SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

# TASK II: RESEARCH & ANALYSIS HISTORICAL RESOURCES REPORT

Written by: GPA Consulting

SILVER LAKE RESERVOIR COMPLEX
**MASTER PLAN PROJECT**

September 13, 2019

# EXECUTIVE SUMMARY

The Silver Lake and Ivanhoe Reservoir Complex is located in the Silver Lake–Echo Park–Elysian Valley Community Plan Area of the City of Los Angeles. The irregularly-shaped complex is approximately 127 acres in size and roughly bounded by Tesla Avenue on the north, Armstrong Avenue and Silver Lake Boulevard on the east, W. Silver Lake Drive, Van Pelt Place, and Silver Lake Boulevard on the south, and W. Silver Lake Drive on the west. It is owned and operated by the City of Los Angeles and the Los Angeles Department of Water and Power (LADWP). The complex was originally constructed in 1906–1907 and is composed of the Silver Lake and Ivanhoe Reservoirs and Dams, several ancillary buildings and structures related to LAWP's maintenance and operation, as well as landscape features such as stone and concrete retaining walls, trees, shrubs, and other vegetation.

The Silver Lake and Ivanhoe Reservoir Complex is a designated Los Angeles Historic-Cultural Monument (HCM No. 422). Therefore, it is a historical resource as defined by the California Environmental Quality Act (CEQA). It was also previously evaluated by Greenwood & Associates in 2004 as part of the *Silver Lake Reservoir Complex Storage Replacement Project Environmental Impact Report*. The complex was evaluated as eligible for listing as a historic district in the California Register of Historical Resources (California Register). The Status Codes for the Silver Lake and Ivanhoe Reservoir Complex is 5S1, an individual property that is listed or designated locally, and 3CB, appears eligible for listing in the California Register through survey evaluation.

A Master Plan was completed in 2000 to provide possible mitigation measures for proposed water quality improvement projects and guide long-range planning goals for the Silver Lake community and for LADWP. The site was later decommissioned and removed from the city domestic water distribution system in 2011–2017. A new Master Plan is therefore being drafted to guide future improvements now that the site is no longer used for the storage and treatment of drinking water. The Silver Lake Reservoir Complex Master Plan (SLRCMP) proposes to repurpose approximately 116 acres of the site as a community gathering space, while also balancing LADWP's continual maintenance and operational needs on the remaining 11 acres. LADWP's active uses are located at the northeast portion of the site, North Ivanhoe Dam, Ivanhoe Inlet Tower, as well as the Silver Lake Reservoir bypass line, dam, outlet tower, and boat launches.

As a designated HCM, the Silver Lake and Ivanhoe Reservoir Complex is subject to the Los Angeles Cultural Heritage Ordinance. The Ordinance stipulates that the Cultural Heritage Commission (CHC) and Office of Historic Resources (OHR) are responsible for reviewing alterations to historical resources listed under national, state, and local landmark programs. Alterations are reviewed by the CHC and OHR for compliance with the *Secretary of Interior's Standards for the Treatment of Historic Properties* (Standards). [1] GPA Consulting (GPA) was retained to prepare this report to help guide the reuse of the Silver Lake and Ivanhoe Reservoir Complex in compliance with the Standards. It includes a summary description of the site, its historical status, as well as an illustrated inventory of landscape characteristics and character-defining features. Challenges and opportunities of the SLRCMP are also identified as well as potential funding sources.

[1] Los Angeles Administrative Code, §22.171.14, of Article 1, Chapter 9, Division 22.

# 1 METHODOLOGY

To identify the character-defining features of the Silver Lake and Ivanhoe Reservoir Complex and make recommendations for treatment, GPA performed the following tasks:

1. Reviewed existing information and conducted additional research into the history of the complex and the buildings and structures thereon. A variety of resources were consulted, including:

    - City of Los Angeles Office of Historic Resources HCM file
    - City of Los Angeles Department of Building and Safety building permit records
    - Los Angeles Department of Water and Power records
    - Previous environmental assessment reports
    - 2000 Silver Lake Master Plan
    - Historic maps
    - Historic photographs
    - Historic aerial photographs
    - Newspaper articles

    The building permit record for the Silver Lake and Ivanhoe Reservoir Complex is incomplete, and many of the alterations made to the site over time are largely undocumented in materials and resources available to the project team. As a result, it was at times difficult to determine exactly when a building or structure on the site was constructed or when an existing building or structure was altered. When possible, historic aerial photographs were used in order to determine an approximate date of construction or alteration. For select features, the project team exercised professional judgement in order to make a determination as to whether a feature was character defining.

2. Conducted an intensive field inspection of the site on May 24, 2019 to identify character-defining features. Digital photographs were taken during this field inspection.

3. Consulted relevant references and source materials regarding the Standards, including the *Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings, Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes,* and various National Park Service Technical Briefs, among others.

Teresa Grimes and Emily Rinaldi were responsible for the preparation of this report. They fulfill the qualifications for historic preservation professionals outlined in Title 36 of the Code of Federal Regulations, Part 61.

# 2 SUMMARY DESCRIPTION & HISTORY

The Silver Lake and Ivanhoe Reservoir Complex is located in the Silver Lake–Echo Park–Elysian Valley Community Plan Area of the City of Los Angeles. The irregularly-shaped site is approximately 127 acres in size and roughly bounded by Tesla Avenue on the north, Armstrong Avenue and Silver Lake Boulevard on the east, W. Silver Lake Drive, Van Pelt Place, and Silver Lake Boulevard on the south, and W. Silver Lake Drive on the west.

The site is composed of the Silver Lake and Ivanhoe Reservoirs and Dams, several ancillary buildings and structures related to the LADWP's maintenance and operation, as well as landscape features such as stone and concrete retaining walls, trees, shrubs, and other vegetation. It is primarily accessed via the main access road that extends from the corner of

Armstrong and Tesla Avenues to just north of the Silver Lake Meadow. A second vehicular entrance is located on Armstrong Avenue almost at the mid-point of the main access road. A third vehicle entrance is located on Silver Lake Boulevard, just to the north of the Silver Lake Meadow. The Armstrong access road is bordered in part by a low stone retaining wall. There are also two entrances for pedestrian access, one running north-south along the west side of the Ivanhoe Reservoir and one running east-west atop the Silver Lake Dam to the south. The western boundary of the site is generally bordered by a low concrete retaining wall topped by a metal chain link fence, while the eastern portion of the site is bordered by a metal chain link fence.

The Ivanhoe Reservoir is located to the north of the Silver Lake Reservoir. It is smaller in size, covering approximately 7.84 acres, trapezoidal in shape with rounded corners, and features sloped concrete embankments. It is separated from the Silver Lake Reservoir by the Ivanhoe Dam and a reinforced concrete spillway. The Silver Lake Reservoir covers approximately 78.2 acres, is irregularly shaped, and features sloped embankments covered in an asphaltic cement paving. To the south is the Silver Lake Dam, which is a reinforced earthen dam constructed on compacted earthfill. Paved paths and landscaped areas border the Ivanhoe and Silver Lake Reservoirs on all sides.

Ancillary buildings located to the northeast of the Silver Lake and Ivanhoe Reservoirs include the Caretaker's House (now known as the Sunshine House) and garage, Ivanhoe Chlorine Station, Silver Lake Reservoir Chlorination Station, Water Quality Office, Landscape Office, and several temporary maintenance sheds. A new modular office building is also planned for this area of the site. It will be constructed just north of the Landscape Office. To the south of the reservoir is the South Chlorine Plant, Meter House, and Silver Lake Outlet Chlorination Station.

The Ivanhoe Reservoir was completed in 1906 and the Silver Lake Reservoir was completed the following year as part of Los Angeles' emergency municipal water system. Both were designed by William Mullholland, who served as the superintendent of what was then known as the Los Angeles Water Department, and constructed using a modified method of hydraulic sluicing. The reservoirs were formed by two reinforced earthen dams, the Silver Lake and Ivanhoe Dams, and originally featured unpaved earthen embankments. The Silver Lake Reservoir was likely initially used as a source of water for irrigation, while the Ivanhoe Reservoir was possibly originally designed to provide domestic drinking water. As a result of rapid population growth and development in the Los Angeles area in the 1910s, the Silver Lake and Ivanhoe Reservoir Complex was later modified in 1920 to supply domestic water to the City's drinking water system, which it continued to supply until work was completed to decommission the reservoirs in 2017.

Since its completion in 1906–1907, the Silver Lake and Ivanhoe Reservoir Complex has been altered over time. Notable alterations include those undertaken in 1920, 1951–1953, 1975–1976, and 2011–2017. In 1920 when the reservoirs were modified for domestic use, the embankments of the Silver Lake Reservoir were altered with a steeper slope, increasing the depth of the reservoir. Portions of the embankments were also likely covered in a paving material at this time to prevent erosion. In 1951–1953, both reservoirs underwent extensive improvements. The Silver Lake Reservoir was re-shaped and deepened and its embankments paved in asphalt. A new embankment was constructed along the reservoir's east shore and a lagoon known as the East Cove was infilled with earth. The Ivanhoe Reservoir was also deepened at this time and its basin and embankments were paved with asphalt. The reservoir facing side of the Silver Lake Dam was also stripped to bedrock and rebuilt with new earthen fill. In 1975–1976, the Silver Lake Dam was reconstructed to comply with revised California regulations for dam earthquake safety. As a result, the southern end of the Silver Lake Reservoir was reshaped to its current configuration. Finally, in 2011–2017, the Silver Lake and Ivanhoe Reservoir Complex was decommissioned, and a bypass line installed along the

bottom of the Silver Lake Reservoir basin. Please see Appendix A for a summary of the construction history of the Silver Lake and Ivanhoe Reservoir Complex.

# 3 SUMMARY OF HISTORICAL RESOURCE STATUS

The Silver Lake and Ivanhoe Reservoir Complex is a designated Los Angeles Historic-Cultural Monument (HCM No. 422). Therefore, it is a historical resource as defined by the California Environmental Quality Act. To determine the significance and boundaries of this HCM, GPA consulted the Silver Lake and Ivanhoe Reservoir HCM file maintained by OHR. The HCM nomination dated January 9, 1989 does not detail how the significance of this HCM relates to the criteria for designation as specified in the Los Angeles Cultural Heritage Ordinance. It also does not detail the HCM boundaries beyond describing the resource's location as "between West Silver Lake Drive and Silver Lake Boulevard."[2]

The Silver Lake and Ivanhoe Reservoir Complex was evaluated by Greenwood & Associates in 2004 as part of the *Silver Lake Reservoir Complex Storage Replacement Project Environmental Impact Report* (see Appendix B for the full Greenwood Report).[3] It was evaluated as eligible for listing as a historic district in the California Register of Historical Resources (California Register). The district boundaries are described as "all facilities associated with the historic functioning of the site and the surrounding landscaped property owned by the City/Los Angeles Department of Water and Power (LADWP) and confined by the city street grid established after the completion of the reservoirs by the 1920s."[4] It was evaluated as eligible under Criterion 1 for its significant association with the development of the Silver Lake neighborhood. It was also evaluated as eligible under Criterion 2 for its association with William Mulholland, who headed the Department of Water and Power at the time of the reservoirs construction and was responsible for their design. Finally, it was evaluated as eligible under Criterion 3 as an early and important example of a hydraulically sluiced reservoir. The period of significance was identified as 1906 to 1953, representing the date of the reservoir complex's original construction through the improvement program of the early 1950s.

The Status Codes for the Silver Lake and Ivanhoe Reservoir Complex are 5S1, an individual property that is listed or designated locally, and 3S, appears eligible for listing in the California Register through survey evaluation.[5]

Because the Silver Lake and Ivanhoe Reservoir Complex is already a designated HCM and has been previously evaluated for listing in the California Register as a historic district, GPA did not re-evaluate it for listing under nation, state, or local landmark or historic district programs. GPA also did not re-evaluate the site as a cultural landscape. A cultural landscape is defined by the National Park Service as "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic

[2] "Historic-Cultural Monument Nomination: Silver Lake and Ivanhoe Reservoirs," January 9, 1989.
[3] CH2MHILL, *Silver Lake Reservoir Complex Storage Replacement Project Environmental Impact Report* (City of Los Angeles Department of Water and Power, July 2005).
[4] Greenwood & Associates, *Cultural Resources Assessment Report: Silver Lake Reservoir Complex Storage Replacement Project* (Santa Ana: CH2MHILL, August 2004), 36-37.
[5] The evaluation instructions and classification system prescribed by the SHPO in its *Instructions for Recording Historical Resources* provide a Status Code for use in classifying potential historical resources. In 2003, the Status Codes were revised to address the California Register. These Status Codes are used statewide in the preparation of historic resource surveys and evaluation reports.

event, activity, or person or exhibiting other cultural or aesthetic values."[6] There are four types of cultural landscapes: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes. As a landscape engineered by William Mulholland and the LADWP, the Silver Lake and Ivanhoe Reservoir Complex would be considered a historic designed landscape. Typically, designed historic landscapes are evaluated for listing in the National Register as a historic district.[7]

Landscape characteristics of the Silver Lake and Ivanhoe Reservoir Complex are identified in Appendix C of this report. Landscape characteristics are physical expressions of both tangible and intangible aspects of a place that have either influenced the history of a cultural landscape's development or are products of its development.[8] There are thirteen landscape characteristics, six intangible and seven tangible. The six intangible landscape characteristics are: natural systems & features, spatial organization, circulation, land use, cluster arrangements, and cultural traditions. The seven tangible characteristics are: topography, buildings and structures, vegetation, constructed water features, archaeological resources, views and vistas, and small-scale features. Not all of the above characteristics are present at the site; therefore, only those that are existing were identified in Appendix C.

# 4 CHARACTER-DEFINING FEATURES

Character-defining features are the architectural components that contribute to a building's sense of time and place. *Preservation Brief #17: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character* notes:

*A complete understanding of any property may require documentary research about its style, construction, function, its furnishings or contents; knowledge about the original builder, owners, and later occupants; and knowledge about the evolutionary history of the building. Even though buildings may be of historic, rather than architectural significance, it is their tangible elements that embody its significance for association with specific events or persons and it is those tangible elements both on the exterior and interior that should be preserved.*[9]

The character-defining features of historical resources can be generally grouped into three categories: the overall visual character, the exterior materials and craftsmanship, and the interior spaces, features, and finishes. The relative importance of character-defining features depends on the level of craftsmanship, visibility, and integrity. In addition, some character-defining features are more important than others in conveying the significance of the building. Primary character-defining features are considered the most important elements contributing to the significance of the building, while secondary features are considered less important.

As previously stated, the Silver Lake and Ivanhoe Reservoir Complex was previously evaluated as a historic district in the 2004 Greenwood Report. Greenwood identified the complex as historically significant for its association with the development of the Silver Lake neighborhood and William Mulholland. The complex was also identified as significant as an early and important example of a hydraulically sluiced reservoir. As such, those distinctive

[6] "Defining Landscape Terminology," U.S. Department of the Interior, National Park Service, accessed July 3, 2019, https://www.nps.gov/tps/standards/four-treatments/landscape-guidelines/terminology.htm.
[7] J. Timothy Keller and Genevieve P. Keller, *National Register Bulletin 18: How to Evaluate and Nominate Designed Historic Landscapes*, U.S. Department of the Interior, accessed July 5, 2019, https://www.nps.gov/nr/publications/bulletins/nrb18/INDEX.htm.
[8] "Cultural Landscapes 101," U.S. Department of the Interior, National Park Service, accessed June 5, 2019, https://www.nps.gov/articles/cultural-landscapes-101.htm.
[9] Lee H. Nelson, "Preservation Brief #17: Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character," U.S. Department of the Interior, National Park Service, Cultural Resources, 1.

structures, buildings, features, and materials that are key to the feeling and function of the reservoir complex are character defining.

The period of significance for the Silver Lake and Ivanhoe Historic District was identified as 1906 to 1953. A historical resource's period of significance is defined as the "length of time when a property was associated with important events, activities, or persons, or attained characteristics which qualify it for the National Register listing."[10] Greenwood appears to have identified the end date of the period of significance to correspond to the National Register of Historic Places 50-year rule that stipulates properties must generally be 50 years or older in order to be eligible for listing.

The contributing and non-contributing features of the Silver Lake and Ivanhoe Reservoir Complex are noted in Table 1 below and are based on the Greenwood Report (see Appendix B, page 38). However, the contributing and non-contributing features have been revised to reflect changes made to the site since the completion of the report. Specifically, Greenwood did not denote individual landscape features as either contributing or non-contributing. Therefore, landscape features have been further defined in order to clarify which landscape features date from the period of significance and are therefore contributing features versus landscape features added after the end of the period of significance and are therefore non-contributing features. Landscape features are indicated with an asterisk below.

Additionally, Greenwood identified the Silver Lake Dam as a contributing feature to the historic district; however, the Silver Lake Dam was reconstructed in 1975-1976. Because the Dam was substantially altered after the end of the period of the significance, it was been reclassified as a non-contributing feature for the purposes of this report.

**Table 1: Silver Lake and Ivanhoe Reservoir Complex Contributing & Non-Contributing Features**

| No. | Feature | Contributing | Non-Contributing | Status Code |
|---|---|---|---|---|
| 1. | Tesla Pocket Park* | | X | 6Z |
| 2. | Nursery School | | X | 6Z |
| 3. | North Path, Landscaping, & Fencing* | | X | 6Z |
| 4. | North Ivanhoe Dam[11] | X | | 3CD |
| 5. | Ivanhoe Reservoir | X | | 3CD |
| 6. | Ivanhoe Reservoir Perimeter Path* | X | | 3CD |
| 7. | Ivanhoe Path, Landscaping, & Fencing | | X | 6Z |
| 8. | South Ivanhoe Dam | X | | 3CD |
| 9. | The Knoll* | X | | 3CD |
| 10. | Silver Lake Boulevard Secondary Entrance | | X | 6Z |
| 11. | Concrete Perimeter Wall* | X | | 3CD |
| 12. | East Pedestrian Path, Landscaping, & Fencing* | | X | 6Z |
| 13. | Silver Lake Meadow* | | X | 6Z |
| 14. | Silver Lake Reservoir Perimeter Path* | X | | 3CD |
| 15. | West Landscaped Area* | X | | 3CD |
| 16. | Silver Lake Drive Secondary Entrance* | | X | 6Z |
| 17. | Silver Lake Reservoir | X | | 3CD |

[10] *National Register Bulletin #16*, 42.
[11] Ivanhoe Dam was identified by Greenwood as a contributing feature. For the purposes of this report, it was further defined as the North Ivanhoe Dam and South Ivanhoe Dam to reflect the built conditions.

| Table 1: Silver Lake and Ivanhoe Reservoir Complex Contributing & Non-Contributing Features | | | | |
|---|---|---|---|---|
| **No.** | **Feature** | **Contributing** | **Non-Contributing** | **Status Code** |
| 18. | West Pedestrian Path, Landscaping, & Fencing* | | X | 6Z |
| 19. | Grassy Patch* | X | | 3CD |
| 20. | Silver Lake Dam | | X | 6Z |
| 21. | Silver Lake Dam Pedestrian Path* | | X | 6Z |
| 22. | Silver Lake Dog Park* | | X | 6Z |
| 23. | Main Entrance* | X | | 3CD |
| 24. | Ivanhoe Inlet Tower | X | | 3CD |
| 25. | East Landscaped Area* | | X | 6Z |
| 26. | Main Access Road* | X | | 3CD |
| 27. | Stone Retaining Wall* | X | | 3CD |
| 28. | Water Quality Office (Laboratory Building) | | X | 6Z |
| 29. | Armstrong Avenue Secondary Entrance* | X | | 3CD |
| 30. | Ivanhoe Reservoir Chlorination Station | X | | 3CD |
| 31. | Caretaker's House (Sunshine House) | X | | 3CD |
| 32. | Caretaker's Garage | X | | 3CD |
| 33. | Bathroom Building (c. 1930) | X | | 3CD |
| 34. | Shed (Old Caretaker's House) | X | | 3CD |
| 35. | Bathroom Building (c. 2000) | | X | 6Z |
| 36. | Shed | | X | 6Z |
| 37. | Landscape Building | X | | 3CD |
| 38. | Temporary Sheds | | X | 6Z |
| 39. | Silver Lake Chlorination Building | | X | 6Z |
| 40. | Silver Lake Outlet Tower | | X | 6Z |
| 41. | Silver Lake Meter House | X | | 3CD |
| 42. | South Outlet Chlorination Station | X | | 3CD |
| 43. | Chlorine Plant | X | | 3CD |

The character-defining features of the Silver Lake and Ivanhoe Reservoir Complex are identified and illustrated in Appendix D of this report. The character-defining features are generally numbered north-to-south and east-to-west. Only the character-defining features of contributing buildings, structures, or landscape features are analyzed. The character-defining features of non-contributing buildings, structures, or landscape features are not analyzed as they do not contribute to the significance of the site. The location of primary and secondary character-defining and non-character-defining features are mapped for each contributing building, structure, or landscape feature, and a representative photograph is included. Every instance of every feature was not photographed or included in this report. Although practices within the field vary, for this report the three categories of character-defining features are defined as follows:

Primary

- It dates from the period of significance
- It directly relates to the original use, type, and style
- It retains integrity; with no or only minor alterations
- It displays craftsmanship
- It is highly visible

Secondary

- It dates from the period of significance
- It has been altered, but retains integrity overall
- It is less visible and/or purely functional to the maintenance and operation of the site

Not

- It post-dates the period of significance
- It has been substantially altered

# 5 PRESERVATION GUIDELINES

As a designated HCM, the Silver Lake and Ivanhoe Reservoir Complex is subject to the Los Angeles Cultural Heritage Ordinance. The Ordinance stipulates that the Cultural Heritage Commission (CHC) and Office of Historic Resources (OHR) are responsible for reviewing alterations to historical resources listed under national, state, and local landmark programs.[12] Alterations are reviewed by the CHC and OHR for compliance with the *Secretary of Interior's Standards for the Treatment of Historic Properties* (Standards). The Standards are a series of best practices issued by the National Park Service for maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations to historic properties including buildings, structures, and landscapes. The Standards are accompanied by Guidelines for four types of treatments for historical resources: Preservation, Rehabilitation, Restoration, and Reconstruction.

The goal of the Silver Lake Reservoir Complex Master Plan project is to guide future use and repurposing of the site as a community gathering space now that it is no longer used for the storage and treatment of drinking water. The most appropriate treatment is therefore rehabilitation. Rehabilitation emphasizes the protection of existing historic fabric while allowing for compatible change.

## Standards for Rehabilitation

The definition of rehabilitation assumes that at least some repair or alteration of the historic property will be needed in order to provide for an efficient contemporary use; however, these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the building's historic and architectural character. To this end, the character-defining features of the Silver Lake and Ivanhoe Reservoir Complex are identified in Appendix D.

The Standards for Rehabilitation are as follows:

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.
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.
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.

[12] Los Angeles Administrative Code, §22.171.14, of Article 1, Chapter 9, Division 22.

4. Changes to a property that have acquired significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

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.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

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 shall 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.

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.

It is important to note that the Standards are not intended to be prescriptive, but instead provide general guidance.[13] They are intended to be flexible and adaptable to specific project conditions to balance continuity and change, while retaining materials and features to the maximum extent feasible. Their interpretation requires exercising professional judgment and balancing the various opportunities and constraints of any given project. Not every Standard necessarily applies to every aspect of a project, nor is it necessary to comply with every Standard to achieve compliance.

## Guidelines for Rehabilitating Cultural Landscapes[14]

The *Guidelines for the Treatment of Cultural Landscapes* illustrates how to apply the Standards for Rehabilitation to cultural landscapes as a property type.

### *Identify, Retain, and Preserve Historic Materials and Features*

Guidance for the treatment Rehabilitation begins with recommendations to identify those landscape features and materials important to the landscape's historic character and which must be retained. Therefore, guidance on identifying, retaining, and preserving character-defining features is always given first. An overall evaluation of existing conditions should always begin at this level. The character of a cultural landscape is defined by its spatial organization and land patterns; features such as topography, vegetation, and circulation; and materials, such as an embedded aggregate pavement.

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[13] For more information on how federal, state, and local reviewers interpret the Standards, please see Anne E. Grimmer and Kay D Weeks, "Preservation Brief #14: New Exterior Additions to Historic Buildings: Preservation Concerns," US Department of the Interior, National Park Service, Cultural Resources, August 2010.

[14] Excerpted from "Guidelines for Rehabilitating Cultural Landscapes," U.S. Department of the Interior, National Park Service, accessed July 5, 2019, https://www.nps.gov/tps/standards/four-treatments/landscape-guidelines/rehab/approach.htm.

### *Protect and Maintain Historic Features and Materials*

After identifying those materials and features that are important and must be retained in the process of Rehabilitation work, then protecting and maintaining them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work; it may be accomplished through permanent or temporary measures. For example, protection includes restricting access to fragile earthworks or cabling a tree to protect against breakage. Maintenance includes daily, seasonal, and cyclical tasks, and the techniques, methods and materials used to implement them. For example, repointing a stone footbridge, pruning a hedge, or rotating crops.

### *Repair Historic Features and Materials*

When existing conditions of character-defining materials and portions of features warrant more extensive work, repairing is recommended. Rehabilitation guidance for the repair of historic features and materials, such as brick pavements, masonry walls, and wire fencing, begins with the least degree of intervention possible. Such work could include re-grading a section of a silted swale, aerating soil, or reclaiming a segment of meadow edge. Repairing also includes the limited replacement in kind of extensively deteriorated materials or parts of features, or replacement in kind of materials or parts of features lost due to seasonal change. Using material, which matches the historic in design, color, and texture, is always the preferred option; however, substitute material is acceptable if the material conveys the same visual appearance as the historic period. For example, spring replacement of annual beds; in an orchard, planting a tree of new stock that matches the historic form, and composition; or, using a spun aluminum baluster where a cast zinc member was beyond repair.

### *Replace Deteriorated Historic Materials and Features*

Following repair in the hierarchy, Rehabilitation guidance is provided for replacing an entire character-defining feature with new material because the level of deterioration or damage precludes repair. Examples include replacing a farm's drought-damaged pasture or replacing a corroded cast iron fence surrounding a reservoir. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind. Because this approach may not always be technically, economically, or environmentally feasible, the use of compatible substitute materials can be considered. Whatever level of replacement takes place; the historic features and materials should serve as a guide to the work. While the Guidelines recommend the replacement of an entire feature that is extensively deteriorated or damaged, they never recommend removal and replacement with new material if repair is possible.

### *Design for the Replacement of Missing Historic Features*

When an entire feature is missing, the landscape's historic character is diminished. Although accepting the loss is one possibility, where an important feature is missing, its replacement is always recommended in the Rehabilitation guidelines as the first or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the landscape's historical appearance, then planning, designing and installing a new feature based on such information is appropriate.

A second course of action for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic landscape. The new design should always take into account the spatial organization and land patterns, features, and materials of the cultural landscape itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created. For example, replacing a set of lost granite steps with concrete steps, which match the historic in location, size, scale, color and texture or replacing a mass of Eastern hemlocks with Japanese spruce.

*Alterations/Additions for the New Use*

When alterations to a cultural landscape are needed to assure its continued use, it is most important that such alterations do not radically change, obscure, or destroy character-defining spatial organization and land patterns or features and materials. Alterations may include enclosing a septic system, increasing lighting foot candles, extending acceleration and deceleration lanes on parkways, or, adding new planting to screen a contemporary use or facility. Such work may also include the selective removal of features that detract from the overall historic character.

The installation of additions to a cultural landscape may seem to be essential for the new use, but it is emphasized in the Rehabilitation guidelines that such new additions should be avoided, if possible, and considered only after it is determined that those needs cannot be met by altering secondary, i.e., non-character-defining, spatial organization and land patterns or features. If, after a thorough evaluation of alternative solutions, a new addition is still judged to be the only viable alternative, it should be planned, designed, and installed to be clearly differentiated from the character-defining features, so that these features are not radically changed, obscured, damaged, or destroyed.

*Special Considerations (Accessibility, Health and Safety, Environmental, and Energy Efficiency)*

These sections of the Rehabilitation guidance address work done to meet accessibility requirements; health and safety code; environmental requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the landscape's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.

# 6 CHALLENGES & CONSTRAINTS

GPA has identified the following challenges and constraints for the Silver Lake Reservoir Complex Master Plan project:

- Alterations to the Silver Lake and Ivanhoe Reservoir Complex should be made in compliance the Standards to comply with the Los Angeles Cultural Heritage Ordinance and to avoid a significant impact under CEQA.
- Character-defining features that contribute to the site's historic character and relate to its historic use as a reservoir should be preserved.
- Wholesale removal of primary character-defining features would not comply with the Standards and may result in a significant impact under CEQA.
- Alterations to character-defining features to accommodate the new use may be permitted but should be minimized.
- Because the existing embankments are a primary character-defining feature of the Silver Lake and Ivanhoe Reservoirs, providing increased access to the water by substantially altering the existing embankments would not comply with the Standards and may result in a significant impact under CEQA. Limited removal of the embankments may be acceptable to accommodate the new use, but the design of these alterations should be closely coordinated with OHR and the Cultural Heritage Commission.

- Changes that create a false sense of historical development should not be undertaken.
- New construction should not destroy character-defining features and should be compatible with historic materials, features, size, scale, and proportion to protect the integrity of the site as a whole.
- New construction should be undertaken in such a manner that, if removed in the future, the essential form and integrity of the site would be unimpaired.

# 7 OPPORTUNITIES

GPA has identified the following opportunities for the Silver Lake Reservoir Complex Master Plan project:

- Create a unique public space through the enhancement of the Silver Lake and Ivanhoe Reservoir Complex's unique historic character.
- Cultivate the connection between the Silver Lake community and its history as well as enrich the neighborhood's visual and tangible historic identity.
- Foster scenic, economic, ecological, social, recreational, and educational opportunities through the preservation of the Silver Lake neighborhood's historic and cultural heritage.
- Strengthen the historic character of site and improve its historic integrity by restoring buildings or structures that no longer contribute to the site due to the cumulative impact of alterations over time.

# 8 NEXT STEPS

GPA recommends the following next steps to ensure proposed alterations to the Silver Lake and Ivanhoe Reservoir Complex are in compliance with the Standards as well as consistent with best practices in historic preservation:

- Seek concurrence from OHR on the character-defining features of the site.
- Present the draft Master Plan to the Los Angeles Cultural Heritage Commission.

# 9 POTENTIAL FUNDING SOURCES

Government funding sources for historic properties are primarily federal tax incentive and grant programs designed to assist private properties owners in the preservation or rehabilitation of historic buildings. The largest federal program is the Federal Historic Preservation Tax Incentives Program, which is administered by the National Park Service and provides a 20% federal tax credit to private property owners who undertake a substantial rehabilitation of a historic property in a business or income-producing use. Another federal program, the Historic Preservation Easement program, provides private property owners with tax benefits in exchange for donating an easement to a qualified charitable or governmental organization that ensures the protection of the property's historic character.

GPA has identified the following potential funding sources listed below that provide funding to local governments for further surveys, studies, and educational programs for historic properties. Please note that the programs listed do not provide funds for projects related to the construction, restoration, rehabilitation, or stabilization of historic properties. No federal, state, or private foundation grant programs for historic properties were identified that could potentially provide funding for implementing the Silver Lake Reservoir Complex Master Plan project.

1. Preservation Technology and Training Grants

   Administered by the National Center for Preservation Technology and Training and provides federal agencies, states, tribes, local governments, and non-profit organizations with funding for innovative research that develops new technologies or adapts existing technologies to preserve cultural resources.

   https://www.ncptt.nps.gov/grants/preservation-technology-and-training-grants/

2. Certified Local Government Program & Local Preservation Tools

   Administered by the California Office of Historic Preservation and provides local governments with funding for projects that involve new or innovative approaches and activities intended to promote the identification, evaluation, and preservation of historic resources and facilitate the integration of historic preservation planning into broader land-use planning activities and decision making. Please note that grant recipients may not use funding for projects related to the construction, restoration, rehabilitation, or stabilization of buildings and structures.

   http://ohp.parks.ca.gov/?page_id=24493

3. Preserve America Grants

   Administered by the Advisory Council on Historic Preservation and provides eligible recipients with a 50/50 matching grant to support a variety of activities related to heritage tourism and innovative approaches to the use of historic properties as educational and economic assets. Eligible recipients include State Historic Preservation Officers, Tribal Historic Preservation Officers, designated Preserve America Communities, and Certified Local Governments. Eligible projects include research and documentation, interpretation and education, planning, marketing, and training. Funds however have not been appreciated for the Preserve America Grant program since the 2017 fiscal year.

   https://www.achp.gov/preserve-america/federal-support

# APPENDIX

## Appendix A: Silver Lake and Ivanhoe Reservoir Complex Construction History

## Appendix B: *Silver Lake Reservoir Complex Storage Replacement Project: Cultural Resources Assessment Report* (Greenwood & Associates, 2004)

Appendix C: Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

Appendix D: Silver Lake and Ivanhoe Reservoir Historic District Character-Defining Features

SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

# APPENDIX A

| Silver Lake and Ivanhoe Reservoir Complex Construction History[1] | | |
|---|---|---|
| **Date** | **Feature** | **Chronology** |
| 1906 | Ivanhoe Reservoir | Constructed. |
| 1907 | Silver Lake Reservoir | Constructed. |
| c.1906–10 | Caretaker's House | Constructed. |
| c.1906–10 | Stone Retaining Wall | Constructed. |
| c. 1906–30 | Bathroom Building | Constructed. |
| c. 1906–30 | Landscape Building | Constructed. |
| c. 1906–30 | Shed | Constructed. |
| 1920 | Silver Lake Reservoir | Shore line excavated, altering slope of embankments; increased reservoir depth by 20 feet; portions of the embankments likely covered with paving at this time to prevent erosion. |
| 1920 | Silver Lake Dam | Possibly raised by approximately five feet. |
| 1927 | Silver Lake Meter House | Constructed |
| c. 1927 | Chemical/Chlorine Plant | Constructed. |
| c. 1930 | Ivanhoe Reservoir | Wood cover removed. |
| 1937 | Silver Lake Outlet Tower | Constructed. |
| c. 1937 | Ivanhoe Chlorination Station | Constructed. |
| 1942 | Ivanhoe Inlet Tower | Original inlet tower removed and replaced with a reinforced concrete tower and box inlet conduit through the Ivanhoe Dam. |
| 1944 | Ivanhoe Dam Spillway | Constructed. |
| 1947 | Silver Lake South Outlet Chlorination Station | Constructed. |
| 1951–53 | East Cove | New embankment constructed along east bank at location of East Cove and lagoon infilled with dirt. |
| 1951–53 | Ivanhoe Reservoir | Reservoir reshaped and depth increased by 10 feet; piers removed that originally supported wood cover; embankments and basin paved with asphaltic lining. |
| 1951–53 | Silver Lake Reservoir | Embankments heightened and paved; depth of reservoir increased; and reservoir reshaped by infilling of East Cove. |
| 1951–53 | Silver Lake Dam | Excavation of the reservoir-facing side down to bedrock and reconstruction using new earthen fill. |
| 1954 | Concrete Curb Wall | Constructed. |
| 1954 | Main Access Road | Paved. |
| 1955 | Laboratory Building (now known as Water Quality Office) | Constructed. |
| 1968 | Silver Lake Chlorinating Station | Constructed. |
| c. 1970s | Silver Lake Outlet Tower | Extensively altered. |
| 1975–76 | Silver Lake Dam | Reconstructed. |

[1] Construction history was compiled using Greenwood & Associates, *Cultural Resources Assessment Report: Silver Lake Reservoir Complex Storage Replacement Project* (Santa Ana: CH2MHILL, August 2004); and Los Angeles Department of Water and Power (LADWP), *History of the Silver Lake Reservoir Complex*, unpublished manuscript on file at LADWP, Los Angeles.

| Silver Lake and Ivanhoe Reservoir Complex Construction History[1] | | |
|---|---|---|
| **Date** | **Feature** | **Chronology** |
| 1975–76 | Silver Lake Reservoir | Reservoir reshaped by reconstruction of the Silver Lake Dam. |
| 1983 | Silver Lake Reservoir | Concrete curb constructed along reservoir on east side of periphery road. |
| 1993–94 | Ivanhoe Reservoir | Embankments repaved and new bypass line installed. |
| 1995 | Silver Lake Dog Park | Constructed. |
| 2011 | East Cove | Three-acre passive park known as Silver Lake Meadow constructed. |
| 2011–17 | Silver Lake Reservoir | Bypass line constructed. |
| 2018 | Silver Lake Dam | Pedestrian walkway constructed. |
| 2018 | Ivanhoe Reservoir | Pedestrian walkway constructed. |

SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

# APPENDIX B

# Silver Lake Reservoir Complex Storage Replacement Project Draft Environmental Impact Report Technical Appendixes

Prepared for

**City of Los Angeles**
**Department of Water and Power**

July 2005

CH2MHILL

3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707

# Contents

## Appendixes

# Appendix D
# Cultural Resources

# Silver Lake Reservoir Complex Storage Replacement Project

## Cultural Resources Assessment Report

Prepared for

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August 2004

# Contents

Section Page

## Table



## Figures

# Acronyms

LADWP SLRC SRP Draft EIR Acronym List

| Acronym | Definition |
|---|---|
| CEQA | California Environmental Quality Act |
| CHRIS | California Historical Resources Information System |
| City | City of Los Angeles |
| CPOR | Coalition to Preserve Open Reservoirs |
| CRHR | California Register of Historical Resources |
| CSSLR | Committee to Save Silver Lake's Reservoirs |
| DHS | California Department of Health Services |
| EIR | Environmental Impact Report |
| EPA | Environmental Protection Agency |
| HCM | Historic-Cultural Monument |
| HLR | Historic Landscape Report |
| HWSG | Headworks Spreading Grounds |
| IS | Initial Study |
| kV (*small k*) | kilovolt |
| LA River | Los Angeles River |
| LADOT | Los Angeles Department of Transportation |
| LADWP | Los Angeles Department of Water and Power |
| MG | Million Gallon |
| LAS | lower aquifer system |
| MW | Megawatt |
| MWD | Metropolitan Water District |
| NOP | Notice of Preparation |
| NRHP | National Register of Historic Places |
| PRC | Public Resources Code |
| RSC | River Supply Conduit |
| SLRA | Silver Lake Residents Association |
| SLRC | Silver Lake Reservoir Complex |
| SRP | Storage Replacement Project |

# 1.0 Introduction

Greenwood and Associates has conducted a cultural resources impact assessment for the proposed Silver Lake Reservoir Complex Storage Replacement Project, located in the City of Los Angeles (City), California. This document assesses the environmental consequences of the project on cultural resources, based on background research and field investigation. The information contained in this report is prepared for use in an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). The City of Los Angeles, Department of Water and Power (LADWP), as Lead Agency under CEQA, has determined that the project could have a significant impact on the environment and that an EIR will be prepared.

## 1.1 Project Location and Description

### 1.1.1 Introduction

The Proposed Project would remove Silver Lake and Ivanhoe Reservoirs from direct service to the LADWP water distribution system. Water storage currently provided by the two reservoirs, together referred to as the Silver Lake Reservoir Complex (SLRC), would be replaced by a 110-million-gallon (MG) underground covered storage reservoir at the former Headworks Spreading Grounds (HWSG) site. The new storage reservoir would be accompanied by a 4-megawatt (MW) hydroelectric power generating facility at the HWSG site to capture energy from the water pressure coming into the reservoir. The addition of a regulator station and a new bypass pipeline would convey water delivery flow to existing service areas, and operation of Silver Lake and Ivanhoe Reservoirs as drinking water storage facilities would change.

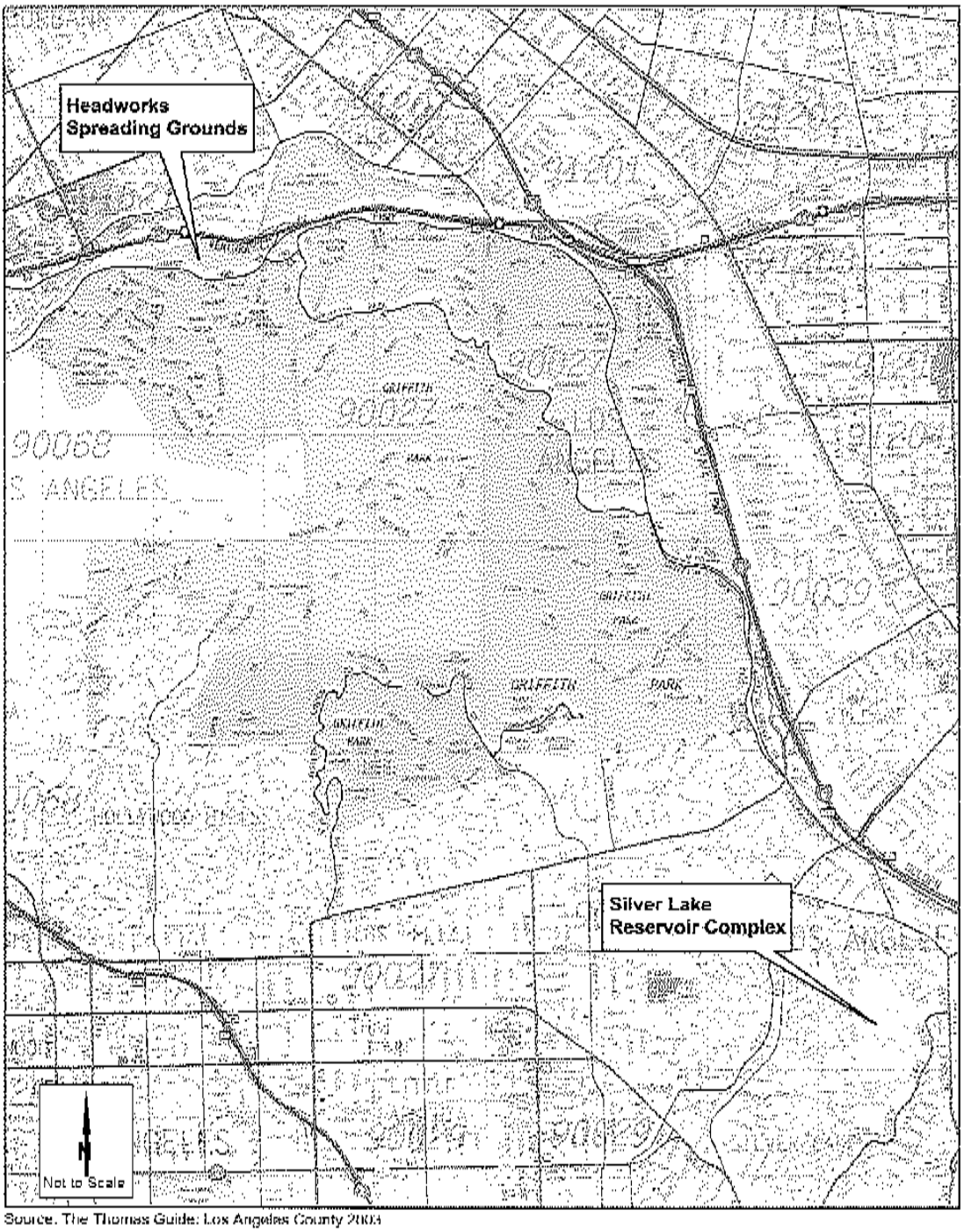
### 1.1.2 Project Location

The Proposed Project would be located at the HWSG site and at the SLRC, as shown in Figure 1-1. The HWSG site consists of 43 acres of undeveloped land, presently a series of dry shallow basins, adjacent to the Los Angeles River and between the City of Burbank and Griffith Park. It is bounded on the north by the Los Angeles River and the 134 Freeway, and on the east and south by Forest Lawn Drive. The property is owned by the City of Los Angeles Department of Recreation and Parks, and LADWP retains an easement over the entire property. It is located approximately 8.0 miles northwest of the SLRC.

The SLRC is located in the community of Silver Lake and consists of LADWP-owned Silver Lake and Ivanhoe Reservoirs and related facilities. Silver Lake is five miles northwest of downtown Los Angeles and just east of Griffith Park.

### 1.1.3 HWSG Site Facilities

Facilities to be constructed and operated at the HWSG Site include a 110-MG underground storage reservoir and a 4-MW hydroelectric power generating facility. Construction and operation information for these facilities is described in detail below.




Source: The Thomas Guide: Los Angeles County 2004

**Figure 1-1**
**SLRC SRP**
**Cultural Resources Assessment**
**Project Location Map**

#### 1.1.3.1 110-MG Underground Storage Reservoir

##### 1.1.3.1.1 Overview

To replace the operational storage from Silver Lake and Ivanhoe Reservoirs, LADWP would construct a 110-MG buried reservoir at the HWSG site. The reservoir would occupy approximately 19 acres on the east side of the HWSG site. The reservoir itself would be 10 acres in area and 40 feet high. Figure 1-2 shows the location of the reservoir within the HWSG site.

The reservoir would include inlets and outlets connecting to the River Supply Conduit, requiring a total of four vaults for inlet and outlet valves. The vaults will be located within the southern slope of the reservoir (Figure 1-2). Each valve vault will be approximately 22 feet by 19 feet and will be buried. Access to each vault will be from a 3-foot by 3-foot steel hatch. An access road along the southern slope of the reservoir with ingress and egress from Forest Lawn Drive would be constructed to provide access to the vaults.

##### 1.1.3.1.2 Construction

Construction activities for the underground storage reservoir would include grading and reservoir site preparation, inlet/outlet and vault construction, construction of the reservoir storage structure, and burying the storage structure. Approximately 470,000 cubic yards of soil material would be excavated for the construction of the reservoir. Of the 470,000 cubic yards, approximately 5 percent, or 23,000 cubic yards, would be disposed offsite due to its unsuitability as fill material.

Excavation for the inlet/outlet and vault construction would be done as part of the grading and reservoir site preparation, as described above. Inlet/outlet and vault construction would require approximately 810 cubic yards of concrete.

Materials required for reservoir tank construction include concrete and gravel. A total of approximately 98,686 cubic yards of concrete would be required. Approximately 11 trucks per day would deliver 99 cubic yards of concrete per day to the site. A total of approximately 18,336 cubic yards of gravel would be required.

Approximately 394,000 cubic yards of fill material would be required to bury the storage structure. Of this amount, 156,000 would be obtained onsite from tank excavation, and 238,000 cubic yards would be imported.

##### 1.1.3.1.3 Reservoir Operation and Maintenance

Following construction, native vegetation would be planted on the side slopes and top of the reservoir. The remainder of the HWSG site that would be disturbed during construction would be returned to its original condition.

During operation of the reservoir, Department staff would check the facility once a week, while security would check the facility daily. The reservoir inlet/outlet valves would be checked once a year. The tanks that make up the reservoir require cleaning once every four years. It is likely that the Department would stagger tank cleaning such that one tank is cleaned every two years. Tank cleaning takes approximately one week and requires a utility truck and possibly a dump truck if there is a significant amount of sand at the bottom of the reservoir.

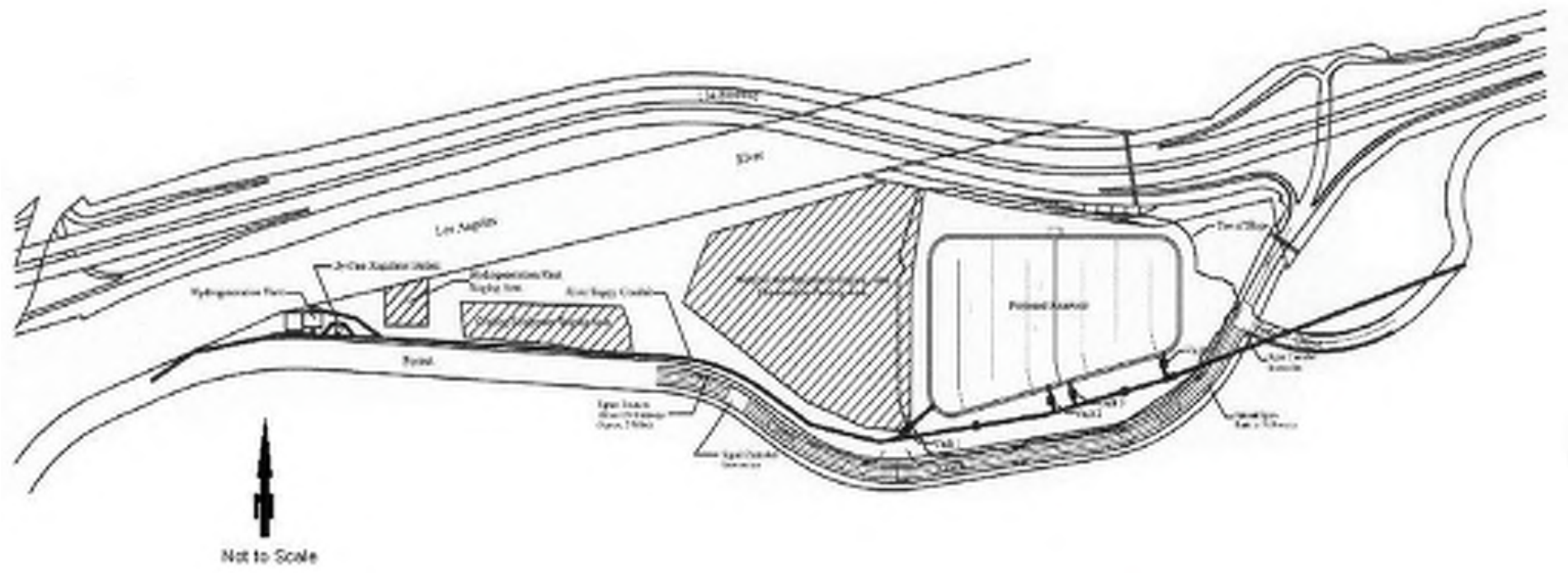



**Figure 1-2**
**SLRC SRP**
**Cultural Resources Assessment**
**HWSG Site**

### 1.1.3.2 4-MW Hydroelectric Power Generating Facility

#### 1.1.3.2.1 Overview

To capitalize on a green power opportunity and reduce the water pressure coming into the new storage reservoir, LADWP would construct a 4-MW hydroelectric power generating facility at or near the HWSG site. The hydroelectric facility would require a powerhouse, connection to the existing 35-kilovolt (kV) LADWP distribution system, outdoor substation, and backup emergency generator.

The powerhouse would house the turbine/generator, associated isolation valves, piping, electrical switchgear, controls, and instrumentation. The inlet pipeline connection would be approximately 56 inches in diameter and the outlet would be approximately 68 inches in diameter. The powerhouse would be operated from a remote control center. The powerhouse would be constructed of reinforced concrete and would be approximately 50 feet wide by 70 feet long. The powerhouse would be approximately 30 feet high and would be partially buried, with the highest point roughly 18 feet above ground.

The hydroelectric generated power would be connected to the existing 35 kV LADWP distribution system. The existing 35 kV overhead power line runs along the north side of Forest Lawn Drive. No new power poles would be needed to connect to the existing 35 kV line.

The outdoor substation would consist of a main transformer and related substation equipment and would require a switchyard of 60’ by 60’ chain link fence enclosure. The Department may decide to eliminate the outdoor substation, in which case the electrical equipment would be housed in the powerhouse. In that case, the powerhouse would be increased in size to 50 feet wide by 86 feet long.

For backup station service power, an emergency generator of approximately 125 kW capacity would be housed in a separate enclosure from the powerhouse and switchyard. The enclosure would be either an outdoor metal shed type or a brick building of 30 feet wide by 25 feet long by 10 feet tall.

#### 1.1.3.2.2 Construction

The hydroelectric plant would be constructed at the west end of the HWSG site, as shown in Figure 1-2. Approximately 2 acres would be disturbed during construction.

Approximately 6,000 cubic yards of soil material would be excavated for the construction of the hydroelectric plant. 2,600 cubic yards would be exported and 3,400 cubic yards would be retained onsite for burial of the hydroelectric plant.

#### 1.1.3.2.3 Operation and Maintenance

The hydroelectric facility would not require staff onsite; rather, the facility would be operated remotely, from the Department area control center. A Department operator would visit the facility once a week. Security would check the facility daily. The facility would have video surveillance cameras as well as other security features.

Quarterly preventative maintenance would be performed on the plant ancillary equipment (cooling water system, air compressor, electric motor actuators), requiring one service truck for one day. Once a year, the facility would be shut down for internal and external inspection. This maintenance activity would require 3 service trucks per day for 2 weeks. The facility would be shut down for overhaul once every 5 years. This maintenance activity would require 3 service trucks and one crane per day for 4 weeks.

## 1.1.4 SLRC Facilities

Facilities to be constructed and operated at or near the SLRC include a bypass pipeline and a regulator station, as shown in Figure 1-3. Construction and operation information for these facilities are described in detail below.

### 1.1.4.1 Bypass Pipeline

#### 1.1.4.1.1 Overview

A bypass pipeline is needed to convey water through the SLRC to the rest of the system. The bypass pipeline would consist of approximately 4,900 linear feet of 66-inch diameter pipe. The bypass pipeline would be constructed of welded steel encased in concrete.

The pipe would be tunneled beneath various streets beginning at the intersection of West Silver Lake Drive and Armstrong Avenue running south on West Silver Lake Drive for approximately 3,800 feet; turning southeasterly on Redesdale Avenue for approximately 900 feet; turning southwesterly toward the grassy area south of Silver Lake Reservoir dam approximately 100 feet. Redesdale Avenue does not intersect West Silver Lake Drive; it is a paper street and Redesdale Avenue is approximately 85 feet higher than West Silver Lake Drive.

Because the bypass line would need to be a minimum of 30 to 40 feet deep, the method of construction is tunneling. For tunneling operations, jacking (entrance) and receiving (exit) pits would be needed at the ends of the pipe for equipment and to export materials. Construction staging for equipment and materials would take place within the SLRC property, along the east side of the Silver Lake Reservoir (Figure 1-3).

#### 1.1.4.1.2 Construction

Jacking and receiving pits for bypass pipeline tunneling would be located in West Silver Lake Drive. Roughly 5 to 15 feet around each pit would be blocked off, and the traffic around each pit would be reduced to one lane in each direction. An additional jacking pit would be located in the grassy area south of Silver Lake Reservoir dam. The portion of the bypass pipeline within the grassy area south of Silver Lake Reservoir dam would be constructed by trench method. Approximately 6,625 cubic yards of soil would be removed during bypass pipeline construction. This soil would be exported to the HWSG site.

#### 1.1.4.1.3 Operation

The bypass pipeline would not require any maintenance, as its lifespan is approximately 100 years. In the unlikely event of pipeline leakage, the repair would be performed within the pipeline (e.g., excavation of the pipeline would not be required).

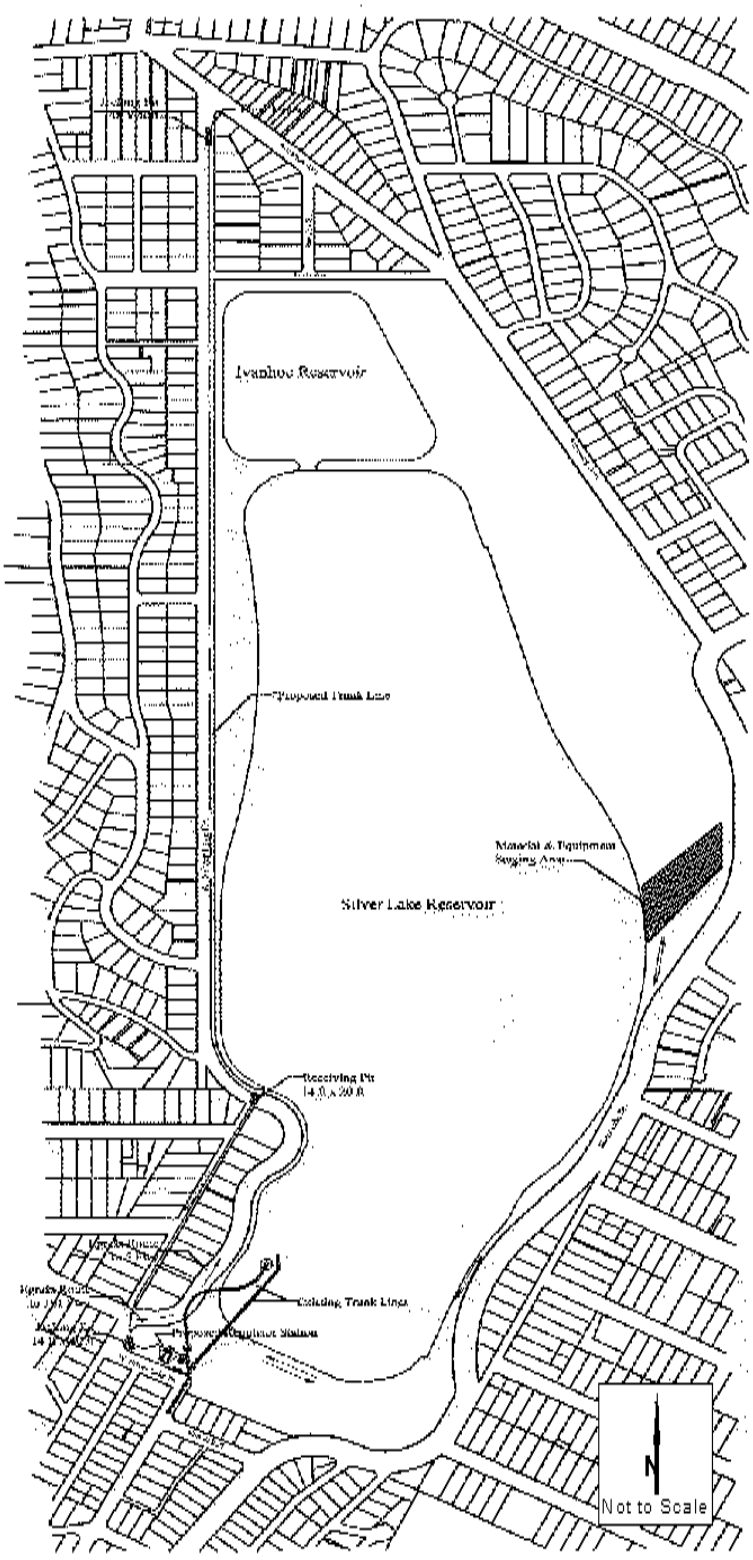



**Figure 1-3**
**SLRC SRP**
**Cultural Resources Assessment**
**SLRC Site**

Because Silver Lake and Ivanhoe Reservoirs at the SLRC would no longer be used for water supply, day-to-day operations would change. Specifically, the water currently flowing into Silver Lake and Ivanhoe Reservoirs would bypass SLRC as described above. The SLRC facility and property would be maintained consistent with the appearance and condition that LADWP has provided at this facility for several years. Based on the Department's recent positive experience at the Hollywood Reservoirs, the Department would cease chlorination within the Silver Lake and Ivanhoe Reservoirs.

#### 1.1.4.2 Regulating Station

##### 1.1.4.2.1 Overview

A regulating station to control water pressure would be located at the SLRC in the grassy area just south of the Silver Lake Reservoir dam, as shown in Figure 1-4. A bypass valve, relief station, and relief station dissipator, plus an isolation valve for the existing Silver Lake Reservoir outlet line would each be enclosed in buried vaults at the same location. The regulating station would be housed in a vault approximately 45 feet long by 25 feet wide by 14 feet deep that would be buried with grass on top. Access to the vault would be either from two 3-foot by 3-foot steel hatches or two 48-inch diameter lids on each end of the vault. The bypass valve would be housed in a vault approximately 14 feet long by 15 feet wide by 12 feet deep. The relief station would be housed in a 14-foot by 18-foot by 12-foot vault and the relief station dissipator would be housed in two 9-foot by 11.5-foot by 4-foot vaults. The isolation valve would be housed in a 14-foot by 15-foot by 12-foot vault. Access to each vault would be either through a 3-foot by 3-foot steel hatch or a 48-inch diameter lid. In addition, there would be 6 valves housed in a 48-inch diameter by 14-foot high can that is buried and with top access.

Above ground facilities anticipated include two ventilation hoods (4 feet in diameter and 3 feet high), 6 ventilation stand-pipes (1 foot in diameter and 3 feet high) and a control cabinet (4 feet square and 6 feet high). The control cabinet may be located near the existing chlorination building.

The regulating station and associated facilities would be constructed within a 30,000 square foot area within the grassy area just south of Silver Lake Reservoir dam.

##### 1.1.4.2.2 Construction

Approximately 330 cubic yards of concrete would be required for construction of the regulating station. Approximately 5 to 15 trucks per day would deliver up to 130 cubic yards of concrete per day to the site for approximately 5 days. Concrete would be obtained from the Southern California area, specifically Los Angeles and Orange counties. Construction staging for equipment and materials would take place within the SLRC property, along the east side of the Silver Lake Reservoir.

#### 1.1.4.2.3 Operation and Maintenance

During operation, the regulating station would run 24 hours per day. The noise level of the regulating station would be 90 DB inside the vault and approximately 60 DB 100 feet away.

Maintenance of the regulating station would be performed quarterly. Typical activities would include verifying valve settings, checking for debris in the lines and cleaning the vault. This work takes approximately 2 hours and uses a utility truck.

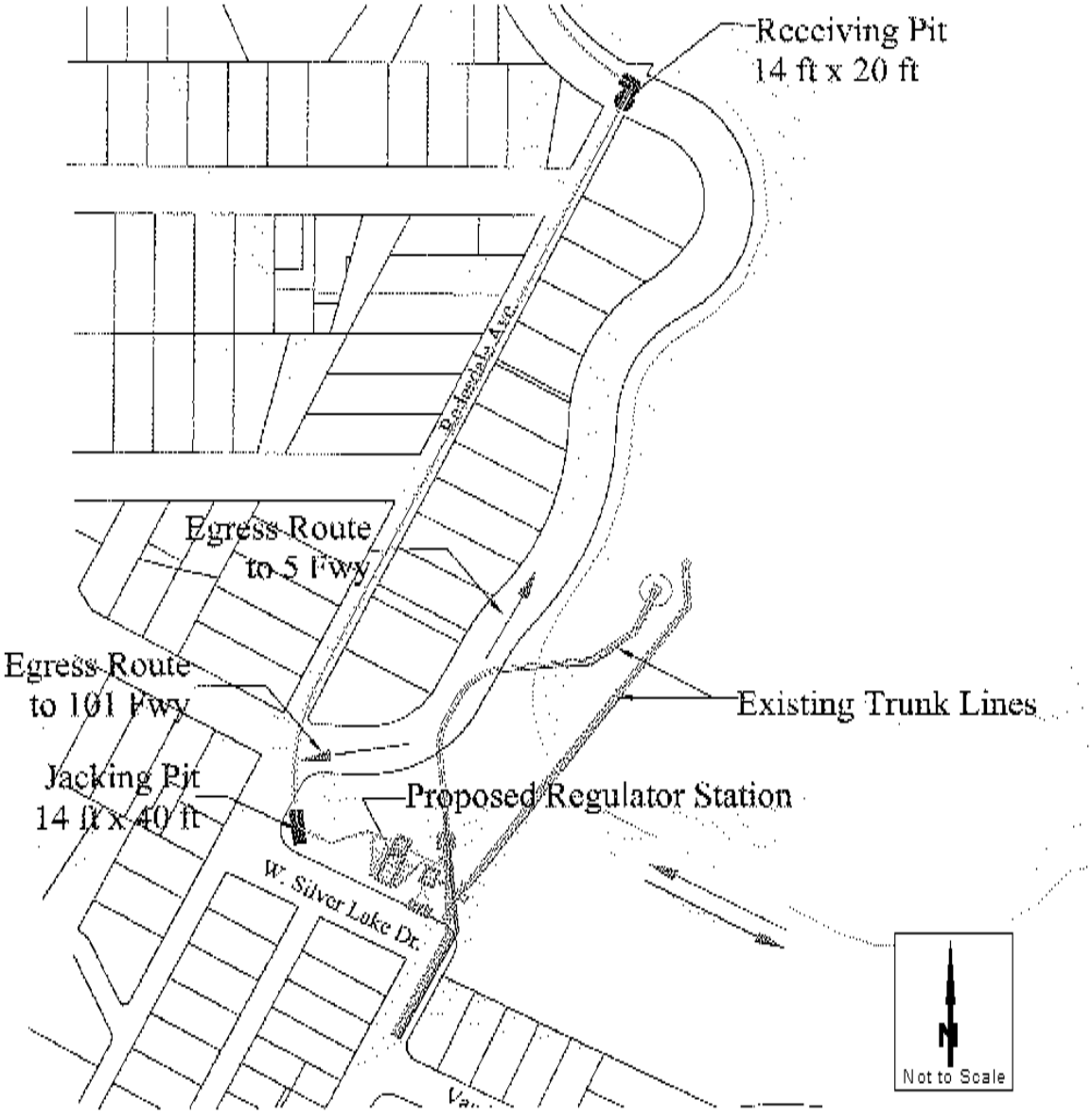



**Figure 1-4**
**SLRC SRP**
**Cultural Resources Assessment**
**Proposed Regulating Facility**

# 2.0 Environmental Setting

## 2.1 Methodology

### 2.1.1 Area of Study

For this cultural resources investigation, the study area is recognized to include the corridors proposed for construction of pipelines, and parcels identified for construction of facilities (regulating station, hydroelectric power generating facility, underground storage reservoir, etc.), and for staging of construction equipment and materials. As the adjacent Silver Lake and Ivanhoe Reservoirs, collectively, have previously been designated as historic resources (City Historic Cultural Monument [HCM] No. 422), the boundaries of the study area for historical resources includes all property historically associated with the reservoir complex and owned by the City/LADWP. The area is roughly bounded by Silver Lake Boulevard and Armstrong Avenue on the east, Tesla Avenue on the north, West Silver Lake Drive on the west, and West Silver Lake Drive, Silver Lake Boulevard, and Van Pelt Place on the south.

### 2.1.2 Research Sources Consulted

Greenwood and Associates conducted a California Historical Resources Information System (CHRIS) review of available literature, archaeological site archives, and relevant historical maps and other records for the SLRC site at the South Central Coastal Information Center (SCCIC) on March 16, 2004 by Alice Hale, M.A (File No. 4163). A comparable review for the HWSG site was conducted by the SCCIC on March 29, 2004 (File No. 4200). For both project locations, cultural resources and previous studies located within a one-half mile radius were identified. Results of literature and records search are summarized below.

Specialized listings for cultural resources consulted for this report include the National Register of Historic Places – Listed Properties and Determined Eligible Properties (1988, computer listings 1966 through Jan. 2004 by National Park Service); the California Register of Historical Resources (2003); the California Inventory of Historic Resources (1976); California Historical Landmarks (1996); the California Points of Historical Interest (1992); the *Handbook of North American Indians*, Vol. 8, California (1978); the Directory of Properties in the Historic Property Data File for the City of Los Angeles (2004); and City of Los Angeles Historic-Cultural Monuments (listings through 2004).

Additionally, specialized research was conducted at the City of Los Angeles Department of Water and Power Resource Center, Archives, Survey Section, and Library; City of Los Angeles Department of Building and Safety; Los Angeles Central Public Library; University of California Los Angeles, Young Research Library; and the City of Los Angeles Cultural Heritage Commission. Reference materials secured from internet sources and other project documents were also consulted.

### 2.1.3 Agencies, Groups, and Individuals Consulted

Greenwood and Associates consulted representatives of various City agencies, including: Paul Liu, LADWP Water Master Planning; Linh Phan, LADWP Water Master Planning; Douglas Sunshine, LADWP Facilities Management; Vee Miller, LADWP Facilities Management; Jay Oren, City of Los Angeles, Cultural Heritage Commission; Isabel Rosas, City of Los Angeles, Cultural Heritage Commission.

## 2.2 Regional Setting

The following summary is based on the literature search conducted for the vicinities of both the SLRC and HWSG areas. It is designed both to indicate the potential for the presence of cultural resources within the project area, and to provide a context for any cultural data that may be present within the study area.

### 2.2.1 Environment

The project area lies within central Los Angeles County. Regional vegetation includes Agricultural; Riparian (along natural drainages); Sage-Scrub (within canyon areas); Oak-Woodland (scattered patches mostly on north-facing slopes at lower elevations); and Grassland (grazed lands). The prehistoric Gabrieliño Indians used plants from many biotic communities. Acorns were a staple food and many of the archaeological sites contain portable stone mortars used to grind acorns. Sage, buckwheat, grass seeds, yucca, and elderberry were also extensively eaten. Willow was used in house construction and reeds used for basketry material. Plants used for medicines and dyes include mugwort, poison oak, tobacco, nightshade, and coastal sage.

In prehistoric times, animals were abundant in the area and included mule deer; coyote; bobcat; raccoon; fox; birds (dove, woodpecker, robin, sparrow, hummingbird, jays, golden eagle and condor), and snakes, lizards and frogs. In the hilly areas, grizzly bears, sheep, wolves, and mountain lions were once present. Animals used most often for food included deer, rabbits, and certain rodents; birds and reptiles were eaten less commonly (Bean and Blackburn 1976).

The project vicinity has a Mediterranean climate, lying between the dry climate of the Mojave Desert to the northeast and the humid mesothermal climate of the Pacific Coast to the south. The weather is dominated by warm, dry summers and mild, moderately wet winters. Temperatures range from approximately 100 degrees in July and August, to the low thirties in January. Snowfall is rare, and rainfall occurs normally between November and April. The Los Angeles River and several minor drainages that flow from the Santa Monica Mountains influenced prehistoric and historic settlement patterns.

### 2.2.2 Prehistory/Ethnography

The archaeological record indicates that sedentary populations occupied the coastal and inland regions of California more than 9,000 years ago. Early periods were characterized by the processing of hard seeds with the *mano* and milling stone and the use of the *atlatl* (dart thrower) to bring down large game, e.g., deer.

The Early Period dates from approximately 8000 to 3350 Before Present (B.P.) – a time roughly corresponding to Rogers' (1929) Oak Grove Culture and Wallace's (1955) Millingstone Horizon. The Early Period is characterized by the use of large flake and core tools, millingstones, and handstones, combined with a lack of bone and shell tools, ornamentation, and refuse. The millingstones indicate grinding of hard seeds, probably gathered from sage plants. Mortars and pestles (used for acorn grinding) were not widely used until late in the Early Period (Glassow et al. 1985). Early Period settlements appear to represent the remains of residential base camps and were usually located on hilltops or knolls (Glassow and Wilcoxon 1988). Cemeteries are associated with permanent settlements.

The Middle Period dates from about 3350 to 800 B.P. and correlates with Rogers' and Harrison's (1964) Hunting People, and Wallace's Intermediate Horizon. This period is characterized by a shift in the economic/subsistence focus from plant gathering and the use of hard seeds, to a more generalized hunting-maritime-gathering adaptation. The shift to the predominance of mortars and pestles for milling implements indicates increased exploitation and dependence on acorns (Glassow and Wilcoxon 1988). Inherited leadership and status differentiation with religious specialists, as shown by mortuary data, were all social elements of the Middle Period. Villages were more permanently occupied, and some satellite sites became differentiated in size and purpose. Middle Period sites are distinguishable into subphases by different types of beads, projectile points, and other diagnostic artifacts. Middle Period sites tend to be small and often contain artifacts that are lighter in weight and more portable than those from earlier sites.

The Middle Period is followed chronologically by the Late Prehistoric Horizon (Wallace 1955, 1978) or Shoshonean Tradition (Warren 1968), beginning around 500 A.D. (Bean and Smith 1978). The Late Period is marked by a dramatic increase in population. Permanent inland settlements of up to 150 people subsisted on the abundant acorns, seed plants, rabbits, and deer. Villages (also known as rancherias) were located near the confluence of watercourses and/or habitats. New tools and ornaments began to occur. Among the recognized archaeological changes were the appearance of arrowheads, soapstone bowls, callus shell beads, steatite effigies, and cremations. These changes have been linked to the arrival of Shoshonean peoples to this area. Some researchers suggest that desiccation around the Salton Sink pushed inland populations toward the coast, creating a ripple effect of changes.

The project area lies within the territorial boundaries of the Gabrieliño Indians. The Gabrieliños were Shoshonean and Takic language speakers, who resided in the general Los Angeles Basin and adjacent San Fernando Valley. Their name is derived from their association with the Mission San Gabriel Archangel. However, these Shoshonean people called themselves *Tong-va* according to Johnston (1962) and today some Gabrieliño have chosen this name (McCawley 1996). The fully developed Gabrieliño culture was a socially and economically complex hunting and gathering society, very advanced in their culture, social organization, religious beliefs, and art and material object production.

Gabrieliño culture underwent dramatic changes following European contact. Introduced diseases weakened and killed large numbers of native peoples, and most Gabrieliño villages were abandoned by 1810. Gabrieliño survivors helped build the Spanish Missions and the Mexican and American ranches that followed (Bean and Smith 1978:538). Today, several

thousand individuals in Southern California trace their ancestry to the precontact Chumash. They place a high value on objects and places associated with their past.

## 2.2.3 Regional History

### Spanish and Mexican Periods

Although Spain claimed Alta California (the present day state of California) in the sixteenth century, settlement did not begin until 200 years later. To consolidate the Spanish claim to Alta California, an expedition led by Gaspar de Portolá was dispatched from Mexico City in the summer of 1769. Marching northward from San Diego, Portolá passed through the San Gabriel and San Fernando valleys in 1770. Mission San Gabriel was established in 1771 and by the early nineteenth century, most Gabrieliño were incorporated into the mission. The environs of present day Los Angeles and the current project area were included in the mission's domain. Mission San Fernando was added to the system in 1797 (Baer 1958:95).

The Pueblo de la Reina de Los Angeles was founded in 1781 on the west bank of the Los Angeles River (Rio Porciúncula). Settled by a small group of "*pobladores*" of African, Native American, and Spanish descent, the outpost manifested Spanish colonial ambitions for Alta California, which envisioned a series of civilian pueblos that would function in support of the Missions and *presidios* and expand the region's population (Robinson 1981:9).

Los Angeles remained an isolated settlement for many years, gradually gaining in population and importance as a center of commerce and social exchange. By1800, the pueblo boasted a population of 315. With the demise of the Mission system and abandonment of Mission San Gabriel in the 1830s, the town became the center of trading and economic activity in the region (Robinson 1981:111).

As part of Spain's effort to colonize Alta California, a system of land grants was initiated to induce settlement and long term occupation of the region. The large rancho tracts were bestowed upon a select few, primarily ex-soldiers and others who had provided services to the government. The political change from Spanish to Mexican colony in 1821 and the subsequent secularization of the missions in the 1830s had little effect on land use in pueblo controlled areas and in the San Fernando Valley; it continued as grazing land for cattle and settlement remained light.

### American Period

With the United States takeover of California in 1848, the ensuing Gold Rush, and ultimate American statehood in 1850, the pace of settlement in the region expanded rapidly, as did commerce. The discovery of gold in northern California created a boom in the local cattle industry which fed the hordes of miners. Cattle ranching in the region declined during the 1860s after years of drought followed by disastrous floods, but continued to be a major economic activity. The American population of the Los Angeles region continued to rise through the 1860s, as many of the old rancho families lost title to their land, leaving a vacuum that was promptly filled by settlers from the east and mid-west. Most of the vast ranchos were divided and sold off in parcels as agriculture gained in importance. Within Los Angeles, development expanded from the early city center; the street grid was extended as new tracts were surveyed and subdivided. By 1870, the San Fernando Valley had emerged as the regions breadbasket, supplying wheat to Los Angeles and other markets.

The extension of the Southern Pacific Railroad into Southern California in 1876, followed by the Atchison, Topeka and Santa Fe in 1887, set the stage for a massive real estate boom that resulted in the founding of hundreds of new towns and tremendous growth of the City of Los Angeles. The City's population rose from 5,700 in 1870 to 50,000 by 1890 as residential development pushed ever outward. Industrial and commercial expansion, in addition to agricultural growth and advances as a shipping hub, established Los Angeles as a leading West Coast metropolis by the turn of the twentieth century (Fogelson 1968).

## 2.3 Project Setting

### 2.3.1 HWSG Site History

The Headworks site lies within the historic boundaries of Rancho Providencia. The property was originally part of a larger rancho, Rancho Portesuela, granted by the Spanish colonial government to Mariano de la Luz Verdugo, a Spanish native, in 1795. Rancho Portesuela encompassed the broad plains of the San Fernando Valley at the base of the Cahuenga Pass, extending eastward to the Verdugo Mountains. The desire for additional grazing lands prompted the fathers of the newly founded Mission San Fernando to displace Verdugo around 1810 (Foster et al. 2000).

Following secularization, the Mexican government conferred a 4,600-acre portion of the rancho, renamed Rancho Providencia, to Vicente de Osa in 1846. De Osa also owned Rancho Encino. The property included land on both sides of the Porciuncula (Los Angeles) River and extended to the crest of the Santa Monica Mountains (Cowan 1977:62). In 1851, de Osa sold the property to Alexander Bell and David Alexander, who became the first American landowners in San Fernando Valley. Bell and Alexander grazed cattle on the rancho, continuing the established pattern of land use (Roderick 2001:31).

Dr. David Burbank, a native of New Hampshire, purchased portions of Rancho Provedencia and Rancho San Rafael to the north in 1867. He raised sheep on the land and occasionally sold off small plots. Completion of the Southern Pacific Railroad across the Valley in 1874 instigated settlement of a number of new towns, including "Burbank," which was laid out northeast of the current project area in 1886. The boundaries of the new community extended as far south as the Los Angeles River. Lands on the opposite side of the river, including the current project area, were acquired by Col. G. J. Griffith and remained open ranch lands. A wealthy mining and real estate investor, Griffith donated 3,500 acres spanning the Santa Monica Mountains to the City of Los Angeles in 1896. Griffith Park was established east of the project area and initially incorporated the Headworks site itself (Eberts 2004). There are no roads or buildings indicated south of the river in the vicinity of the HWSG site on the 1902 USGS map of the area.

The first decades of the twentieth century saw the emergence of the movie industry in the San Fernando Valley. Universal City was established at the mouth of Cahuenga Pass in 1912. *The Birth of A Nation* was filmed in 1914 by D.W. Griffith on the slopes southwest of the project area, now part of Forest Lawn Hollywood Hills Memorial Park. Cecil B. DeMille's Lasky-Famous Players Company leased several hundred acres, known as the Lasky Ranch, along the river between Cahuenga Pass and Burbank. The movie ranch bordered, and may have even included, a portion of the present project area.

The 1921 USGS map indicates that the Los Angeles River's course immediately northeast of the project area had shifted to the south. There were as yet no roads close by. The real estate boom of the 1920s brought many new residents to the Burbank area and the local movie industry continued to expand. Universal was joined by Disney Studios in 1938. The north slopes of the Santa Monica Mountains above the project area remained undeveloped ranch and park land.

Flooding of the Los Angeles River had been a continuing problem since the initial settlement of the region, and the issue of flood control gained importance as development expanded in the early twentieth century. Plans to restrict the flow of the river, including complete channelization, had been pondered since a huge flood in 1914. Major floods in the early 1930s brought renewed planning efforts and, following a devastating flood in March 1938 that destroyed numerous bridges and caused extensive property damage, a program of channelization was implemented almost immediately. The section of river along the north side of Griffith Park and adjacent to the project area was among the first sections channelized in 1939.

The years following World War II saw numerous large-scale civic improvement projects undertaken in the Los Angeles region, and residential development in San Fernando Valley in the post-war era building boom was unprecedented. Orange groves were replaced by tract houses, and continued channelization opened new acreage for building. Channelization resulted in a substantial realignment of the river's course and many of its meanders were eliminated, including in the area adjacent to the project area, where its course was shifted somewhat to the north. A bow north of the present equestrian area, northeast of the project, was also straightened. In 1948, Forest Lawn Hollywood Hills Memorial Park was established on the hillsides south of the project area, on the former Lasky movie ranch property. The postwar era also witnessed the coming of the region's freeway system. Construction of the Ventura (101) Freeway commenced in 1952 and the 134 Freeway, which borders the east end of project area, was opened in 1968 (Roderick 2001:183).

Hollingsworth Drive, later renamed Forest Lawn Drive, which borders the project area on the south, was in place by 1945, its alignment approximating the existing one. Travel Town Museum, with its collection of miniature trains, was established at the northwest corner of Griffith Park, directly east of the project, in 1952. The most recent addition to the area is Mount Sinai Memorial Park, directly south of the Headworks site, which was divided from Forest Lawn Memorial Park in 1954 and developed in the 1960s (Lindsay 2004, pers. com.).

#### 2.3.1.1 Site Specific History

With water supply seasonally unable to meet the demands of the rapidly growing city at the turn of the twentieth century, the Los Angeles Water Department worked diligently to increase the amount of available water. Among the measures undertaken was construction of a new diversion dam and main supply conduit on the northwestern side of Griffith Park, across the Los Angeles River from Burbank, on lands known as the Headworks site (Gumprecht 1999:98).

Two infiltration galleries were installed at the Headworks site in 1905 to capture the river's subsurface flow, and were expanded in 1916. The Crystal Springs Galleries, developed in 1886 on the east side of the park, were also expanded, and together provided the City enough

water in 1917 to allow a halt to all surface water diversions (that, unlike the naturally filtered subterranean water, required treatment). The flow soon proved inadequate and a third Headworks gallery was built in 1920. Well development along the river was also intensified and by 1925, there were 14 wells at the Headworks plant. The object of the wells, here and at other locations, was to capture as much usable river water as possible.

Channelization of the Los Angeles River radically altered the nature of the Headworks site. The section of the river spanned by the Headworks was straightened, and the deep, straight-sided, concrete lined channel was moved northward. Spreading basins were constructed along both sides of the river channel, with the principal basins placed to the south at the HWSG site. With construction of the 134 Freeway along the channel in the late 1950s, basins on the north side of the river were eliminated.

Pollution eventually forced the LADWP to eliminate its remaining surface diversions on the river and to discontinue pumping for water all along its course. The Headworks Deep Gallery was shut down in 1972 because of water quality concerns. Diversions from the river into the HWSG were halted in 1983 because of increased discharges of untreated sewage into the river. The last five wells in use at the Headworks plant were shut down in May 1986.

By 1993, treated wastewater had improved the quality of water flowing into the river so much that the LADWP conducted a study to determine whether water diverted from the river to the HWSG and later pumped to the surface by wells would be clean enough to drink. The study found that the extracted water complied with all drinking water standards, however, the project was ultimately abandoned in favor of alternative approaches (Gumprecht 1999:120-129).

### 2.3.2 Silver Lake History

The southern portion of the SLRC site lies within the four square leagues of land set aside by the Spanish crown for establishment of the Pueblo de Los Angeles in 1781, while the northern half is within the historic boundaries of Rancho Los Feliz. The 1 ½ square league rancho was granted to Vicente Feliz by the Spanish government in 1802. Juan Diego acquired the property prior to the American takeover, and received patent for the 6,647 acres in April 1871. In 1882, J. Griffith, donor of Griffith Park, purchased Rancho Los Feliz.

An open ditch that was a part of the Rancho Los Feliz water supply system passed through the canyon now occupied by Silver Lake Reservoir by the mid 1800s. The ditch was acquired by the Los Angeles Canal and Reservoir Co which in turn, became part of the City's system in 1868 (Layne 1957:24, 39).

The Silver Lake area was known as "Ivanhoe" before the turn of the twentieth century. Reminded of the rolling green hills of his homeland, Scottish developer Hugo Reid named the area after the famous novel by Sir Walter Scott. Many of the streets in Silver Lake have Scottish names, or names that are related to characters from the novel, such as Herkimer, Rowena, Hawick, Kenilworth, and Ben Lomond. The Ivanhoe community, northwest of the SLRC site, included around a dozen homes in 1893 (USGS 1902).

In the late 1800s, hunters journeyed to the area to seek game that was attracted to the natural ponding condition in Ivanhoe Canyon. Recognizing the value of the land, the Water Department began acquiring land for the SLRC in the 1880s when the surrounding area was primarily undeveloped. By the time the last parcel was acquired in 1904, the area was still largely uninhabited. With the addition of the reservoirs this quickly changed.

Construction of Ivanhoe Reservoir was completed in 1906. Silver Lake Reservoir, named for Herman Silver, a member of Los Angeles' first Board of Water Commissioners, was finished the following year.

City planners soon recognized the potential of a uniquely situated residential development overlooking the reservoirs and made substantial investment in underground utilities and concrete streets. In the 1920's and 1930's private developers were encouraged by the City to build and they were attracted by the rolling hills and blue water views of the focal point that is Silver Lake and Ivanhoe Reservoirs. Probably the most well-known developer was the silent film star Antonio Moreno. He modeled his development (the Moreno Highlands) after a Mediterranean village he had visited. His landmark home, the Canfield-Moreno Estate, set the architectural theme for many of the homes in the hills on the west side of the reservoir.

Silver Lake and adjacent Edendale and Echo Park areas were home to many early motion picture studios. The Mack Sennett Studios, Tom Mix, Disney, Monogram, and Talmadge Studios were located there and drew creative people to the area. Many locations in Silver Lake appeared in early motion pictures. For example, the famous Laurel and Hardy short film "The Music Box" was filmed here, and many of the Keystone Cops chase scenes were shot along Glendale Boulevard. Not only was the area home to many of the early studios, numerous film makers, actors, and directors also lived in Silver Lake. These included Gloria Swanson, Laurel and Hardy, Antonio Moreno, and many others.

"From the mid-1920s through the early 60s, Silver Lake was a showcase for some of California's best known and most innovative and influential architects" (LAT 1984). The area has been noted as having the greatest density of high style historic residences of any in the city. The neighborhood's distinctive character is established by its rich mixture of area residences designed in Mediterranean and other Revival styles of the1920s and 1930s, integrated with important works by major figures in the Modern movement, including Richard Neutra, Rudolf Schindler, Rafael Soriano, Gregory Ain, and John Lautner.

#### 2.3.2.1 SLRC History

Planning for reservoirs at Ivanhoe was one of the first projects undertaken by the newly named Los Angeles Department of Water Superintendent, William Mulholland. Conceived in 1903, the Ivanhoe and Silver Lake reservoirs were to hold 1 billion gallons of surplus water collected during wet months. In September 1905, City voters approved a $1.5 million bond measure to finance the Los Angeles-Owens River Aqueduct project by an overwhelming popular mandate. "From that date on the Water Department bent every effort, both in planning and building within the city limits, for the accommodation and use of the additional water to be received from its new source of supply" (Layne 1957: 75). Excavation work began on the Ivanhoe Reservoir in November 1905. It was to occupy the upper

(northern) end of the site planned for the larger Silver Lake Reservoir. The Ivanhoe Reservoir was completed in May 1906, and in August of that year work was begun on Silver Lake Reservoir just below it.

The method employed to construct Silver Lake Reservoir was unique. Under Superintendent Mulholland's plans and supervision, an innovative hydraulic sluicing technique adapted from the mining industry was used to dredge soil from what would become the lake bed and move the material to form the earthen dam to create the reservoir. This was the first time the method had ever been used in the United States. The process proved so successful that engineers came from all parts of the country to study the method. Mulholland served as a consultant on numerous hydraulic fill dams built between 1910 and 1930, including the enormous Gatun Dam in the Panama Canal (Rogers 1995:23). Until 1923, all of the LA Bureau of Water Works and Supply reservoirs were earthen embankments, built using Mulholland's hydraulic sluicing techniques. Silver Lake Reservoir was completed in 1907 with a capacity of 773,000,000 gallons (Layne 1957:85).

Regular improvements to the reservoir complex continued into the 1940s. As part of their water conservation efforts following Owens Valley Aqueduct approval, the Water Department constructed a wooden roof over the new Ivanhoe Reservoir to decrease evaporation in 1911. The concrete pile supported roof required 800 barrels of cement and 750,000 ft of lumber. It remained until 1938, when it was removed "for health and maintenance reasons" (Layne 1957:87; supt. ltr.). Silver Lake has always been an open reservoir.

Prior to 1921, the reservoirs were used for reserve supply only, but the surrounding area's rapid growth through the teens necessitated its improvement for use as a domestic supply distribution reservoir (Layne 1957:184). Historically, water is supplied to the reservoir from the River Supply Conduit through a 60-inch inlet line to Ivanhoe Reservoir, and then into Silver Lake.

Beginning in 1922, fences were placed around the reservoirs, principally to keep out violators of the City's Fishing, Bathing, Boating, and Hunting ordinance. Besides a fence, a diversion ditch, later replaced by a wall, was constructed around Silver Lake Reservoir, which had received drainage from the surrounding hills that were fast becoming covered with residences (Layne 1957:185).

An outlet gate tower was added to Silver Lake in 1937. Located on the site of the present tower, the Classical Revival style structure complimented the existing Chlorine Plant below the dam. In 1944, work commenced on a new River Supply Conduit. Formed of some 41,260 feet of reinforced concrete pipe, the conduit delivered aqueduct water from the North Hollywood Pumping Plant to the Silver Lake reservoirs. It was put into service in March 1949. In 1945 the reservoirs were drained, the earth-filled dams improved, and the Ivanhoe Inlet Tower constructed (Layne 1957:299).

Between 1950 and 1953, a $1.5 million program of improvements was undertaken at Silver Lake and Ivanhoe Reservoirs. Far more extensive that any previous effort, the reservoirs were drained, deepened, their sides regraded and surfaced with asphaltic cement to reduce plant growth and erosion from wave action, and the dams were raised two feet. A 60-inch bypass pipeline was added at the bottom of the reservoirs, and a new 66-inch outlet

line was built from the Silver Lake dam south along West Silver Lake Drive. Additionally, a portion of Silver Lake Reservoir known as the "East Cove," where water historically tended to stagnate, was filled in. That area, as well as areas nearest the reservoirs affected by construction, was re-landscaped to restore their natural appearance. The reservoirs were refilled and returned to service in December 1953 (LADWP 1950; 1952;1953).

Most recently in 1976, after a dam of similar design suffered severe damage in the 1971 Sylmar earthquake, Silver Lake dam was reconstructed and seismically strengthened. The outlet tower control house and bridge were renovated at that time as well (*Downtown News*).

# 2.4 Findings

## 2.4.1 Cultural Resources Literature Review

### 2.4.1.1 HWSG Site

The record search revealed that three prior archaeological investigations have been undertaken with a one-half mile radius of the project area. One of these (Beroza 1980) included a portion of the HWSG site. That project reported no cultural resources of any kind within or adjacent to the HWSG project area. The other two previous surveys (McLean 1998; Windmiller 2001) encountered no significant cultural resources.

Two known historic properties are located within a one-half mile radius of the project area. One of these, CA-LAN-22H (19-150414), is located on the north side of the Los Angeles River and the 134 Freeway, and will therefore not be impacted by work in the HWSG area. The other historic property, CA-LAN-23H (19-150415), is located within or immediately adjacent to the HWSG project area.

#### CA-LAN-22H

The site of "Triunfo's Adobe" was identified from a plat map for Rancho Providencia, surveyed in 1868. Recorded as the rancho house of Rancho Cahuenga, formerly occupied by the "Indian Jose Miguel Triunfo," the structure was in ruins at the time of the survey. It was located approximately one-quarter mile northwest of the project area, near the present site of Disney Studios (Edberg 1978a).

#### CA-LAN-23H

Identified from a plat map of Rancho Providencia, surveyed in 1868, this is the site of the "Old House of Lopez." Probably an adobe structure, it was recorded as occupied by a man named Lopez at the time of the survey. The site record places this structure in the extreme eastern portion of the HWSG area, although its location is not certain. The house appears to have been located on the north bank of the Los Angeles River, and therefore beyond the limits of the current project area. It is quite possible that it is immediately adjacent to or under the 134 Freeway (Edberg 1978b).

### 2.4.1.2 SLRC Site

The record search revealed one prior cultural resources survey of the Silver Lake Reservoir Complex, and five previous archaeological surveys located within a one-half mile radius of the reservoirs. The previous survey of the reservoir complex itself (Brown 1990) observed

some historic structures that seemed to date to the period of dam construction and artifacts (early 20th century glass) within the perimeter fence of the reservoir. The buildings and landscape features existing on the property have never been recorded in a systematic survey or individually assessed. No prehistoric sites or materials were reported. None of the five surveys within a one-half mile radius of the SLRC (Brechbiel 1998; Duke 1999, 2000; Kuta 1998; Smith 2000) encountered archaeological sites or materials.

A number of historic resources were identified within a one-half mile radius of the SLRC. They include buildings and structures constructed in the first four decades of the twentieth century, as follows:

### Garbutt House/Hathaway Mansion

A Mediterranean Revival style structure built in 1926, the Garbutt House/Hathaway Mansion is located 0.25 mile southeast of Silver Lake Reservoir at 1809 Apex Avenue. It was added to the NRHP in 1987 (19-166820).

### Glendale-Hyperion Viaduct

The Glendale-Hyperion Viaduct is a concrete arch structure that spans the Los Angeles River, Riverside Drive, and the Golden State Freeway between Ettrick Street and Glendale Boulevard, approximately one-half mile north of the SLRC. Constructed by the City of Los Angeles in 1929, the viaduct was declared City HCM No. 164 in 1976. It was determined NRHP-eligible in 1986.

### Site of First Disney Studio

Declared City HCM No. 163 in 1976, the site of the first Walt Disney Studio is located one-quarter mile northwest of the SLRC at 2725 Hyperion Avenue.

### Tierman House

Designed by acclaimed local Modern architect Gregory Ain and constructed in 1940, the Tiernam House stands one-quarter mile northwest of the SLRC, at 2323 Micheltorrena Street. It was declared City HCM No. 124 in 1974.

### Mack Sennett Studios

One of the first motion picture studios in Los Angeles, the Mack Sennett Studios were built in 1912. Declared City HCM No. 256 in 1982, the structure is located one-half mile southeast of the SLRC at 1712 Glendale Boulevard.

### Engine Company No. 56

Built in 1924, Engine Company No. 56 is one of the few remaining unaltered Mediterranean Revival style engine houses in the City of Los Angeles. Located one-quarter mile northeast of the SLRC at 2838 Rowena Avenue, the structure was declared City HCM No. 337 in 1988.

### Canfield-Moreno Estate

Also known as the Danziger House, and the Crestmount, this Mediterranean Revival style country villa was designed by Robert Farquhar and constructed in 1923 for Daisy Canfield

Danziger and her actor husband Antonio Moreno. Located at 1923 Micheltorena Street, one-quarter mile west of the SLRC, it was declared City HCM No. 391 in 1988.

#### Silver Lake and Ivanhoe Reservoirs

Silver Lake and Ivanhoe Reservoirs were designated City HCM No. 422 in March 1989. The nomination refers specifically to only the reservoirs and dams, noting their importance in the growth of the city and to its water system, declaring that "Silver Lake is as much a landmark as any structure of mortar or stucco" (Kanner 1989).

#### VDL Research House

An International style house designed by noted architect Richard Neutra and originally built in 1932, the house was destroyed by fire in 1963 and reconstructed by Neutra and son, Dion. Located at 2300 Silver Lake Boulevard, adjacent to the east side of the SLRC, it was declared City HCM No. 640 in 1997.

## 2.4.2 Cultural Resources Field Investigations

### 2.4.2.1 Field Methods

The two discrete areas of investigation for the proposed project, the Headworks and SLRC sites, were field surveyed by Greenwood and Associates cultural resource specialists Matthew Bandy, Ph.D. (archaeologist) and Dana Slawson, M. Arch. (architectural historian) on March 22, 2004. The cultural resources reconnaissance examined the proposed ground-disturbance footprints for built facilities, pipeline route corridors, and materials and equipment staging areas. Survey methods entailed pedestrian inspection of the areas to be impacted, which were restricted by topography, vegetation cover, modern land use, and general accessibility. All existing features of both facilities were photographed, and architectural details of buildings and structures, as well as landscape features, were recorded. Results are reported below. As the Silver Lake and Ivanhoe Reservoirs have previously been identified as an historical resource (City of Los Angeles HCM No. 422), and the SLRC SRP has a potential to impact contributing features of the reservoir complex, the entire SLRC property was included in the survey of historical resources.

### 2.4.2.2 HWSG Site

#### Archaeological Resources

For the purposes of this report, the HWSG site is considered as a single area. Essentially the entire parcel is scheduled to be impacted by construction of large subterranean storage tanks and by related staging and access area. For this reason the entire HWSG area was intensively surveyed for archaeological resources. The lenticular site is bounded on the northwest by the concrete channel of the Los Angeles River, and on the northeast by the 134 Freeway. The southern and eastern boundary of the site is Forest Lawn Drive, which bends southward near its midpoint, then northward as it meets the Rte 134/Zoo Drive interchange. The HWSG site is located on the USGS Burbank Quadrangle 7.5' map.

The site is currently unmaintained, and is covered with a mixture of native and introduced grasses and shrubs. Visibility ranges from very good (>80%) to moderate (~30%). In general, surface visibility is adequate in this entire area to permit surface identification of

archaeological remains. However, the entire area has been extensively modified with mechanical equipment. The HWSG area has the form of an elliptical bowl. The center is low, and surrounded on all sides by higher ground. The center (lower portion) of the area has been completely remodeled by earth-moving activity related to creation of the spreading grounds complex. Numerous traces of this remain, including cement-lined ponds and baffles, wells, and other features. The only relatively undisturbed areas of the HWSG are higher patches near the south, east, and west perimeter fences. Even these areas have been modified, however, most prominently by fill related to the construction of Forest Lawn Drive. In short, the entire HWSG area has been extensively disturbed, and the probability of encountering intact archaeological contexts or deposits of any kind is very low.

### Historical Resources

Headworks Spreading Grounds encompasses a series of dry shallow basins situated beside the Los Angeles River, near the border between the cities of Los Angeles and Burbank. The east-west oriented, lozenge-shaped site is nearly 0.75 mile in length, and 0.20 mile across at its widest point. The spreading basins are depressed approximately 30 ft below the level of Forest Lawn Drive and generally overgrown with low brush. The configuration of the spreading grounds includes an earthen banked channel roughly 15 ft deep, running east-west through the central section of the site. At the west end of this channel is a concrete gate structure that once allowed Los Angeles River water to flow onto the site. Presently, the channel is dry and a large diameter corrugated metal pipe runs within it. The eastern half to two-thirds of the site is occupied by the actual spreading basins. The westernmost basins are the largest, measuring roughly 500 ft across. The two basins are separated by a central, east-west earthen berm and have bottoms of native sand and gravel. A series of smaller basins to the east also is divided by earthen berms. The side walls of two small basins in the northeast section of the site are lined with gunnite. At the east end of the site, extensive filling has occurred, raising the ground level several feet above the level of the spreading basin berms.

Additional features of the site include a row of 18 well casings that protrude vertically roughly 3 feet above grade, located along the top of the berm between the two large western basins. These are 10 inches in diameter and many are covered by conical caps, presumably to deflect rainwater. These are believed to date to the 1920-1940 period.

There are two small buildings on the site, both of recent construction. The first is a metal clad shed containing electrical equipment located in the south-central section of the site. The second building is located near the west end of the spreading grounds site. It is roofless, with concrete walls that are stepped at the top on two sides, with small decorative penetrations. The structure contains equipment associated with an inflatable Los Angeles River dam. Other features of the site include a series of hand operated geared steel cranks along the top of the river channel, also at the west end of the site. These are thought to be associated with flood gates in the channel directly below. Also, a row of electrical transmission towers parallels the river channel along the north side of the site. These date to the mid-1950s or later.

#### 2.4.2.3 SLRC

The project vicinity has experienced extensive ground disturbance from past and ongoing municipal and residential development, construction of underground utilities, and road infrastructure improvements. The SLRC area is located on the USGS Hollywood Quadrangle 7.5' map. The reservoirs are enclosed by a perimeter fence and bordered on the west by West Silver Lake Drive, on the south southeast by Silver Lake Drive, on the northeast by Armstrong Avenue, and on the north by Tesla Avenue. Three areas of archaeological concern identified in the SLRC area have been given the following designations for ease of discussion: SLRC-1, -2, and –3. Their locations are indicated on Figure 2-1.

##### 2.4.2.3.1 Archaeological Resources

###### SLRC-1

An area within the reservoir perimeter fence, east of the reservoir itself and south of the prominent landform known locally as "the Knoll." This broad, flat area is scheduled to be used as a staging area for construction materials and machinery. The area was once a part of the reservoir referred to as the East Cove, and seems to be composed primarily of deposits associated with filling completed in the 1950s. At present, it is planted in grass with landscaped islands of ornamental shrubbery. Surface visibility is generally poor (around 10%), being limited to bare patches in the grass, especially on the verges, and areas of rodent disturbance. The probability of archaeological sites existing near the surface in this area is extremely low. The only part of the SLRC-1 that is relatively undisturbed, and is therefore at all likely to have intact archaeological deposits, is the base of the hill to the north (the "Knoll").

This area has been heavily disturbed in the historic period, and the modern surface seems to reflect extensive filling and grading dating to the 1950s. This area was inspected by conventional pedestrian survey techniques, with transects spaced at approximately 20 meter intervals. Surface visibility was not high but was adequate, and no materials or sites of historic or archaeological significance were observed.

###### SLRC-2

An open public park area adjacent to but outside the reservoir perimeter fence, at the corner of West Silver Lake Drive, near the southwest corner of the reservoir itself, is the projected location of regulating station. It has been extensively landscaped and modified by mechanical means in the recent past. The park is planted with grass and a few trees. Visibility is slightly better than in SLRC-1, due to the higher rate of rodent activity, but remains low (around 15%). Most exposures are the result of rodent burrowing. The probability of encountering intact archaeological remains in SLRC-2 is very low, due to the extensive recent landscaping and other disturbance in this area.

This area has been extensively landscaped in its history as a public park. Further, its proximity to the face of the earthen Silver Lake dam suggests that it may have been subject to disturbance at the time the dam was constructed. It was inspected using judgmentally-spaced transects located opportunistically in order to take advantage of patches of rodent disturbance or high surface visibility. Surface visibility was poor but generally adequate. No materials or sites of historic or archaeological significance were observed.

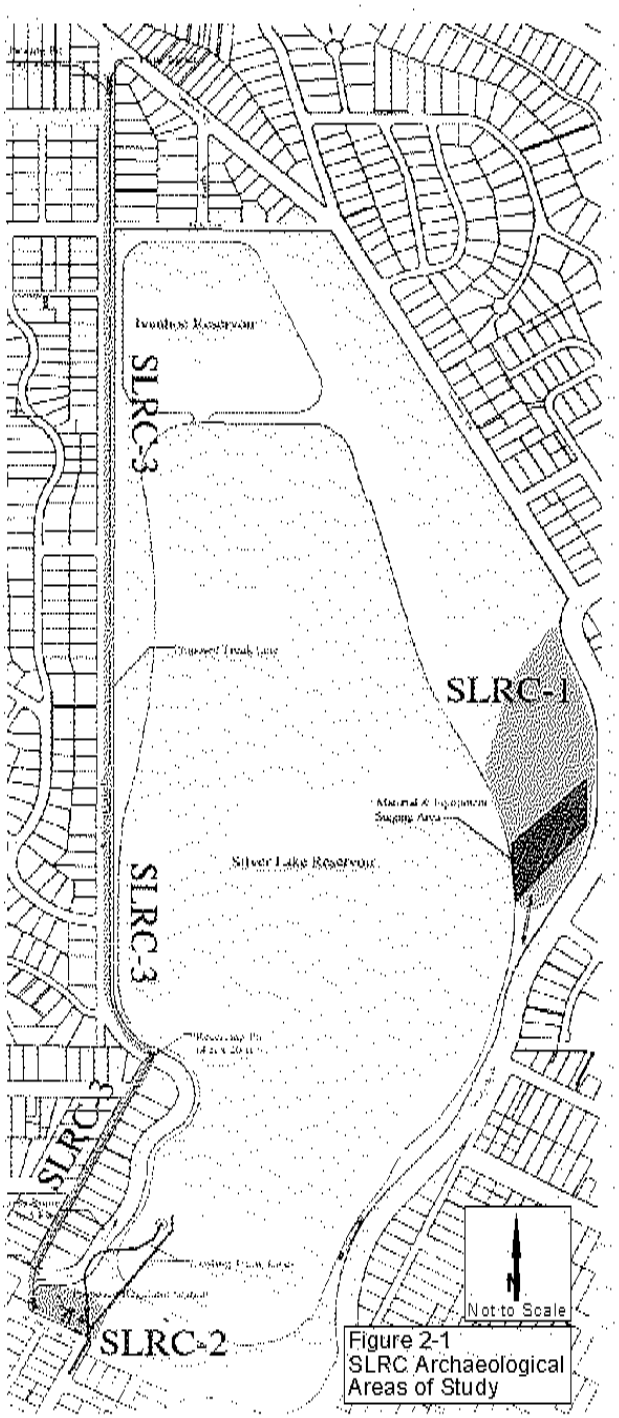



Figure 2-1
SLRC Archaeological
Areas of Study

### SLRC-3

A series of jackpits, receiving pits, and underground conduits are scheduled for construction along the west edge of the SLRC area, on West Silver Lake Drive and Redesdale Avenue. This entire area is paved at present and surface visibility is zero. This being the case, it is impossible to evaluate the presence or absence of cultural resources.

#### 2.4.2.3.2 Historical Resources

### Ivanhoe Reservoir and Dam

Built at the summit of Ivanhoe Canyon in 1906, Ivanhoe Reservoir is of the double earthen dam type. Its original capacity was about 154 acre ft. In 1907 Silver Lake Reservoir was constructed directly south of Ivanhoe (Figure 2-2). The two reservoirs were originally connected by a 36 inch cast iron pipe beneath the fill of the separating dam. Somewhat west of center of the dam between the two reservoirs is a reinforced concrete spillway. Added in 1944, the open channel type spillway is rectangular in section and measures 84 ft long and 53 ft wide. In 1952 Ivanhoe Reservoir was deepened 10 ft and paved with an asphaltic cement lining. Its present capacity is 174.78 acre ft. In 1993 the reservoir was re-paved and a 72 inch bypass pipeline was installed in the south end of the reservoir. This bypass was installed to add the capability to bypass both Silver Lake and Ivanhoe reservoirs concurrently. The Ivanhoe Reservoir has a capacity of 59 million gallons and covers an area of 7.84 acres. The top of the dam is 451 feet above sea level (LADWP n.d.a).

### Ivanhoe Reservoir Inlet Tower

Rising from the waters of the Ivanhoe Reservoir near the center of its north bank, the inlet tower is formed from a vertical, large diameter steel pipe which is covered by a conical steel roof (Figure 2-3). A steel deck wraps the structure well above the high water line. It is accessed via a steel I-beam bridge with pipe railings. The inlet tower was constructed in 1933, concurrent with improvements to the River Supply Conduit. It is essentially unaltered and retains integrity of design.

### Silver Lake Reservoir and Dam

Silver Lake Reservoir was constructed by the City of Los Angeles Water Department and placed in service in 1907 (Figure 2-4). It was constructed at an initial cost of $115,547; however, considerable work was done on the reservoir in the years that followed, bringing the total investment by the end of the 1930s to $271,107. The reservoir is formed by two earth fill dams – one at the south, and one at the north that separates it from Ivanhoe Reservoir. The irregularly shaped reservoir has a capacity 658 million gallons and covers an area of 78.2 acres. The Silver Lake dam is roughly 900 feet in length and the dam crest is at an elevation of 451 feet above sea level. Asphaltic cement paving was applied to the steep sides of the reservoir in 1953, and a 20 foot wide paved perimeter road encircles the structure (LADWP n.d.b). The south face of the Silver Lake dam is planted in shrubs and ornamental grasses.

### Silver Lake Outlet Tower

The outlet gate control tower for the Silver Lake Reservoir rises from the waters of the reservoir near its southwest corner. Constructed in 1937 in the Renaissance Revival style, the

tower was extensively altered during reservoir renovations completed in the mid 1970s. The outlet tower is of cast-in-place reinforced concrete construction. It is square in plan and covered by a flat roof with overhanging eaves. At each corner of the control house is a buttress-like feature that rises to the structure's roof. These are supported from below by brackets. Extending from the west shore to the tower is a steel plate girder bridge that provides the only access to the structure. At the end of the bridge is a steel double door with single-light glazing.

### Silver Lake South Outlet Chlorination Station

Situated roughly 100 feet south of the toe of the Silver Lake dam, near its west end, is the Silver Lake South Outlet Chlorination Station (Figure 2-5). It is a single-story Mediterranean Revival style building with a front-gabled rectangular main block and a lower wing that wraps the south and east sides. The structure is covered by a red shingle tile roof and the walls are smooth-finished stucco over cast-in-place reinforced concrete. Classical detailing includes narrow molded cornice trim beneath the closed eaves, with cornice returns at the gables and a molded water table. Impressions from the board formwork are visible in the area below the water table. The focus of the facade of the front gabled portion is a large multi-paneled wooden garage door surmounted by a small rectangular vent (now covered). The principal entrance is located in the street facade of the shed wing. It features a molded six-panel door with squared label mold trim incorporating a stylized keystone and corbel stops. Except for a small vent opening in the south elevation, the building is without windows. Designed by LADWP staff, the chlorination station was constructed in 1947 as a replacement for a 1920s structure at the opposite end of the dam. The structure is stylistically similar to many of the water system-related utilitarian facilities constructed by the LADWP during the 1910s through the 1940s. It is presently used by LADWP for storage.

### Silver Lake Meter House

Standing off the southwest corner of the chlorination station, nearer the street, is the Silver Lake Meter House (Figure 2-5). The small one-story Mediterranean Revival style building corresponds architecturally with the adjacent chlorination station. It is square in footprint and covered by a pyramidal hipped roof clad with red Spanish tiles. Of cast-in-place concrete construction, the walls are finished with rough-troweled stucco with a narrow molded cornice beneath closed eaves. The windowless building is accessed by a steel clad door in its east elevation.

The meter house was designed by LADWP Bureau of Water Works and Supply staff and was likely completed in late 1927 or early 1928, about 20 years before the adjacent chlorination station. It originally contained a single outlet flow meter. The structure's exterior is essentially unaltered.

The chlorination station and meter house lot is enclosed by a low chain link fence and attractively landscaped with ficus trees and topiary, ivy ground cover, yucca, and neatly trimmed holly shrubs.

### Silver Lake Chemical/Chlorine Plant

Situated between Silver Lake Boulevard and the toe of the Silver Lake Dam near its eastern terminus, the Chlorine Plant is a small, 22 x 14 ft, rectangular one-story building constructed

of cast-in-place reinforced concrete with hip roof (Figure 2-6). The Renaissance Revival style structure is typical of water system-related utilitarian buildings erected by LADWP during the 1910s through the 1930s. Characteristic of the style, the building displays symmetrical elevations with corner pilasters, water table, and simplified entablature that frame the wall planes. Its walls show the impressions left by the horizontal board concrete formwork. The street elevation features a centrally placed Classical entrance with squared pilasters supporting a stylized entablature. Flanking the entrance on either side are large rectangular window openings that are presently covered. The west elevation also displays two symmetrical window openings; both other elevations are without windows or doors. Red Spanish tiles cover the building's hip roof, which has a slight eave overhang. Currently, the chlorine plant is used for equipment storage. The plant stands within the grounds of the reservoir complex amid landscaped lawn, trees, and bushes. Chain link boundary fencing extends from either end of the building's facade.
Referred to as a "Chemical Plant" on architectural drawings and a "Chlorine Plant" on other maps, the building is believed to have been erected around the time that the Silver Lake and Ivanhoe Reservoirs went into use for domestic water supply (1920). Plans dating to 1927 depict the building much as it presently appears, but with a glazed and paneled front door and 12-light sash windows. The structure was functionally replaced in 1947 by the chlorination station at the west end of the dam. It is presently used for storage.

### Caretaker's Residence

Located directly east of the Ivanhoe dam, the caretaker's residence is thought to have been constructed around the time of completion of the Ivanhoe and Silver Lake Reservoirs, between 1906 and 1910 (Figure 2-7). It is a modest single-story wood frame vernacular cottage with a hip roof. Clad with false clapboard wooden siding accented with cornerboards, the dwelling is roughly rectangular in footprint with a partial-width enclosed porch projecting from the front (east) elevation. Its medium pitched roof is clad with composition shingles and has moderately overhanging open eaves with rafter tails exposed beneath, and an extension of the principal roof shelters the front porch. Centered in the south wall is an external stucco-clad chimney. Fenestration is typically one-over-one double hung sash placed singly, paired, and in multi-window groups. Several aluminum sliding sash windows have been added on the south and east sides, but these do not detract significantly from the overall historic character of the house. Other alterations include addition of an entrance porch with a pipe-framed roof and concrete steps, and attic ventilators. Associated landscaping includes mature palm, olive, and willow trees, plus various ornamental bushes and vines.

### Garage

Associated with the caretaker's residence, the garage stands to the northeast of that structure, adjacent to the principal reservoir access road (Figure 2-8). A small bathroom building stands adjacent to its north. The garage is a vernacular one-story wood frame building with a medium pitched front-gabled roof and a rectangular footprint. It appears somewhat later in its construction than the residence, perhaps dating to the 1920s (no permits or records were uncovered). Cut into the hill slope, it rests on a concrete foundation

and has walls clad with horizontal channel wooden drop siding. Composition shingles cover the roof, which has open overhanging eaves with rafter ends exposed. There is a single four-light wood casement window with plain, medium width trim in either side elevation. The street facade features a large paneled metal overhead garage door, a recent modification. The door has wide lugged wood trim and is surmounted by a sunburst motif slatted vent opening in the gable peak.

### Bathroom Building

Located immediately north of the garage, the bathroom building is a small wood frame structure, nearly square in plan, and covered by a medium-pitched front-gabled roof (Figure 2-9). It rests on a concrete foundation and has a clapboard wall finish. The bathroom has a five-panel wooden door with medium width lugged trim on the front (east) side, shielded by a latticework screen. A single one-over-one double hung sash window in the north elevation, also with lugged trim, comprises the only fenestration. The building's roof is clad with composition shingles and it displays moderately overhanging eaves with exposed rafter ends. It is believed to date to the 1906-1930 period.

### Sheds

To the rear (west) of the garage and north of the caretaker's residence, there are three single-story wood framed sheds associated with the residence (Figure 2-10). The northernmost of these is recently constructed, with painted plywood walls and a shed roof. The two other sheds appear roughly contemporaneous with the garage, bathroom, and house. The easterly shed is rectangular in plan and has a medium-sloped gabled roof with open eaves and composition shingles, and walls sheathed with painted corrugated sheet metal panels. It rests on a concrete foundation. There is a two-over-two double hung sash window with lugged trim centered in the north elevation. Based on its size and placement, this shed may represent an earlier garage.

The smaller westerly shed is also rectangular in plan. It is sheltered by a shed roof covered with roll roofing and its walls are finished with vertical tongue and groove planks. The single window visible has jalousie sash placed within the original window frame with lugged trim. It has a cast-in-place concrete foundation.

### Landscape Building

The landscape building stands to the east of the Ivanhoe dam and approximately 300 feet south of the caretaker's residence, along the west side of the primary reservoir access road (Figure 2-11). It is a wood frame vernacular utility building with a side-gabled roof and redwood clapboard siding. The original portion of the building has a rectangular footprint. A full width shed annex has been added to the rear (west) side. The structure is believed to have originally housed reservoir related equipment and supplies, and dates to the 1906-1930 period. At the center of the landscape building's principal (east) façade is a large sliding freight door with diagonal bracing. The open eaves of the composition shingle clad roof overhang considerably, and the eave above the freight door is raised to allow access to taller equipment. There is an original four-panel personnel door with lugged trim to the left of the freight door, and two original windows in the south elevation are presently boarded, but plain, medium width trim is visible. A pair of rectangular louvered vents in the north gable

end and a mushroom type metal ventilator along the ridgeline appear original to the building. The structure rests on a cast in place concrete foundation. An office has been added within the north end of the building, and a modern door, aluminum sash windows, and a small louver-sided shed containing AC equipment have been installed in that area. Although the landscape building has had a number of modifications, it continues to manifest its historic character and the feeling of its period of significance.

### Chlorination Station (Ivanhoe)

To the north of the caretaker's residence and its outbuildings, on the east side of the Ivanhoe Reservoir, is a former chlorination station (Figure 2-12). It is presently used by LADWP as a work shop. It is believed to date to ca. 1937, when a bypass pipeline was built from the Fletcher Drive pumping plant, northeast of the SLRC, to the reservoir. Displaying Art Moderne elements, it is a single-story, cast-in-place concrete structure with a two level parapeted flat roof. Its walls are exposed concrete with regularly spaced horizontal channels. A narrow rectilinear cornice caps the roof parapet. There is a metal roll-up door on the building's west elevation, and a metal clad personnel door on the south side. The exterior of the chlorination station appears to be unaltered.

### Laboratory Building

The laboratory building stands to the east of the caretaker's residence, near Armstrong Avenue. Designed by LADWP staff in 1955, it is a Modern one-story, wood frame structure, rectangular in plan, and covered by opposed two-level shed roofs. The structure is clad with wood weatherboards and rests on a concrete slab. Fenestration is typically one-over-one double-hung sash.

### Stone Retaining Walls

East of Ivanhoe Reservoir, adjacent to the east, uphill, side of the primary reservoir access road, and also along both sides of driveways extending from Armstrong Avenue to the perimeter road, are low stone retaining walls (Figure 2-13). Typically between two and three feet in height, the walls are of mortared random rubble construction, incorporating both rough-dressed stone and natural cobbles. In one location, opposite the landscape building, a three riser stone stair is cut into the wall. The stone retaining walls are thought to be early features of the reservoir complex, dating to the 1906-1940 period.

### Concrete Retaining Walls

Following the reservoir's conversion to use for domestic water supply in 1921, there was heightened awareness of the facility's vulnerability to contamination from hillside runoff. To allay this problem, open perimeter ditches along the west and north sides of the site were constructed. These were replaced by the existing concrete retaining wall along West Silver Lake Drive in the 1930s. The walls are typically two feet high and topped by chain link fencing.

### Trees and Other Landscape Features

The intent of the designers of the Silver Lake and Ivanhoe Reservoirs was to create natural looking bodies of water in a richly landscaped sylvan setting that would both attract

development to the surrounding area and exist as a verdant enclave in the midst of the expanding city. To this end, portions of the reservoir property were left with their original natural topography and vegetation, while other areas were planted in a naturalistic way with trees, shrubs, and other vegetation. Some alterations to the original landscaping were necessitated by the various reservoir improvement projects beginning in the 1930s and continuing through the present day. Reservoir improvements of the early 1950s in particular resulted in changes in the appearance of the reservoir and landscaping of directly adjacent areas. In-filling of the East Cove resulted in a substantial level area planted in lawn referred to as the "meadow." Currently the reservoir complex incorporates numerous mature trees of both native and introduced species, including live oak, eucalyptus, California sycamore, various species of pines, cedars, and palms, bottlebrush, olive, pepper, and magnolia. Additionally, the well maintained park-like setting is enhanced by areas of shrubs and bushes interspersed within expanses of open lawn and low vegetation such as the "meadow." Silver Lake's south dam is also attractively landscaped with ornamental grasses, wildflowers, and other ground cover.

# 3.0 Environmental Impacts

## 3.1 Standards of Significance

Adopted standards of significance that are applicable to cultural resources are provided in the CEQA Guidelines (2002) and the Draft City of L.A. CEQA Thresholds Guide (1998). Significance criteria considered for the cultural resources impact analysis are provided below.

### 3.1.1 Historical Resources

As defined by Section 15064.5(a) of the State CEQA Guidelines, the term "historical resource" includes the following:

- A resource listed in, or determined eligible for, listing in the California Register of Historical Resources (PRC Sections 5024.1);
- A resource included in a local register of historical resources, or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
- Any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the historical record.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC Section 5024.1[a]) including the following:

- It is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;
- It is associated with the lives of persons important in our past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, important information in prehistory or history.

#### 3.1.1.1 California Register of Historical Resources

As provided in California Public Resources Code Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the California Public Resources Code, automatically includes all California properties already listed in the NRHP. It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of the State Historical Landmarks and in the State Inventory of Historical Resources, and specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include various other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance)

The CRHR follows the lead of the NRHP in utilizing the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute, but was selected as a reasonable span of time after which a professional evaluation of historical value/importance can be made.

##### Historic Districts

Historic districts are unified geographic entities which contain a concentration of historic buildings, structures, objects, or sites united historically, culturally or architecturally. Historic districts are defined by precise geographic boundaries. Therefore, districts with unusual boundaries require a description of what lies immediately outside the area, in order to define the edge of the district and to explain the exclusion of adjoining areas. The district must meet at least one of the criteria for significance discussed in Section 4852 (b)(1)-(4).

Those individual resources contributing to the significance of the historic district will also be listed in the California Register. For this reason, all individual resources located within the boundaries of an historic district must be designated as either contributing or as noncontributing to the significance of the historic district.

#### 3.1.1.2 City of Los Angeles Historic Designation

In 1962, City Ordinance 162102 of the Los Angeles Administrative Code established the City Cultural Heritage Commission and created criteria for Historic-Cultural Monument (HCM) designation. The criteria formulated for HCM listing correspond closely with criteria established for State and National Register eligibility, and are as follows:

- any site (including significant trees and other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as

historic structures or sites in which the broad cultural, political, economic or social history of the nation, state, or community is reflected or exemplified,

- any site, building or structure which is identified with historic personages or with important events in the main currents of national, state or local history, or;
- any site, building or structure which embodies the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age.

### 3.1.2 Archaeological Resources

An archaeological resource shall be considered by the lead agency to be an "important" resource as defined by CEQA, if it:

- Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions
- Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind
- Is at least 100-years-old and possesses substantial stratigraphic integrity
- Involves important research questions that historical research has shown can be answered only with archaeological methods

### 3.1.3 Threshold for Significant Impacts

#### 3.1.3.1 Historical Resources

Criteria presented in the Draft City of L.A. CEQA Thresholds Guide (1998) are consistent with state criteria noted above. Under the Draft L.A CEQA Thresholds, a project would have a significant impact on historical resources if it would result in a substantial adverse change in the significance of an historical resource. A substantial adverse change in significance occurs if the project involves:

- Demolition of a significant resource;
- Relocation that does not maintain the integrity and significance of a significant resource;
- Conversion, rehabilitation, or alteration of a significant resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings; or,
- Construction that reduces the integrity or significance of important resources on the site or in the vicinity.

#### 3.1.3.2 Archaeological Resources

The project would have a significant impact upon archaeological resources if it would disturb, damage, or degrade an important archaeological resource or its setting.

## 3.2 Evaluation of Significance

### 3.2.1 HWSG Site

Because continuous changes to the Headworks Spreading Ground site over the course of its 100 year history have resulted in a loss of integrity of design, character, and setting, such that it no longer reflects associations with the early development of the Los Angeles water supply system, the HWSG site and its various constituents do not appear eligible for state or city historic designation.

### 3.2.2 SLRC

The Silver Lake Reservoir Complex, comprised of both the Ivanhoe and Silver Lake Reservoirs and surrounding city-owned property, appears eligible for listing in the California Register as an historic district. The Silver Lake Reservoir and Dam was the first facility built by Superintendent William Mulholland and the Water Department using a unique water sluicing technique. The reservoir complex is part of a broad integrated system of water supply developed by the Department during the first decades of the twentieth century. Among the largest systems in the world, it continues to serve the city well nearly 100 years later.

The LADWP made a conscious effort to achieve a pleasing aesthetic appearance at the facilities. The initial design of the reservoir property and subsequent renovations have sought to provide a richly landscaped, natural appearance. The buildings associated with the reservoir complex, in keeping with LADWP's philosophy of facilities design of the era, were attractively rendered to integrate with and enhance the adjacent residential neighborhoods. Referring to Department chlorine stations, the *Intake* in 1932 took pride in stating that, "Beauty is combined with utilities in buildings of the Department of Water and Power" (LADWP 1932:4).

The SLRC is eligible for the CRHR for its contribution to the broad patterns of history. Construction of the reservoirs transformed a forgotten corner of the city into one of its most desirable neighborhoods. Silver Lake district underwent a period of rapid development during the 1920s and 1930s, in large part due to the development of the reservoirs and water delivery infrastructure there. Additionally, the aesthetic appeal resulting from LADWP's creation of a natural appearing "lake" amid trees and lush native and introduced vegetation functioned as a magnet for private development of the hillsides overlooking the reservoirs. From its beginnings, this "blue jewel" attracted the City's elite, including numerous Hollywood personalities. The Silver Lake neighborhood emerged as an enclave of the work of many of the region's most renowned architects, and the area has been noted as having the greatest density of high style historic residences of any area in the city. The neighborhood's distinctive character is established by its rich mixture of residences designed in Mediterranean and other Revival styles of the 1920s and 1930s by architects such as Pierpont and Walter Davis and Robert Farquhar, among others, integrated with important works by major figures in the Modern movement, including Richard Neutra, Rudolf Schindler, Rafael Soriano, Gregory Ain, and John Lautner. Noted architectural historians David Gebhard and Robert Winter have observed that, "For so small a district, the Silver Lake area has a high concentration of first-rate architecture, making it one of the most important places to visit in the city….Obviously, the view (of the hills and the reservoir) was the attraction, and the architects have played up to it" (Gebhard and Winter 1994:177-178). The district boundaries

take in the all facilities associated with the historic functioning of the complex and the surrounding landscaped property owned by the City/LADWP and confined by the city street grid established after completion of the reservoirs, by the1920s.

The SLRC is also significant for its association with William Mulholland. Mulholland was a larger than life personality in the annals of southern California history, who by force of character was able to make his vision of water supply for southern California a reality. He is the person most responsible for the current water management system of the Los Angeles Basin. Mulholland was responsible for conceiving the construction of the Los Angeles-Owens Valley Aqueduct, which transformed the face of the region, enabling Los Angeles' expansion to major city proportions, in addition to increasing agricultural production. Mulholland, who headed the Department of Water and Power for 42 years, oversaw the design and construction of the aqueduct, which, at roughly 240 miles in length, was the most grandiose of its day and an engineering marvel. He was also responsible for developing the system of pipelines, reservoirs, and dams that provided the region with a dependable and inexpensive supply of water. William Mulholland was intimately involved in the development of the Ivanhoe and Silver Lake Reservoirs beginning with the selection of the site. Mulholland himself designed the reservoirs and dams, and he was responsible for developing the unique construction technique employed (Kanner 1989).

The SLRC is also eligible for the CRHR for the significance of its design and aspects of its engineering. Silver Lake Reservoir and dam were the first structures in the country to utilize the hydraulic sluicing technique of excavation and puddled earth dam construction. This method later became commonplace throughout the country and beyond. It is the first built and the only surviving example of a hydraulically sluiced reservoir in the Los Angeles water supply system, the others being either mechanically excavated earthen structures, or concrete. The DWP designers worked diligently to create a dam in Ivanhoe Canyon that would be not merely functional, but aesthetically pleasing for the thousands who would live on the "seven hills" overlooking it. While the various features of the reservoirs have been changed and upgraded over the course of its 100 year history, it continues to manifest its historic appearance, character and association with William Mulholland and the Department of Water and Power. The present appearance of the reservoirs reflects changes in technology through their functional life and evolution of the water supply system during their period of significance, established as 1906-1953. This period represents initial construction through the improvement program of the early 1950s.

Table 3-1 summarizes the elements of the SLRC and identifies the status of the various features. Noncontributing features have typically been identified as such because of their a) recent construction; or b) loss of integrity. The locations of SLRC contributing features are indicated on Figure 3-1.

TABLE 3-1
SLRC Historic District
Status of Historic Resources at the SLRC

| Element | Status | |
|---|---|---|
| | Contributing | Noncontributing |
| Silver Lake Reservoir | x | |
| Silver Lake Dam | x | |
| Silver Lake Outlet Tower | | x |
| Ivanhoe Reservoir | x | |
| Ivanhoe Dam | x | |
| Ivanhoe Inlet Tower | x | |
| Silver Lake South Outlet Chlorination Station | x | |
| Silver Lake Meter House | x | |
| Chemical/Chlorine Plant | x | |
| Caretaker's House | x | |
| Garage | x | |
| Bathroom Building | x | |
| Sheds (2) | x | |
| Landscape Building | x | |
| Chlorination Station (Ivanhoe) | x | |
| Laboratory Building | | x |
| Nursery School (temporary buildings) | | x |
| Landscape elements, including stone and concrete retaining walls, perimeter road, trees, shrubs, and other vegetation | x | |

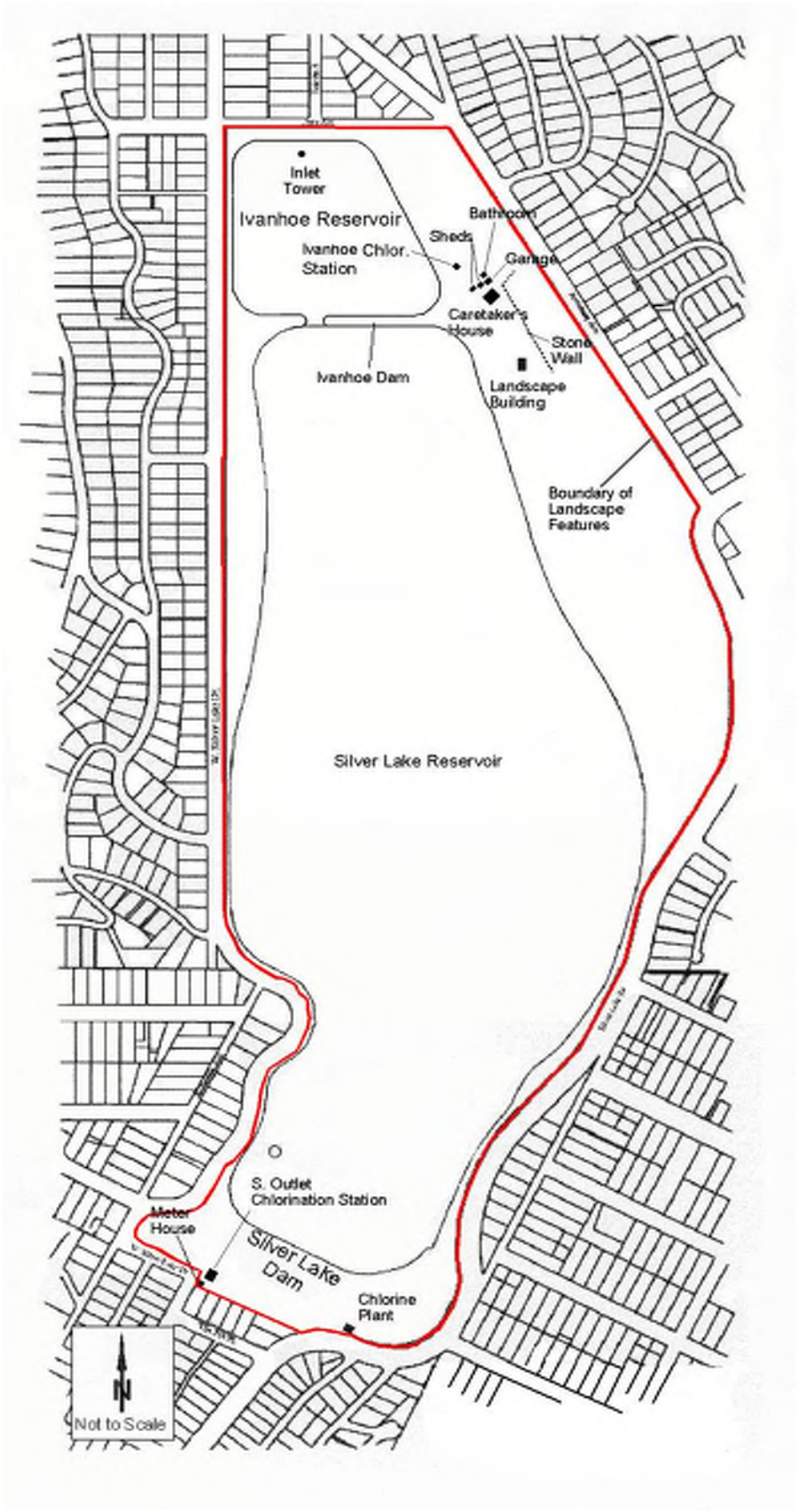



Figure 3-1
**SLRC SRP**
**Contributing Historic Resources**

## 3.3 HWSG Site Impacts

Facilities proposed for the HWSG Site include a 110-MG underground storage reservoir and a 4-MW hydroelectric power generating facility. The reservoir would occupy approximately 19 acres on the east half of the HWSG site. The reservoir itself would be 10 acres in area and 40 feet high. Following construction, native vegetation would be planted on the side slopes and top of the reservoir. LADWP also proposes to construct a 4-MW hydroelectric power generating facility at or near the HWSG site. The powerhouse would be approximately 50 feet wide, 70 feet long, and 30 feet high, and would be partially buried, with the highest point roughly 18 feet above ground. The remainder of the HWSG site that would be disturbed during construction would be returned to its original condition.

### 3.3.1 Construction/Short-term Impacts

Given the highly disturbed nature of the HWSG site, no impacts to historical resources associated with construction of the underground storage reservoir and hydroelectric power generating facility at the HWSG site are anticipated and no additional measures are necessary.

The potential for discovery of prehistoric or historical archaeological sites on the parcel is considered to be low. However, implementation of Mitigation Measure 2 would ensure that potential impacts would be less than significant.

### 3.3.2 Operation/Maintenance/Long-term Impacts

There will be no impacts to archaeological or historical resources associated with operation of the underground storage reservoir and hydroelectric power generating facility at the HWSG site and no additional measures are necessary.

## 3.4 SLRC Site Impacts

### 3.4.1 Construction/Short-term Impacts

#### 3.4.1.1 Materials and Equipment Staging Area (SLRC-1)

Implementation of the proposed project would entail storage of various construction materials and equipment on an approximately 5 acre area presently a well maintained grass lawn interspersed with banks of low shrubs and small trees. Use of the area for this purpose would result in removal and/or degradation of the existing landscaping. Dating to the early to mid-1950s when a portion of the reservoir that extended into this area was in-filled, the existing landscape features do not relate to the early development of the reservoir complex. However, the "meadow" has existed for 50 years or more, is in keeping with the historic landscaping of the reservoir complex which incorporates other areas of open lawn, and contributes to the overall historic character of the resource. Therefore, project related impacts to the area are considered potentially significant. These impacts may be reduced to a less than significant level through implementation of Mitigation Measure 1.

#### 3.4.1.2 Regulating Station (SLRC-2)

Construction of the Regulating Station and associated facilities will involve excavation and grading of an approximately 30,000 square foot area at the southwest corner of the SLRC property. This work will result in the removal of grass and trees presently located within the construction site. The existing landscape features include approximately eight California sycamore trees 10-18 inches in diameter, that are believed to date to LADWP improvements between 1951 and 1977. Several pine trees on the periphery of the site are considerably older. While not associated with the early development of the reservoir complex, the sycamore trees are in keeping with the character of the historic landscaping, and they contribute to the overall historic qualities of the reservoir complex. Removal of the sycamore trees and other landscape features will result in a potentially significant adverse impact to historical resources without mitigation. Implementation of Mitigation Measure 1 will reduce this impact to less than significant.

The potential for discovery of prehistoric or historical archaeological sites on the parcel is considered to be low. However, if encountered during construction, unavoidable impacts can be mitigated to a less than significant level by implementation of Mitigation Measure 2.

#### 3.4.1.3 Silver Lake Bypass Pipeline (SLRC-3)

Initial LADWP assessments indicate that, with the proposed techniques, tunneling for the Silver Lake Bypass Pipeline at a depth of between 30 and 100 feet below grade and off-set laterally from building footprints by a minimum of 30 ft will not result in noise or vibration levels likely to result in impacts to existing residential construction and related features along the west side of West Silver Lake Drive, along Redesdale Avenue, or to contributing elements of the SLRC. Further, none of the buildings located along West Silver Lake Drive adjacent to the tunnel alignment is now a locally, state or federally designated historical resource.

Excavations for the north jacking pit and one receiving pit will be located within the travel lanes of the existing streets. A second jacking pit will be placed on a corner of the SLRC that is presently a landscaped public park area. Impacts related to these excavations will be temporary, and project specifications call for restoration of affected areas to their preconstruction appearance.

Existing trees and other landscaping on SLRC property at the corner of W. Silver Lake Drive and Redesdale Avenue are believed to date to the 1951-1977 period, with older (pine) trees located on the slope to the north. While generally not associated with the early development of the reservoir complex, the landscaping is in keeping with the historic character and function of this portion of the SLRC property and contributes to the historic resource. Impacts associated with removal of vegetation in this area are considered potentially significant without mitigation. Impacts will be reduced to less than significant with implementation of Mitigation Measure 1.

Because soils in these areas could not be examined, the potential for existence of archaeological resources could not be fully assessed. Impacts to cultural resources resulting from excavation/unanticipated discovery would be mitigated to insignificance through implementation of Mitigation Measure 2.

## 3.4.2 Operation/Maintenance/Long-term Impacts

### 3.4.2.1 Silver Lake Bypass Pipeline (SLRC-1)

There will be no direct impacts related to operation of the bypass pipeline. As a result of the project, Silver Lake and Ivanhoe Reservoirs at the SLRC would no longer be used for water supply and day-to-day operations would change. Specifically, the water currently flowing into Silver Lake and Ivanhoe Reservoirs would bypass SLRC. Provided that current project specifications, which call for the SLRC facility and property to be maintained consistent with the appearance and condition that LADWP has provided at this facility for several years, project impacts related to the change in function of the Silver Lake and Ivanhoe Reservoirs are not considered to be potentially significant adverse and no additional measures are necessary.

### 3.4.2.2 Regulating Station (SLRC-2)

There will be no impacts to archaeological or historical resources associated with operation of the regulating station at the SLRC and no additional measures are necessary.

### 3.4.2.3 Materials and Equipment Staging Area (SLRC-3)

Use of the meadow area will be limited to the construction phase of the SLRC-SRP and there will be no operational impacts to known archaeological or historical resources.

# 4.0 Mitigation Measures

## 4.1 Construction/Short-term Impacts

Potential adverse environmental impacts on cultural resources during construction will be addressed by implementing the following mitigation measures:

### Mitigation Measure 1

Landscaping of the 30,000 square foot park area located at the southwest corner of the SLRC, the proposed location of a jacking pit, pipeline, concrete vaults for a regulating station, and other new facilities, shall be returned to an appearance approximating the pre-construction conditions, in so far as is possible, prior to decommissioning of the SLRC for domestic water supply usage. Where avoidance or transplantation of on-site trees and other vegetation is not possible, the proposed regulating station area (SLRC-2) should be landscaped with mature, healthy trees and plant material of comparable species, in keeping with the historic character and appearance of these portions of the reservoir complex. In areas where planting of trees and other large vegetation would impede operation of the new facilities, grass will be replanted over the buried structures, approximating the current appearance of the site in as much as that is practicable. In so far as is possible, landforms shall be returned to their pre-construction topography. The *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Cultural Landscapes* should be employed to mitigate potential impacts to the existing landscaping resulting from construction activities.

The same mitigation measures shall be employed for impacts related to the removal or degradation of landscaping in the area designated for equipment and material staging (SLRC-1), within the former East Cove area.

### Mitigation Measure 2

The impact to cultural resources related directly or indirectly to the project-related activities shall be reduced to below the level of significance through the recovery or treatment of archaeological resources encountered during any archaeological site investigations or monitoring of ground-disturbing activities (construction) in areas with the potential to contain archaeological resources.

When investigations identify unique archaeological resources as defined in Section 21083.2 of the Public Resources Code, the site shall be subject to specified requirements for treatment. Where any respective element of the project is expected to require earthmoving, the following program shall be implemented and the requirement duly noted in project plans and specifications:

- Retain a qualified archaeologist to implement a monitoring and recovery program in any area identified as having the potential to contain unique archaeological resources.

- A qualified archaeologist shall monitor earth-moving activities in areas that are likely to contain unique archaeological resources. The archaeologist shall be authorized to halt construction, if necessary, in the immediate area where buried cultural remains are encountered. Prior to the resumption of grading activities in the immediate vicinity of the cultural remains, the project proponent shall provide the archaeologist with the necessary resources to identify and implement a program for the appropriate disposition as specified by Section 15064.5(e) of the CEQA Guidelines.
- The selected archaeologist shall be required to secure a written agreement with a recognized museum repository regarding the final disposition and permanent storage and maintenance of any unique archaeological resources recovered as a result of the archaeological monitoring. This would also include corresponding geographic site data that might be recovered as a result of the specified monitoring program. The written agreement for the disposition of recovered artifacts shall specify the level of treatment (preparation, identification, curation, cataloging) required before the collection would be accepted for storage.
- The selected archaeologist shall attend a preconstruction meeting to provide information regarding regulatory requirements for the protection of unique archaeological resources. Construction personnel shall be trained on procedures to be followed in the event that a unique archaeological resource is encountered during construction. In addition, the archaeologist shall ensure that the preconstruction meeting participants are trained to notify the Los Angeles County Medical Examiner (coroner) within 24 hours of the discovery of human remains. Upon discovery of human remains, there shall be no further excavation or disturbance of the site or any reasonably nearby area suspected to overlie adjacent human remains until the following conditions are met:
  - The Los Angeles County Medical Examiner has been informed and has determined that no investigation of the cause of death is required, and if the remains are of Native American origin, the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

If archaeological sites are encountered during construction of the proposed project, an evaluation of significance will be made by the selected archaeologist. Those sites that are determined to be eligible for listing in the CRHR shall be treated in accordance with one of the three feasible measures described in the "CEQA and Archaeological Resources," CEQA Technical Advice Series:

- Capping (covering) the site with a level of soil prior to construction over the site
- Incorporation into open space areas of the project site
- Excavation where the first two measures are not feasible.

For eligible sites, the City of Los Angeles shall, prior to construction, implement the applicable treatment plan.

With implementation of these measures, construction of the proposed SLRC SRP would not result in significant cultural resources impacts.

## 4.2 Operation/Maintenance/Long-term Impacts

No adverse environmental impacts to cultural resources are expected during routine operation of the proposed project, provided that the SLRC facility and property are maintained consistent with the appearance and condition that LADWP has provided at this facility for several years. As such, no mitigation measures are required.

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# Figures

**Figure 2-2 Ivanhoe Reservoir and Dam**

**Figure 2-3 Ivanhoe Reservoir Inlet Tower**

**Figure 2-4 Silver Lake Reservoir Dam**

**Figure 2-5 Silver Lake South Outlet Chlorination Station and Meter House**

**Figure 2-6 Silver Lake Chemical/Chlorine Plant**

**Figure 2-7 Caretaker's House**

**Figure 2-8 Garage**

**Figure 2-9 Bathroom Building**

**Figure 2-10 Sheds**

**Figure 2-11 Landscape Building**

**Figure 2-12 Ivanhoe Chlorination Station**

**Figure 2-13 Stone Retaining Walls**

# Addendum to the Cultural Resources Assessment Report for the Silver Lake Reservoir Complex Storage Replacement Project

## Introduction

This Technical Memorandum is an addendum to the *Silver Lake Reservoir Complex Storage Replacement Project – Cultural Resources Assessment Report* (CRAR) prepared by Greenwood and Associates in August 2004. The CRAR is incorporated herein by reference. This Technical Memorandum was prepared by CH2M HILL's cultural resources specialist, Dr. Jim Bard.

The purpose of this Addendum is to address additional, recently identified changes to the Project and their implications for the management and protection of cultural resources. These additional project components were not considered in the CRAR and include:

- Excavation for a proposed pipeline immediately to the east of Ivanhoe Reservoir
- Excavation for cut-and-plug operations at the northeast end of Silver Lake Reservoir
- Trenching along West Silver Lake Drive immediately southwest of the Silver Lake Reservoir for the Regulating Station Trunk Line
- Excavations for two Relief Stations along Silver Lake Boulevard southeast of the SLRC, one at West Silver Lake Drive and the other at London Street

## Analysis

Construction activities necessary to remove Silver Lake and Ivanhoe Reservoirs (excavation east of Ivanhoe Reservoir and northeast of Silver Lake Reservoir) would take place in areas previously investigated by Greenwood and Associates. No historic buildings would be affected. Potential impacts associated with the area referred to as SLRC-1 would apply to this area. The potential for discovery of prehistoric or historical archaeological sites in this area is considered to be low. However, if encountered during construction, unavoidable impacts would be mitigated to a less-than-significant level by implementation of Mitigation Measure 2. Adverse impacts to historic landscaping are not likely to be significant in this area; however, to ensure that potential impacts would be less than significant, Mitigation Measure 1 would also be implemented.

Potential construction of the trunk line for the regulating station in West Silver Lake Drive, immediately south of the location for the regulating station, would be unlikely to result in adverse impacts to any archaeological resources that might be present because existing streets and underground utilities have likely already disturbed such resources. However, to ensure that impacts are less than significant, Mitigation Measure 2 would be implemented.

The two separate relief stations would be constructed belowground within existing streets; no historic buildings would be affected. Construction for the relief stations would be

unlikely to result in adverse impacts to any archaeological resources that might be present because existing streets and underground utilities have likely already disturbed such resources. However, to ensure that impacts are less than significant, Mitigation Measure 2 would be implemented.

## Conclusions

The addition of project elements identified above does not affect the findings and conclusions presented in the CRAR prepared by Greenwood and Associates. Implementation of Mitigation Measures 1 and 2 in the CRAR would ensure protection of any archaeological resources that might be inadvertently encountered during construction and will ensure restoration of the historic character of the landscaping and setting once construction has been completed.

SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

# APPENDIX C

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Natural Features


## Constructed Water Features

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Buildings & Structures


## Land Uses

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Land Uses


## Land Uses

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Land Uses


## Land Uses

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Topography: Increasing Slopes


## Topography: Decreasing Slopes

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Topography: Level Area


## Topography

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Topography


## Topography

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Vehicular Circulation


## Pedestrian Circulation

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

## Vegetation


## Vegetation

# Landscape Characteristics of the Silver Lake and Ivanhoe Reservoir Complex

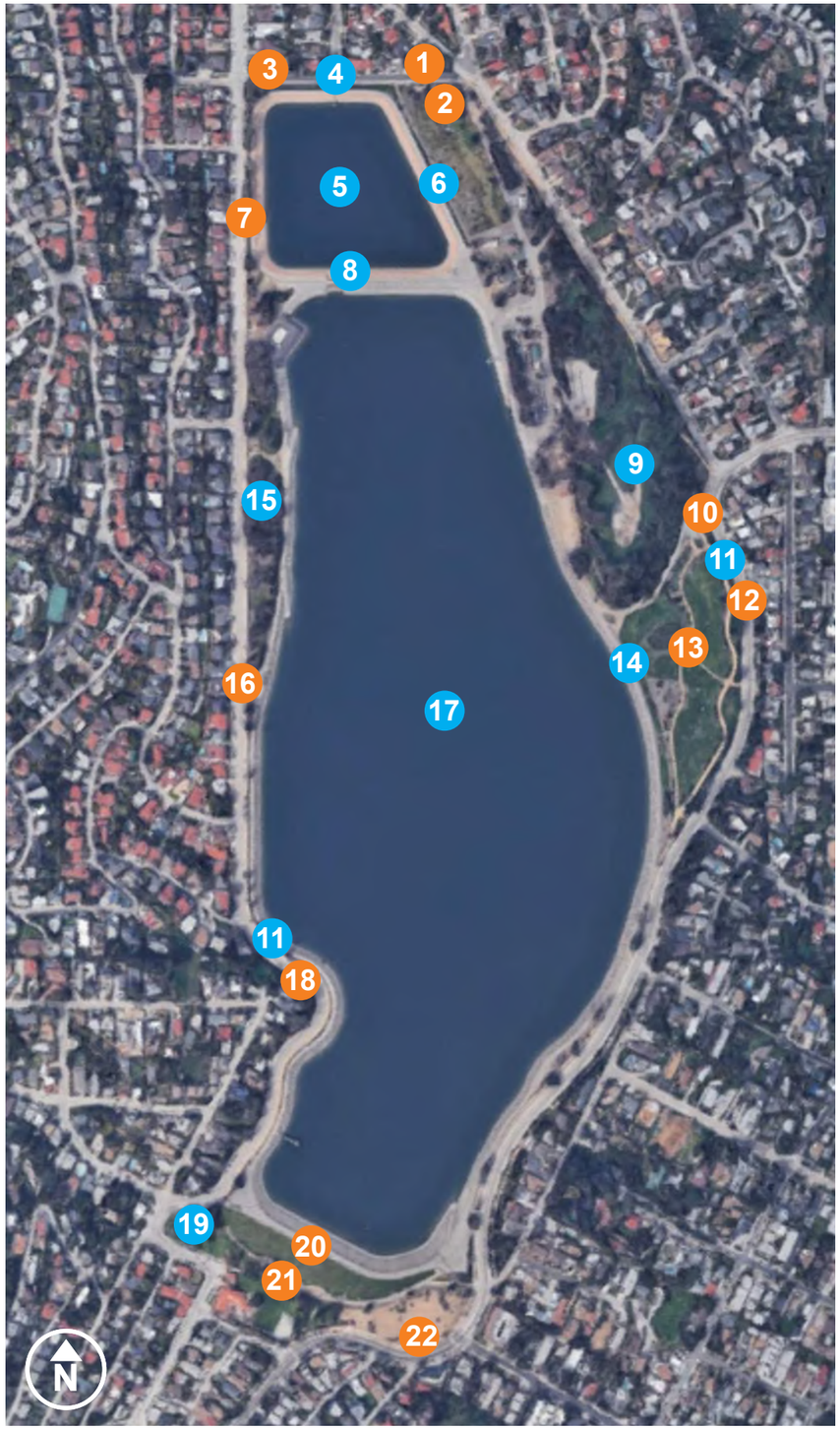
## Vegetation


## Vegetation

SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

# APPENDIX D

# Silver Lake and Ivanhoe Reservoir Complex Historic District




1 Tesla Pocket Park
Chronology: Constructed 2012

2 Nursery School
Chronology: Constructed 1976

3 North Path, Landscaping, & Fencing
Chronology: Constructed 2012

4 North Ivanhoe Dam
Chronology: Constructed 1906; altered1951-53, 1993-94

Legend
Contributing
Non-Contributing

# 4 North Ivanhoe Dam

Character-Defining Features
- Primary
- Secondary
- Not



**A**
Feature: Shape
Reason: Dates from the period of significance, highly visible, and retains integrity

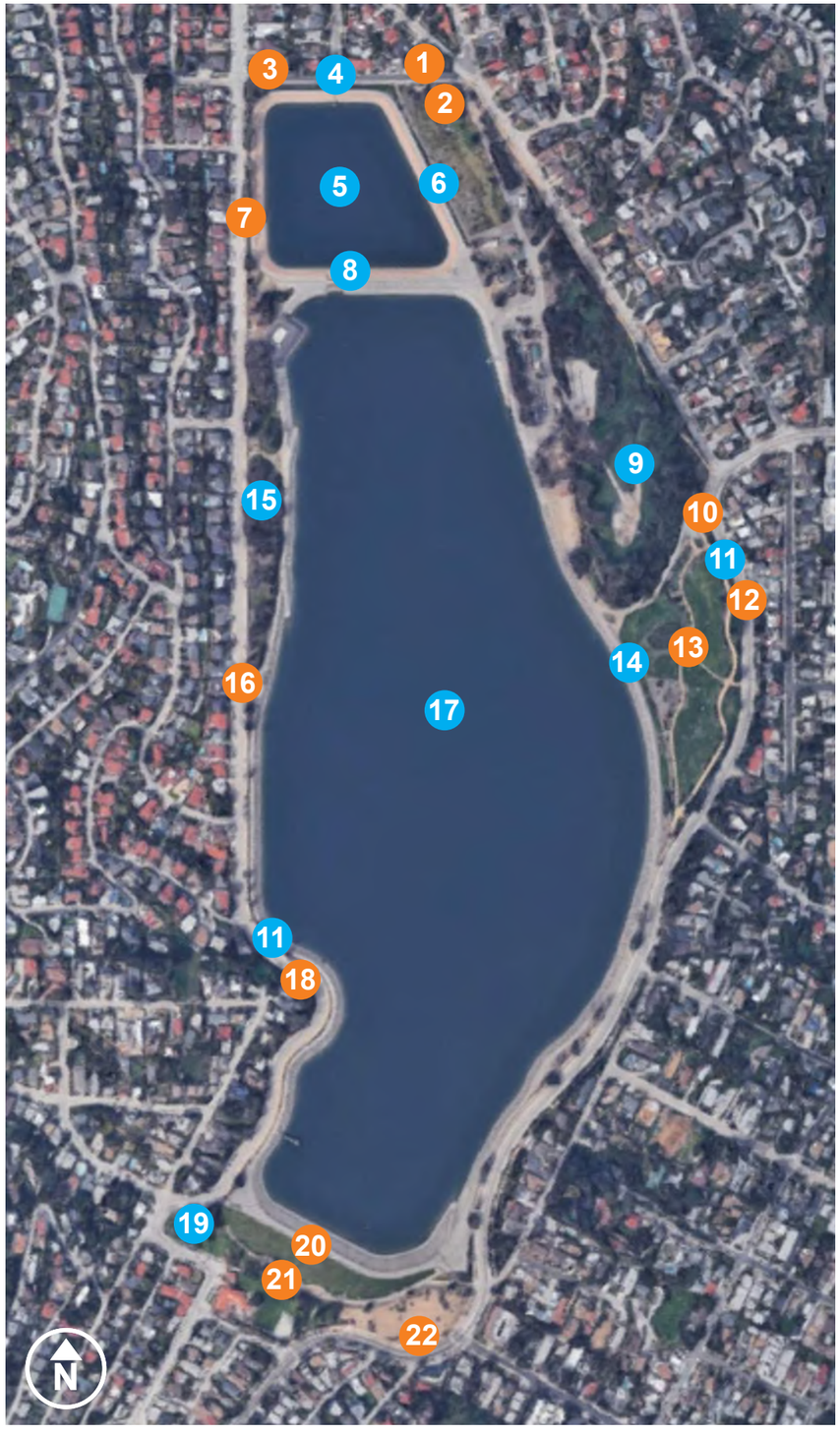
**B**
Feature: Height
Reason: Dates from the period of significance, highly visible, and retains integrity

**C**
Feature: Earthfill
Reason: Dates from the period of significance and retains integrity, but not highly visible

**D**
Feature: Landscaping
Reason: Post dates period of significance

**E**
Feature: Drainage Ditch
Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District

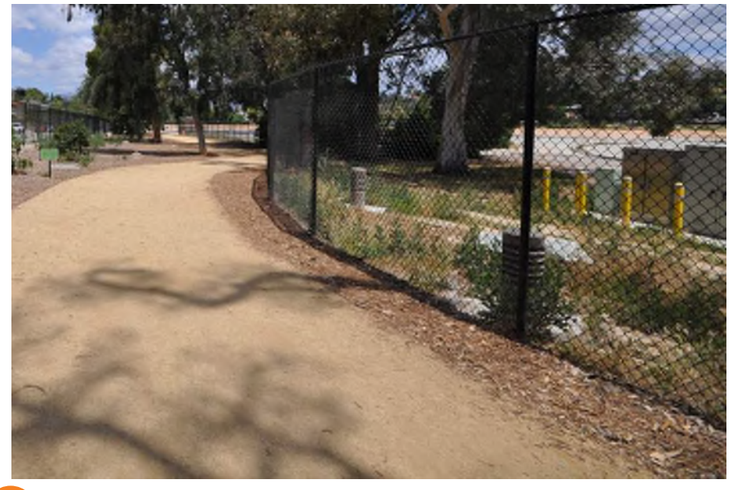



5 Ivanhoe Reservoir

Chronology: Constructed 1906; altered c. 1930, 1951-53, 1993-94

6 Ivanhoe Reservoir Perimeter Path

Chronology: Constructed c. 1950



7 Ivanhoe Path, Landscaping, & Fencing

Chronology: Constructed 2018

8 South Ivanhoe Dam

Chronology: Constructed 1907; altered 1920, 1951-53, 2011-17

Legend

Contributing

Non-Contributing

# 5 Ivanhoe Reservoir



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Reservoir Shape

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Reservoir Depth

Reason: Dates from the period of significance and retains integrity, but not highly visible

**C**

Feature: Embankment Configuration

Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Embankment Paving

Reason: Post dates period of significance

**E**

Feature: Curb

Reason: Post dates period of significance

**F**

Feature: Water Level

Reason: Dates from the period of significance, highly visible, and retains integrity

# 6 Ivanhoe Reservoir Perimeter Path


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Path Plan

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Asphalt Paving

Reason: Post dates period of significance

# 8 South Ivanhoe Dam


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Shape
Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Height
Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Drain
Reason: Likely dates from the period of significance and retains integrity, but purely functional

**D**

Feature: Platform & Ladder
Reason: Likely post dates the period of significance

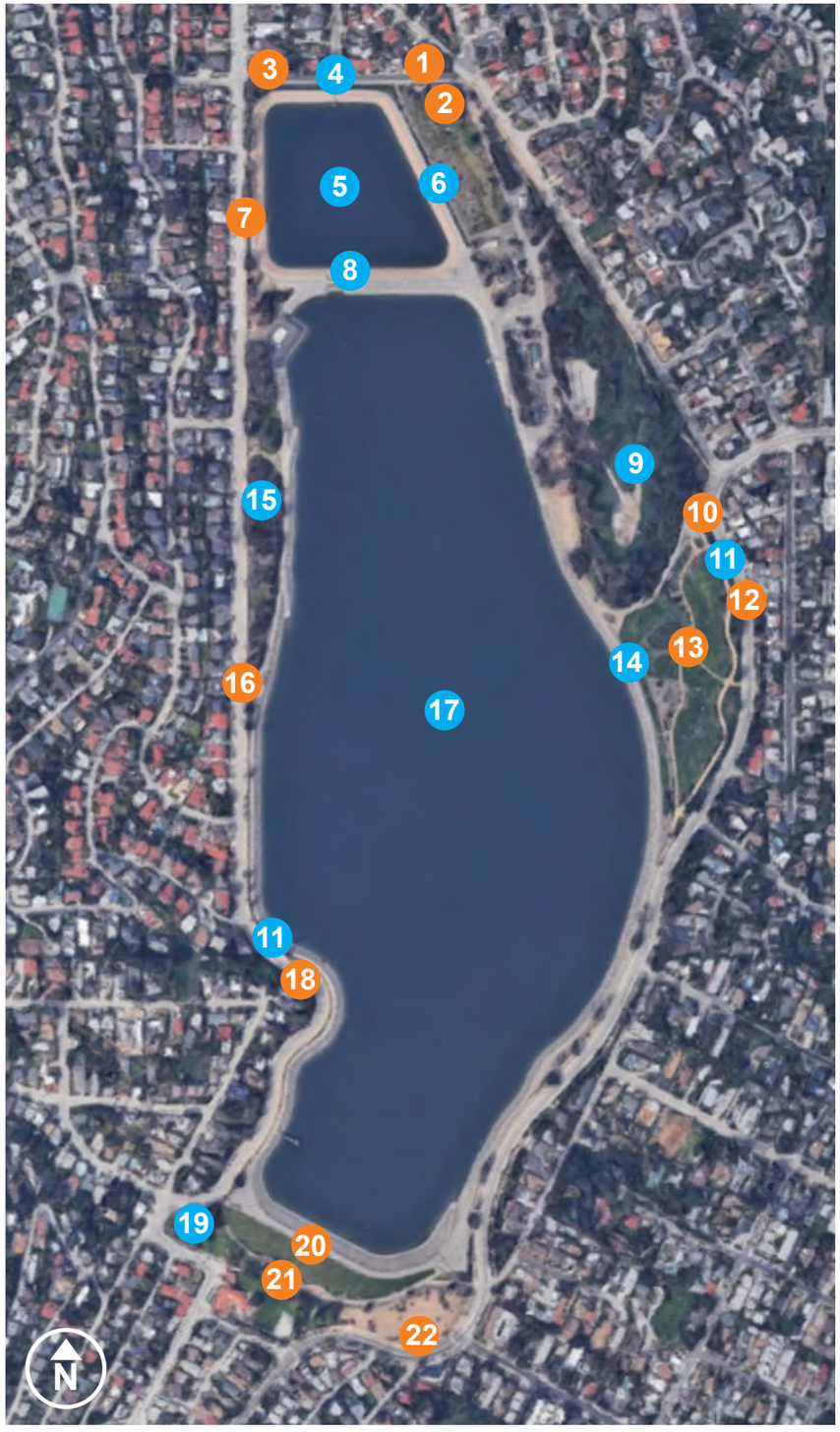
**E**

Feature: Pipe Railing
Reason: Likely post dates the period of significance

**F**

Feature: Spillway
Reason: Dates from the period of significance, highly visible, and retains integrity

# Silver Lake and Ivanhoe Reservoir Complex Historic District




9 The Knoll
Chronology: Natural feature; altered c. 1971 and c. 2010

11 Concrete Perimeter Wall
Chronology: Constructed c. 1930

10 Silver Lake Blvd Secondary Entrance
Chronology: c.1975-76; substantially altered 2018

12 East Pedestrian Path, Landscaping, & Fencing
Chronology: Constructed 2008

Legend
Contributing
Non-Contributing

# 9 The Knoll



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Mature Trees

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Slope

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Gravel Paths

Reason: Post dates period of significance

**D**

Feature: Grasses & Small Plants

Reason: Post dates period of significance

**E**

Feature: Wood Retaining Wall

Reason: Post dates period of significance

# 9 The Knoll


Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Street Lights
Reason: Post dates period of significance

**G**

Feature: Fence
Reason: Post dates period of significance

**H**

Feature: Pedestrian Path
Reason: Post dates period of significance

**I**

Feature: Concrete Paving
Reason: Post dates period of significance

# 11 Concrete Perimeter Wall



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Configuration

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Posts

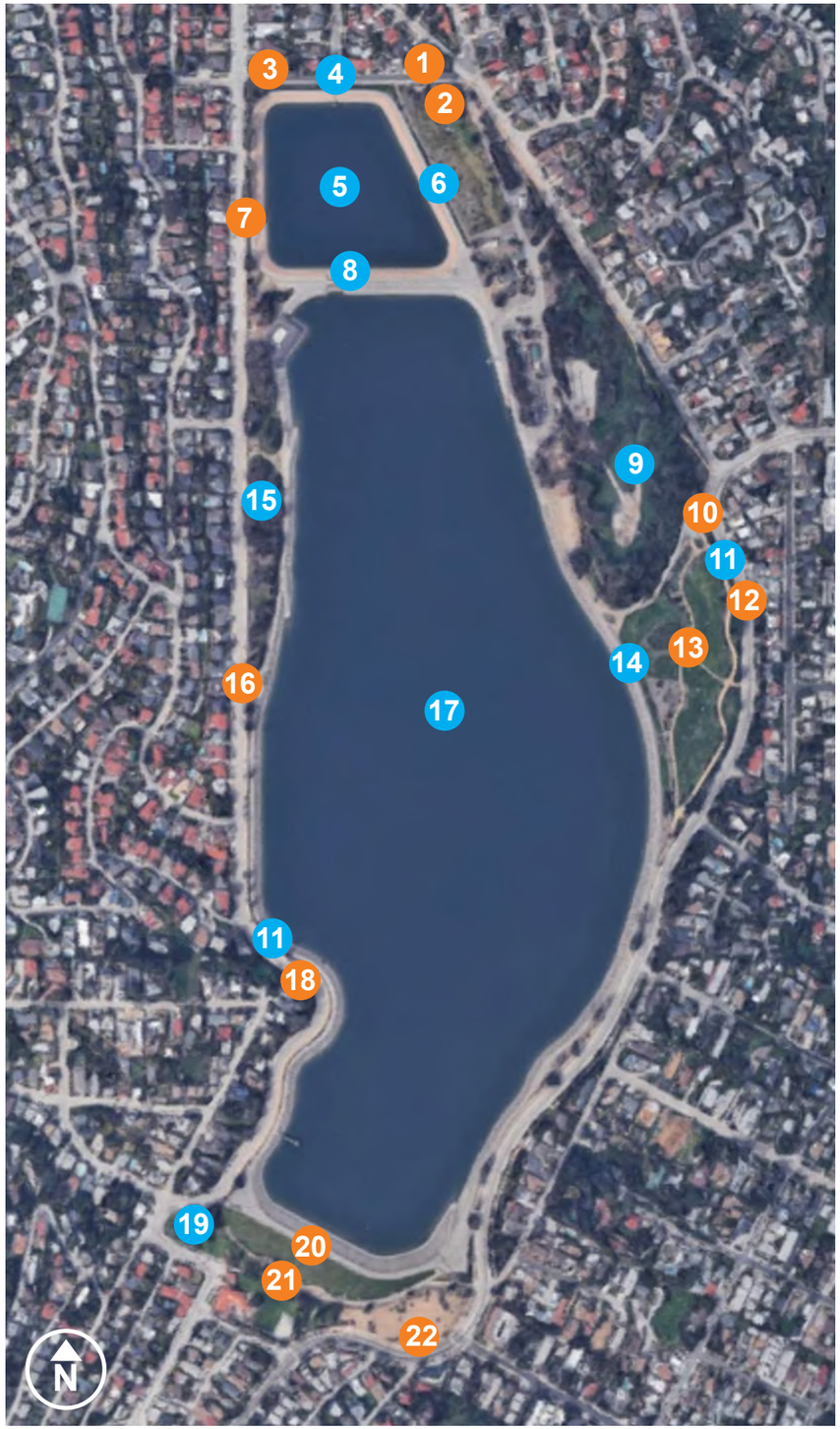
Reason: Post dates period of significance

**C**

Feature: Fence

Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District




13 Silver Lake Meadow
Chronology: East Cove infilled 1953; park constructed 2011

15 West Landscaped Area
Chronology: Constructed c. 1920; altered 1951-53

14 Silver Lake Reservoir Perimeter Path
Chronology: Constructed c.1950

16 Silver Lake Dr. Secondary Entrance
Chronology: Constructed c.1970

Legend
Contributing
Non-Contributing

# 14 Silver Lake Reservoir Perimeter Path



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Path Plan

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Asphalt Paving

Reason: Post dates period of significance

# 15 West Landscaped Area


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Mature Trees

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Grasses & Small Plants

Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District


17 Silver Lake Reservoir
Chronology: Constructed 1907; altered c.1920, 1951-53, 2011-17

18 West Pedestrian Path, Landscaping, Fencing
Chronology: Constructed 2005

19 Grassy Patch
Chronology: Constructed c.1920

20 Silver Lake Dam
Chronology: Constructed 1907; reconstructed 1975-76

Legend
Contributing
Non-Contributing

# 17 Silver Lake Reservoir



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Reservoir Shape

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Reservoir Depth

Reason: Dates from the period of significance and retains integrity, but not highly visible

**C**

Feature: Embankment Configuration

Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Embankment Paving

Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Curb

Reason: Post dates period of significance

**F**

Feature: Water Level

Reason: Dates from the period of significance, highly visible, and retains integrity

# 17 Silver Lake Reservoir




Character-Defining Features

- Primary
- Secondary
- Not




**G**

Feature: Lowerator
Reason: Dates from the period of significance, highly visible, and retains integrity

**H**

Feature: Bypass Line
Reason: Post dates period of significance

**I**

Feature: Reservoir Equipment
Reason: Dates from the period of significance and retains integrity, but purely functional

**J**

Feature: Street Lights
Reason: Post dates period of significance

**K**

Feature: Reservoir Equipment
Reason: Dates from the period of significance and retains integrity, but purely functional

**L**

Feature: Boat Launches
Reason: Dates from the period of significance, highly visible, and retains integrity

# 19 Grassy Patch



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Non-Mature Trees

Reason: Post dates period of significance

**B**

Feature: Picnic Table (Not Pictured)

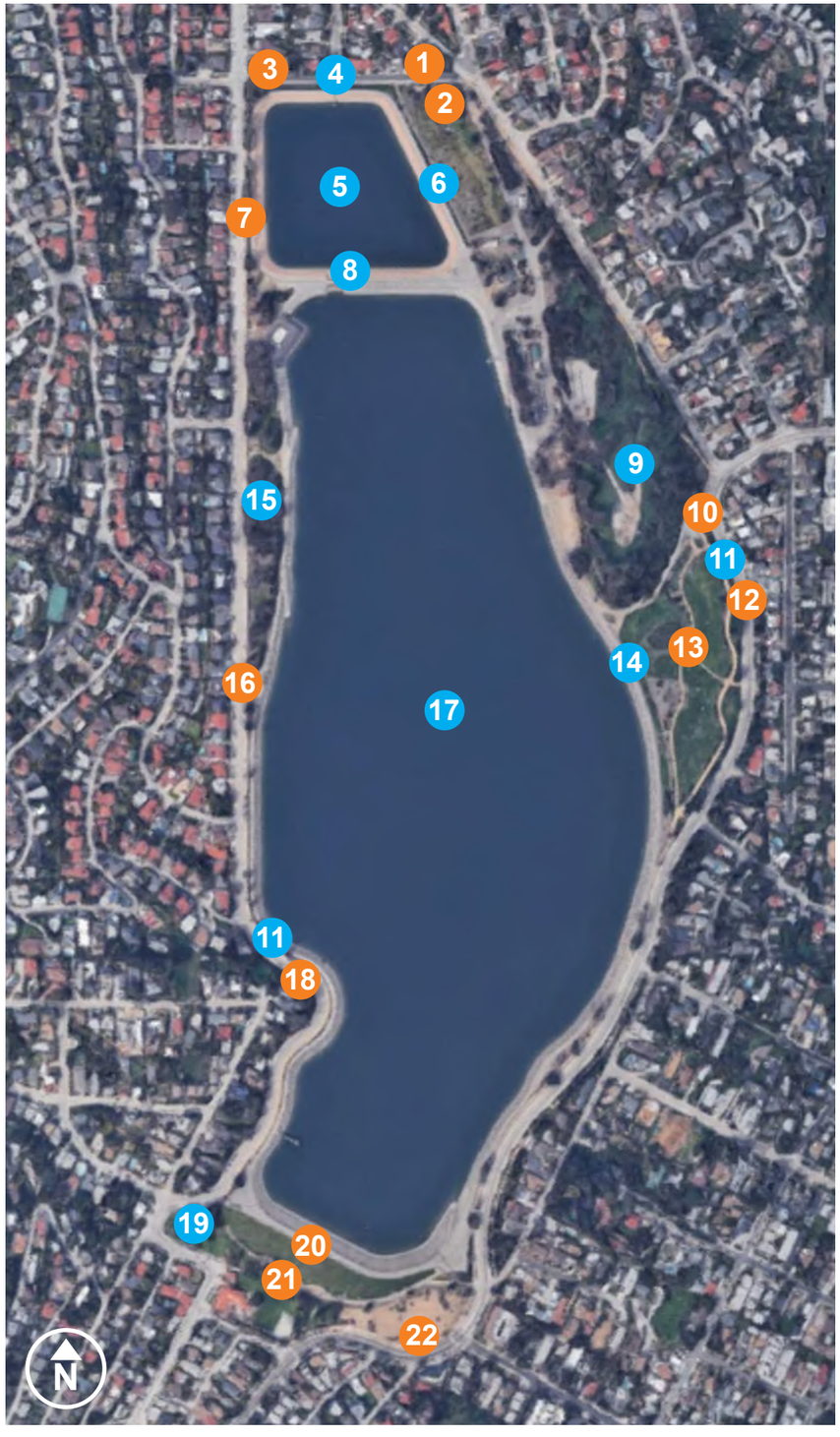
Reason: Post dates period of significance

**C**

Feature: Mature Trees

Reason: Dates from the period of significance, highly visible, and retains integrity

# Silver Lake and Ivanhoe Reservoir Complex Historic District




21 Silver Lake Dam Pedestrian Path
Chronology: Constructed 2018

22 Silver Lake Dog Park
Chronology: Constructed 1995

Legend
Contributing
Non-Contributing

# Silver Lake and Ivanhoe Reservoir Complex Historic District



23 Main Entrance
Chronology: Constructed c.1930

24 Invanhoe Inlet Tower
Chronology: Constructed 1942

25 East Landscaped Area
Chronology: Constructed 2015-2017

26 Main Access Road
Chronology: Constructed c. 1930

Legend
Contributing
Non-Contributing

# 23 Main Entrance



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Entrance Configuration

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Asphalt Paving

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Rolling Gate

Reason: Post dates period of significance

**D**

Feature: Fence

Reason: Post dates period of significance

**E**

Feature: Street Light

Reason: Post dates period of significance

**F**

Feature: Security Kiosk

Reason: Post dates period of significance

# 24 Ivanhoe Inlet Tower



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Tower
Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Reservoir Equipment
Reason: Dates from the period of significance and retains integrity overall, but purely functional

**C**

Feature: Pipe Railing
Reason: Post dates period of significance

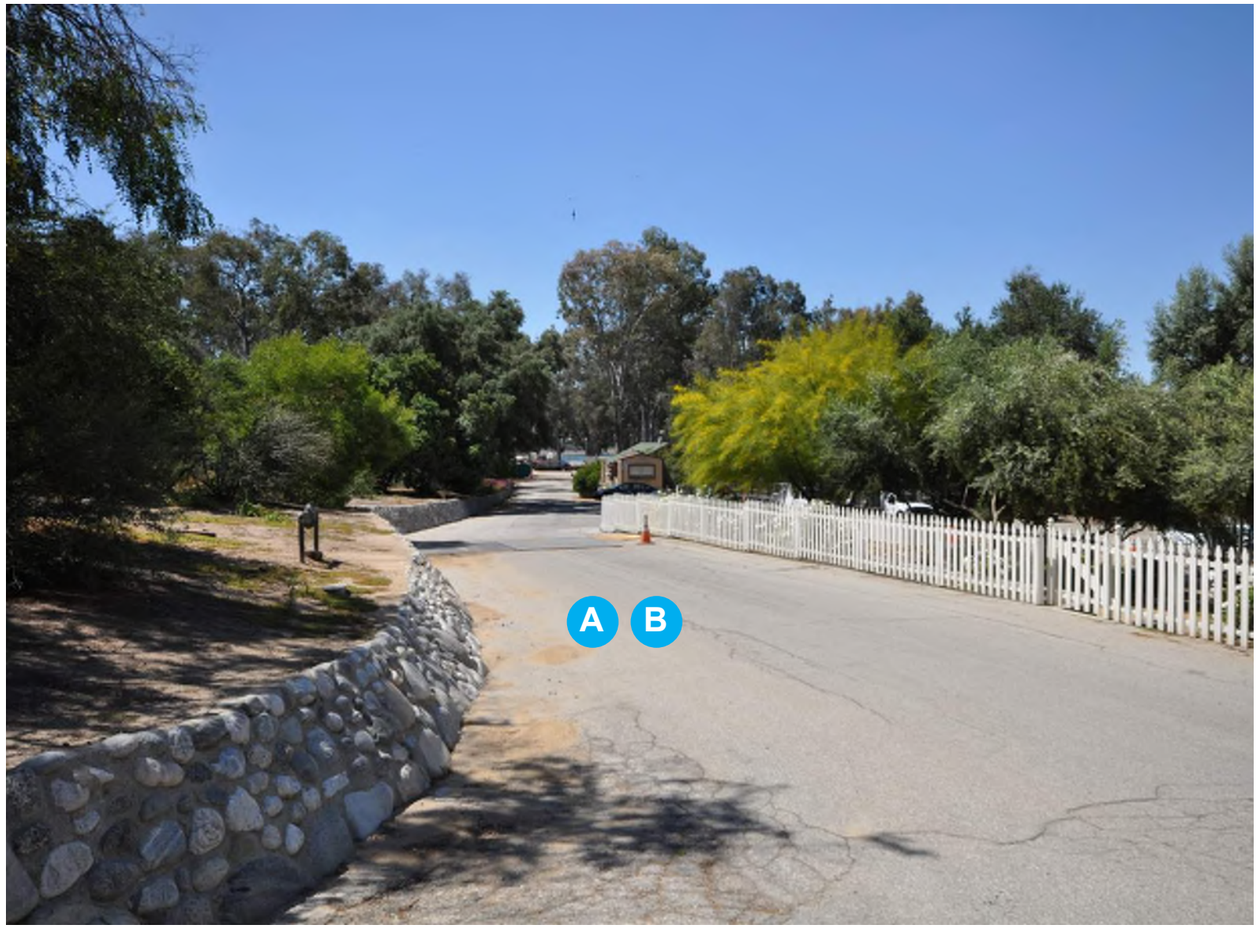
**D**

Feature: Walkway
Reason: Post dates period of significance

**E**

Feature: Steps
Reason: Post dates period of significance

# 26 Main Access Road




Character-Defining Features

- Primary
- Secondary
- Not

**A**

| | |
|---|---|
| Feature: | Road Configuration |
| Reason: | Dates from the period of significance, highly visible, and retains integrity |

**B**

| | |
|---|---|
| Feature: | Asphalt Paving |
| Reason: | Dates from the period of significance, highly visible, and retains integrity |

# Silver Lake and Ivanhoe Reservoir Complex Historic District



**27** Stone Retaining Wall
Chronology: Constructed c.1907-10

**28** Water Quality Office
Chronology: Constructed 1955

**29** Armstrong Ave Secondary Entrance
Chronology: Constructed c.1907-10; likely original main entrance

**30** Ivanhoe Reservoir Chlorination Station
Chronology: Constructed c.1937; altered at unknown date

Legend
- Contributing
- Non-Contributing

# 27 Stone Retaining Wall


Character-Defining Features

- Primary
- Secondary
- Not

**A**

| | |
|---|---|
| Feature: | Wall Configuration |
| Reason: | Dates from the period of significance, highly visible, and retains integrity |

**B**

| | |
|---|---|
| Feature: | Stone |
| Reason: | Dates from the period of significance, highly visible, and retains integrity |

# 29 Armstrong Avenue Secondary Entrance


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Entrance Configuration

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Asphalt Paving

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Swinging Gates

Reason: Post dates period of significance

**D**

Feature: Mailbox

Reason: Post dates period of significance

**E**

Feature: Fence

Reason: Post dates period of significance

# 30 Ivanhoe Reservoir Chlorination Station



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Cornice

Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Scored Concrete

Reason: Dates from the period of significance, highly visible, and retains integrity

# 30 Ivanhoe Reservoir Chlorination Station



Character-Defining Features

- Primary
- Secondary
- Not

**E**

Feature: Light Fixture
Reason: Post dates period of significance

**F**

Feature: Garage Opening
Reason: Post dates period of significance

**G**

Feature: Garage Door
Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District



31 Caretaker's House (Sunshine House)
Chronology: Constructed c. 1930; altered post-2005

32 Caretaker's Garage
Chronology: Constructed c. 1930; altered post-2005

33 Bathroom Building
Chronology: Constructed c. 1930; altered post-2005

34 Shed (Old Caretaker's House)
Chronology: c. 1906-10; altered at unknown date

Legend
- Contributing
- Non-Contributing

# 31 Caretaker's House (Sunshine House)





Character-Defining Features

- Primary
- Secondary
- Not




**A**

Feature: Mature Trees

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Brick Paving

Reason: Post dates period of significance

**C**

Feature: Reservoir Equipment

Reason: Dates from the period of significance and retains integrity, but purely functional

**D**

Feature: South Path

Reason: Post dates period of significance

**E**

Feature: Steps

Reason: Post dates period of significance

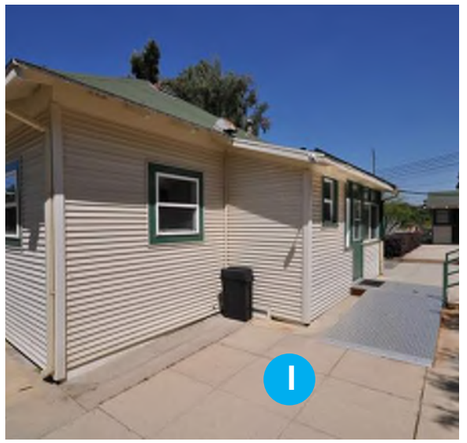
**F**

Feature: Southwest Path

Reason: Post dates period of significance

# 31 Caretaker's House (Sunshine House)







Character-Defining Features

- Primary
- Secondary
- Not

**G**

Feature: Northwest Path
Reason: Post dates period of significance

**H**

Feature: North Path
Reason: Post dates period of significance

**I**

Feature: Scored Concrete Paving
Reason: Dates from the period of significance, highly visible, and retains integrity

**J**

Feature: Steps
Reason: Dates from the period of significance, highly visible, and retains integrity

**K**

Feature: Concrete Retaining Wall
Reason: Dates from the period of significance, highly visible, and retains integrity

**L**

Feature: East Path
Reason: Dates from the period of significance, highly visible, and retains integrity

# 31 Caretaker's House (Sunshine House)




Character-Defining Features

- Primary
- Secondary
- Not

**M**

| | |
|---|---|
| Feature: | Picket Fence |
| Reason: | Post dates period of significance |

**N**

| | |
|---|---|
| Feature: | Small Plants |
| Reason: | Post dates period of significance |

# 31 Caretaker's House (Sunshine House)



Character-Defining Features

- Primary
- Secondary
- Not

**O**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**P**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**Q**

Feature: Roofing Materials

Reason: Post dates period of significance

**R**

Feature: Window Frame

Reason: Post dates period of significance

**S**

Feature: Window Sash

Reason: Post dates period of significance

**T**

Feature: Partially-Glazed Door

Reason: Likely post dates period of significance

# 31 Caretaker's House (Sunshine House)



Character-Defining Features

- Primary
- Secondary
- Not

**U**

Feature: Rafter Tails

Reason: Dates from the period of significance, highly visible, and retains integrity

**V**

Feature: Vinyl Siding

Reason: Post dates period of significance

**W**

Feature: Chimney

Reason: Altered since the end of the period of significance

**X**

Feature: Door Frame

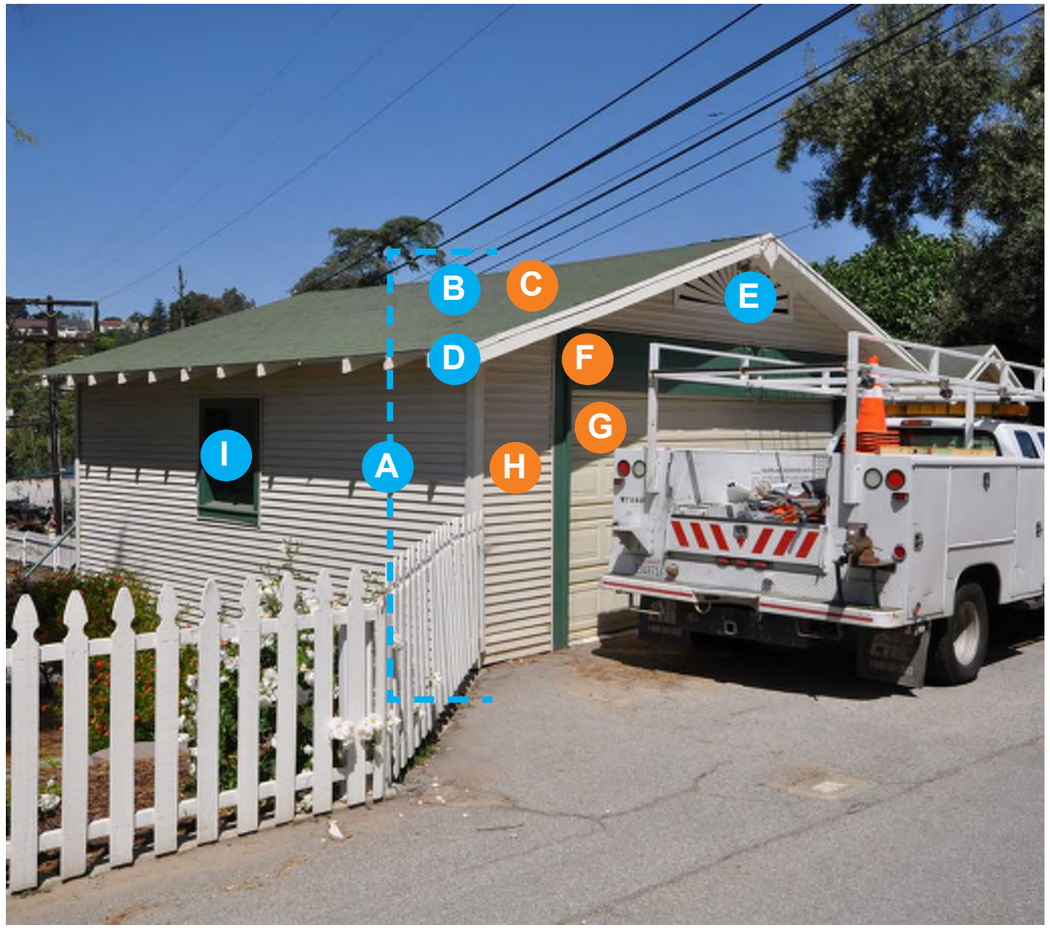
Reason: Post dates period of significance

**Y**

Feature: Slab Door & Sidelight

Reason: Post dates period of significance

# 32 Garage





Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Roofing Materials

Reason: Post dates period of significance

**D**

Feature: Fascia Board & Rafter Tails

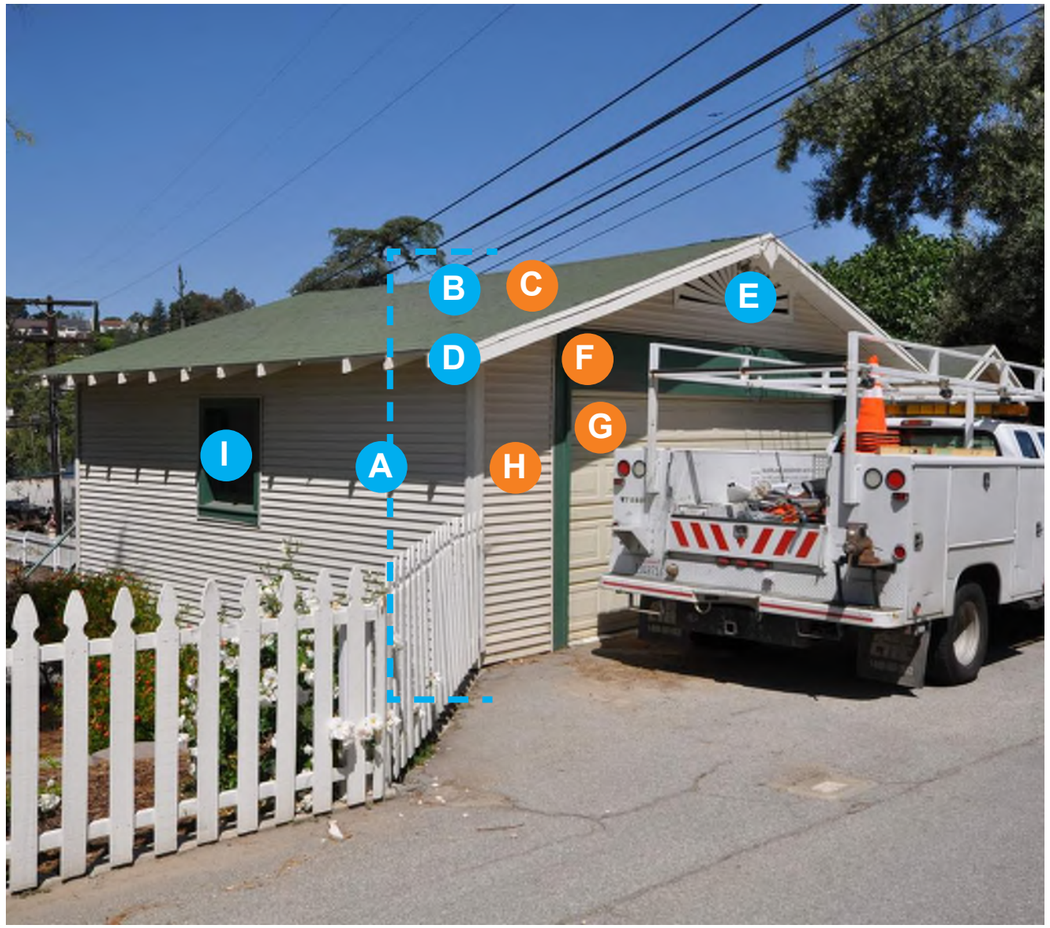
Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Vent

Reason: Dates from the period of significance, highly visible, and retains integrity

# 32 Garage





Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Garage Opening Frame

Reason: Post dates period of significance

**G**

Feature: Garage Door

Reason: Post dates period of significance

**H**

Feature: Vinyl Siding

Reason: Post dates period of significance

**I**

Feature: Window Sash

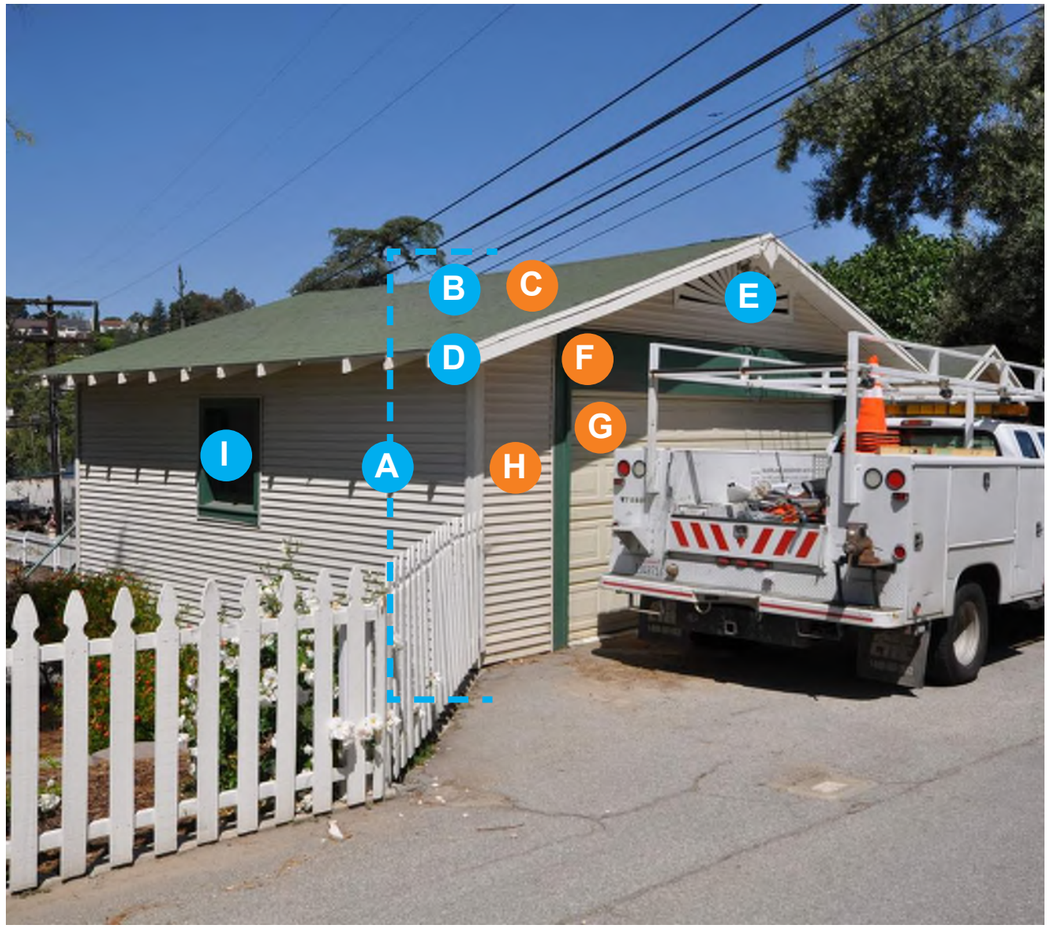
Reason: Dates from the period of significance, highly visible, and retains integrity

**J**

Feature: Window Frame

Reason: Post dates period of significance

# 32 Garage





Character-Defining Features

- Primary
- Secondary
- Not

**K**

Feature: Door Frame
Reason: Post dates period of significance

**L**

Feature: Door & Hardware
Reason: Likely post dates period of significance

**M**

Feature: Pipe Railing
Reason: Post dates period of significance

**N**

Feature: Stairs
Reason: Post dates period of significance

# 33 Bathroom Building


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Roofing Material

Reason: Post dates period of significance

**D**

Feature: Vinyl Siding

Reason: Post dates period of significance

**E**

Feature: Door Frame

Reason: Post dates period of significance

# 33 Bathroom Building


Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Paneled Door

Reason: Dates from the period of significance, highly visible, and retains integrity

**G**

Feature: Door Hardware

Reason: Dates from the period of significance, highly visible, and retains integrity

**H**

Feature: Window Frame

Reason: Dates from the period of significance, highly visible, and retains integrity

**I**

Feature: Window Sash

Reason: Dates from the period of significance, highly visible, and retains integrity

# 34 Shed (Old Caretaker's House)



Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Roofing Materials

Reason: Post dates period of significance

**D**

Feature: Rafter Tails

Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Window Frame

Reason: Likely post dates period of significance

# 34 Shed (Old Caretaker's House)



Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Window Sash

Reason: Dates from the period of significance, highly visible, and retains integrity

**G**

Feature: Door Frame

Reason: Post dates period of significance

**H**

Feature: Security Door

Reason: Post dates period of significance

**I**

Feature: Metal Siding

Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District



35 Bathroom Building
Chronology: Constructed c. 2000

36 Shed
Chronology: Constructed at unknown date

37 Landscape Building
Chronology: Constructed c. 1930; altered 1965-71

38 Temporary Sheds
Chronology: Added at unknown date

Legend
- Contributing
- Non-Contributing

# 37 Landscape Building


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing
Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design
Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Roofing Materials
Reason: Post dates period of significance

**D**

Feature: Sliding Garage Door
Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Window Sash
Reason: Post dates period of significance

**F**

Feature: Door Frame
Reason: Post dates period of significance

# 37 Landscape Building



Character-Defining Features

- Primary
- Secondary
- Not

**G**

Feature: Door
Reason: Post dates period of significance

**H**

Feature: Fascia Board
Reason: Dates from the period of significance, highly visible, and retains integrity

**I**

Feature: Wood Siding
Reason: Dates from the period of significance, highly visible, and retains integrity

**J**

Feature: Window Frame
Reason: Dates from the period of significance, highly visible, and retains integrity

**K**

Feature: Infilled Window Openings
Reason: Post dates period of significance

**L**

Feature: 1965-71 Addition
Reason: Dates from the period of significance, highly visible, and retains integrity

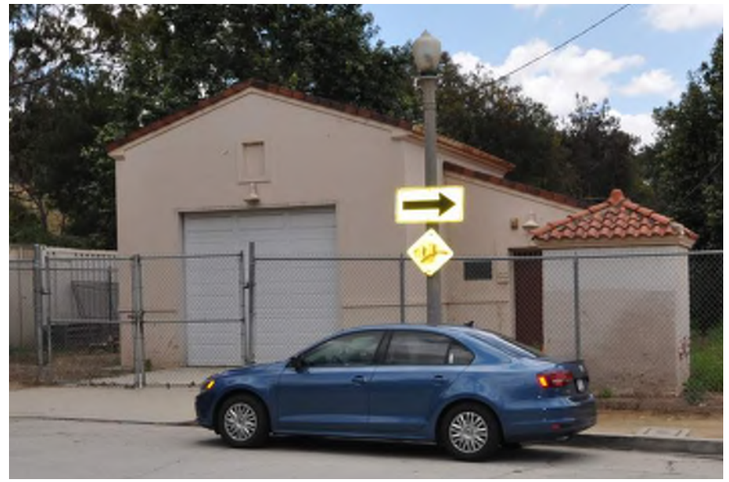
# Silver Lake and Ivanhoe Reservoir Complex Historic District



**39** Silver Lake Chlorination Building
Chronology: Constructed c. 2010

**41** Meter House
Chronology: Constructed c. 1950

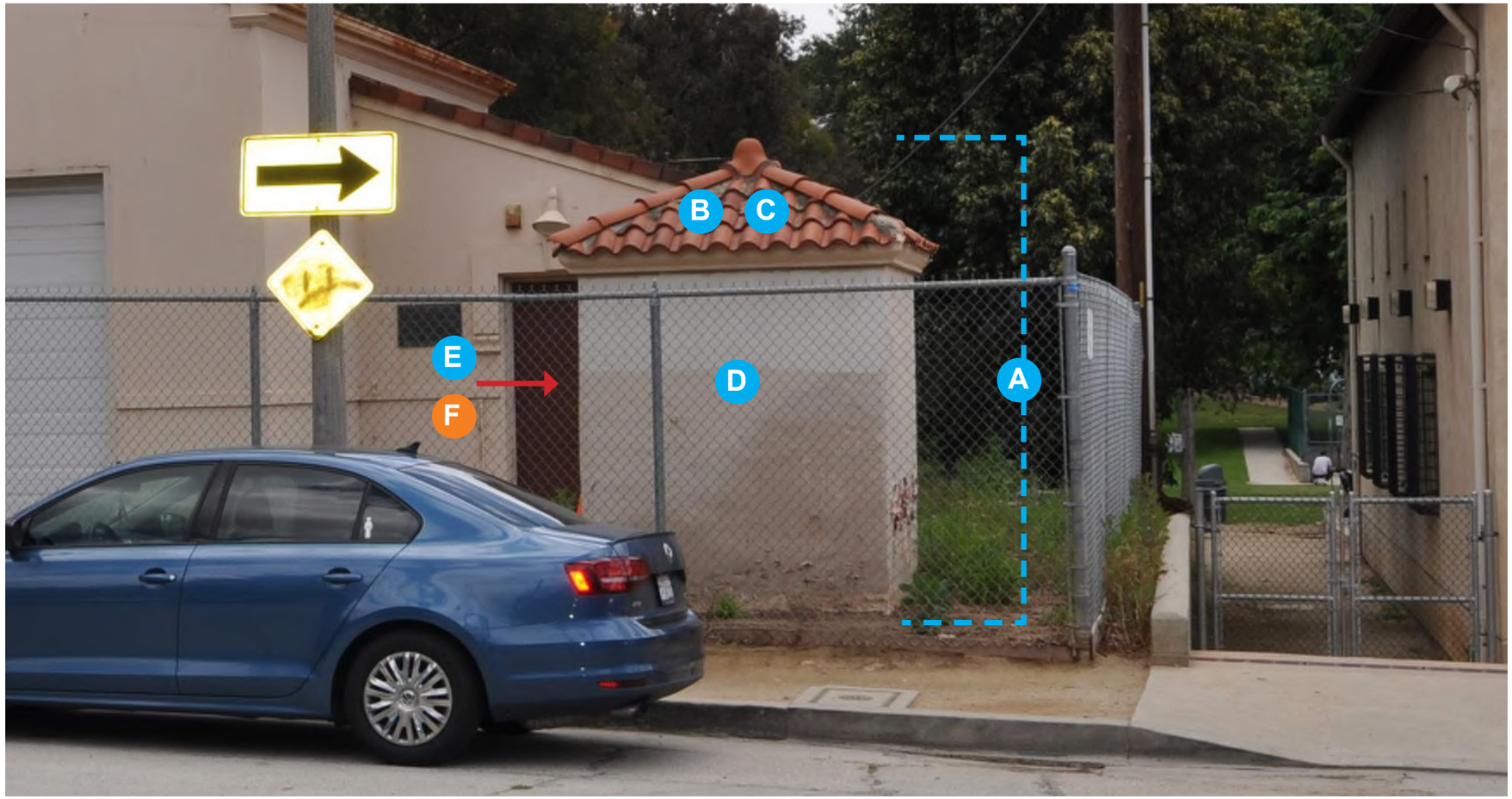
**40** Silver Lake Outlet Tower
Chronology: Constructed 1937; reconstructed 1975-76



**42** South Outlet Chlorination Station
Chronology: Constructed 1947

Legend
- Contributing
- Non-Contributing

# 41 Meter House




Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing
Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design
Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Clay Roofing Tile
Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Concrete
Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Door Frame (Not Pictured)
Reason: Dates from the period of significance, highly visible, and retains integrity

**F**

Feature: Door (Not Pictured)
Reason: Post dates period of significance

# 42 South Outlet Chlorination Station


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing
Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design
Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Clay Roofing Tile
Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Concrete
Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Light Fixture
Reason: Post dates period of significance

# 42 South Outlet Chlorination Station


Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Garage Opening

Reason: Dates from the period of significance, highly visible, and retains integrity

**G**

Feature: Garage Door

Reason: Post dates period of significance

**H**

Feature: Door Opening

Reason: Dates from the period of significance, highly visible, and retains integrity

**I**

Feature: Door

Reason: Post dates period of significance

# Silver Lake and Ivanhoe Reservoir Complex Historic District


43 Chlorine Plant
Chronology: Constructed c.1927


Legend
Contributing
Non-Contributing

# 43 Chlorine Plant


Character-Defining Features

- Primary
- Secondary
- Not

**A**

Feature: Massing

Reason: Dates from the period of significance, highly visible, and retains integrity

**B**

Feature: Roof Design

Reason: Dates from the period of significance, highly visible, and retains integrity

**C**

Feature: Clay Roofing Tile

Reason: Dates from the period of significance, highly visible, and retains integrity

**D**

Feature: Cornice

Reason: Dates from the period of significance, highly visible, and retains integrity

**E**

Feature: Board Formed Concrete

Reason: Dates from the period of significance, highly visible, and retains integrity

# 43 Chlorine Plant


Character-Defining Features

- Primary
- Secondary
- Not

**F**

Feature: Door Surround

Reason: Dates from the period of significance, highly visible, and retains integrity

**G**

Feature: Infilled Window Openings

Reason: Post dates period of significance

**H**

Feature: Infilled Door Opening

Reason: Post dates period of significance