communications, be placed underground. If placing the overhead lines underground is cost prohibitive, then providing power to the proposed lights only, via underground conduit, may be an acceptable alternative.

3 RECOMMENDATIONS SUMMARY

3.1 Infrastructure

3.1.1 Water/Irrigation System

As stated above, the existing on-site water system and, in particular, the existing irrigations system is in need of rehabilitation. The following recommendations should occur with regard to this infrastructure system:

- On-Site Investigation – Information contained in this summary is based on available record information and field observation. In order to gain a better understanding of the existing domestic water and irrigation systems, on-site investigations should occur to verify existing pipe sizes, depths, locations and condition. Conduit placed at the site during the work release program (as explained in section 1.5.1) should also be verified and documented. The on-site investigation would most likely be performed by a utility locator company. The utility locator would utilize techniques, such as potholing or ground piercing radar, to identify buried existing utilities.
- Extent of Existing Systems – Based on the available record information, it appears that the existing systems that serve the Historic Cemetery may connect to the existing system(s) that serves the Masonic Property. Appropriate personnel with the Masonic Property, as well as the City of Sacramento, should be contacted in an effort to determine the extent of these systems and any cross connectivity should be eliminated, if feasible.
- Water Report – A water report should be prepared for the entire project site. The report will model the existing system as well as the proposed system.
- Irrigation System – The preferred alternative would be to install a new irrigation system at the site. The new system should be fully automated, have a high efficiency level and minimize water run-off and over-watering. Directional irrigation heads and drip systems may function well at the site. If a complete new
system is cost prohibitive, then a system combining existing and new elements should be considered.

- **Domestic Water System** – Depending on the total number of proposed restrooms/drinking fountains, etc. on site, the existing system, including pipe size, available pressure and condition of the booster pump, will need to be reviewed to determine if the existing improvements are adequate to support the proposed improvements.

### 3.1.2 Sanitary Sewer System

The following recommendations should occur with regard to this infrastructure system:

- **On-Site Investigation** – It is assumed that the existing bathroom near the main gate connects to the existing SS/SD line within Broadway. In order to gain a better understanding of this existing line, an on-site investigation should occur to verify the existing pipe size, depth, location and condition. The capacity of this existing line will need to be verified if additional restrooms are added as part of the construction of a new staff office/visitor center building. The on-site investigation would most likely be performed by a utility locator company. The utility locator would utilize techniques, such as potholing or ground piercing radar, to identify buried existing utilities.
- **Sewage Generation** – Based on the proposed improvements at the site, the projected sewage demand would need to be verified. Knowing the projected sewage demand will assist in designing the proposed sanitary sewer/storm drain system.
- **Sanitary Sewer System** – A sanitary sewer system should be installed to collect sewage generated on-site from proposed uses such as restrooms, kitchens and maintenance sinks.

### 3.1.3 Storm Drain System

The following recommendations should occur with regard to this infrastructure system:

- **On-Site Investigation** – The extent of the existing storm drain system should be examined including pipe size, depth, condition and location. The on-site investigation would most likely be performed by a utility locator company. The utility locator would utilize techniques, such as potholing or ground piercing radar, to identify buried existing utilities.
- **Drainage Report** – A drainage report should be prepared for the entire project site, illustrating both the existing and proposed site conditions. Based on existing and proposed hydrology of the site, a new system will be developed.
- **Storm Drain/Detention System** – Based on the drainage report, a new storm drainage system will be developed for installation at the site. The proposed system may include new pipe(s), a detention element, additional inlets and a new pump.
Stormwater Quality – The Stormwater Quality Partnership should be contacted early in the schematic design phase of the project in an effort to determine if stormwater quality measures will need to be implemented at the site.

3.1.4 Power/Lighting/Communications

The following recommendations should occur with regard to these infrastructure systems:

- On-Site Investigation – The extent of the electrical, gas and communication systems should be field verified and documented.
- Consultant – A consultant(s) experienced in the design of electrical, gas and communication systems should be contacted early in the design process and become involved in the project. Typically, they would coordinate the proposed designs with the appropriate utility purveyors, such as PG&E.
- Proposed Services – The preferred option would be to underground the existing overhead lines, so as to eliminate the visual impact of the overhead lines.

3.1.5 Miscellaneous

- Geotechnical Report – A geotechnical report should be prepared for the project site. At a minimum, the report should address required paving sections, earthwork and compaction recommendations, soil bearing pressures, surcharge pressures, infiltration rates, settlement and groundwater levels.
- Boundary Resolution – The existing boundary for the project site is based on record information. A resolved boundary should be prepared which will be based on title reports, deed information and existing survey monuments.
- Supplemental Ground Topographic Survey – A supplemental ground survey should occur at the project site. The survey will verify the existing aerial survey in key locations, such as existing paths that are required to be ADA accessible.
- Pathway Rehabilitation – Based on aesthetics and functionality, such as ADA accessibility and traffic loading, portions of the existing pathways will need to be removed and replaced.

3.2 Budgetary Opinion of Probable Infrastructure Costs

3.2.1 Water/Irrigation System

- New Irrigation System – $2,000,000; Based on a cost of $1.65/square foot. Assumed that 89% (1,200,000 square feet) of site requires irrigation and that the existing system would remain in place and not be used.

3.2.2 Sanitary Sewer System

- New Sanitary Sewer System – $40,000; Assuming a sanitary sewer line with a maximum length of 300’, including manholes and clean-outs.
3.2.3 Storm Drain System

- New Storm Drain System – $150,000; Based on the installation of a detention system, new pump, new drainage inlets and new pipe. It is assumed that the new system will be located in close proximity to the existing maintenance structure, where the existing drainage inlet is located.

3.2.4 Power/Lighting/Communications

- Underground existing Overhead Lines – $800,000; Based on placing approximately 3,500 feet of existing overhead lines underground and providing new conduit to serve the proposed structures and walkway lighting.

3.2.5 Miscellaneous

- Geotechnical Report – $15,000 to $20,000
- On-site Investigation/Utility Locator – $9,000 to $12,000; Based on a cost of $1,500/day for 6 or 8 days. It is assumed that the utility locator will perform work for all utility systems at one time.
- Boundary Resolution – $25,000 to $30,000
- Supplemental Topographic Survey – $12,000 to $16,000; Based on a cost of $4,000/day for 3 or 4 days.
- Pathway Rehabilitation – $140,000; Based on the assumption that 30% (36,500 square feet) of the existing pathways will require rehabilitation.

Assumptions:

Costs provided are approximate and are based on current economic conditions. Costs do not include consultant design fees or City/County/Agency processing fees.

Grading and Earthwork will be minimal and proposed improvements will conform to the existing site topography to the greatest extent practical.

Existing storm drain line, from the project site to Riverside Boulevard, is adequate to handle the proposed improvements. It is assumed that this line will not have to be replaced.