CITY OF LOS ANGELES

CALIFORNIA

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

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October 22, 2021

Honorable Mitch O'Farrell, Chair
Energy, Climate Change, Environmental Justice, and River Committee
Los Angeles City Council

c/o Eric Villanueva
Office of the City Clerk
City Hall, Room 395

COUNCIL FILE NO. 08-3420-S1: SILVER LAKE RESERVOIR COMPLEX MASTER PLAN - COUNCIL DISTRICTS 4 AND 13

Dear Councilmember O'Farrell:

Recommendations:

1. Note and file the Silver Lake Reservoir Complex (SLRC) Final Master Plan dated December 30, 2020.
2. Direct the Bureau of Engineering (BOE) and the Los Angeles Department of Water and Power (LADWP) to return to City Council with a final Environmental Impact Report for the Silver Lake Reservoir Complex.

Background:

The SLRC is a much beloved City feature in the Silver Lake neighborhood, and a resource owned and managed by the LADWP. Due to water quality regulations, the reservoirs were removed from service and no longer served as a drinking water resource. Community members and the Council offices 4 and 13 were interested in exploring how to reposition the reservoirs for community use, and how to augment the habitat value of this water body, while maintaining key activities on the site that LADWP requires.

On March 27, 2018, the City Council approved a Memorandum of Agreement (MOA) between the BOE and the LADWP which began the SLRC Master Plan process. Under this MOA, LADWP provided funds to BOE to lead a community-based effort to develop a comprehensive Master Plan document. Following a consultant selection process, the Master Plan effort initiated in March of 2019. The development of the Master Plan involved a robust community engagement process conducted over an 18-month period with the intent to: "…provide a revised long-range planning tool for future improvements and serve as a guide for community enhancements. It will detail the potential land uses for the site and will examine the capability for expanded recreation opportunities while preserving reservoir aesthetics and maintaining

current and future LADWP operational needs" (*Silver Lake Reservoir Complex Master Plan*, December 2020).

A final draft of the Master Plan was presented to the community via two online videos in the summer of 2020, and the final Master Plan was completed in December of 2020. The Master Plan document contains a series of project recommendations that can be implemented in phases and describes in detail the community process that was employed to develop the document. The document also explores potential financing opportunities for future implementation of the phases and maintenance of the property.

To further study the Master Plan components, allow projects at the SLRC to be competitive for funding, and proceed to design and construction, an environmental impact report (EIR) is required. As sufficient capital remained from LADWP's initial funding of the Master Plan, the LADWP Board and the Board of Public Works have approved proceeding with an EIR, and this process was initiated in September 2021. BOE and LADWP will be working collaboratively to complete the EIR.

Sincerely,

Gary Lee Moore
Electronically signed by 21866

Gary Lee Moore, PE, ENV SP
City Engineer

Martin L. Adams
General Manager and Chief Engineer
Los Angeles Department of Water and Power

GLM/DW/:jgr

Q:\GLM\City Engineer\GLM Signed Documents\2021 Documents\Report to City Council on Master Plan 102121

Attachment

cc: Nithya Raman, Council District 4
Mary Hodge, Office of the Mayor
Anselmo Collins, Department of Water and Power
Deborah Weintraub, Bureau of Engineering

SILVER LAKE RESERVOIR COMPLEX
MASTER PLAN

December 30, 2020

NITHYA RAMAN | Los Angeles City Councilmer | 4th District

MITCH O'FARRELL
COUNCILMEMBER • 13TH DISTRICT
CITY OF LOS ANGELES

ENGINEERING
CITY OF LOS ANGELES

LA DWP Los Angeles Department of Water & Power

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN**

December 30, 2020

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city project management team

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consultant team

DESIGN TEAM LEAD CONSULTANTS

Hargreaves Jones Landscape Architects
lead landscape architecture and planning

DESIGN TEAM

Chee Salette local landscape architecture and architecture
The Robert Group community outreach and engagement
CWE Engineering water resources and civil engineering
GPA Consulting biological and cultural resources
HR&A Advisors park economics
Beyaz & Patel geotechnical and structural engineering
JB & Associates traffic engineering
Leyland Saylor & Associates cost estimating

contents

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abbreviations

Unless otherwise specifically defined in the Master Plan, when the following abbreviations are used, the intent and meaning will be interpreted as follows:

BOE	Los Angeles Bureau of Engineering
CAO	City Administration Office
CD4	Council District 4
CD13	Council District 13
CFD	Community Facilities District
Complex	Silver Lake Reservoir Complex
DSOD	Division of Safety of Dams
LADWP	Los Angeles Department of Water & Power
LASAN	Los Angeles Sanitation
Master Plan	Silver Lake Reservoir Complex Master Plan
O&M	Operations and Maintenance
Park	Proposed Master Plan Design
RAP	Los Angeles Department of Recreation and Parks
SLRC	Silver Lake Reservoir Complex

CHAPTER 1
EXECUTIVE SUMMARY

contents

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figures

1.1 Master Plan Scope of Work

The Silver Lake Reservoir Complex (herein referred to as the "Complex" or "SLRC") located in the Silver Lake neighborhood of the City of Los Angeles (herein referred to as "the City" or "LA") was removed from the City's drinking water supply system in 2008 and is being repurposed as a passive public park.

The Silver Lake Reservoir Complex Master Plan (herein referred to as the "Master Plan") provides a bold vision for a new 116-acre park that will blend urban wilderness with community park amenities. The Master Plan includes a physical plan, park activities and uses, park sustainability, funding strategies, park operations and maintenance considerations, a conceptual cost estimate, and a phasing strategy. The Master Plan scope of work has been summarized in the following Master Plan Report chapters and sections:

Chapter 1: Executive Summary
Chapter 2: Project Overview
Chapter 3: Analysis
Chapter 4: Process
Chapter 5: Master Plan
Chapter 6: Park Sustainability
Chapter 7: Capital Funding Strategies
Chapter 8: Park Governance, Operation & Maintenance

Acknowledgments
References
Appendices

Figure 1-1 Image of The Silver Lake Reservoir Complex today

1.2 City of Los Angeles Project Team

This Master Plan was initiated by the Council offices of Councilmember Mitch O'Farrell and Councilmember David Ryu. The Los Angeles Department of Water and Power (LADWP) financed the planning effort and worked collaboratively with the Bureau of Engineering (BOE) to define the Master Plan scope. The City Project team was led by the BOE who composed the scope of work, led the effort to hire the consultant team, and managed the Master Plan process. The City project team included staff from Councilmember Mitch O'Farrell, staff from Councilmember David Ryu, staff from the Mayor's office, and staff from the LADWP; with input from staff in the City's Department of Recreation and Parks (RAP), the Office of the City Administrative Officer, LA Sanitation, and others.

CONSULTANT DESIGN TEAM

The Master Plan was completed by a team of local consultants led by Hargreaves Jones, an international landscape architecture and planning firm specializing in the design of urban parks. Hargreaves Jones was selected to lead the Master Plan by the City of Los Angeles through an open RFP / interview process. The Hargreaves Jones Team (herein referred to as the "Design Team") includes local experts in landscape architecture and architecture (Chee Salette), community outreach and engagement (The Robert Group), water resources and civil engineering (CWE), biological and cultural resources (GPA Consulting), park economics (HR&A Advisors), geotechnical and structural engineering (Beyaz & Patel), traffic engineering (JB & Associates), and cost estimating (Leyland Saylor & Associates).

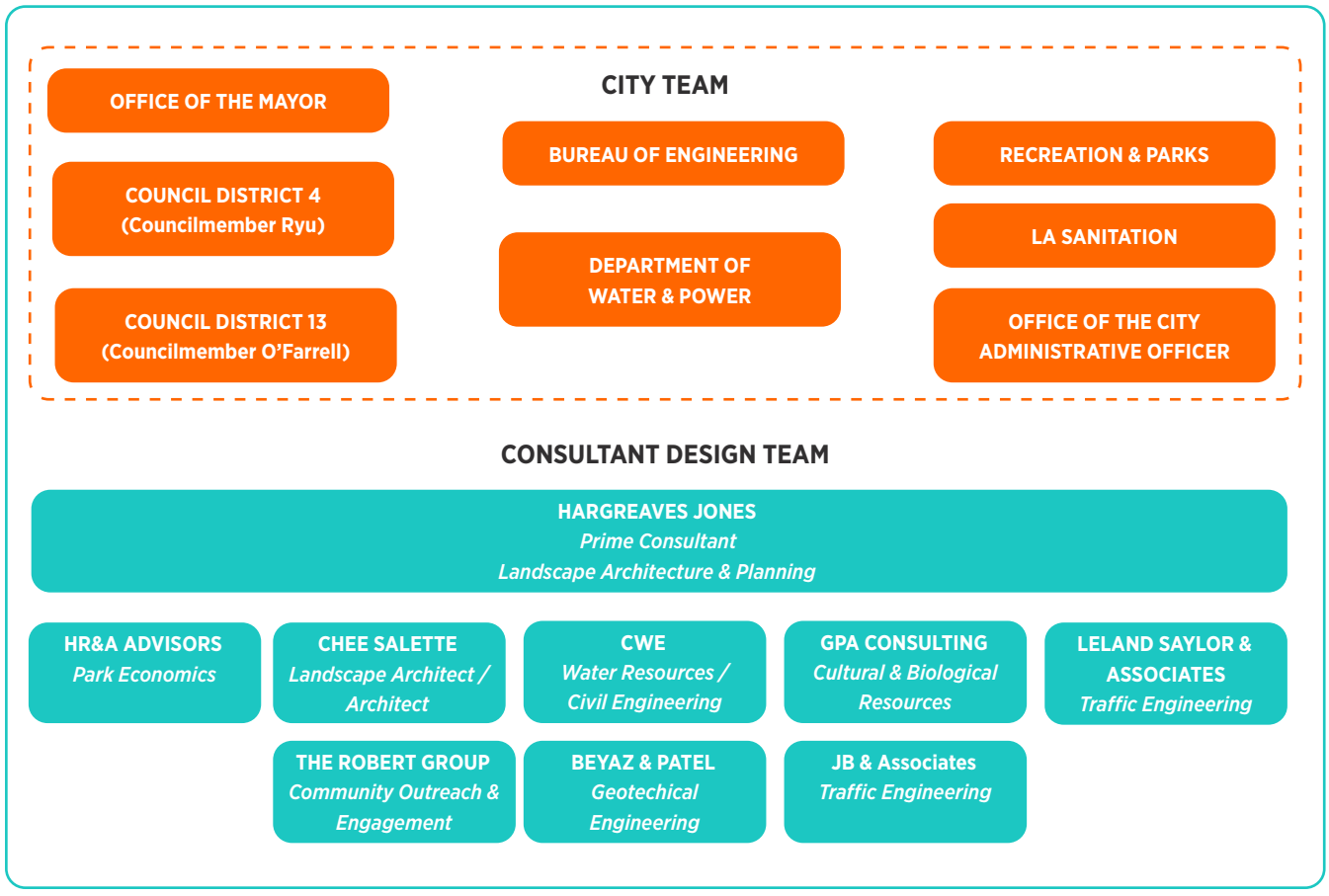


Figure 1-2 Master Plan Project Team

1.3 Project Overview

In response to a federal mandate to phase out open-air drinking water reservoirs in 2006, the LADWP decommissioned Silver Lake and Ivanhoe Reservoirs and removed them from the City of Los Angeles' potable water system. Silver Lake Reservoir was removed from service in 2008, drained in 2015 to construct the Bypass Project, and then refilled in 2017. Ivanhoe Reservoir was removed from the distribution system in 2017 and has been consistently filled with water. Although Silver Lake and Ivanhoe Reservoirs are no longer a potable water source, LADWP has active components at the Silver Lake Reservoir Complex (SLRC) which requires preserving areas of the site for system operations, personnel, and future projects. LADWP offered the majority of the Silver Lake Reservoir Complex property to be used to allow access by the community.

The Master Plan initiative was undertaken to allow the Silver Lake community and City of Los Angeles to consider repurposing this major piece of urban infrastructure for public use. The Master Plan project was officially initiated in March 2018, when the City Council approved a Memorandum of Agreement between the BOE and the LADWP, allowing the BOE to begin the Silver Lake Reservoir Complex Master Plan process. LADWP, in continuing its commitment to the neighborhood, funded the development of the Master Plan. The agreement included LADWP continuing their operational responsibilities, such as maintaining the integrity of the dams and LADWP onsite facilities.

The Master Plan was seen as a unique opportunity to transform this historically significant and iconic urban feature into a community park while addressing LADWP's on-going operational needs. The community was given a chance to determine the future of this 116 acres of land and lay out a shared vision. The proposed Master Plan design is the result of a robust community participation process and partnership between Council Offices, City departments, and consultants. It is a testament to what we can do when we work together.

1.4 Vision & Goals

As habitat continues to disappear in our increasingly urbanized world, reintroducing wildlife back into cities is becoming ever more important. Early in the community engagement process, enhancing and expanding habitat for wildlife was identified as a primary goal for the Master Plan. The Park is envisioned as a hybrid space that balances urban wilderness with human uses; unleashing the power of natural processes to create a healthy ecosystem and of human connections to nature and one another.

The Master Plan creates a foundation for realizing this vision. It conceptually defines the design, construction costs, phasing strategy, and approach to the operation of the Park. It specifies near and long-range strategies for park development and provides a framework for post-construction programming, operations, governance, and long-term financial sustainability.

The project goals listed below guided the development of the Master Plan:

- Create a clear, bold design that repurposes the SLRC into a public park
- Preserve and enhance the unique character of the SLRC
- Create a public amenity with safe and varied access
- Balance active and passive uses
- Balance wildlife habitat with human uses
- Create a design that is implementable and can be partially funded through grants
- Allow for continued LADWP operations, access, and future use

1.5 Community-Based Planning Process

This Master Plan evolved through a uniquely collaborative process integrating extensive community and stakeholder input and frequent progress reviews with City departments and the Council Districts. The 18-month community process included five large Community Workshops and eight focused meetings with the project's Stakeholder Working Group to garner public feedback at all critical stages in the planning and design process: Analysis, Visioning and Programming; Master Plan Alternatives; Preferred Master Plan; and Final Master Plan (Figure 1-4).

The format of the Community Workshops varied from presentations and break out discussions on Thursday evenings and Saturday afternoons to an open reservoir walk at the SLRC. Due to Covid-19, the final Community Workshop was held virtually in the form of online videos and an online questionnaire which was supplemented with paper copies for those without computer access. These diverse approaches maximized opportunities to capture community input as well as give the neighborhood a chance to experience the power of the water bodies inside the fence. Community Workshops were attended by 1,570 community members and generated 8,478 questionnaire responses. The Master Plan reflects the vision and interests of the community who live near the Complex and visit it frequently. An average of 88% of respondents consistently reported living in a zip code within a 2-mile radius of the Complex and are frequent visitors – over 77% of responders visit the reservoirs at least once per week. In the final questionnaire, participants indicated that they would visit the Complex more often when the Master Plan is implemented.

Community Workshop 01, June 27, 2019
Friendship Auditorium

Community Workshop 02, August 22, 2019
Silver Lake Reservoir Complex

Community Workshop 03, November 2, 2019,
Marshall High School

Community Workshop 04, January 23, 2020,
Friendship Auditorium

Figure 1-3 Community Workshop Photos

Figure 1-4 Community Engagement Process Summary

2019

JUN 27

community WORKSHOP 01

INTRODUCTION

purpose...

OPPORTUNITIES & CHALLENGES

approx. 220 attendees

questionnaire RESPONSES 172

AUG 22

community WORKSHOP 02

ACTIVITIES & USES

purpose... VISIONING

NATURE / BEAUTY	SOCIAL / GATHER / EAT
EDUCATION	ARTS / CULTURE
SUPPORT / MOBILITY	HEALTH / WELLNESS
WATER ACTIVITIES	SPORTS / GAMES / PLAY

approx. 600 attendees

questionnaire RESPONSES 1432

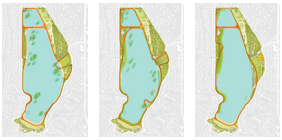
NOV 2

community WORKSHOP 03

DESIGN ALTERNATIVES

purpose...

present THREE DESIGN alternatives



approx. 450 attendees

questionnaire RESPONSES 2986

2020

JAN 23

community WORKSHOP 04

PREFERRED ALTERNATIVE

purpose...

PREFERRED alternative

approx. 300 attendees

questionnaire RESPONSES 2966

VIRTUAL community WORKSHOP 05

MASTER PLAN DRAFT

purpose...

PRESENT DRAFT MASTER PLAN

approx. 1,500 video views *at the time the questionnaire closed*

questionnaire RESPONSES 922 **4 paper questionnaires*

AUG 21

1.6 Master Plan Overview

The new Park is conceived as a hybrid infrastructure that amplifies the use of the reservoir water bodies to attract and sustain wildlife, connect with nature and neighbors, and educate. The Master Plan design was inspired in great part by its rich history and narrative from a freshwater marsh and intermittent pond within Ivanhoe Canyon to a significant and iconic piece of Los Angeles water infrastructure.

As shown in Figure 1-5, the proposed Master Plan design consists of a series of overall park zones stitched together by a 2.5-mile, tree-lined Promenade. These zones include: The Meadow, The Knoll, Ivanhoe Overlook, Eucalyptus Grove, East and West Narrows, and South Valley.

The Park will feature two flexible lawns with shade trees, a picnic grove and ornamental gardens with an informal play area, and an environmental education center along the east edge of Silver Lake Reservoir at the base of The Knoll. At the intersection between the lawns and water, stepped seating terraces give way to wetland terraces interwoven with small footpaths. Two existing areas of woodland, The Knoll and Eucalyptus Grove, are restored to increase their upland habitat value. Extending from the shoreline embankments and within the reservoir bodies is a new ecosystem that reintroduces coastal scrub and wetland habitat to the Complex for the first time in over 100 years in the form of habitat islands and terraces.

Figure 1-5 Silver Lake Reservoir Complex Master Plan

1.7 Park Sustainability

The Master Plan design is founded on principles of sustainability, interweaving systems of ecology, water, and education cohesively. These visible forms of sustainability included in the Master Plan represent the commitment by the Silver Lake neighborhood and the City of Los Angeles to being leaders in freshwater resource management and leaders as stewards of urban wildlife.

During the Master Plan design process, a September 2019 study was published in *Science* magazine that documented a loss of three billion birds in North America, nearly 30% of the total population, since 1970. The study sites habitat loss as a significant factor contributing to this decline. Given the reservoirs' location along the Pacific Flyway and that they are such a large, freshwater resource for local and migratory birds, particularly waterfowl, the Master Plan's habitat recommendations prioritizes these avian species.

HABITAT EXPANSION AND ENHANCEMENT

Until recently, the Complex has been managed as a sterile reservoir to support the drinking water needs of Los Angeles. Its habitat value is moderate, and most significantly, it lacks food resources for birds and small terrestrial species. To remedy this, the Master Plan design focuses on increasing habitat diversity and introducing a food web, particularly for local and migratory waterfowl. The range of habitats proposed in the Master Plan will support an increasingly diverse array of birds, fish, amphibians, invertebrates, and other aquatic species. To provide this biodiversity, the Master Plan design maximizes the habitat value of existing wooded areas and creates new habitat resulting in a combined total 23 acres of dedicated habitat area.

EDUCATION AND INTERPRETATION

Along with the high priority placed on habitat and wildlife in the Master Plan, there is also an inherent responsibility for long-term stewardship. The SLRC has the potential to become an exemplary model of urban wilderness management and citizen stewardship. Through the lens of a living laboratory, the research and maintenance activities required for the long-term success of the proposed ecosystem can be made legible and transparent by increasing environmental and climate awareness across the community. The Master Plan design provides the foundation to develop a myriad of education and interpretation opportunities from organized tours, classes, school field trips, and volunteer programs, to less structured interpretive features and elements.

WATER QUALITY

The proposed water system at the SLRC has been developed to support the wetland and aquatic habitat aspirations of the Master Plan. Key variables of this system are the reservoirs' water replenishment sources (stormwater and Pollock Well), annual evaporation, aeration, recirculation, nutrient loading, and treatment wetlands. During the Master Plan development process, a Water Quality Model study was developed to predict water quality impacts in both Silver Lake and Ivanhoe Reservoirs with the goal of maintaining a level of water quantity and quality that can support the future uses proposed at the site, such as aquatic habitat. The results from the model indicated that the addition of proposed wetlands in the Master Plan, combined with LADWP's planned aeration and recirculation projects, will significantly contribute to reducing nutrients and bacteria to levels safe for sustaining aquatic habitat. This study along with the Park's water system is discussed further in Chapter 06.

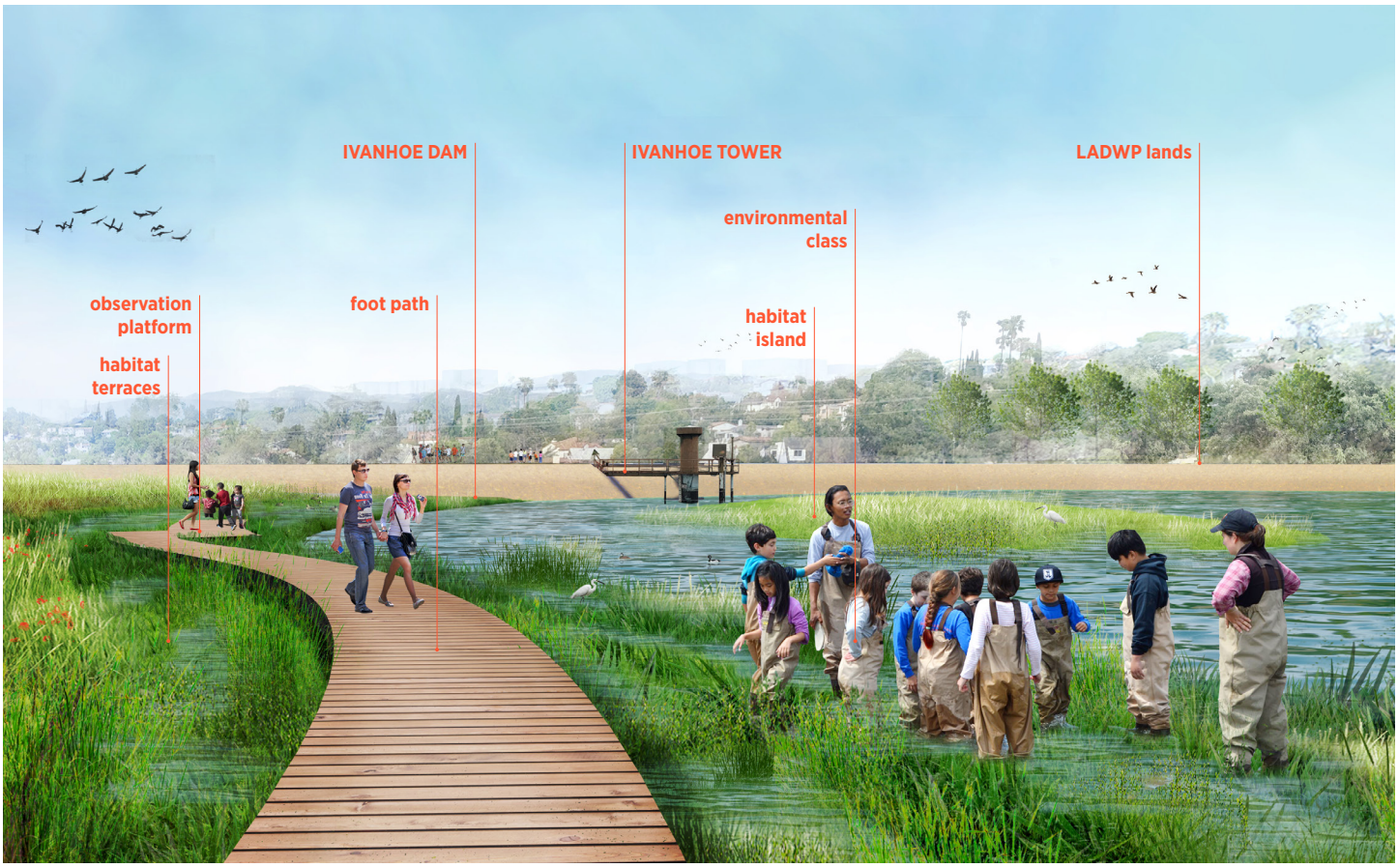


Figure 1-6 Living Laboratory at Ivanhoe Overlook

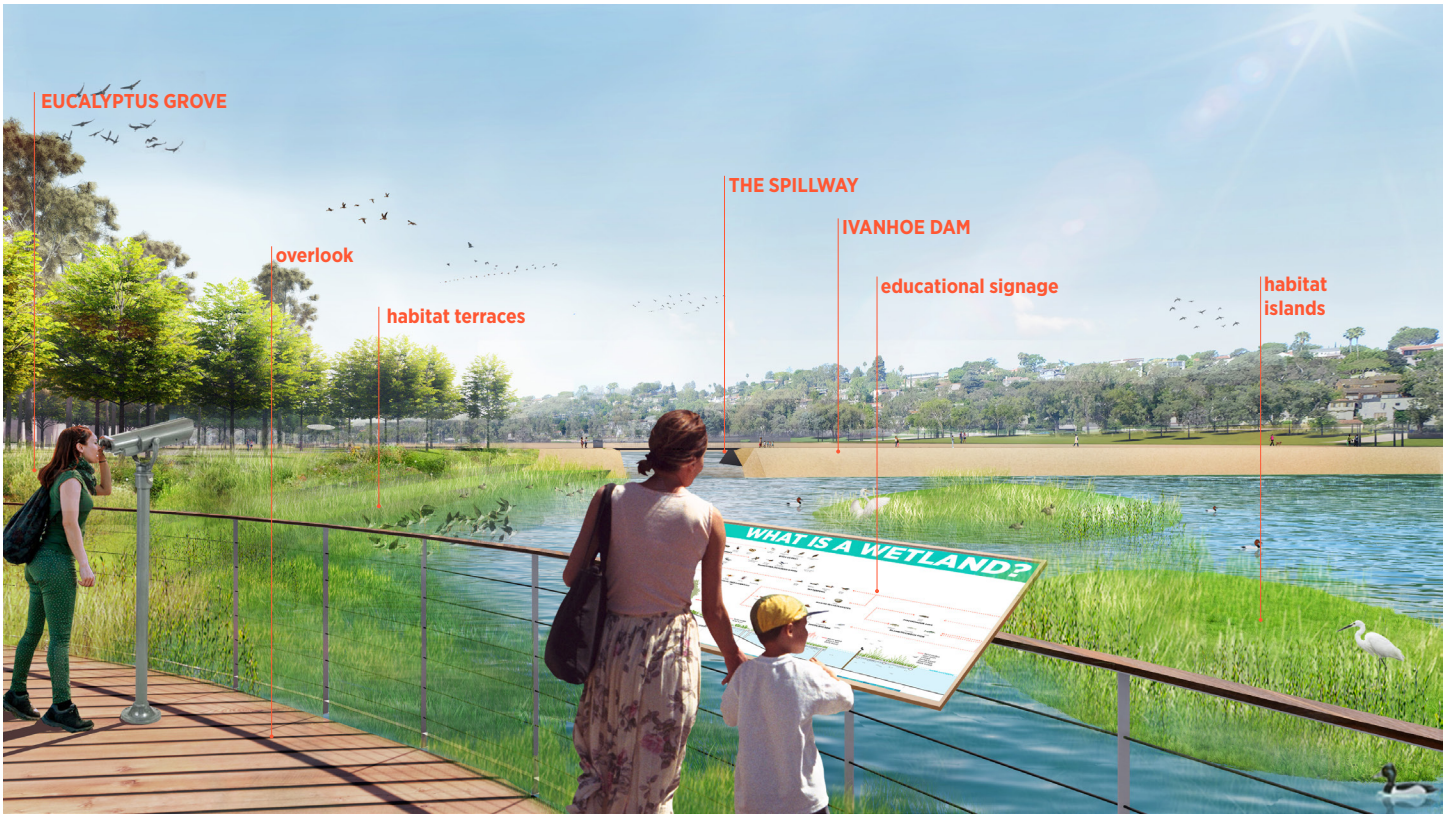


Figure 1-7 Educational Overlook at the Eucalyptus Grove

1.8 Park Phasing & Estimated Cost

The project team has identified eight potential stand-alone projects within the Master Plan design for construction phasing and fundraising. They are graphically shown in Figure 1-8 with no implied order of priority. Based on prior experience, the project team estimates each phase will take approximately 18- to 24-months to construct. Depending on funding, these phases can be constructed individually or collectively.

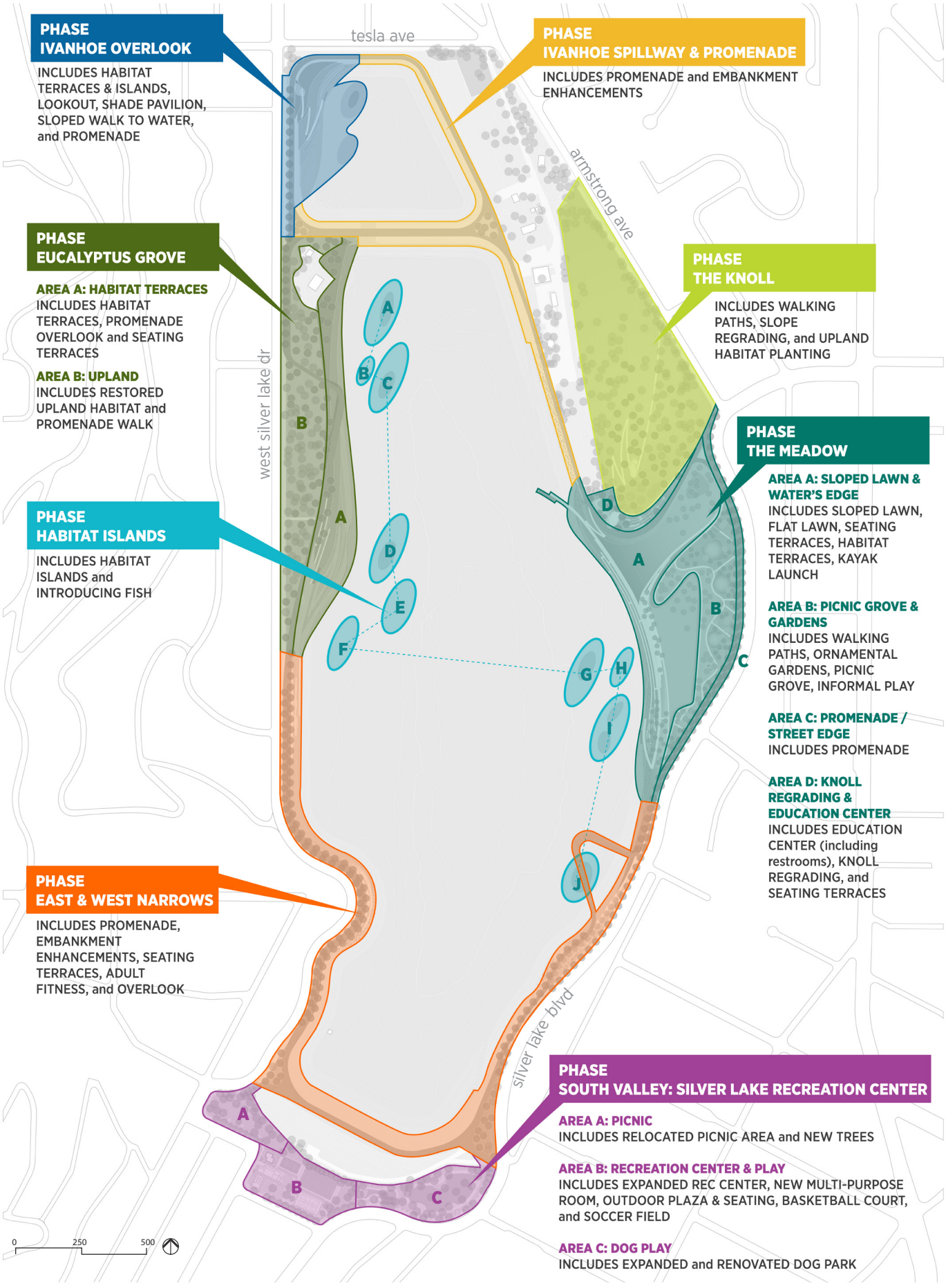
Some of the phases have many interdependent spaces or sub-phases, which require that they be built contiguously and sequentially. For instance, The Meadow design implementation will require cut and fill earthwork in order for the lawns to be excavated and the resulting fill from this work to be used to construct the seating and wetland terraces. This project work should happen first and is indicated as sub-phase A of the Meadow in Figure 1-8. Subsequently, the Picnic Grove and Ornamental Gardens can be completed next (sub-phases B & C), followed by re-grading at the base of The Knoll to install a footpath and build the Education Center (sub-phase D). Similarly, work along the water's edge including the proposed wetland terraces and overlook should be completed in the Eucalyptus Grove prior to restoring the upland habitat. The improvements in the Recreation and Parks area in the South Valley can be broken into three discrete projects: the Dog Park; the Multi-Purpose Facility, play fields and court; and the picnic area and replanting in the Grassy Patch.

The floating wetland Habitat Islands can be implemented all at once or island-by-island. Fish will need to be introduced following the completion of all major in-water construction work and floating wetland islands installation.

The overall conceptual budget for Master Plan implementation is $268.5M. A professional cost estimator, Leland Saylor Associates, provided construction cost estimates for each proposed Master Plan phase shown in Figure 1-8. These estimates include industry assumptions for escalation, contingencies, contractor general conditions, and soft costs. They were also developed based on the assumption that all phases of the Park will be built at the same time and construction would commence in approximately two years following an environmental clearance and design phase. Therefore, this budget is subject to change as timelines are adjusted. As a conceptual estimate, the budget is intended to provide an order of magnitude cost for the Master Plan's construction to assist the City in project budgeting and funding.

Project Phase		
	The Meadow	$60,300,000
	The Knoll	$18,000,000
	Ivanhoe Overlook	$27,400,000
	Ivanhoe Spillway and Promenade	$11,200,000
	Eucalyptus Grove	$67,200,000
	Habitat Islands	$32,800,000
	East and West Narrows	$36,000,000
	Silver Lake Recreation Center	$15,600,000
	Total Conceptual Construction Costs	**$268,500,000**

Figure 1-8 Phasing Diagram



1.9 Park Economics & Governance

CAPITAL AND O&M FUNDING

During the Master Plan development process, HR&A Advisors was retained to provide an analysis of potential public and other mechanisms to fund capital and operating needs of the proposed Park. Six public mechanisms were reviewed including: Community Finance Districts (CFD), Development Agreement Fees, Enhanced Infrastructure Financing Districts, Parcel Taxes, Quimby Fees, and Special Assessment Districts. Additional funding sources identified were Grant Funding and Philanthropic contributions.

Based on the Park's context, the needs and perspective of City staff, and a review of potential funding mechanisms, the recommended capital funding strategy for the Master Plan relies primarily on the implementation of a Community Facilities District (CFD) to generate revenue for O&M and capital bonds, which would be supplemented by Development Agreement Fees, Quimby Fees, Grants, and Philanthropic contributions.

As outlined in Section 1.8 above, the overall conceptual budget for Master Plan implementation is $268.5M. A conceptual O&M budget of $3.64M annually is anticipated as described in Chapter 08. Figures 1-9 and 1-10 show the range of potential funding that the recommended mechanisms could yield, as well as how these could be applied to various phases of Master Plan implementation and ongoing operations.

GOVERNANCE

To achieve the Master Plan vision, the formation of an independent, special-purpose, non-profit entity named the Silver Lake Reservoirs Park Conservancy (SLRPC) is recommended. This special-purpose entity can be completely new or represent an expanded role for one of the existing non-profit stakeholders in Silver Lake. It can provide the leadership to manage project implementation and long-term operations. It can also fundraise to support capital and operations and maintenance (O&M) costs, with a Board of Directors that is representative of committed project stakeholders. If structured to benefit from dedicated resources and funding outlined in Chapter 07, such an entity would be endowed with the staff and budget capacity necessary to champion a multi-phase implementation process; provide sustainable operations, including maintenance of unique horticulture and wetland spaces to the elevated standard envisioned in the proposed Master Plan; and coordinate revenue allocation generated by one or more CDFs and any philanthropic fundraising.

It is recommended that the SLRPC report regularly to a City Oversight Committee led by representatives from key City departments. The Oversight Committee will ensure that Park capital expenditures and ongoing operations align with the guidelines and goals for a public open space, and will provide accountability for the expenditure of public funds. The Oversight Committee will then report to City Council and the Mayor for decisions that require policy direction.

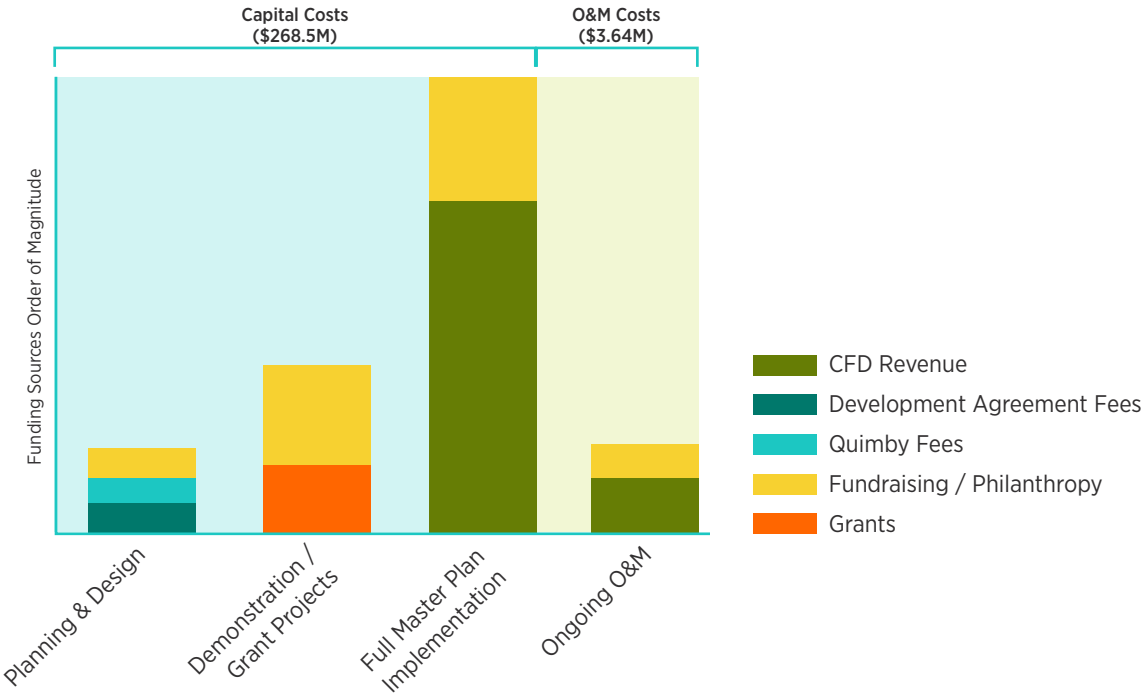
All these topics are discussed further in Chapter 07 Capital Funding Strategies and Chapter 08 Governance, Operations & Maintenance.

Figure 1-9 Park Funding Matrix

Funding Source	Potential Funding Amount	Notes
Community Facilities District (CFD)	$150M - $200M	Includes annual O&M costs
Quimby & Development Agreement Fees	TBD	Quimby Fees can only be used on RAP lands.
Public Grants	$200k - $6M	
City General Fund	TBD	
Total	$150M to $206M+	
Remaining Capital Funding Gap	$62M - $118M	Range of capital funding needed from fundraising or City General Fund.

Figure 1-10 Master Plan Implementation Funding

Chart shows the order of magnitude expected from each funding source for Master Plan implement



1.10 Near-Term Action Items

As demonstrated during the community outreach and engagement process outlined in Chapter 04, the Master Plan has garnered significant support by the community and City leaders, with the potential to catalyze environmental stewardship for generations to come. Harnessing this potential requires early initiatives to establish appropriate funding vehicles and a governance structure, provide a road map for water resource and wildlife management, and seek environmental clearance. In the near term, the Project Team recommends pursuit of the following implementation tasks listed below. Figure 1-11 provides a conceptual timeline for Master Plan implementation and the relationship and sequencing of key implementation variables.

ENVIRONMENTAL CLEARANCE

Under the State of California Environmental Quality Act (CEQA) this project will be subject to CEQA review and will need to complete an Environmental Impact Report (EIR), the additional project studies necessary for the EIR, and engage the public in the process. While some planning, design, feasibility analysis, and Park governance work can be initiated during the EIR process, none of the Master Plan design elements can be finalized or constructed until an EIR is approved by the City.

FUNDING

As the primary funding source identified for project capital, CFD implementation details should be advanced as soon as possible following Master Plan adoption and should prioritize the following:

- Engagement of a municipal advisor and/or CFD tax consultant to develop and evaluate potential structure(s) and related detailed revenue estimates.
- Engagement of bond counsel to advise on the use of tax revenue.
- Evaluation of potential voter support of the CFD mechanism.
- Identification of a funding source to support CFD formation costs of approximately $500,000, excluding community outreach and engagement.
- Completion of a fundraising feasibility study, to establish and confirm the potential amount that can be raised from among likely donors.

GOVERNANCE

Upon the adoption of the Master Plan by City Council and concurrence of the Mayor, the City should establish a City Oversight Committee for the Park, and participate in the formation of a non-profit entity to lead the effort with the public to fund and operate the Park including the following:

- Identify a project champion who can act as a leader in this effort.
- Assemble an initial Board of Directors.
- Identify a minimum of three years of funding to support the new non-profit entity.

PLANNING

Early planning efforts to set forth the guidelines and requirements of detailed design, construction, O&M, and stewardship related to the environmental aspects of the Park will be critical to its success. These planning initiatives should include development of the following:

- Biodiversity Plan
- Wildlife Management Plan
- Tree Health Assessment
- Tree Succession Plan
- Water Quality Management Plan
- Wetlands Maintenance Plan

Figure 1-11 Master Plan Near-Term Implementation Timeline

CHAPTER 2
PROJECT OVERVIEW

contents

figures

2.1 Project Background

In 2006, the Federal Environmental Protection Agency issued new guidelines for water quality that required open reservoirs to be covered, to be removed from service, or for the water to be treated before distribution. In response, the LADWP decided to decommission both the Silver Lake and Ivanhoe Reservoirs and build a new covered water storage facility north of Griffith Park called the Headworks Reservoir.

The Headworks Reservoir required the completion of the Silver Lake Reservoir Bypass and Regulator Station Project (Bypass Project). This project involved the installation of a bypass pipeline along the bottom of the Silver Lake Reservoir basin, and a new regulator station to connect the new Headworks Reservoir to the City's water distribution system. The Silver Lake Reservoir was removed from service in 2008, drained in 2015 to construct the Bypass Project, and then refilled in 2017. Ivanhoe Reservoir was removed from the distribution system in 2017 and remains filled with water.

Although Silver Lake and Ivanhoe Reservoirs are no longer a potable water source, LADWP still has active components at SLRC which requires the Master Plan to preserve areas of the site for LADWP system operations, personnel, and future projects.

The Master Plan project originated in March 2018, when the City Council approved a Memorandum of Agreement between the BOE and the LADWP, allowing the BOE to begin the Silver Lake Reservoir Complex Master Plan process. LADWP funded the development of the Master Plan. The agreement included LADWP continuing their operational responsibilities, such as maintaining then integrity of the dams and LADWP onsite facilities.

The Master Plan initiative was seen as a unique opportunity for the Silver Lake community and the City of Los Angeles to consider repurposing a major piece of urban infrastructure while addressing LADWP's on-going operational needs. Goals for the new Master Plan include balancing its historic character; its strategic location within the Silver Lake neighborhood; and its visual impact with its long-term environmental value; its use as a public and community gathering place; and its potential to blend urban wilderness with recreational spaces.

PRIOR INITIATIVES – 2000 MASTER PLAN

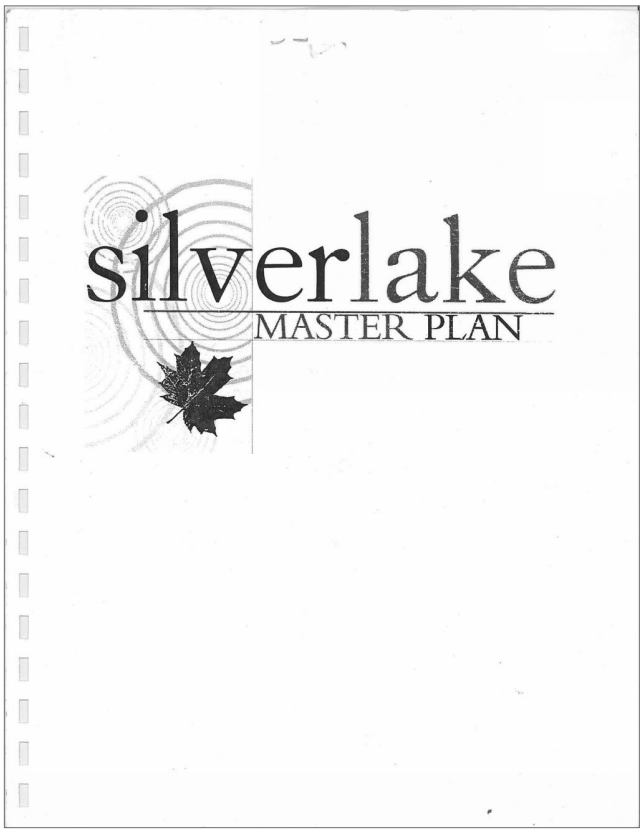
A Master Plan was completed on November 1, 2000. It's purpose included defining long-range planning goals for the Silver Lake community and for the LADWP, providing the community with a better understanding of LADWP facilities, operations, and both planned and potential water quality improvement projects, and specifying potential public uses for the SLRC and adjoining property desired by the community including recreational elements and improved pedestrian safety, and serve as a guide to ensure all future improvements identified for public use were compatible with LADWP's operations and mandate to comply with federal and state water quality regulations.

The primary difference between goals of the 2000 Master Plan and those of this 2020 Master Plan is twofold. The 2000 Plan was part of a mitigation document for a proposed Water Quality Treatment Facility at that time. Now, the reservoirs are no longer part of the City's drinking water supply making the vast majority of the SLRC, including both water bodies, available for public use.

Between 2000 and 2018 the following projects identified in the 2000 Master Plan were implemented. These projects involved significant community involvement and many were funded through community efforts:

- **2005** – West Silver Lake Drive Path opens
- **2006** – Armstrong Path opens
- **2008** – Silver Lake Boulevard Path opens
- **2011** – Silver Lake Meadow opens
- **2012** – Tesla Path opens, Pocket Park and Meadow Native Garden are created
- **2015** – Path and Meadow improvements; Armstrong Native Meadow created
- **2018** – South Dam Path opens, inside the fence
- **2019** – Ivanhoe Path opens, inside the fence

Cover of 2000 Silver Lake Reservoir Complex Master Plan Report



2.2 Purpose of a Master Plan

A master plan is a dynamic, long-term planning document that provides a conceptual layout to guide future growth and development. It is based on community goals and aspirations, prior planning initiatives, existing site conditions, physical site characteristics, and social and economic conditions.

Master Plans specify near and long-range strategies for development and provide a framework for post-construction programming, operations, governance, and long-term financial sustainability. A master plan for a park includes neighborhood, site, and systems research and analysis, conceptual design, recommendations for implementation and future studies, and construction and operational budget estimates.

As long-term documents, Master Plans typically guide planning and implementation of community goals for 10 to 20 years. Once adopted by City Council and concurrence of the Mayor, environmental clearance, detailed design, permitting, and project implementation typically occur in phases and in accordance with funding and political will.

2.3 Master Plan Study Area

The Silver Lake and Ivanhoe Reservoirs, also known as the Silver Lake Reservoir Complex (SLRC), are owned by the LADWP. The SLRC is located on an approximately 127-acre site in the Silver Lake neighborhood of Los Angeles and includes reservoirs, dams, buildings, water and stormwater infrastructure, interior roads, and public recreational facilities.

The SLRC Master Plan Study Area includes approximately 116 acres of land, pathways, and water within the Complex (Figure 2-1). The remaining 11 acres of land at the Complex are restricted for LADWP facilities and infrastructure. LADWP currently leases approximately 3 acres of land to the Los Angeles Recreation and Parks Department (RAP) to operate and maintain the Meadow. Approximately 4 acres of the Complex are owned and operated by RAP for the Silver Lake Recreation Center and a nursery school.

Currently, there are two pathways shared with the public on the west side of Ivanhoe Reservoir and along the top of Silver Lake Dam. Approximately 4 acres of existing paved surfaces around the reservoirs' perimeters and at the base of the Knoll are available for shared public use with LADWP.

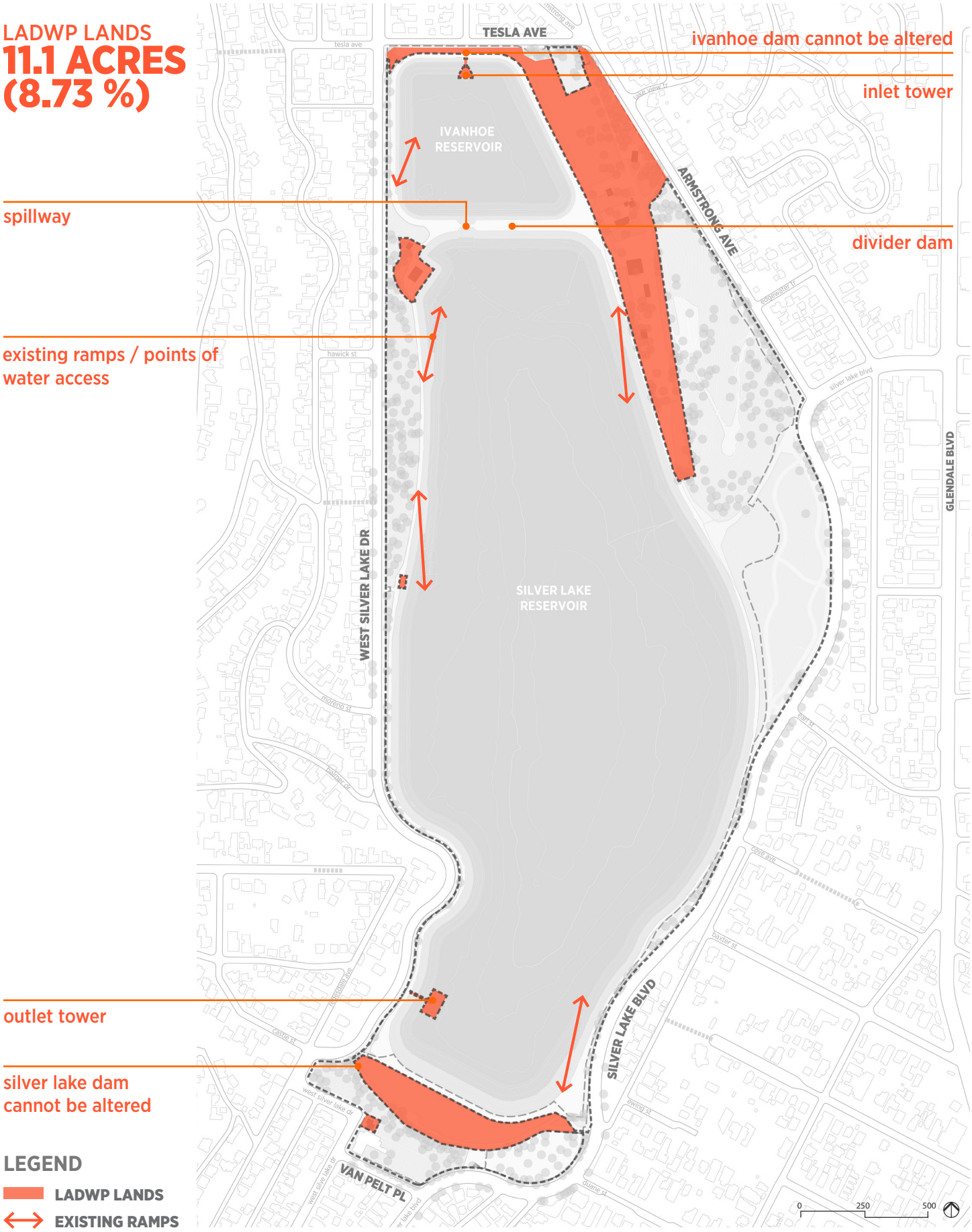
Figure 2-1 Master Plan Study Area

2.4 LADWP Lands & Structures

Within the SLRC, several land areas and structures are excluded from the Master Plan Study Area to enable the LADWP to continue its required operations at the site as shown in Figure 2-2. The largest area outside the Study Area is located on the northeast side of the Complex where LADWP facilities are maintained. The reservoir bodies are bounded by three dams under LADWP responsibility, one on the north side of Ivanhoe Reservoir, one on the south side of Silver Lake Reservoir, and one separating Ivanhoe and Silver Lake Reservoirs which contains a spillway. Additional LADWP structures which must remain in place and operational include pipelines, a regulator station, valves, vaults, equipment, buildings, reservoir structures, power and communication systems, and other supporting infrastructure. These areas will all be fenced.

Future alterations to the SLRC resulting from the Master Plan must also allow access into both reservoirs and provide vehicular access around the reservoirs for LADWP operational use. At a minimum, the Master Plan design must accommodate one ramp into Ivanhoe Reservoir and two ramps into Silver Lake Reservoir. Designated paths for LADWP vehicles must maintain a minimum 15-foot clear width.

Figure 2-2 LADWP Land

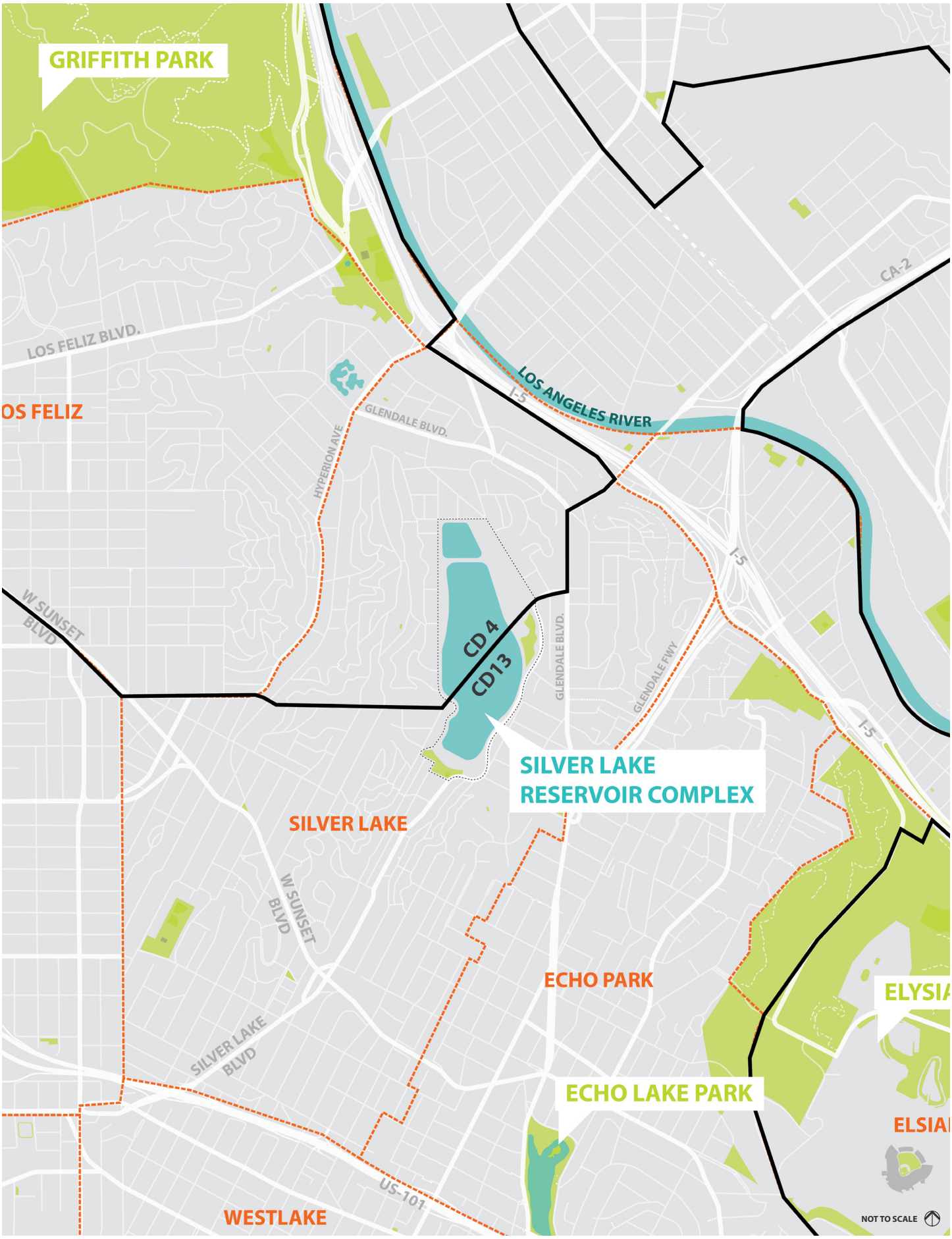


2.5 Existing Site Conditions

The Silver Lake Reservoir Complex is located in the Silver Lake neighborhood of the City of Los Angeles (Figure 2-3). Silver Lake is primarily a residential neighborhood with some commercial areas. Under the Los Angeles General Plan, Silver Lake is part of the Silver Lake–Echo Park–Elysian Valley Community Plan Area which establishes policy and land use guidelines. The Complex is zoned as Open Space (OS) for which the Master Plan design is compatible. Additionally, the Complex crosses two Los Angeles political jurisdictions, Council Districts 4 and 13 (CD4 and CD13).

The Silver Lake–Echo Park–Elysian Valley Community Plan identifies several opportunities related to the SLRC Master Plan including the promotion and facilitation of implementing the Master Plan as a valuable community and recreational asset. The Community Plan also supports and encourages creating pedestrian and bike linkages between parks and open spaces with which the SLRC Master Plan proposal is compatible.

Figure 2-3 Silver Lake Reservoir Complex Context



The irregularly shaped site is bounded by Tesla Avenue on the north, Armstrong Avenue and Silver Lake Boulevard on the east, Van Pelt Place, and Silver Lake Boulevard on the south, and West Silver Lake Drive on the west.

The existing site is organized into a series of spaces surrounding the reservoirs as described below and shown in Figure 2-4.

MEADOW
The Meadow is mostly open lawn with some shade trees and mix of ornamental and native planting with several walking paths. Approximately 3 acres of this space is currently leased by RAP and open to the public during the day and closed at night. This public amenity was identified and implemented as part of the 2000 Master Plan.

KNOLL
The Knoll is a hill approximately 45-feet high north of the Meadow. It's currently restricted to LADWP access only. The Knoll is mostly a woodland mix of Eucalyptus and Pine species with a varied grass and shrub understory. A portion of the Knoll is used by LADWP landscape maintenance for material storage.

SILVER LAKE RECREATION CENTER AND DOG PARK
This Recreation Center is located on the south side of Silver Lake Dam. It includes a Recreation Center building with a small gym and support spaces, tot lot, informal play field, basketball court, fenced dog park, open lawn, and picnic area. The Recreation Center is operated from 9:00 am to 9:00 pm on weekdays, 9:00 am to 5:00 pm on Saturdays, and is closed on Sundays.

EUCALYPTUS GROVE
Along the western side of Silver Lake Reservoir, is a large, wooded space known as the Eucalyptus Grove. It's a mostly flat area dominated by non-native Eucalyptus trees and a monoculture of mostly grasses on the ground plane. Access to the grove is currently restricted to LADWP.

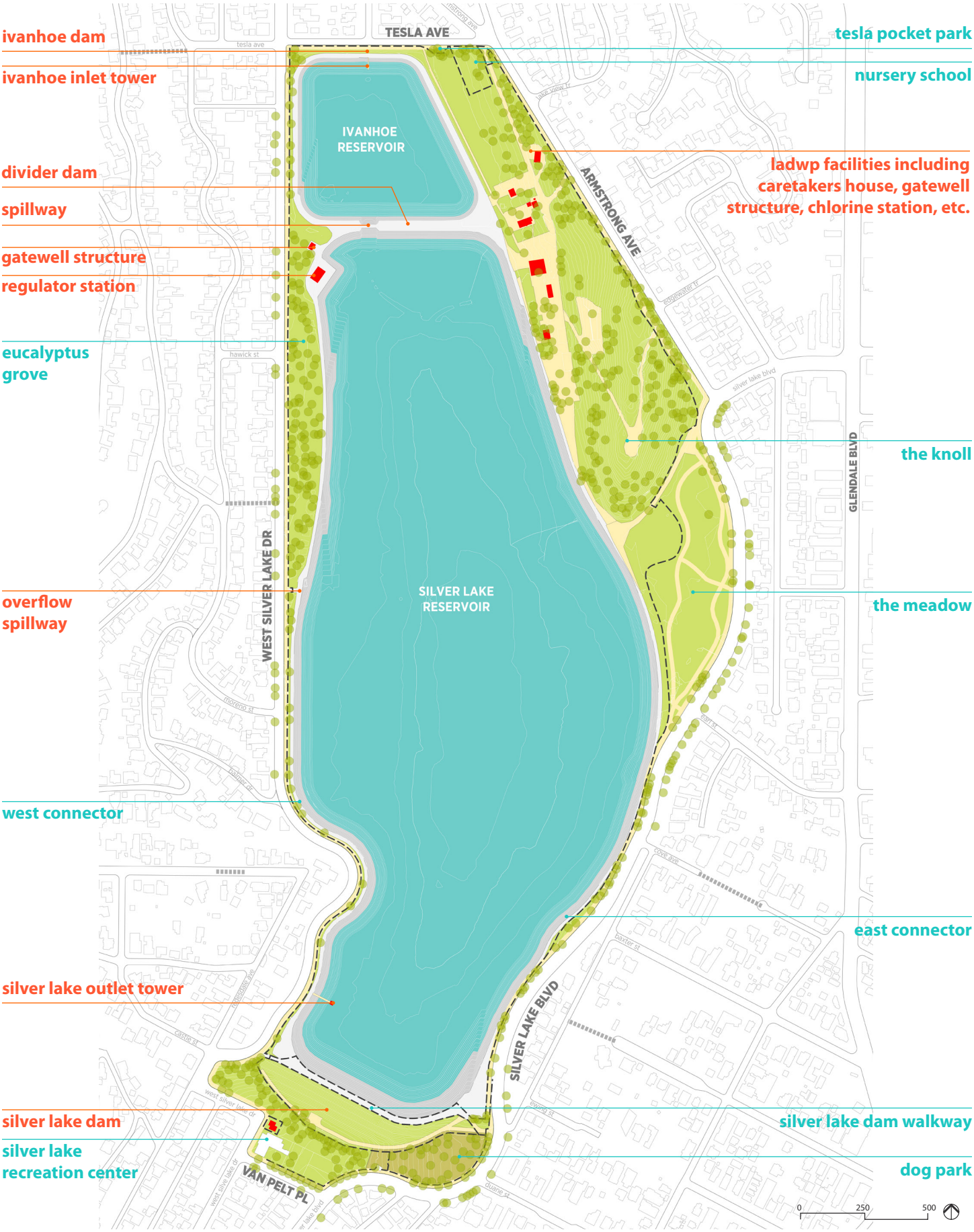
IVANHOE RESERVOIR
Ivanhoe Reservoir is the smaller of the two reservoirs and bounded by a path along the top of its dam. The narrow lands around the water body are currently restricted to LADWP access with the exception of a shared path on the west side that connects to a public sidewalk on West Silver Lake Drive and which allows people to walk along the water's edge before being directed back to West Silver Lake Drive near the Spillway. This shared path is closed to the public at night.

SOUTH SILVER LAKE DAM
At the top of this dam is a shared pathway that connects to sidewalks at West Silver Lake Drive and Silver Lake Boulevard and which allows people to walk along the top of the embankment and take in long views of the water body and San Gabriel Mountains in the distance. This shared path is closed to the public at night.

EAST AND WEST CONNECTORS
The south end of Silver Lake Reservoir is bounded on the east and west sides by narrow areas of land consisting predominantly of a pathway at the embankment edge that connects the Meadow on the east side and Eucalyptus Grove on the west side to the Silver Lake Dam pathway. The width of these spaces vary from roughly 25- to 50-feet and are restricted to LADWP access.

PERIMETER FENCE
The entire reservoir complex is enclosed by a perimeter chain link fence varying in height from 6- to 12-feet. In some areas the fence is topped by three rows of barbed wire. Access gates managed by LADWP are dispersed throughout.

Figure 2-4 Silver Lake Reservoir Complex Existing Conditions



CHAPTER 3
ANALYSIS

contents

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figures

chapter 3 figures cont'd

3.1 Analysis Overview

Multiple layers of analyses informed the development of the Silver Lake Reservoir Complex Master Plan. The proposed Master Plan design draws extensively from the site's history, critical cultural and ecological parameters, urban context relationships, recreational needs assessment, and existing site conditions. These analyses were framed as site challenges and opportunities within the community engagement process and used as the basis for developing project goals.

What follows is a summary of key findings of more substantial reports which can be reviewed in the Master Plan Report Appendix.

3.2 Silver Lake History & Cultural Context

Throughout its recorded history, the Silver Lake Reservoir Complex has been integrated into a larger, ever evolving water system – initially it was part of an ecological network of streams and wetlands, and most recently, a significant, man-made component of the City's potable water infrastructure.

A natural depression within the Ivanhoe Canyon of the Santa Monica Mountain Range, the Complex was once a marshy pond historically referred to as a "meadowland" which was plentiful with wildlife. In fact, this abundant wildlife enticed hunters to this area for game. Historic wetlands mapped prior to 1890, for the Historical Ecology of the Ballona Creek Watershed project indicates an intermittently flowing stream from the south end of what is now Silver Lake Reservoir draining into a small wet meadow complex to the south as shown in Figure 3-1. This historic understanding of the site is reinforced by an early United States Geologic Survey map from 1894 as shown in Figure 3-13 at the end of this section. Water continued to flow south to a vast wetland complex called La Cienega, located just north of Baldwin Hills, and eventually drained into Ballona Lagoon. Together, the La Cienega and Ballona Lagoon complexes supported the largest wetland habitat in the watershed.

The SLRC site was selected by the City for its adventitious location in the watershed and ability to be connected to an evolving Los Angeles water system in order to contribute to the storage capacity and stable water supply needed for the growing population of Los Angeles. The site was anticipated to have a flow line at 445 feet above sea level and once constructed, would have a surface area of approximately 129 acres. The land that comprises the Complex was acquired in two transactions. The northern portion of the site, comprising approximately 110 acres, was purchased in 1886. The remaining acreage was purchased in 1903. The Complex was designed and engineered by Los Angeles Water Department Superintendent,

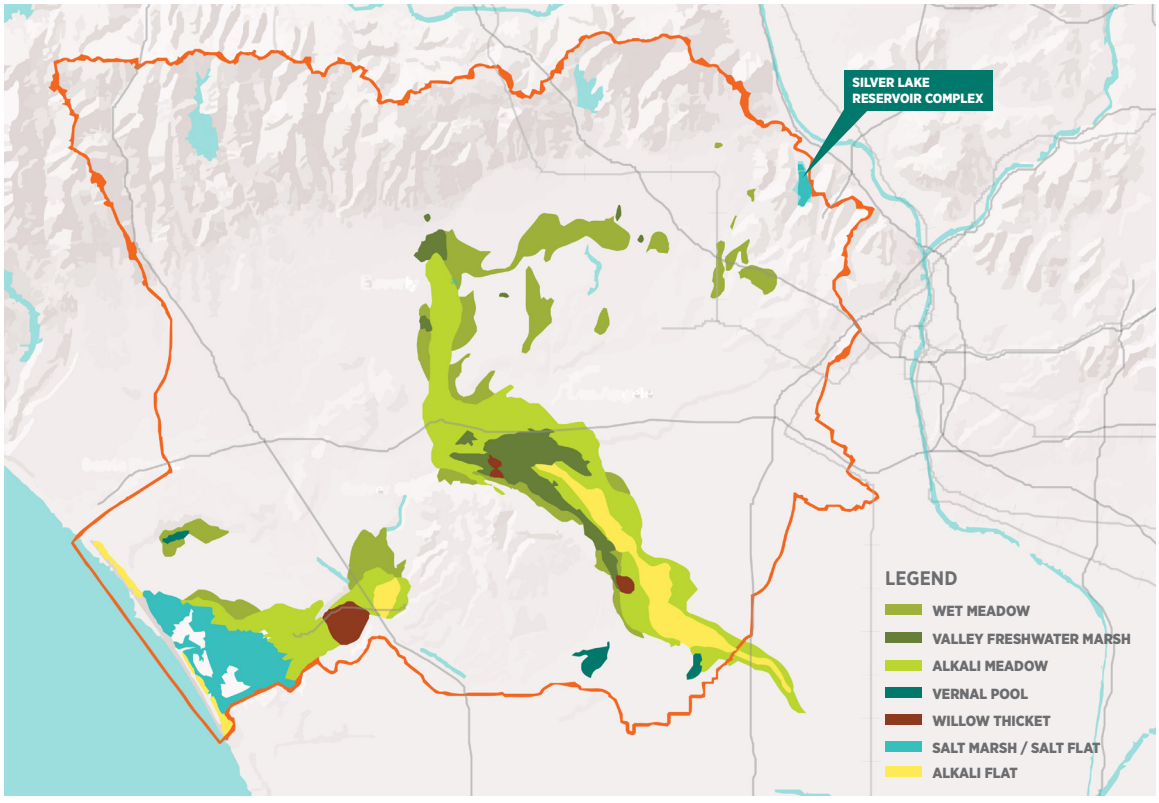


Figure 3-1 Mapping of historic Balona Creek Watershed

This mapping of the historic Ballona Creek Watershed over a present-day shaded topography map and major transportation network shows the SLRC site as part of the historic watershed and ecosystem.

Source: Dark, S., E. D. Stein, D. Bram, J. Osuna, J. Monteferante, T. Longcore, R. Grossinger, and E. Beller. 2011. Historical ecology of the Ballona Creek watershed. Southern California Coastal Water Research Project Technical Publication No. 671

Figure 3-2 Historic Photo of Silver Lake Reservoir 1907

Construction of Silver Lake Reservoir in 1907 showing its regional and geomorphological context Source: WRCA LIPP Box 78, Item 141, #115. From the holdings of the Special Collections & Archives, Water Resources Collections, UCR Libraries, University of California, Riverside

William Mulholland. Of historic significance, Mulholland was the first engineer in America to use a method of construction called hydraulic sluicing to build a dam. The Silver Lake and Ivanhoe reservoirs were formed by wagon rolled earthen dams and embankments depicted in Figure 3-2.

Named after the Ivanhoe Canyon, Ivanhoe Reservoir was completed first in 1906, followed by Silver Lake in 1907 which was named after Herman Silver, a member of Los Angeles' first Board of Water Commissioners. According to an article in the LA Times November 25, 1907, Silver Lake would be the largest freshwater lake in the vicinity and destined to become a great City park. Figure 3-3 from this approximate time shows Silver Lake Reservoir with a planted embankment edge.

> *"...it promises also to become a favorite resort for pleasure seekers, because of its delightful surroundings. Its gently sloping banks will be a park of themselves...with the planting of trees and flowers, however, it will be a beauty spot that may dim the glories of Westlake, Eastlake and some of the other parks. One of the means of keeping the water pure will be through the stocking of the lake with black bass."*

Since their completion, Ivanhoe and Silver Lake Reservoirs have been altered to meet the changing needs of the City. Notable alterations include those undertaken in 1920, 1944, 1951–1953, 1975–1976, and 2011–2017. Initially, The Silver Lake Reservoir was used as a source of water for irrigation, while the Ivanhoe Reservoir provided domestic drinking water. However, 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 modified in 1920 to both supply domestic water to the City's drinking water system. At this time, the embankments of the Silver Lake Reservoir were altered with a steeper slope, increasing the capacity of the reservoir. When they were first completed there was no spillway between the two water bodies as shown in Figure 3-4. They were connected via a gate-controlled 36-inch pipeline. It wasn't until 1944 that the reinforced concrete spillway was constructed.

Figure 3-3 Historic Photo of Silver Lake Reservoir 1908

This hand-colored lantern slide circ. 1908 shows the original wetland edge of Silver Lake Reservoir and the Knoll woodland. Source: Braun Research Library Collection at the Autry Museum of the American West (Object ID LS.12424)

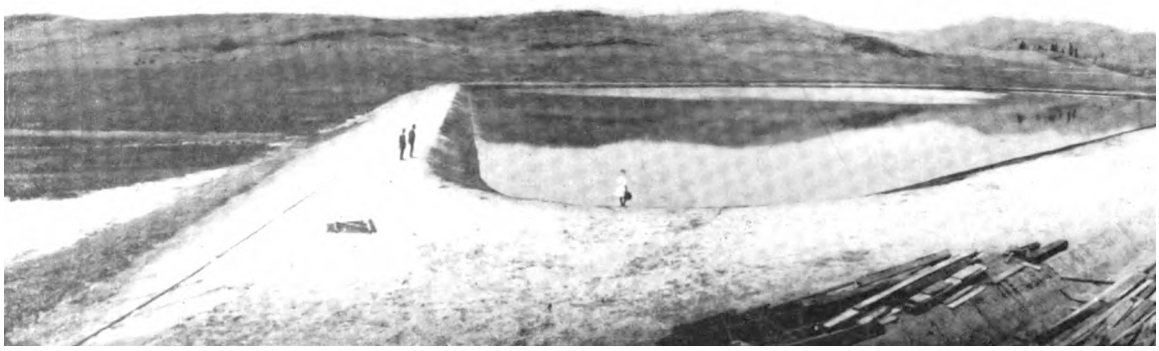


Figure 3-4 Historic photo of the Ivanhoe Reservoir and South Dam 1906

This 1906 photo shows Ivanhoe Reservoir's South Dam. Initially, there was no spillway between Ivanhoe and Silver Lake Reservoirs. Source: Board of Water Commissioners Report, 1906

Figure 3-5 Historic photo of the Ivanhoe Reservoir 1935

In 1907 Ivanhoe Reservoir was covered to protect this domestic water supply. Source: Los Angeles Public Library Photo Collection

During 1951–1953, both reservoirs underwent extensive improvements to meet City water demands as well as government water quality regulations. Silver Lake Reservoir was reshaped, deepened, and its embankments were paved in asphalt. Additionally, a 60-inch bypass line was installed underneath the reservoir. Much of the excess excavated soil from this work was used to fill in the east shore and a lagoon known as the East Cove. East Cove was an area prone to stagnation and algae growth which negatively impacted water quality. Ivanhoe Reservoir was also deepened during this time and its basin and embankments were paved with asphalt. Many of these alternations are visible when comparing aerial photography from 1944 and 1956 as shown in Figures 3-6 and 3-7.

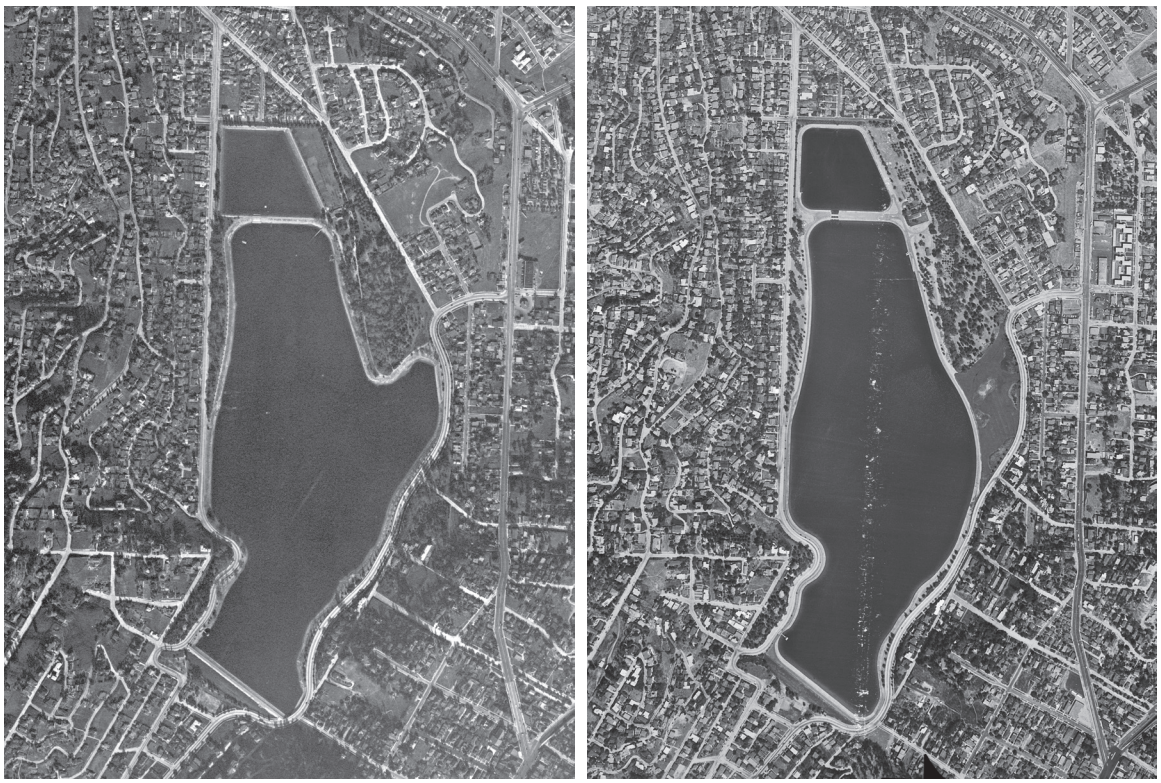


Figure 3-6 (left) Historic aerial photo of the Silver Lake Reservoir Complex from 1944

Figure 3-7 (right) Historic aerial photo of the Silver Lake Reservoir Complex from 1956

Modifications made the reservoirs during the early 1950's can be seen in side-by-side comparisons of aerial photography from 1944 and 1956, including filling in East Cove which is now the Meadow and altering the embankment edges.
Source: UCSB Library, Special Research Collections, University of California Santa Barbara. "FrameFinder Air Photos"

Due to seismic concerns, Silver Lake Dam was completely reconstructed in 1975-1976. The outlet tower was rebuilt, and a new 72-inch pipe was installed. As a result, the southern end of the Silver Lake Reservoir was reshaped to its current configuration.

Since they were completed in 1907, Silver Lake and Ivanhoe Reservoirs have become beloved urban water bodies synonymous with the Silver Lake neighborhood. In the 1920s and 1930s developers, who were encouraged to build in Los Angeles by the City, were attracted To Silver Lake by the hills and the blue jewel focal point that are the Silver Lake and Ivanhoe Reservoirs. The neighborhood attracted an eclectic mix of artists, filmmakers, actors and directors whose homes were designed by great names in architecture, such as Richard Neutra, Harwell Harris, David Hyun, Eric Lloyd Wright, Gregory Ain, John Lautner, Raphael Soriano, Rudolph Schindler, and Rodney Walker.

In 2008 the SLRC was decommissioned and removed from the City's drinking water supply system due to a change in United States federal regulations. Silver Lake Reservoir was taken out of service in 2008, drained in November 2015 to construct a Bypass Project, and refilled in April 2017. Ivanhoe Reservoir was removed from the distribution system in December 2017 and remains filled with water.

Today, the reservoirs remain a locus of the Silver Lake neighborhood and a beloved resource of the community.

Figure 3-8 Historic bird's eye photo of the Silver Lake Reservoir Complex 1924

Early photography from 1924 indicates how the Silver Lake neighborhood grew up around the reservoirs. At this time, East Cove was a prominent feature of the complex and Ivanhoe was covered with a wooden roof. Source: LA Public Library

Figure 3-9 Historic Photo of the Silver Lake Reservoir Complex 1930

This photo from 1930 shows East Cove on the right and a footpath leading to the top of the Knoll beyond. Source: silverlake.org, courtesy of Doug Baldwin

3.3 Historic-Cultural Monument Designation

As designated Los Angeles Historic-Cultural Monument (HCM No. 422), 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 the Interior's Standards for the Treatment of Historic Properties (Standards).

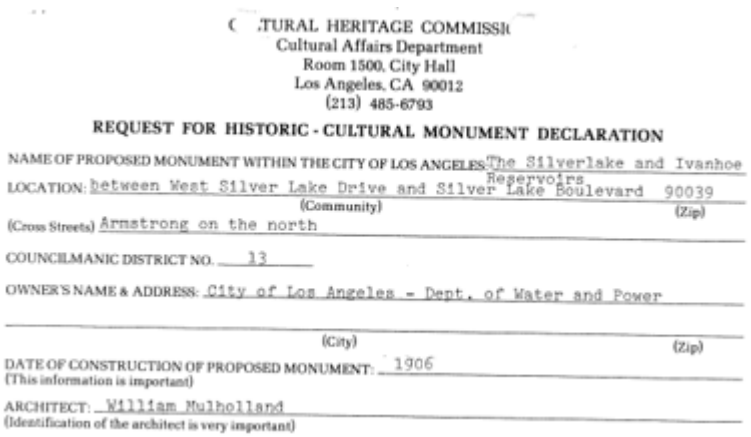
The SLRC was designated as a Historic-Cultural Monument primarily for the following:

- Its significant association with the development of the Silver Lake neighborhood
- Its significant association with William Mulholland
- As an early and important example of a hydraulically sluiced reservoir

According to the OHR, the HCM No. 422 boundaries encompass the property owned by the LADWP. The period of significance under this designation has been identified as 1906 to 1953, representing the date of the original construction through the improvement program of the early 1950s.

As a historic cultural landscape, consideration must be given in proposing alterations to its character-defining features. The Standards under which alternations are evaluated are not intended to be prescriptive, but instead provide general guidance. 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. Not every Standard necessarily applies to every aspect of a project, nor is it necessary to comply with every Standard to achieve compliance.

The Standards are issued by the National Park Service (NPS) and are accompanied by Guidelines for four types of treatments: Preservation, Rehabilitation, Restoration, and Reconstruction. The most common treatment and the one that applies to the proposed Master Plan design is rehabilitation, which is defined by NPS as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."



C .TURAL HERITAGE COMMISSI
Cultural Affairs Department
Room 1500, City Hall
Los Angeles, CA 90012
(213) 485-6793

REQUEST FOR HISTORIC - CULTURAL MONUMENT DECLARATION

NAME OF PROPOSED MONUMENT WITHIN THE CITY OF LOS ANGELES: The Silverlake and Ivanhoe Reservoirs

LOCATION: between West Silver Lake Drive and Silver Lake Boulevard 90039
(Community) (Zip)

(Cross Streets) Armstrong on the north

COUNCILMANIC DISTRICT NO. 13

OWNER'S NAME & ADDRESS: City of Los Angeles - Dept. of Water and Power

(City) (Zip)

DATE OF CONSTRUCTION OF PROPOSED MONUMENT: 1906
(This information is important)

ARCHITECT: William Mulholland
(Identification of the architect is very important)

Figure 3-10 Historic Cultural Monument declaration form from 1989

3.3.1 SLRC Character-Defining Features

The first step in applying the Standards to a historic property is the identification of character-defining features. Character-defining features are the components that contribute to a historic property's sense of time and place. Using the NPS Guidelines for the Treatment of Cultural Landscapes, the design team identified character-defining features of the SLRC.

The primary character-defining features of the SLRC range from natural systems and features and topography to circulation patterns and constructed features. Some of these elements at the complex have been constants since the reservoirs opened, while other more recent ones erased early features. For instance, while the reservoirs were always bounded by embankments since their construction, gentle and planted slopes have given way to steep, paved slopes.

NATURAL SYSTEMS & FEATURES

The primary natural feature of the complex is the Knoll, a 9-acre wooded hill approximately 45-feet in height. Its ridgeline has been altered overtime by Department of Water & Power operations.

Figure 3-11 Historic Photo of the Silver Lake Reservoir Complex 1927

The public perimeter walkway and road in 1927 was at the water's edge. The embankment was still planted. Source: Water and Power Associates

CIRCULATION

Since their construction, the reservoirs have had some form of a perimeter path and road. Early on, there was a single, wide path used by pedestrians and vehicles along the water's edge as shown in Figure 3-11. Over time the public path moved from the water's edge to exterior roads. A perimeter path still exists around the reservoirs which is currently maintained for LADWP operations and not publicly accessible. Additionally, smaller pathways have been removed or erased, such as a historic footpath from what is now the Meadow to the top of the Knoll.

LAND USES

Uses of the SLRC have evolved over time as a result of changing City uses and needs. The largest land use at the Complex is the reservoirs. Additional land use areas dating from the period of significance, are the Knoll and Eucalyptus Grove which are designated as open space, and the Grassy Patch adjacent to the Recreation Center is designated as park land. Approximately 11 acres of land are used for LADWP Maintenance & Operations.

TOPOGRAPHY

Most of the site is flat but there are several areas with significant changes in elevation dating from the period of significance. The reservoirs are deep basins with steep slopes. The Knoll is an approximately 45-foot high hill with varied slopes. The south Silver Lake Dam and the Ivanhoe Dam have steep slopes 40-feet and 10-feet respectively. Lastly, the Grassy Patch adjacent to the Recreation Center consists of a gentle sloped condition.

BUILDINGS AND STRUCTURES

While there are many buildings within the Complex dating from the period of significance, such as the Sunshine House, these are outside the Master Plan Study Area. Within or directly impacting the Master Plan study area are the North and South Ivanhoe Dams.

VEGETATION

There are three areas dating from the period of significance that are considered character-defining features: The Knoll, Eucalyptus Grove, and Grassy Patch. Within these are mature trees such Eucalyptus, Pines, and Sycamores. Large, mature trees within the Complex are considered character defining. Early photography indicates that trees were planted in loose groupings as well as more defined, linear geometries such as the allée shown in Figure 3-12.

CONSTRUCTED WATER FEATURES

The large, open water bodies of Ivanhoe and Silver Lake Reservoirs have been a primary character-defining feature since they were built.

SMALL-SCALE FEATURES

Overtime, several smaller features have been added to the Complex including the low concrete perimeter walls on the east and west edges of the Complex which were constructed to prevent stormwater runoff to flow into the reservoirs and contaminate the water. Additionally, the Ivanhoe Inlet Tower was constructed during the period of significance.

Figure 3-12 Historic Photo of Silver Lake Reservoir 1936

This photo from 1936 shows an allée of trees along the perimeter path on the east side of Silver Lake Reservoir. Source: LADWP

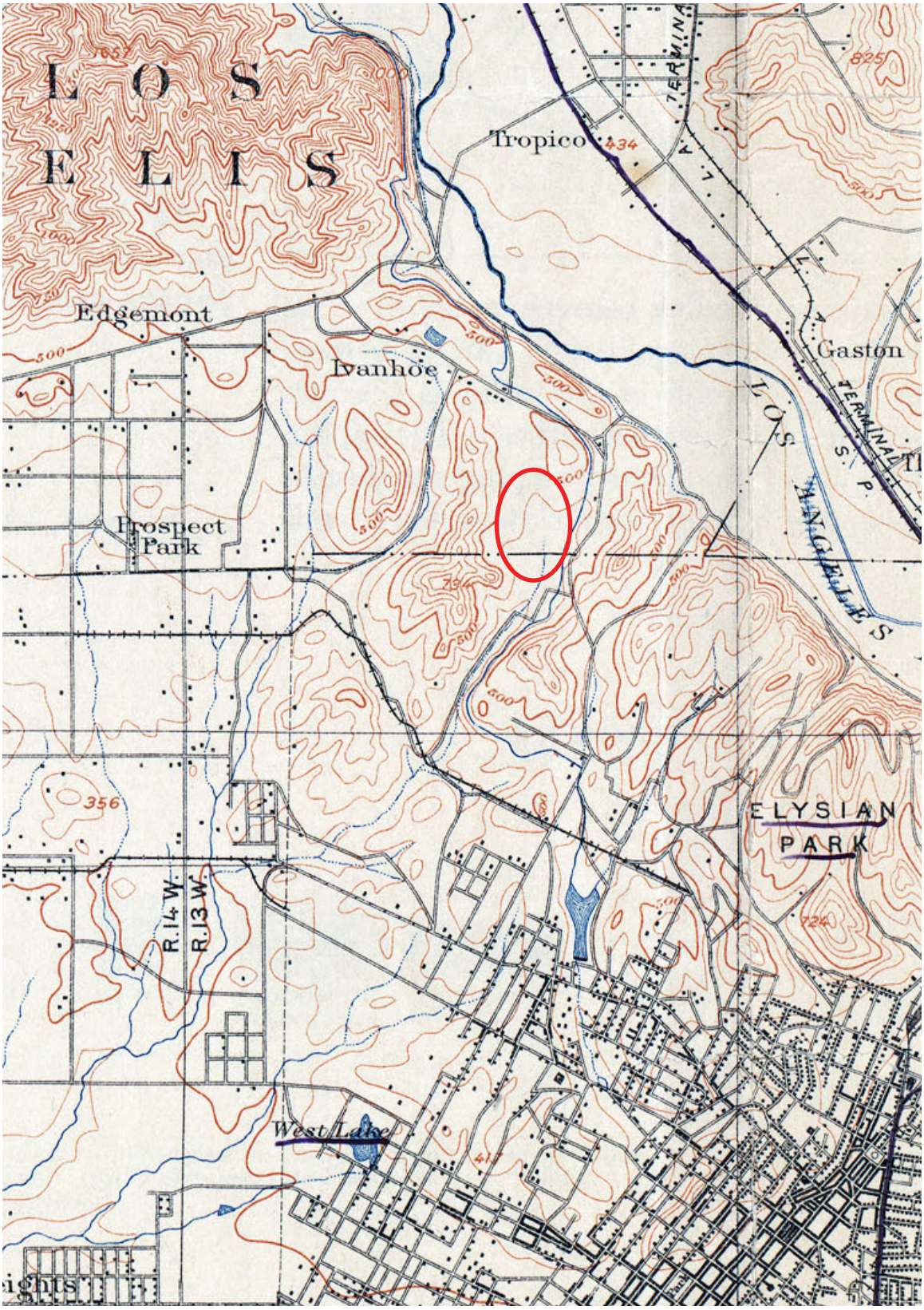


Figure 3-13 Silver Lake and surrounding communities Topographic Map 1894

A topographic map by the United States Geologic Survey from 1894 depicts a network of streams in what is now Silver Lake. The approximate location of the SLRC is shown as a red oval. Source: University of Texas Library

3.4 Site Ecology

The SLRC is situated in an urbanized valley within the eastern foothills of the Santa Monica Mountain Range. The site is no longer physically connected to this mountain range. The closest significant ecology to the SLRC is 4,000-acre Griffith Park, with habitat areas characterized by mixed chaparral, mixed scrub, oak-sycamore riparian, oak woodland, and walnut woodland native vegetation types. The Complex's proximity to the Los Angeles River corridor as well as Griffith and Elysian Parks helps make the site a potential habitat link as shown in Figure 3-14.

In urban environments, links to habitat areas are critical to species with wide ranges of movement. These linkages facilitate the movement of organisms and ecological processes, such as native plant pollination, between larger areas of intact habitat. In the Silver Lake vicinity, small to medium sized mammals such as raccoons, fox, and coyote can migrate between Griffith Park and the Los Angeles River. Typically, invertebrates such as native butterflies, bees, and ants, as well as lizards, snakes, frogs, and salamanders have limited migration ability and offspring do not typically disperse far from where they are born. To be considered viable, a habitat linkage must provide adequate vegetative cover, food, and water for a given species. While the SLRC offers fresh water, as a habitat linkage its embankment slopes are steep and potentially difficult navigate. Additionally, vegetation and food resources for terrestrial mammals at the Complex are minimal.

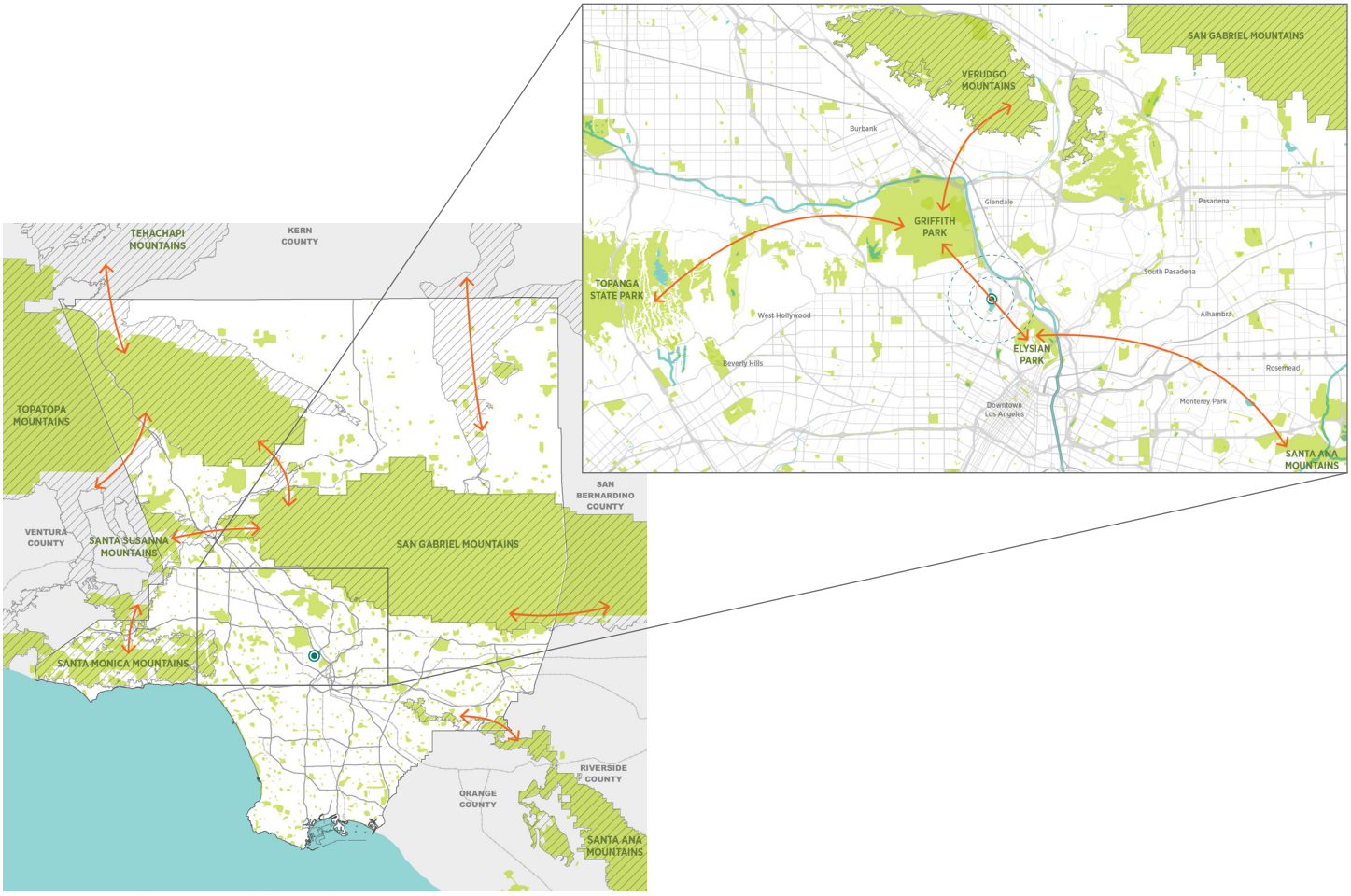
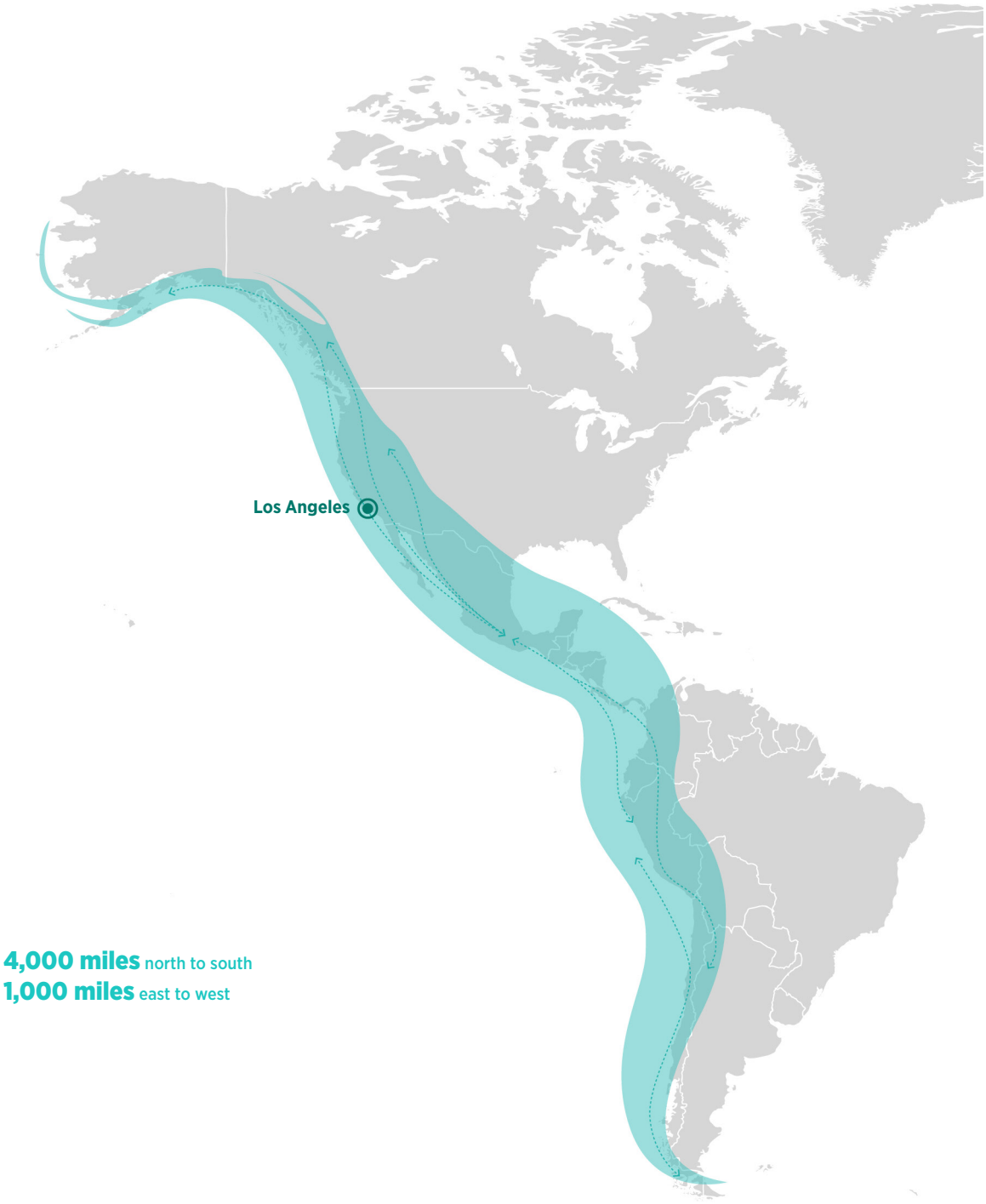


Figure 3-14 Regional habitat linkages and wildlife corridors map
adapted from Los Angeles Department of Regional Planning

Figure 3-15 The Pacific Flyway



Pacific Flyway: The SLRC is also located along one of four major North American migration routes for birds, predominantly waterfowl, known as the Pacific Flyway which extends from Alaska to South America. In California, wetlands provide critical habitat for millions of migratory birds each year, offering a combination of vegetation and open water that provide both cover and food resources. These food resources include fruit bearing trees and shrubs as well as fish and other aquatic species.

While the large water bodies of the SLRC are currently a stopover for migratory birds, the habitat value of the SLRC is limited by its lack of food resources. Since wetland vegetation and aquatic species, such as fish, are absent within the Complex, the site does not provide adequate resources essential for many migratory birds' survival.

3.4.1 Existing Vegetation

Most of the vegetation within the SLRC is comprised of ornamental, non-native vegetation and lawn. However, there are some native species on the border of Silver Lake Meadow and the Knoll, including Coast Live Oak (*Quercus agrifolia*), California Sycamore (*Platanus racemosa*), California Black Walnut (*Juglans californica*), and Blue Elderberry (*Sambucus nigra ssp. caerulea*). The largest existing planted areas within the Complex are the Eucalyptus Grove and the Knoll. Both of these areas are dominated by mature stands of non-native Eucalyptus trees and a mostly non-native understory plant community.

Distrubed / Reuderal
Vegetation community dominated by annual and perennial introduced/non-native, pioneering, herbaceous plants that readily colonize disturbed ground. This plant community is found beneath the Eucalyptus trees in the Eucalyptus Grove and at the south end of the Silver Lake Recreation Center.

Eucalyptus Globus Semi-Natural Woodland
Vegetation community dominated by *Eucalyptus globulus* with a sparse and intermittent understory. Other species associated with this community include pines (*Pinus spp.*) and non-native annual grasses. This plant community is located within the Eucalyptus Grove and at the bottom of the Knoll.

Eucalyptus Sp. Mixed Semi-Natural Woodland
Vegetation community dominated by several different Eucalyptus species. Species may include Red Gum (*Eucalyptus camaldulensis*), Lemon Scented Gum (*Eucalyptus citriodora*), Sugar Gum (*Eucalyptus cladocalyx*), Blue Gum (*Eucalyptus globulus*), Silver Dollar Gum (*Eucalyptus polyanthemos*), Money Tree (*Eucalyptus pulverulenta*), Red Iron Bark (*Eucalyptus sideroxylon*), Forest Red Gum (*Eucalyptus tereticornis*), and Manna Gum (*Eucalyptus viminalis*). Other species associated with this community include pines (*Pinus spp.*), California Black Walnut (*Juglans californica*), Bottlebrush (*Callistemon spp.*), Pepper Tree (*Schinus mole*), Hemlock (*Tsuga spp.*), Deodar Cedar (*Cedrus deodar*), and non-native annual grasses, palm trees. This plant community is located on the Knoll.

Lawn
Lawn is an area of soil-covered land planted with grass and use for aesthetic and recreational purposes which is regularly mown and irrigated. This plant community is found in the Meadow and at the Silver Lake Recreation Center.

Ornamental
Vegetation community dominated by non-native horticultural plants with some native species . This area includes a mix of trees, shrubs, and flowers. Native species in this area include Deergrass (*Muhlenbergia rigens*), California Buckwheat (*Eriogonum fasciculatum*), Grey Rush (*Juncus patens*), Purple Sage (*Salvia leucophylla*), Matilija Poppy (*Romneya coulteri*), Sugar Bush (*Rhus ovata*), Catalina Ironwood (*Lyonothamnus floribundus*), Salt Bush (*Atriplex lentiformis*) and California Poppy (*Eschscholzia californica*). This plant community is located at the Meadow, along the perimeter of the walking path to the south, around the LADWP lands and surrounding the Silver Lake Recreation Center.

Figure 3-16 Existing Vegetative Communities of the Silver Lake Reservoir Complex

3.4.2 Wildlife

Although the SLRC is dominated by ornamental, non-native vegetation, the large reservoir water bodies still provide an important year-round resource of fresh water for wildlife, particularly for local and migratory waterfowl. Based on field observations, most of the wildlife observed within the SLRC are bird species including hummingbirds, crows, blackbirds, gulls, herons, egrets, and ducks. Nesting pairs recently observed at or in close proximity to the Complex include Great Blue Herons, Great-Horned Owls, Northern Mockingbirds, and Red-Tailed Hawks. These observations are consistent with community sightings reported on a citizen science website, https://ebird.org (eBird), as well as multiple, focused surveys conducted at the SLRC between 2004 and 2018. Additionally, California Ground Squirrels, Cottontail Rabbits, and Western Fence Lizards were observed during field visits. The community also reports sightings of bobcats, coyotes, possums, and skunks in the neighborhood.

Bird species observed and/or heard during a field survey by the design team in May 2018 include Allen's Hummingbird (*Selasphorus sasin)*, American Crow (*Corvus brachyrhynchos)*, Anna's Hummingbird (*Calypte anna)*, Black Phoebe (*Sayornis nigricans)*, Brewer's Blackbird (*Euphagus cyanocephalus)*, California Gull (*Larus californicus)*, California Scrub-Jay (*Aphelocoma californica*), California towhee (*Melozone crissalis*), Canada Goose (*Branta canadensis)*, Cliff Swallow (*Petrochelidon pyrrhonota*), Common Raven (*Corvus corax*), Great Blue Heron (*Ardea herodias)*, Great Egret (*Ardea alba)*, Great-Horned Owl (*Bubo virginianus),* House Finch (*Haemorhous mexicanus)*, House Sparrow (*Passer domesticus)*, Killdeer (*Charadrius vociferus)*, Lesser Goldfinch (*Spinus psaltria)*, Mallard (*Anas platyrhynchos)*, Mourning Dove (*Zenaida macroura*), Northern Mockingbird (*Mimus polyglottos)*, Northern Rough-Winged Swallow (*Stelgidopteryx serripennis*), Nuttall's Woodpecker (*Picoides nuttallii*), Phainopepla (*Phainopepla nitens*), Red-Tailed Hawk (*Buteo jamaicensis)*, Ruddy Duck (*Oxyura jamaicensis)*, Scaly-Breasted Munia (*Lonchura punctulata*), Tree Swallow (*Tachycineta bicolor*), Western Bluebird (*Sialia mexicana)*, Western Kingbird (*Tyrannus verticalis*), and Wrentit (*Chamaea fasciata*).

3.4.3 Special Status Species

The US Migratory Bird Treaty Act (MBTA) protects migratory birds, their occupied nests, and their eggs from disturbance and/or destruction. "Migratory birds" include all non-game, wild birds found in the U.S. except for the House Sparrow, European Starling, and Rock Pigeon.

Within the MBTA, is a sub-set of protected species that pose special management challenges for a variety of factors titled Birds of Management Concern (BMC). These species are of concern because of population declines, small or restricted populations, dependence on restricted or vulnerable habitats, or are overabundant to the point of causing ecological and economic damage. The BMC list was cross-referenced with the last 10 years of eBird data to determine which BMC species have been observed at the SLRC (see Figure 3-17). These species should be considered when undertaking improvements at the site.

Several BMC species were observed during the Master Plan field observations including Great Blue Heron, Canada Goose, Great Egret, Ruddy Duck, Nuttall's Woodpecker, and Allen's Hummingbird.

3.4.4 Significant Ecological Area

Significant Ecological Areas (SEA) are officially designated areas with irreplaceable biological resources within Los Angeles County. These areas represent the wide-ranging biodiversity of Los Angeles County and contain some of the county's most important biological resources.

Typically, habitat in SEAs consist of large continuous acreage with few roads and residential development. *No sensitive habitat or SEA's were found within the SLRC.* The nearest SEA area to the Complex is Griffith Park.

Figure 3-17 Silver Lake Reservoir Complex Bird Sightings

Bird species sighted at the SLRC during field observations and/or documented over the last 10 years on eBird, cross referenced with the U.S. Migratory Bird Treaty Act Birds of Management Concern list and U.S. Fish & Wildlife Service Focal Species list.

SILVER LAKE RESERVOIR COMPLEX BIRD SIGHTINGS

BIRDS OF MANAGEMENT CONCERN (BMC)

The BMC list was cross-referenced with the last 10 years of eBird data to determine which BMC species have been observed at the SLRC.

focal species

The U.S. Fish & Wildlife Service maintains a Focal Species list of birds from the larger BMC list. These species are identified as needing investment and attention because they: (1) have high conservation needs, (2) are representative of a broader group of species sharing the same or similar conservation needs, (3) act as a potential unifier for partnerships, and/or (4) have a high likelihood that factors affecting status can be realistically addressed. The following three species have been sighed at the SLRC.

Northern Pintail
Anas acuta

Greater/Lesser Scaup
Aythya marila/affinis

Bald Eagle
Haliaeetus leucocephalus

- **Allen's Hummingbird** *Selasphorus sasin*
- **Blue-Winged Teal** *Anas discors*
- **Band-Tailed Pigeon** *Patagioenas fasciata*
- **Canada Goose** *Branta canadensis*
- **Canvasback** *Aythya valisineria*
- **Cinnamon Teal** *Anas cyanoptera*
- **Common Goldeneye** *Bucephala clangula*
- **Costa's Hummingbird** *Calypte costae*
- **Green-Winged Teal** *Anas carolinensis*
- **Long-Tailed Duck** *Clangula hyemalis*
- **Northern Shoveler** *Anas clypeata*
- **Nuttall's Woodpecker** *Picoides nuttallii*
- **Oak Titmouse** *Baeolophus inornatus*
- **Olive-Sided Flycatcher** *Contopus cooperi*
- **Redhead** *Aythya Americana*
- **Ring-Necked Duck** *Aythya collaris*
- **Ruddy Duck** *Oxyura jamaicensis*
- **Rufous Hummingbird** *Selasphorus rufus*
- **Yellow Warbler** *Setophaga petechia*

- **American Crow** *Corvus brachyrhynchos*
- **Anna's Hummingbird** *Calypte anna*
- **Black Phoebe** *Sayornis nigricans*
- **Brewer's Blackbird** *Euphagus cyanocephalus*
- **California Gull** *Larus californicus*
- **California Scrub-Jay** *Aphelocoma californica*
- **California Towhee** *Melozone crissalis*
- **Cliff Swallow** *Petrochelidon pyrrhonota*
- **Common Raven** *Corvus corax*
- ● **Great Blue Heron** *Ardea herodias*
- **Great Egret** *Ardea alba*
- ● **Great Horned Owl** *Bubo virginianus*
- **House Finch** *Haemorhous mexicanus*
- **House Sparrow** *Passer domesticus*
- **Killdeer** *Charadrius vociferus*
- **Lesser Goldfinch** *Spinus psaltria*
- **Mallard** *Anas platyrhynchos*
- **Mourning Dove** *Zenaida macroura*
- ● **Northern Mockingbird** *Mimus polyglottos*
- **N. Rough-Winged Swallow** *Stelgidopteryx serripennis*
- **Phainopepla** *Phainopepla nitens*
- ● **Red-tailed Hawk** *Buteo jamaicensis*
- **Scaly-breasted Munia** *Lonchura punctulata*
- **Tree Swallow** *Tachycineta bicolor*
- **Western Bluebird** *Sialia mexicana*
- **Western Kingbird** *Tyrannus verticalis*
- **Wrentit** *Chamaea fasciata*

● *indicates species that have been observed nesting on-site (actively living the area)*

3.5 Water Resources

3.5.1 Current Use and Operations

The Silver Lake Reservoir Complex comprises two reservoir basins totaling approximately 94 acres: Ivanhoe to the north (approximately 9 acres) and Silver Lake to the south (approximately 85 acres). The water bodies are separated systems linked by a spillway at the Divider Dam. Combined, the reservoirs hold approximately 2,200 acre-feet (ac-ft) of water below the lip of the Spillway which is at elevation 451 feet (NGVD29). Even though Silver Lake and Ivanhoe Reservoirs are no longer used for potable water, they are still considered significant neighborhood features that play a major role in defining the neighborhood character. A neighborhood survey from 2016 found that "keeping water in the lake" enjoyed the support of 96% of the Silver Lake community (Silver Lake Reservoirs Conservancy, 2017).

Ivanhoe and Silver Lake Reservoirs are man-made bodies of water by which water can be added, subtracted, or stored via a system of pipes and valves. In this sense they are like many other lakes in the region found within parks, such as Echo Park Lake, MacArthur Park Lake, Lincoln Park Lake, Hollenbeck Park Lake, Peck Road Park Lake, Legg Lake, and many others. Each of these lakes must maintain a water quality balance suitable to recreational use; where these lakes have been identified in the Basin Plan, each has an "existing" or a "potential" REC-1 beneficial use.

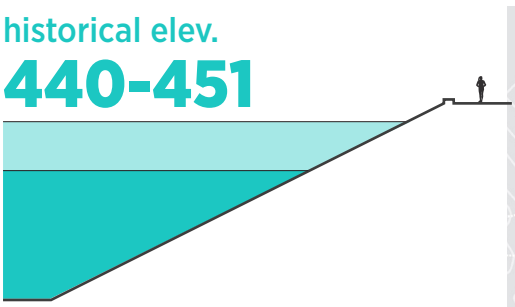
The SLRC differs from Echo Park Lake, Lincoln Park Lake, and Hollenbeck Park Lake, to name three nearby examples, because there is currently no stormwater runoff input source. There is currently no external source of stormwater in MacArthur Park Lake, though local stormwater runoff from within the park drains to MacArthur Park Lake. Other lakes, such as Lake Balboa, Legg Lake, and others are fed by tertiary-treated recycled wastewater.

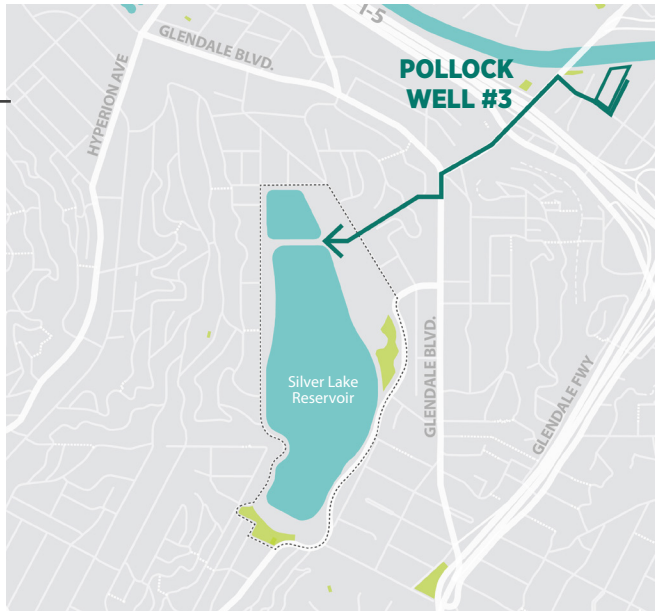
Recent projects have been completed within Echo Park Lake and within MacArthur Park Lake that share similarities with those proposed for the SLRC. The Echo Park Lake project added reservoir recirculation and low-flow stormwater runoff diversion, as well as a wetlands system, to improve water quality. The MacArthur Park Lake project shares similar features with the SLRC plans as well. MacArthur Park Lake currently does not receive stormwater runoff flows, but there is a planned project to incorporate urban stormwater runoff to replace a portion of the potable water used to refill the lake. Lake water is currently used to irrigate landscaping within the park, a change which necessitated the construction of a pressure sand filtration and UV disinfection device in 2016 [LASAN].

Figure 3-18 Stormwater wetlands at nearby Echo Park

Figure 3-19 (right) Historical Elevation & Evaporation Loss in the Silver Lake Reservoir

Figure 3-20 (far right) Pollock Well Location





REFILLING OPERATIONS

The water level in both reservoirs drops from five to seven feet annually due to evaporation and seepage and thus requires periodic replenishment. The historic operable range of water elevations within the SLRC is between 440 and 451 feet (Figure 3-19). LADWP is currently committed to maintaining the water level at a minimum 440 feet. To refill the reservoirs, LADWP currently relies on pumping water from Pollock Well #3 to the site. Pollock Well #3 is a groundwater well located at LADWP's Ripple Street Yard northwest of the SLRC (Figure 3-20).

Figure 3-21 Fire department helicopters accessing emergency water from the Reservoirs

FIREFIGHTING OPERATIONS

The SLRC is currently used as a source of water for firefighting operations. Under an agreement with LADWP, both the City and County of Los Angeles Fire Departments may use reservoir water storage for firefighting purposes, and both departments have used the water in the past. The Master Plan supports the continued use of the reservoirs for LA firefighting operations.

WATER QUALITY

Existing water quality within the SLRC is generally very good. This is due in part to the limited size of the tributary watershed. The predominant source of water since 2017 has been a mix of potable water and treated groundwater, with very little precipitation. The only stormwater that can currently enter the SLRC comes from precipitation that falls on the SLRC which is generally clean. However, stormwater runoff tends to have more impaired water quality than treated potable water or treated groundwater because as it moves over the surface of the land it picks up sediments and pollutants from the ground surface.

3.5.2 Planned Future Operations

The LADWP is undertaking several initiatives to diversify the source of water used to refill the reservoirs as well as maintain long-term water quality as described below and depicted in Figure 3-22.

PROPOSED LADWP AERATION PROJECT

The aeration project will install new air pumps and piping to introduce twenty small tubes (fourteen in Silver Lake and six in Ivanhoe) that convey air bubbles to diffusers placed in the middle of each water body. The project will support water quality by introducing dissolved oxygen into the water to reduce algae development and minimize potential odors related to anaerobic conditions in the reservoirs. This dissolved oxygen can also help support aquatic organisms in the future.

PROPOSED LADWP RECIRCULATION PROJECT

The recirculation project will utilize an abandoned bypass line to recirculate water from Silver Lake Reservoir to Ivanhoe Reservoir. The project will allow for more thorough mixing and thermal destratification, which also supports water quality. Once implemented, the Ivanhoe Reservoir will fill up to the Spillway elevation of 451 feet and then cascade into Silver Lake Reservoir.

PROPOSED LADWP STORMWATER CAPTURE PROJECT

To help supplement the amount of water used from Pollock Well #3 to refill the reservoirs, a stormwater capture project is planned to divert stormwater from portions of the neighborhood to the Complex. The project will deliver up to 57 acre-feet of stormwater on average per year to the SLRC.

Alternate Sources of Water for Replenishment

The design team also explored other potential non-potable sources of water to refill the reservoirs: the Los Angeles River and recycled water.

Los Angeles River Water

The Los Angeles River is about half a mile northeast of Ivanhoe Reservoir and adjacent to LADWP's Ripple Street Yard. Based on a study by LADWP, it is possible to use Los Angeles River water in the future to refill the SLRC. The pipeline that currently delivers water from Pollock Well #3 is the same pipe that could ultimately also deliver water from the river. However, this would require new infrastructure to be built within the Los Angeles River channel. A new diversion structure would be required within the channel, as well as a pump to get the water from the bottom of the channel to the existing pipes at Ripple Yard.

The new physical infrastructure within the Los Angeles River would present several, multi-year permitting challenges, including the need to secure US Army Corps of Engineers (USACE) Section 408 Permits, Section 401 and 404 permits, a California Department of Fish and Wildlife Section 1602 permit, and a LACFCD flood construction permit.

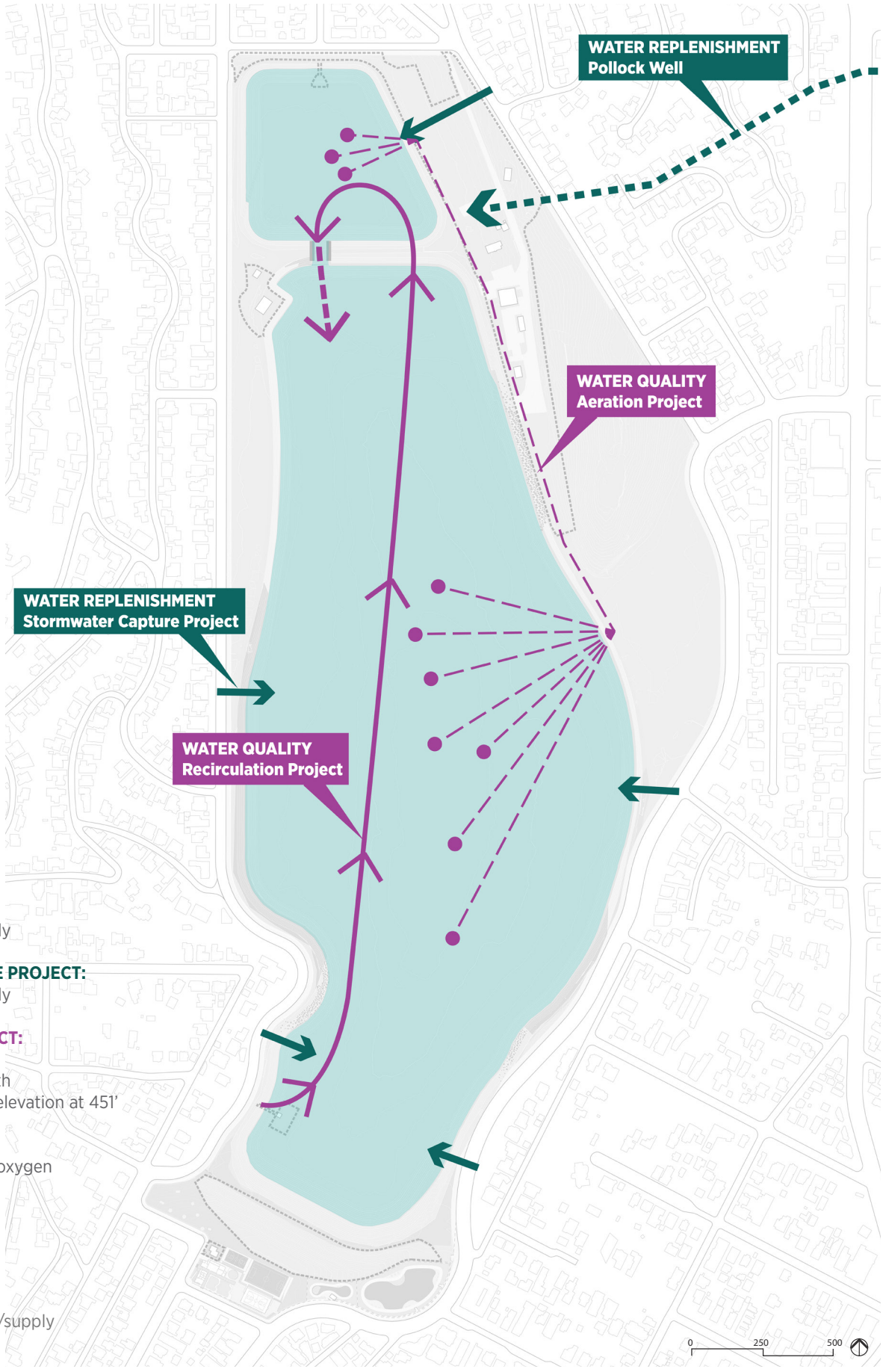
The use of Los Angeles River water for refill water at the SLRC could also present water quality challenges. The diversion would likely be designed to only take in a portion of the Los Angeles River dry-weather flows during summer months rather than stormwater flows. Dry-weather flows in the Los Angeles River are composed of the effluent from water reclamation plants that tend to be high in nutrients which are damaging to aquatic habitat, and usage of this water in the SLRC would lead to an increase in chlorophyll and algae if no additional treatment processes were used.

Recycled Water

Recycled water could be used rather than groundwater as a source of non-potable water to refill the SLRC. Piping could be installed to connect to an existing recycled water facility in Griffith Park a mile and a half away from the reservoirs. However, currently, all the recycled water from the Los Angeles-Glendale Water Reclamation Plant has been allocated to other uses, so a restructuring of these uses would be necessary for the SLRC to use this water.

If recycled water were to be used instead of groundwater to periodically refill the SLRC, the project would require a new pipeline stretching to the SLRC from existing recycled water pipelines at the Griffith Park facility. This new pipeline could be as long as 1.5 miles and an expensive undertaking. Additional infrastructure would also need to be constructed, such as pump stations, tanks, and possibly a new pressure regulator station. The recycled water pipeline extension project would present challenges such as right-of-way acquisition, utility relocation, and construction traffic management. Recycled water would also present some of the same water quality challenges as using Los Angeles River dry-weather flows. Even though recycled water is very clean, elevated levels of nutrients may lead to an increase in chlorophyll and algae in the SLRC and require additional treatment to be safe for aquatic habitat.

Figure 3-22 Water Replenishment and Water Quality Projects planned for the SLRC



POLLOCK WELL:
- replenishment/supply

STORMWATER CAPTURE PROJECT:
- replenishment/supply

RECIRCULATION PROJECT:
- Daily circulation
- Prevents algal growth
- Sets Ivanhoe water elevation at 451'

AERATION PROJECT:
- Increases dissolved oxygen
- Prevents odors

LEGEND

water replenishment/supply

water quality

3.6 Precedent Studies

3.6.1 Environmental Education

Fundamental goals of the Silver Lake Reservoir Complex Master Plan are to enrich and expand habitat for wildlife and create the possibility for the park's visitors to interact with the natural world in the heart of Los Angeles. This interaction presents the opportunity for people, and especially children, to learn about biodiversity in an urban environment. To that effect, the entire reservoir complex is meant to become a classroom.

To further enhance this learning experience, including field trips by school children, the Master Plan explored the possibility of creating a small educational facility, as has been done successfully in a number of parks in the Los Angeles area, which is described herein.

This approach and element were discussed with the community and stakeholder groups and received the support of the majority of respondents to the project's multiple questionnaires, though the Silver Lake residents are generally in agreement that any new construction should be properly measured. To guide the development of an Education Center the design team conducted a precedent study of twelve parks with educational facilities and programs in the Los Angeles region: Lewis MacAdams Riverfront Park, Audubon Center at Debs Park, Augustus Hawkins Natural Park, Stone View Nature Center, Tree People, Eaton Canyon Nature Center, Sooky Goldman Nature Center, Madrona Marsh Preserve and Nature Center, Santa Fe Dam Nature Center, El Dorado Nature Center, George F. Canyon Nature Center, and White Point Nature Education Center.

The three outlined below and described on the following page were determined to be the most relevant examples to inform the approach and development of educational programming, elements, and structures at the SLRC.

LOCATION	PARK SIZE	FACILITY SIZE	CLASSROOMS	ENCLOSED	OFFICE(S)	RESTROOMS	OTHER
Lewis MacAdams Riverfront Park	3.9 acres	4,920 sf	2	No	No	Yes	*200-person capacity*
Stone View Nature Center	5 acres	6,000 sf	2	Yes	Yes	Yes	
El Dorado Nature Center	105 acres	8,800 sf	1	Yes	Yes	Unknown	*Bookstore, Gallery Space, Info Desk*

LEWIS MACADAMS RIVERFRONT PARK

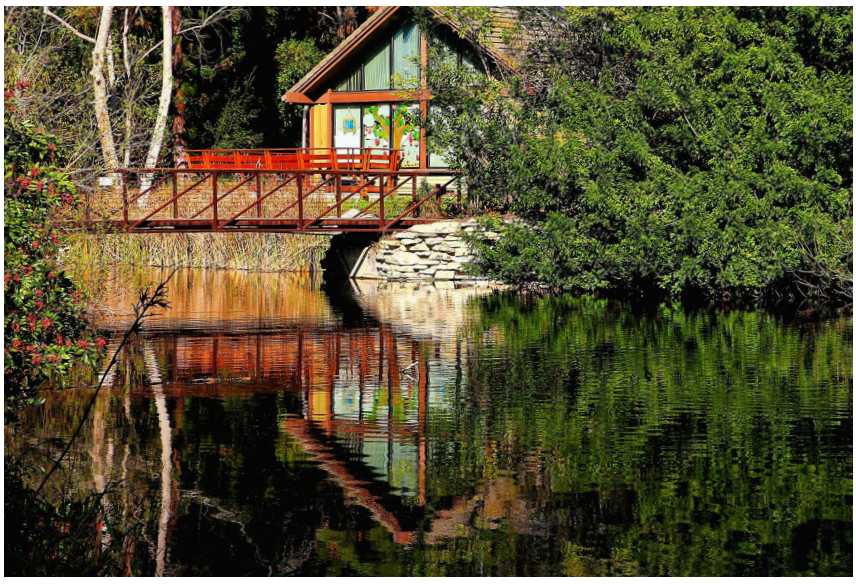
Part of the Los Angeles River Greenway, the 3.9-acre Lewis MacAdams Riverfront Park is located adjacent to a nine-mile section of the 51-mile Los Angeles River known as the Glendale Narrows which has a natural soft bottom instead of a concrete floor within the channel. This section allows native river plants and animals to thrive as if the river were in its natural state. The park provides access to the LA River Bike Path and the Los Angeles River Recreation Zone. With a stellar view of the Verdugo Hills, as well as picnic grounds, grassy areas, and nature-themed children's play equipment, the park also includes restrooms and two outdoor classrooms. The distinctive, open-air pavilion can accommodate more than 200 people for events of all kinds.

STONE VIEW RIVER CENTER

Stoneview Nature Center is 5-acre urban sanctuary nestled in the Blair Hills of Culver City with scenic views of the Los Angeles basin from the Santa Monica Mountains to the Hollywood Hills. As an important node along the five mile "Park to Playa Trail", the facility and surrounding gardens were envisioned as a place for the community to come together and engage both socially and architecturally. An Observation Deck visually connects visitors to the nearly panoramic views of the Los Angeles skyline, while the Outdoor Room offers a central connection point to the facility's lobby, multi-purpose room, demonstration kitchen and gardens beyond.

EL DORADO NATURE CENTER

The 105 acres that make up the El Dorado Nature Center grounds provide sanctuary for animals and plant life. Two miles of dirt trails and a ¼ mile paved trail wind around two lakes, a stream, and forested areas. At the entrance, a wooden bridge spanning the lake leads to a small island that houses the Visitor Center which includes educational displays, an art gallery, and a small gift shop offering environmentally themed books and gifts. The museum contains a small, permanent natural-history display put together with the help of the Natural History Museum of Los Angeles County. Also in the museum is a small gallery that features changing exhibits of art and photography.



3.6.2 Repurposed Reservoirs and Urban Water Bodies

Repurposing reservoirs or other urban water bodies to public parks is not unusual for the City of Los Angeles. Many such examples are in proximity to the SLRC. In the early stages of the Master Plan process, examples (precedents) of these transformations were analyzed to inform optimum planning relationships, programming and uses, as well as spatial organization.

The following page shows a series of examples of nearby reservoirs and water bodies which were repurposed as public space. Each example includes a plan diagram (shown at the same scale as the SLRC outline), notes indicating size and relevant amenities or interest, and a corresponding photograph showing the character of the space.

Echo Park Lake (~26.98 acres)

Amenities/Interest:

- Paddle Boating
- Concession
- Rec Center
- Bird Watching
- Wildlife Habitat
- Family Friendly

MacArthur Park Lake (~31.92 acres)

Amenities/Interest:

- Paddle Boating
- Bird Watching
- Wildlife Habitat
- Walking/Running Path

Lincoln Park Lake (~44.71 acres)

Amenities/Interest:

- Historical Value
- Cultural Landmark
- Popular for Events
- Fishing
- Playgrounds
- Recreation Center
- Restrooms
- Walking/Running Path
- Sports Fields/Courts
- Bird Watching
- Skateboard Park
- Paddle Boating

Lake Balboa (~152.75 acres)

Amenities/Interest:

- Historical Value
- Cultural Landmark
- Picnic/ Playgrounds
- Bird watching
- Skateboard Park
- Paddle Boating
- Bicycle Friendly
- Wildlife Habitat

Hollywood Reservoir (~429.68 acres)

Amenities/Interest:

- Historical Value
- Cultural Landmark
- Hiking Loop
- Family Friendly
- Walking/Running Path
- Bird watching
- Sight Seeing

3.7 Park Needs Assessment

Successful parks provide spaces that respond to the unique character of their site as well as community needs and goals. In early stages of the Master Plan process, existing parks within a 2-mile radius of the Silver Lake Reservoir Complex were assessed to understand the amenities and activities they offered. This study was also used to inform a questionnaire developed to access what the community wanted to see and do in the Complex in the future.

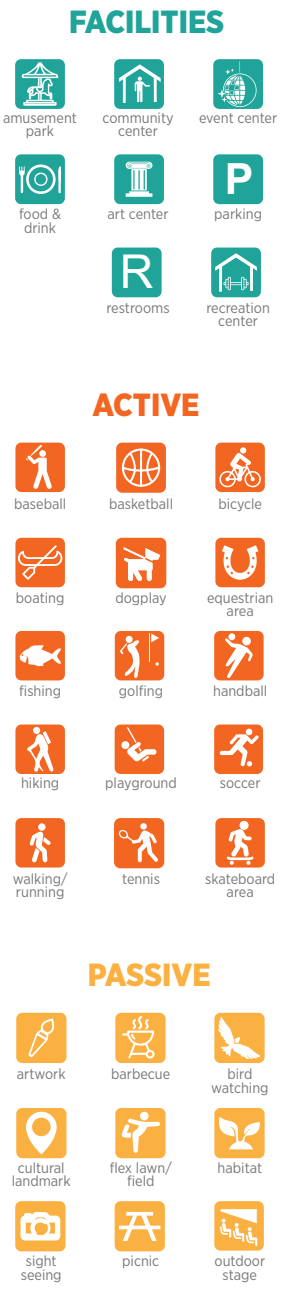
One mile to the northwest is 4,000-acre **Griffith Park**, one of the largest municipal parks in the country which offers miles of hiking trails, two golf courses, horseback riding trails, soccer fields, baseball fields, children's playgrounds, a merry-go-round, a zoo and a planetarium, among other amenities. Additionally, a state-of-the-art soccer field, a large public pool, and a newly refurbished playground are all located at the southern edge of the park closest to the SLRC.

The **Elysian Park** complex, located approximately one and a half miles to the southeast, is another major natural park with extensive hiking trails as well as Dodger Stadium. It offers a myriad of sports and cultural amenities ranging from tennis and baseball to outdoor performances and a recreation center

One and a half miles to the south is **Echo Park** which was also once a drinking water reservoir for the City. A smaller urban park, it offers paddle boating and a café as well as walking paths and open lawn with shade trees.

Less than two miles from the SLRC is the **Los Angeles River** which offers a continuous recreational path running along its western bank, where people bike, walk, and observe wildlife in the Glendale Narrows area of the river.

On the eastern bank of the LA River, two and a half miles east of the reservoir complex is the **Rio de Los Angeles State Park** with multiple soccer fields, a large children's playground, and more hiking trails.



EXISTING PARKS (2 mile radius)

01 **Silver Lake Reservoir** *Meadow*
02 **Silver Lake Reservoir** *Community Park*
03 **Tommy Lasorda Field of Dreams**
04 **Basketball Courts**
05 **Rattlesnake Park**
06 **Los Angeles River Bicycle Park**
07 **Rowena Reservoir**
08 **Barnsdall Art Park**
09 **Bellevue Recreation Center**
10 **Madison West Park**
11 **Laurel and Hardy Park**
12 **Echo Park**
13 **Elysian Park** *Victory Memorial Grove*
14 **Elysian Park** *Montecillo De Leo Politi*
15 **Elysian Park** *Angels Point*
16 **Elysian Park** *Hiking Trail*
17 **Elysian Park**
18 **Elysian Park** *Adaptive Recreation Center*
19 **Rio De Los Angeles State Park**
20 **Elysian Valley Recreation Center**
21 **Elysian Valley Gateway Park**
22 **Marsh Street Nature Park**
23 **Marsh Riverfront Park**
24 **Glennhurst Park**
25 **Juntos Fmaily Park**
26 **Cerritos Park**
27 **Los Feliz Golf Course**
28 **Sunnynook River Park**
29 **Griffith Park** *Recreation Center*
30 **Griffith Park**
31 **Griffith Park** *Cedar Grove*
32 **Lake St Park** *Community Center*
33 **Madison Ave** *Community Garden*

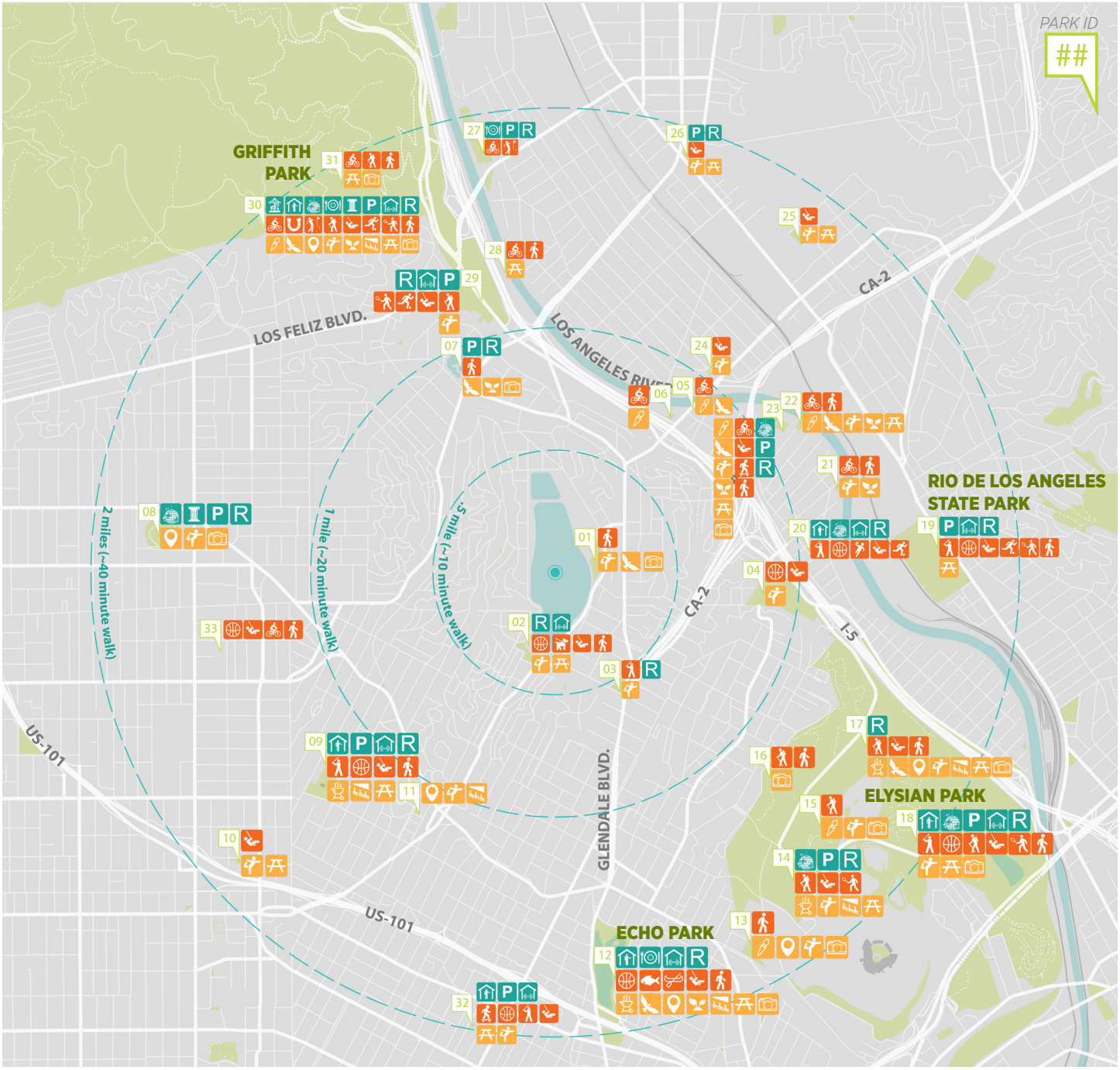


Figure 3-23 Existing Parks within a 2-mile radius around the Silver Lake Reservoir Complex

Within the SLRC there are three primary areas of existing parkland overseen by RAP: The Meadow, Dog Park, and Recreation Center. Amenities and programs offered in these areas are shown in Figure 3-24 below. Linking these spaces together and creating another recreational use is a perimeter path that loops around the complex and is used daily for strolling, dog walking, and running. These neighborhood amenities are part of an extensive network of outdoor and indoor sports and recreation facilities within two miles of the Silver Lake Reservoir Complex.

THE MEADOW

The Meadow park was created in 2011, as envisioned by the 2000 Master Plan, when the fence surrounding the Complex was relocated to open this area to the public. The Meadow is an unstructured open lawn with some clusters of shade trees. It is primarily used for relaxing, picnicking, walking, running, exercising, and playing lawn games. The northern edge of the Meadow features a native plant garden maintained by volunteers. The 3.4-acre park is enclosed by a low fence and closes at 10:30 pm each evening.

THE DOG PARK

This 1.5-acre park consists mainly of a sloped dirt field with minimal vegetation and shade. It has separate areas for small dogs and large dogs, and it is a popular amenity with Silver Lake residents. When interviewed as part of this analysis, RAP, which maintains the facility, would like to upgrade the dog parks in response to user-expressed needs whom have requested new features such as mounds and water play areas as well as replacing the dirt with turf in some areas.

Figure 3-24 Existing Facilities and Recreation within the SLRC

Figure 3-25 Existing Recreation Center Site Plan

THE RECREATION CENTER

The Silver Lake Recreation Center is located at the south end of the Silver Lake Reservoir, just below the South Dam of the Silver Lake Reservoir. It can be accessed from Silver Lake Boulevard and West Silver Lake Drive. The Recreation Center was originally built in the 1930s and was expanded in the mid-1980s. The playground was built in the late-1990s and was recently renovated in 2018.

The Recreation Center consists of a building facility with a small gym, a kitchen, community room, and offices. Within the grounds are a children's playground, an outdoor basketball court, and a play field. The Center is surrounded by lawn and shade trees, including a popular gentle slope called the Grassy Patch and offers some picnic tables. In addition to the play field and court, The Recreation Center offers a wide range of activities throughout the year, including day camps in the summer. Additionally, it serves as a neighborhood polling place for most elections.

RAP operates and maintains the existing facilities with 7 to 10 staff members on site daily, including a full-time director. During an interview for the Master Plan project, the Recreation and Parks department expressed an interest in expanding the facility to better serve the needs of neighborhood residents. The Master Plan presents the opportunity to increase the size of the facility in its existing location or in a new location on the project site. Figure 3-26 below outlines the existing and desired programming and facilities provided by RAP.

With the diversity of park spaces and recreation amenities in proximity, the Silver Lake recreation facilities are scaled to serve the immediate neighborhood. Outside of the immediate needs to expand the Recreation Center and upgrade the Dog Parks, RAP has not identified specific needs in the larger surrounding area that should be addressed by the Silver Lake Reservoir Complex Master Plan.

Figure 3-26 Existing and Desired Recreation Center Program

ACTIVITIES PROGRAM

EXISTING	DESIRED	Notes
Peewee Soccer (ages 5-8)		
Peewee Basketball (ages 5-8)		
T-Ball (ages 5-8)		
	High School Basketball	
Pick-up Basketball (outdoor)		
Volleyball		
	High School Volleyball	
Aerobics and Ballet (ages 3-7)		
Yoga and Zumba		
Summer Camps		
Painting and Arts & Crafts		
Cooking Classes		
	Dance Classes	
Community Meetings		
Polling Place		
Picnicking		

FACILITIES PROGRAM

	Net Floor Area		Length	Width	SF/Person	Occupancy	
Interior Spaces	EXISTING	DESIRED					**Notes**
Multi-Purpose Room	1,750	6,000	100	60			No bleachers
Regulation Basketball Court			84	50			High School court size
Storage	215	500					Assumption
Power Room	70	100					Assumption
Trash Room	26	50					Assumption
Kitchen	312	300					Existing size satisfactory
Pantry	64	60					Existing size satisfactory
Director's Office	151	120					Dedicated office
Staff Office		200					Open office area
Director's Restroom	44	0					Separate restroom not required
Staff Men's Room		100					
Staff Ladies' Room		100					
Locker Room		200					
Janitor's Closet	19	20					Unchanged
Women's Restroom	109	110					Unchanged
Men's Restroom	109	110					Unchanged
Conference Room / Game Room	410	450			15	30	
Arts & Crafts Studio		500			25	20	
Dance Studio		1,000			100	10	
TOTAL	**3,279**	**9,920**					

	Surface Area		Length	Width			
Exterior Amenities	EXISTING	DESIRED					**Notes**
Children's Playground							Existing size satisfactory
Play Field							
Basketball Court							Existing size satisfactory
Picnic Tables							Existing number satisfactory
Remaining Grounds							
TOTAL		**9,920**					

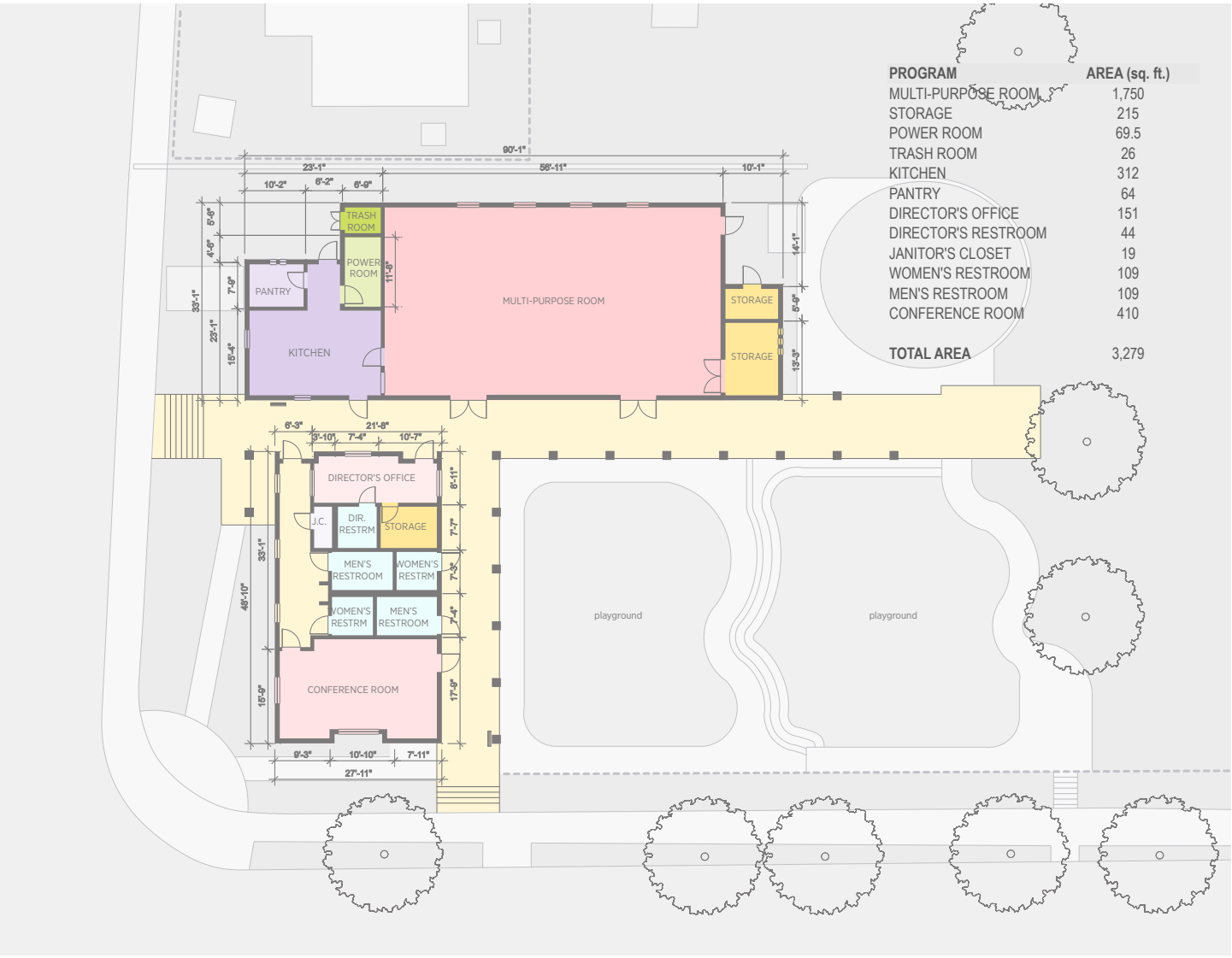


Figure 3-27 Floor plan of existing Silver Lake Recreation Center (above)

Figure 3-28 Existing Silver Lake Recreation Center entrance (right)

3.8 Circulation

Access to the Silver Lake Reservoir Complex is available via a network of streets, transit routes, bike lanes, and walkways.

3.8.1 Vehicular Access

Regionally, the neighborhood of Silver Lake is served by the Golden State Freeway (I-5), the Glendale Freeway (SR-2), the Hollywood Freeway (US-101), and Sunset Boulevard. These connect to the roadway network which form the boundaries of the SLRC: Silver Lake Boulevard and Armstrong Avenue on the east, Tesla Avenue on the north, West Silver Lake Drive on the west and Van Pelt Place on the south.

As described below and shown in Figure 3-29, these bounding roadways vary in their classification and widths, the largest of which is Silver Lake Boulevard. This primary thoroughfare is classified as an Avenue II with a roadway width of 50 feet, accommodating two-way traffic and a Class II bike lane in each direction. Silver Lake Boulevard has a 35-mph speed limit.

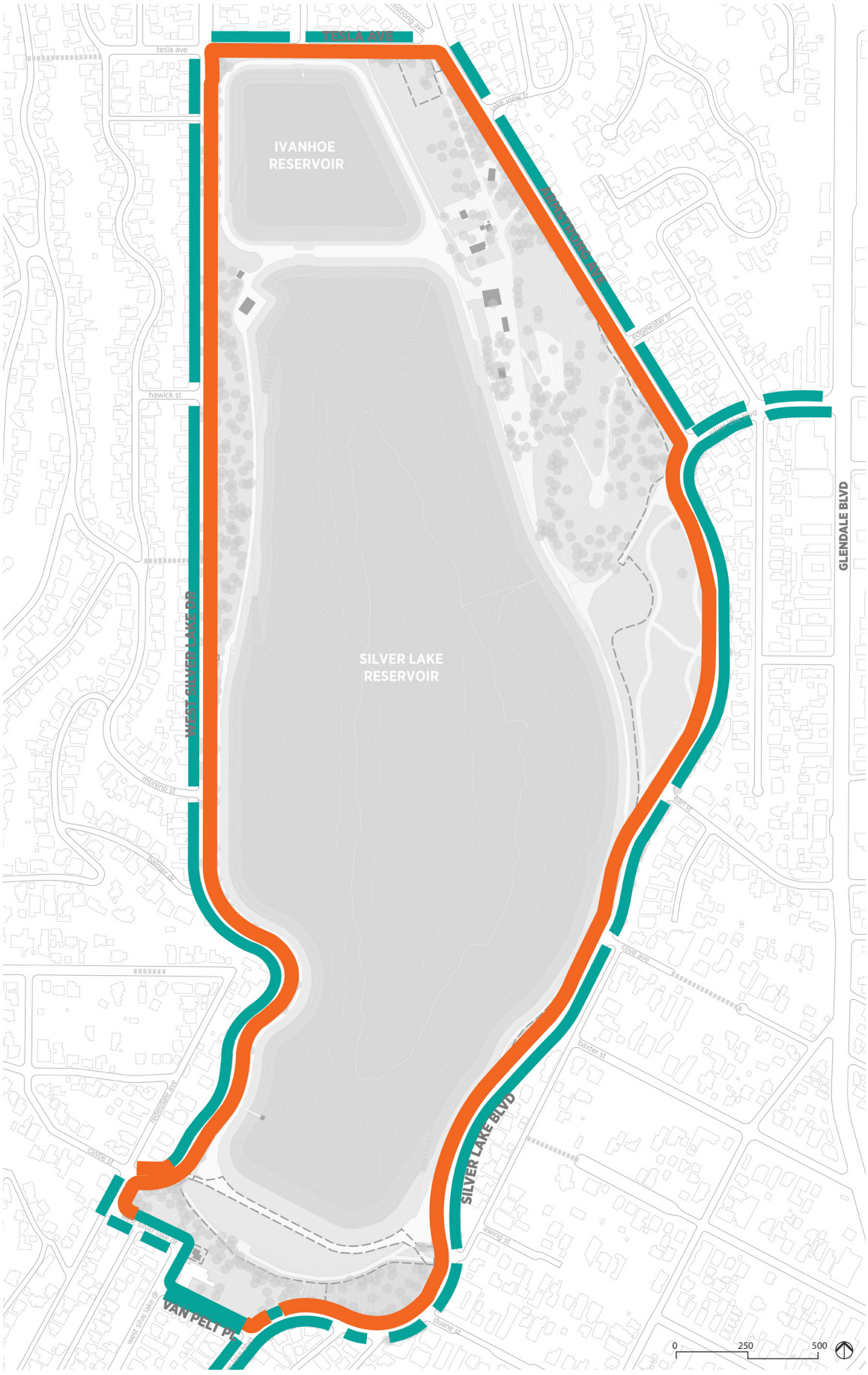
West Silver Lake Drive which bounds the west side of the complex is a two-way road classified as a Collector with a width of 36 feet and 25-mph speed limit. Similarly, Armstrong Avenue is also a two-lane Collector street with a varying width of 30- to 35-feet and 25-mph speed limit. The remaining roadways, Tesla Avenue and Van Pelt Place, are classified as Local streets. Telsa is one-way in the westbound direction, 24-feet wide, and has a 25-mph speed limit. Van Pelt is 30-feet wide with one lane in each direction and a 25-mph speed limit.

Figure 3-29 Existing road network around the SLRC

3.8.2 Parking

Parking at SLRC is limited. Surface lots within the Complex are restricted to LADWP facility staff and on-street parking is prohibited adjacent to the perimeter of the Complex. On-street parking is permitted on the opposite sides of the Complex's perimeter roads as shown in Figure 3-30. Given the traffic congestion concerns of the community and limited parking availability, making alternate modes of transportation to the Complex plentiful and easy to access is paramount.

Figure 3-30 Existing on-street parking around the SLRC



LEGEND

- no parking
- parking (time limit)

3.8.3 Bicycle Connections

There are two dedicated City bike lanes that currently provide access to the Complex, one on Silver Lake Boulevard adjacent to the Meadow (shown in Figure 3-31) and one on Rowena Avenue which connects to West Silver Lake Drive. Additionally, neighborhood traffic calming elements to improve safety and comfort for people walking and bicycling are also planned as part of the City's Mobility Plan 2035 on West Silver Lake Drive and Armstrong Avenue.

This existing and planned bike connectivity was studied for coordination with the Master Plan design. The following sections on pages 70-73 (Figures 2-32 to 3-35) depict how bicycling can be accommodated in the future within the existing street rights-of-way, creating safe bike and pedestrian circulation to and around the Complex.

3.8.4 Pedestrian Connections

Currently, a perimeter walkway allows for a continuous walking loop around the Complex. A functional perimeter walk should be accommodated by any future design. As shown in Figure 3-31, pedestrian crossings along the perimeter streets around the SLRC occur at multi-way stop signs at the intersections of Tesla Avenue and West Silver Lake Drive and Armstrong Avenue, as well as the intersections of West Silver Lake Drive and Hawick Street, Moreno Drive, and Van Pelt Place. Additionally, there are pedestrian-activated crossings at the intersection of Silver Lake Boulevard and Van Pelt Place, a traffic signal crossing at the intersection of Silver Lake Boulevard and Duane Street and along Silver Lake Boulevard at the Meadow.

3.8.5 Transit Connections

The SLRC is connected to the County Metro bus system via lines #201 that runs West Silver Lake Drive with multiple stops adjacent to the Complex and #92 which runs on Glendale Boulevard with multiple stops which are a short walking distance from the Complex as shown in Figure 3-31. Connections into the complex from these transit stops are prioritized in the Master Plan design.

3.8.6 Ride Share and Shuttle Bus Drop Off

Currently, there are no designated drop off locations around the perimeter of the Complex for rideshare or shuttle buses. This represents an opportunity to manage potential increased visitors to the complex.

Figure 3-31 Existing bus and bike network around the SLRC

LEGEND

- multi-way stop
- traffic signal
- bus route
- bus stop
- class II bike lane
- future bike route[1]

[1]*United States, City of Los Angeles, Department of City Planning. "Mobility Plan 2035." Mobility Plan 2035, 2016*

WEST SILVER LAKE DRIVE

Within the existing ROW of West Silver Lake Drive, parking and drive aisles can be reduced to accommodate a dedicated, 7-foot bike lane heading north, and the inclusion of sharrow markings heading south.

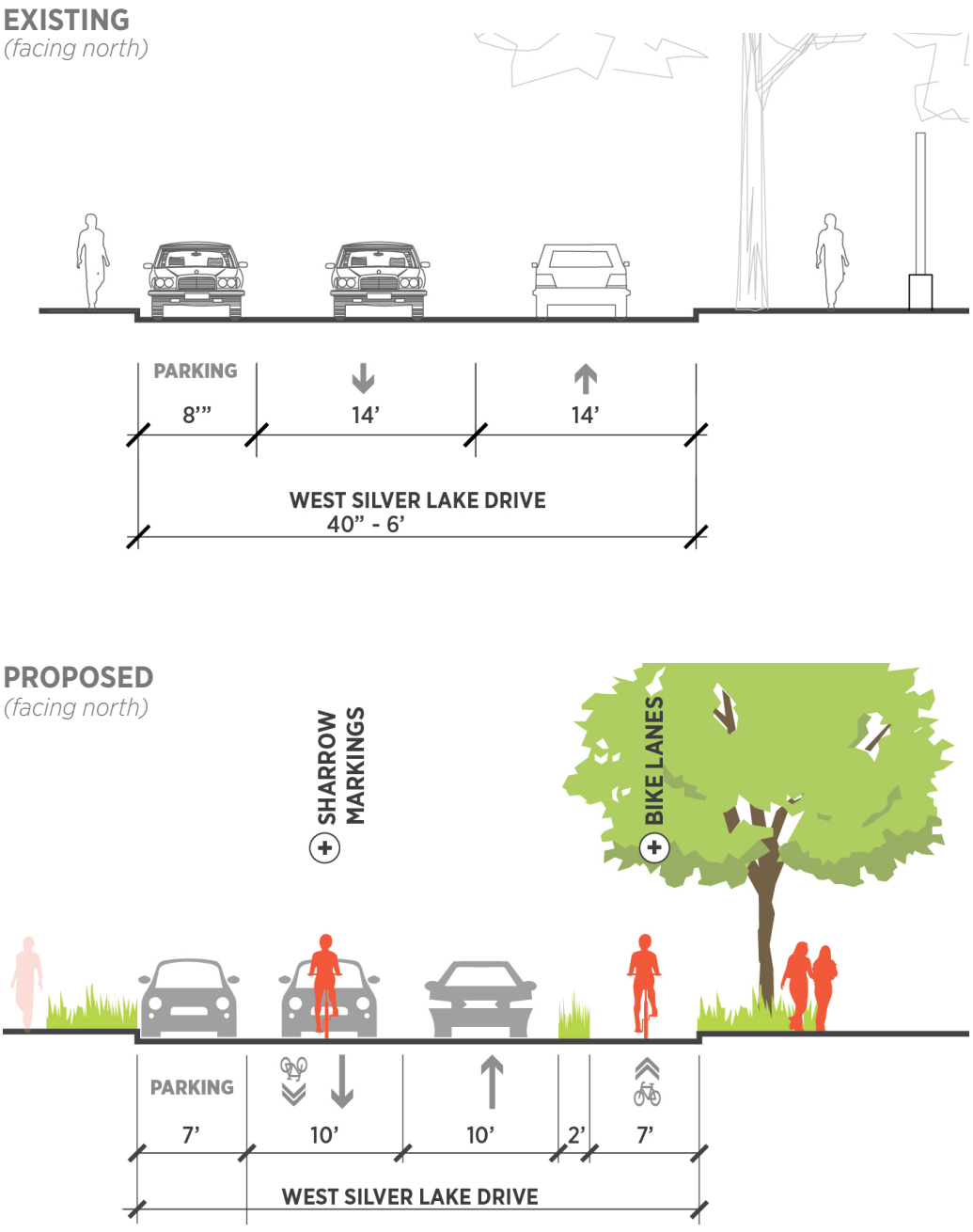
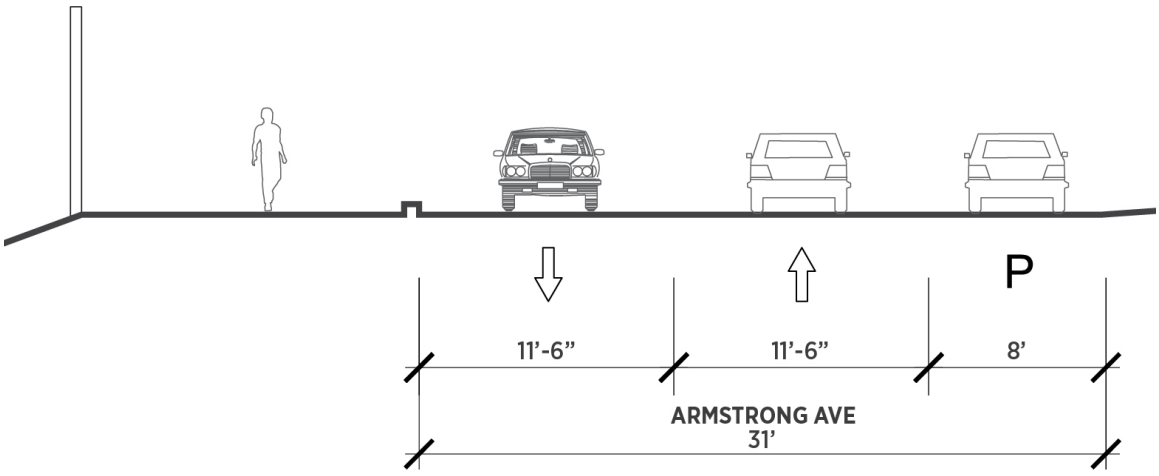


Figure 3-32 Existing & proposed section through West Silver Lake Dr.
Note: all proposed changes in these studies are conceptual and subject to final DOT approval.

ARMSTRONG AVE

Armstrong Avenue is too narrow to accommodate dedicated bike lanes, however this street can accommodate sharrow markings in each direction.

EXISTING
(facing north)



PROPOSED
(facing north)

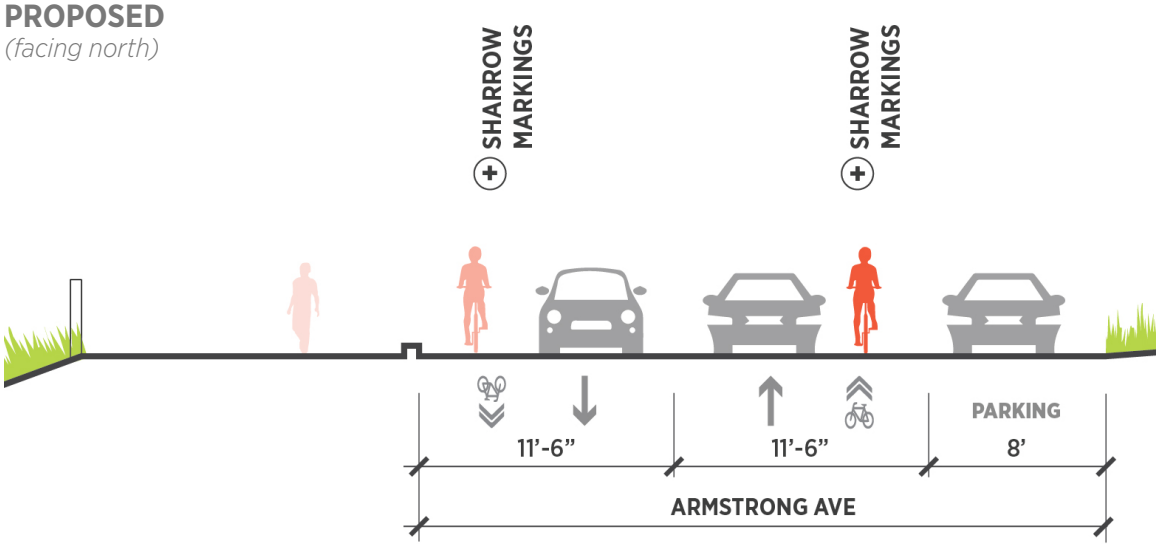
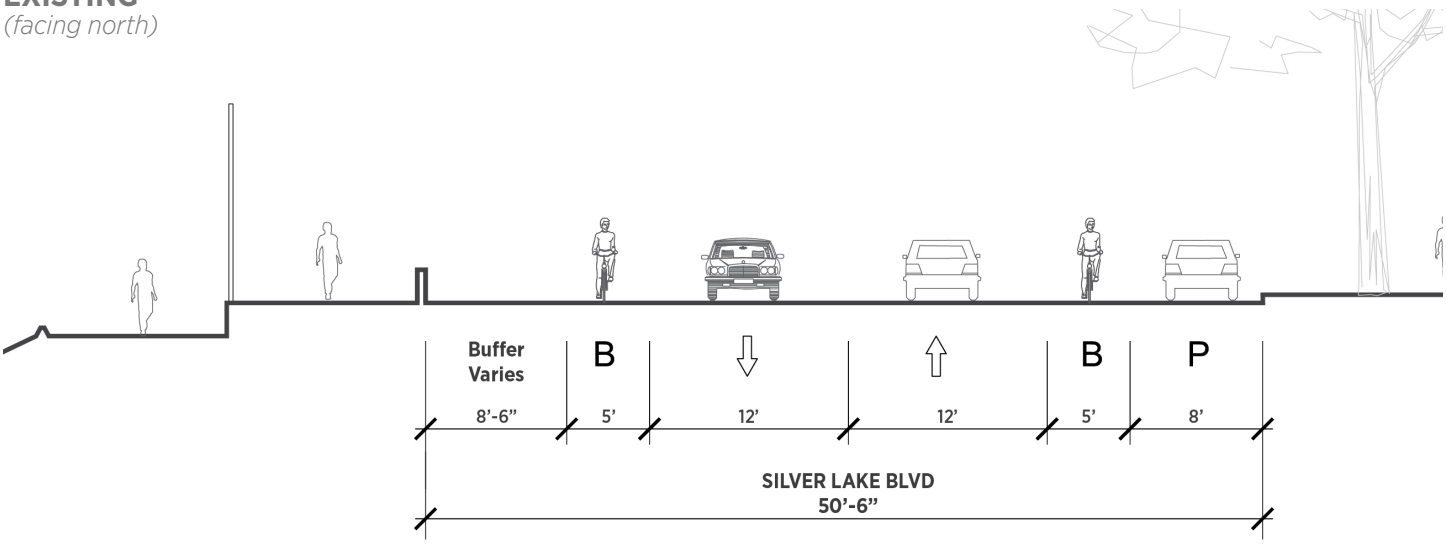


Figure 3-33 Existing & proposed section through Armstrong Ave.
Note: all proposed changes in these studies are conceptual and subject to final DOT approval.

SILVER LAKE BOULEVARD

Drive lanes, buffers, and bike lanes can be reconfigured along Silver Lake Boulevard to accommodate a safer and more pleasant bike route. Drive lanes and parking lanes are narrowed to allow for bi-directional bike traffic along the sidewalk. A large, vegetated buffer is placed between bikers and automobiles.

EXISTING
(facing north)



PROPOSED
(facing north)

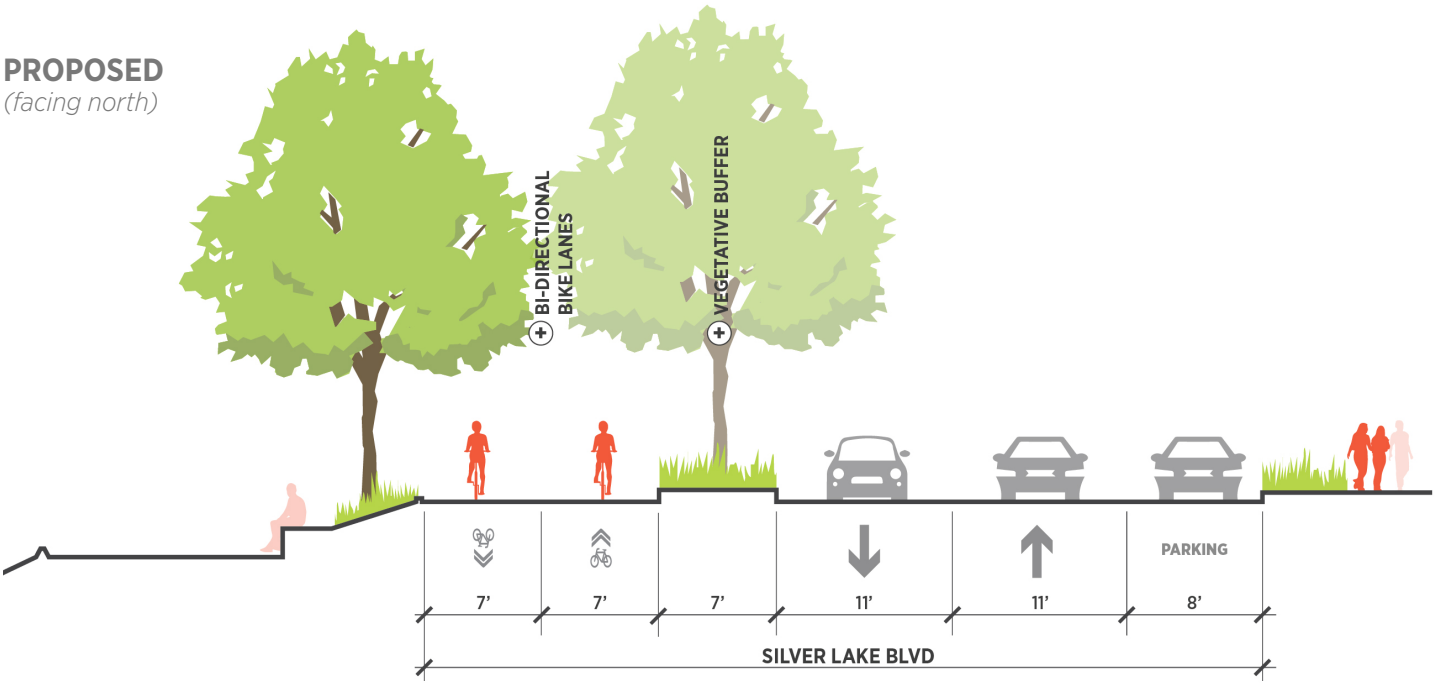


Figure 3-34 Existing & proposed sections through Silver Lake Blvd.
Note: all proposed changes in these studies are conceptual and subject to final DOT approval.

TESLA AVE

Tesla Avenue is a one-way street heading westbound. The drive lane is proposed to be narrowed to allow for a contra-flow bike lane heading east, and sharrow markings are added in the westbound direction.

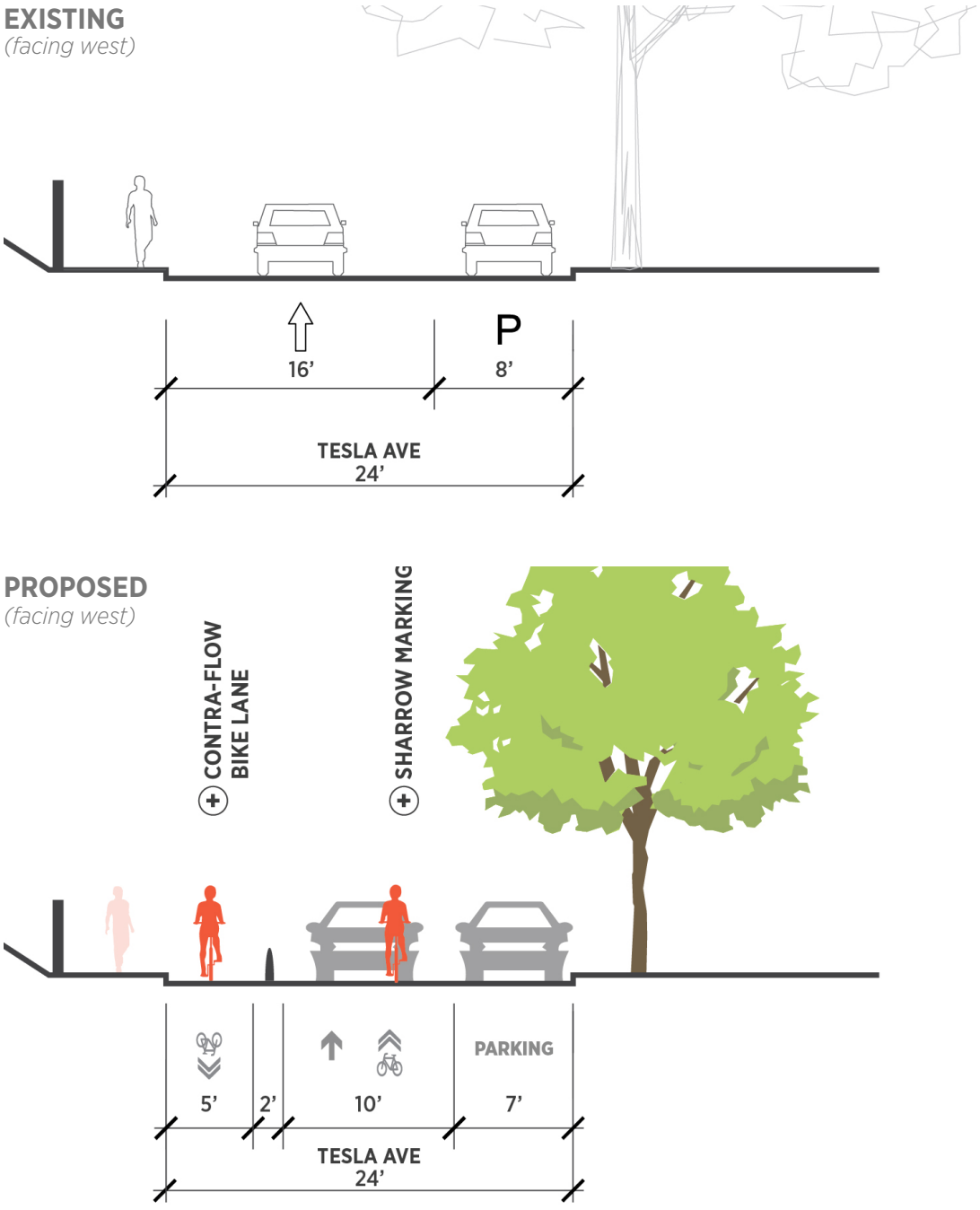


Figure 3-35 Existing & proposed sections through Tesla Ave.
Note: all proposed changes in these studies are conceptual and subject to final DOT approval.

3.9 Dams and Reservoirs

While the Master Plan envisions the reservoir complex being transformed into a public park amenity, Silver Lake and Ivanhoe Dams must remain functional and secure to protect residents and surrounding properties. The dams are located approximately one mile south of the Hollywood-Raymond Hill Fault, 8 miles northeast of the Newport-Inglewood Fault, and 32 miles southwest of the San Andreas Fault.

Ivanhoe North Dam is approximately 450 feet long and was originally constructed of wagon rolled earth filled to a maximum of 25 feet above the original streambed elevation. In 2012, a retaining wall was constructed north of the Ivanhoe North Dam for the installation of a pedestrian sidewalk on Tesla Ave.

Ivanhoe Reservoir is separated from Silver Lake Reservoir by the Divider Dam, a wagon rolled earth embankment constructed to a maximum height of 22-26 feet above the original streambed elevation and approximately 650 feet long. In 1944, a reinforced concrete spillway was constructed through the upper portion of the South Dam enabling the reservoir to be operated at a constant elevation.

Silver Lake Dam was originally constructed to a maximum height of 37 feet above the original streambed elevation by the hydraulic fill method. Due to rapid growth of the city in the 1920s, the dam was raised with wagon rolled earth fill and modifications were made to improve the reservoir for domestic use. In the 1937, a side channel spillway was constructed on the west side of the reservoir which discharged into a tunnel that connects to the storm drain system.

In the 1950s, Silver Lake Reservoir Improvements included: sharpening and deepening the reservoir, blanketing the reservoir slopes, constructing a bypass pipeline, installing reservoir blow off lines, excavating the upstream face of the dam down to bedrock, replacing the upstream face of the dam with compacted fill, and asphalt paving of the interior slopes of reservoir.

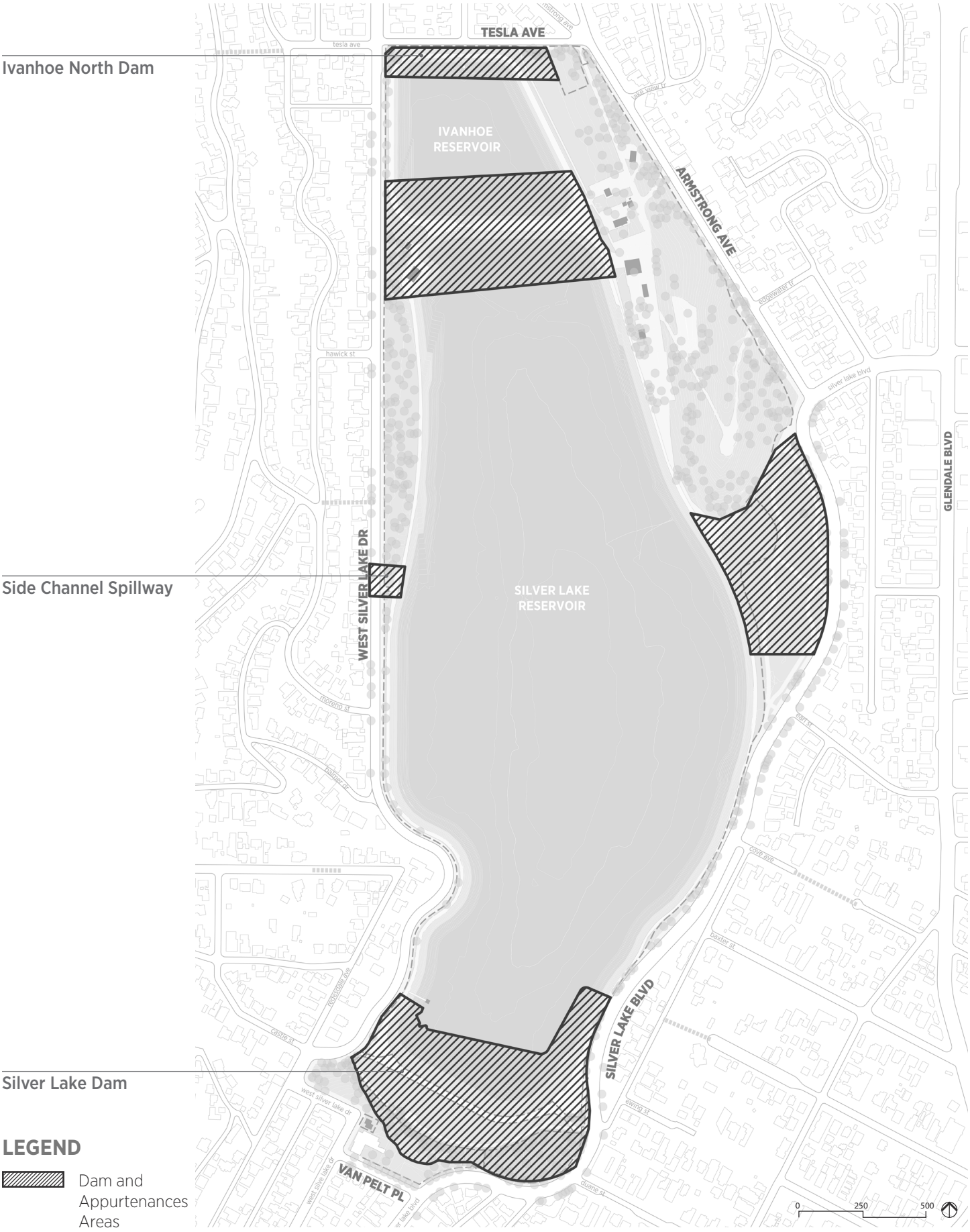
In the 1970s after the San Fernando Earthquake, seismic testing indicated the potential for liquefaction – a condition that would likely lead to failure of the dam. Based on this investigation, Silver Lake Dam was reconstructed using modern compaction methods and built on a bedrock foundation. The dam is 45 feet in height and 915 feet long.

3.9.1 State of California Department of Water Resources, Division of Safety of Dams (DSOD) Jurisdiction

Ivanhoe and Silver Lake Reservoirs falls under the jurisdiction of the State of California Department of Water Resources, Division of Safety of Dams. Any dam enlargements, repairs, alterations and removals will require review and approval by DSOD. Improvements that impact areas within the dams' areas of influence are subject to more restrictions and oversight.

Portions of the Master Plan design impacting dams and reservoirs have taken these restrictions into consideration based on a preliminary coordination with the department and a courtesy review by the DSOD. Any future design impacting the dams and reservoirs needs to be reviewed and approved by LADWP and the DSOD.

Figure 3-36 Dam and Appurtenances Areas



3.10 Viewshed

The power of the Silver Lake Reservoir Complex is the iconic singularity of its expression. Yet, because of the sheer scale of the reservoirs, it's challenging to comprehend the Complex all at once. Instead, one understands their magnitude and relationship to the neighborhood and region by moving around these water bodies both inside the Complex as well as outside within the Silver Lake neighborhood.

The reservoirs and Silver Lake neighborhood are synonymous with one another. Constructing the reservoirs within Ivanhoe Canyon was a primary catalyst for the community's growth which rapidly developed on adjacent hillsides. And given the reservoirs' central location within the canyon valley, they became an important focal point in the heart of this Los Angeles neighborhood, affording extraordinary water vistas and a vantage point for views of the regional landscape.

The vast SLRC can be seen, in whole or in part, from the public realm and from many of private residences in the surrounding hills. At the first community workshop June 27, 2019 of this Master Plan effort, it was evident that, while there was a range of different opinions regarding the future use and accessibility of the Complex, there was a strong consensus regarding its essential quality: the water. Many of the defining characteristics expressed by the community at the first workshop evoke this interest: "vistas, serenity; morning sparkle, beauty." This aesthetic quality, cherished by so many people, transcends individual delight; it becomes a shared experience that brings people together.

Figure 3-37 Runner along the South Dam Walkway

Figure 3-38 Inside the reservoir looking north along Silver Lake Blvd.

Within the complex, the scale of the reservoirs create an immense open space that allows unobstructed views of the neighborhood hills, as well as the greater landscape of Griffith Park and the foothills of Glendale and Highland Park. From an existing publicly accessibly walkway along the south Silver Lake Dam are sweeping views across the water to the San Gabriel Mountains in the distance. What unfolds as one moves around the Complex is a layered narrative about the connection between the reservoirs and the Silver Lake community as well as their fundamental place in the region.

The primary task of the Viewshed Study was to document and investigate the array of views from outside the project site looking at the reservoirs, and from within the Complex looking at the surrounding landscape. Its purpose was to gain a better understanding of the breath, depth and meaning of the reservoir views for the Silver Lake community and visitors. These studies informed the Master Plan design from the strategic placement of elements within the Complex to align with important view corridors in the neighborhood to creating moments within the Complex to heighten visitor experience.

3.10.1 Views from within

The following 2 pages show a sample of the views from within the Complex. For a complete list with descriptions, see the View Shed Study Report in the Appendix.

Figure 3-39 Key map and images of views from within the reservoir (1 of 2)

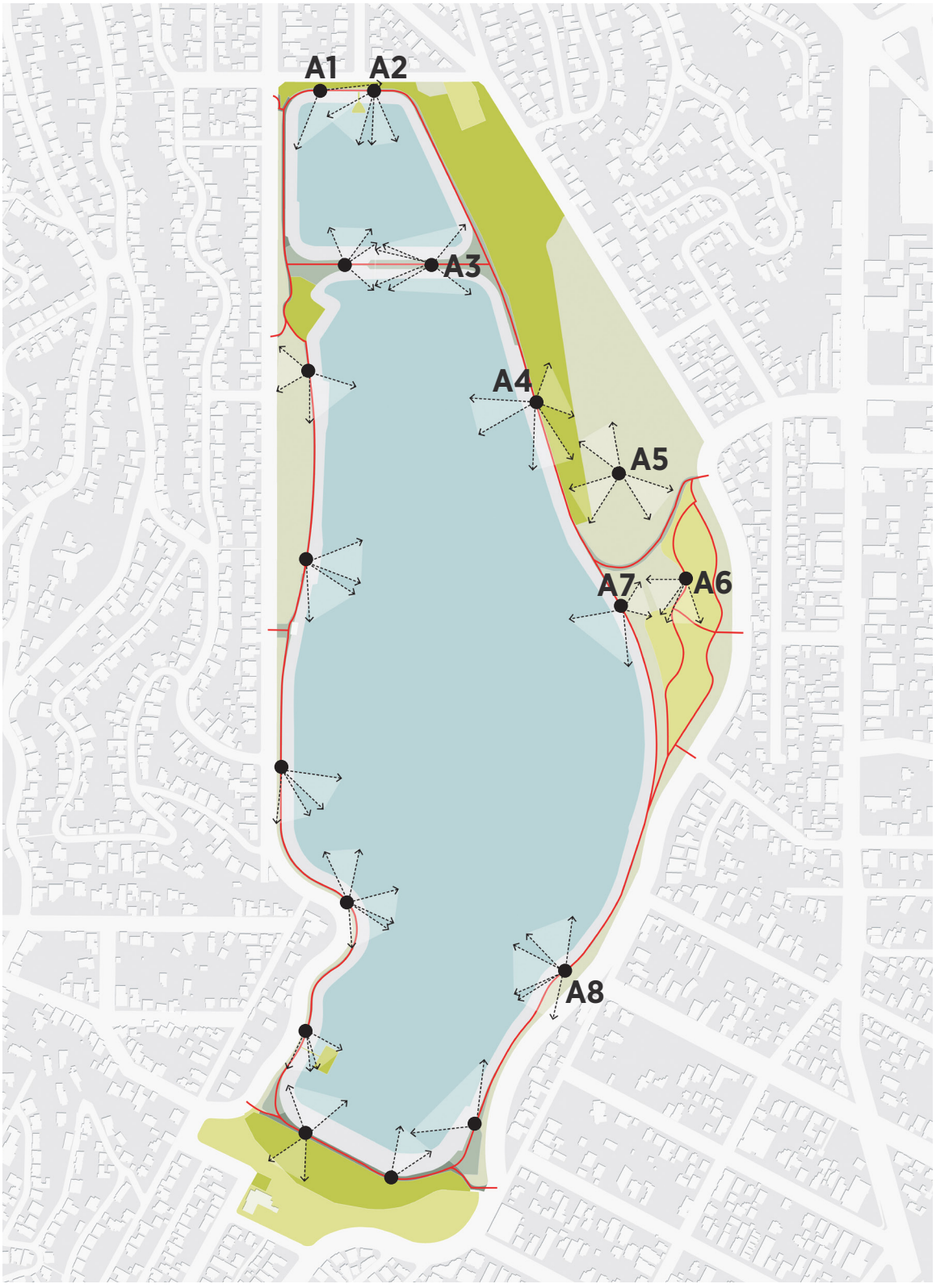



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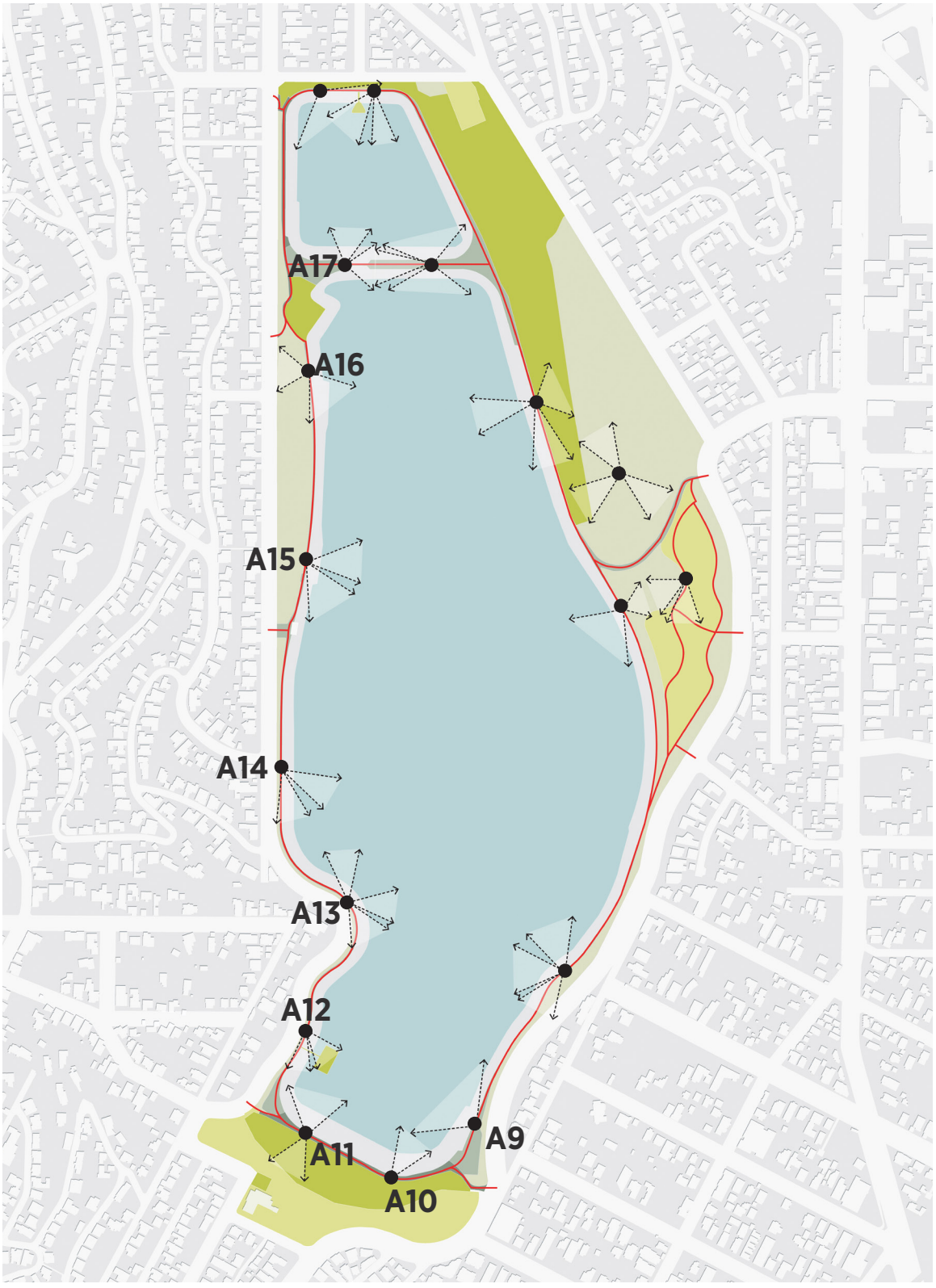
Figure 3-40 Key map and images of views from within the reservoir (2 of 2)

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A17

3.10.2 Views from outside

The following 2 pages show a sample of the views from outside Complex. For a complete list with descriptions, see the View Shed Study Report in the Appendix.

Figure 3-41 Key map and images of views from outside the reservoir (1 of 2)

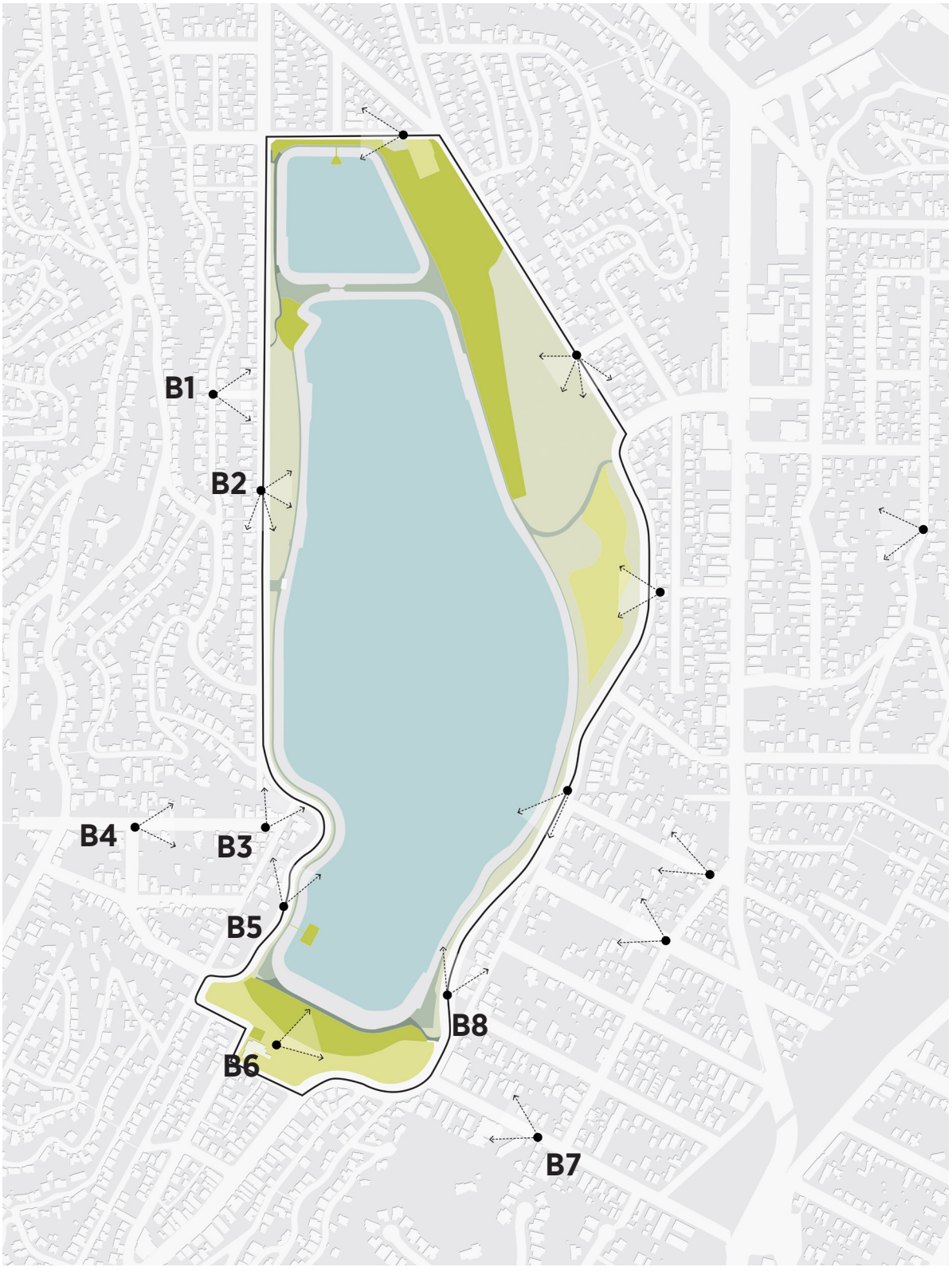


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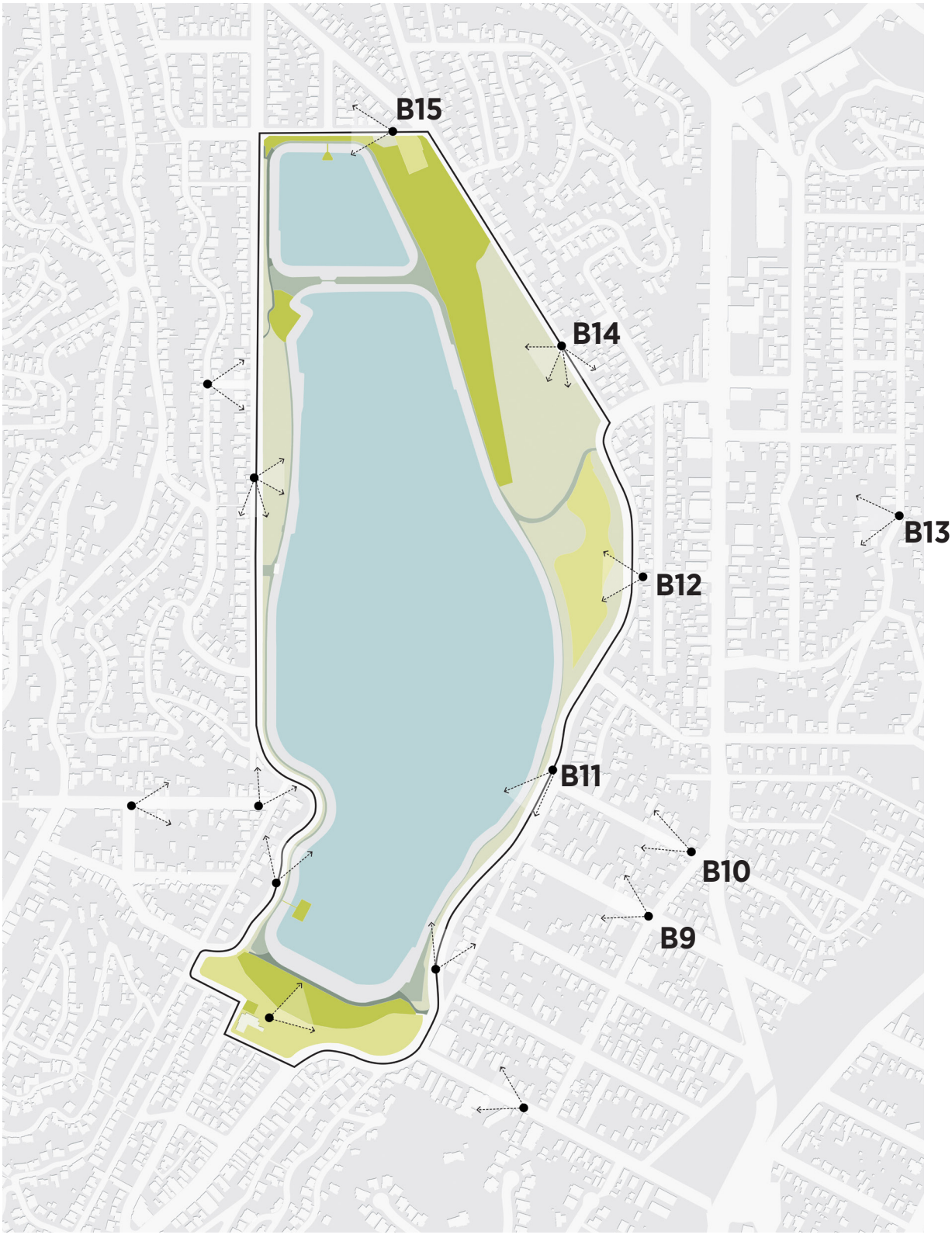
Figure 3-42 Key map and images of views from outside the reservoir (2 of 2)

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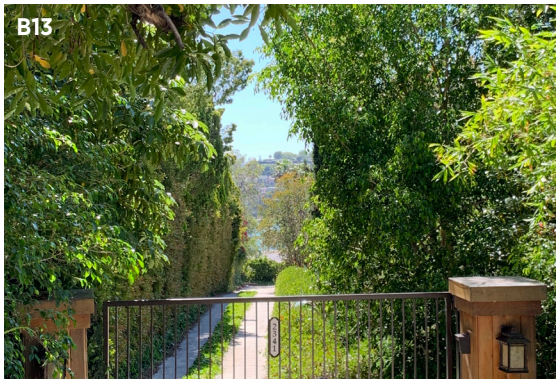
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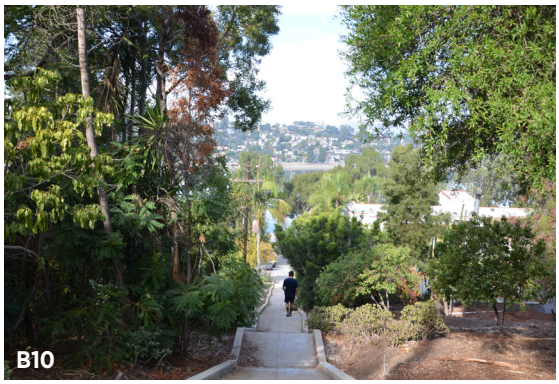
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CHAPTER 4
PROCESS

contents

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figures

chapter 4 figures cont'd

4.1 Overview

The Silver Lake Reservoir Complex Master Plan is the result of an inclusive public engagement and participatory planning process led Hargreaves Jones in partnership with the BOE, LADWP, and the Council Districts 4 and 13. Public feedback was solicited and integrated at all critical stages in the planning process: analysis, visioning and programming, Master Plan Alternatives, Preferred Master Plan, and Final Master Plan.

Since the beginning of the project, Hargreaves Jones made over 20 trips to Los Angeles to attend meetings with the City, stakeholders, and the public to discuss specific priorities and objectives for the park, solicit feedback regarding planning work completed to date, and coordinate Park planning and design with City departments and other Los Angeles initiatives.

The overall process for the Master Plan development included the following:

- Bi-weekly meetings with City Staff and Council Districts;
- Multiple focused meetings with City officials and departments regarding project goals and design features;
- 8 (eight) Stakeholder Working Group Meetings held at critical moments throughout the process; and
- 5 (five) Community Workshops with attendance by 1,570 community members and more than 8,400 questionnaire responses. (Note: due to Covid-19, the final Community Workshop was held virtually in the form of online videos and an online questionnaire.)

The complex nature of reimaging the SLRC as a park in the heart of Silver Lake, required Hargreaves Jones to assemble a Design Team of local consultants with detailed knowledge of Los Angeles, existing site conditions, regional ecologies and landscapes, and local construction conditions. Local Design Team consultants also attended community and stakeholder meetings to facilitate seamless communication and comprehension.

4.2 City Coordination Meetings

The Design Team held regular bi-monthly project management meetings with the Client Team, comprised of representatives from the BOE, LADWP, and Council Districts 4 and 13, to brief them on planning progress and solicit feedback.

Input was also gathered from City departments individually, and through multi-disciplinary coordination meetings that focused on the planning implications of concurrent initiatives as well as interrelationships with on-going City operations, such as: the Stormwater Capture project, Aeration and Recirculation projects, water replenishment from Pollock Well #3, Los Angeles Fire Department emergency water access, State of California Department of Water Resources, Division of Safety of Dams requirements, and Recreation and Parks programs.

CITY DEPARTMENT MEETING ATTENDEES

- Department of Public Works, Bureau of Engineering
- Department of Water and Power
- Department of Public Works, Bureau of Sanitation
- Department of Recreation and Parks
- Los Angeles Fire Department
- Department of City Planning, Office of Historic Resources
- State of California Department of Water Resources, Division of Safety of Dams
- Los Angeles Department of Transportation
- Office of the Mayor
- Council District 4
- Council District 13

Four (4) Design Workshops were conducted with the Client Team on August 22, 2019, September 20, 2019, October 10, 2019 and January 8, 2020 to solicit feedback on the direction of the design at critical stages.

DESIGN WORKSHOP ATTENDEES

- Department of Public Works, Bureau of Engineering
- Department of Water and Power
- Department of Recreation and Parks
- Los Angeles Department of Transportation
- Council District 4
- Council District 13

4.3 Stakeholder Working Group Meetings

The Silver Lake community has a long history of organizing around the reservoirs. Today, there are multiple community groups, including formalized non-profit organizations, with missions directly involving the Complex. Early in the Master Plan process, a Stakeholder Working Group (SWG) was formed comprised of members from five (5) active groups representing a diverse range of interests in the community:

- Silver Lake Forward (SLF)
- Silver Lake Neighborhood Council (SLNC)
- Silver Lake Now (SLN)
- Silver Lake Reservoirs Conservancy (SLRC)
- Silver Lake Wildlife Sanctuary (SLWS)

SILVER LAKE FORWARD

Silver Lake Forward is a non-profit organization guided by the principles of Access, Beauty and Conservation. The organization works to activate neighbors and the public agencies that steward the Reservoir to embrace a comprehensive vision. (https://www.silverlakeforward.com/)

SILVER LAKE NEIGHBORHOOD COUNCIL

The Silver Lake Neighborhood Council works to honor diversity, build community, forge bonds with neighboring communities, and promote participation in City governance and decision-making process. Overall, their mission is to improve the quality of life for all Silver Lake Stakeholders. (https://empowerla.org/slnc/)

SILVER LAKE NOW

Silver Lake Now supports a measured and thoughtful discussion on the future of the Silver Lake Reservoirs Complex and a moderate approach where both the wildlife and the community can co-exist in harmony. (https://silverlakenow.com/)

SILVER RESERVOIRS CONSERVANCY

Silver Lake Reservoirs Conservancy is an all-volunteer, non-profit corporation dedicated to preserving and enhancing the historical, aesthetic, ecological, and recreational benefits of Silver Lake's reservoirs and surrounding open space. (http://www.silverlakereservoirs.org/)

SILVER LAKE WILDLIFE SANCTUARY

The mission of the Silver Lake Wildlife Sanctuary is to preserve the open waters of the reservoirs and their surrounding acreage as a sanctuary, our mission is to create a protected habitat for migratory birds and urban wildlife, to be enjoyed by all. (https://www.silverlakewildlifesanctuary.org/)

To initiate the SWG, Hargreaves Jones, along with the BOE and Council Districts, met with each group one-on-one to understand their mission and goals. Each group was then asked to nominate two representatives and one alternate from their organization to participate in the SWG.

The SWG has become an important partner with the project team and a critical component of the engagement process, serving both as sounding board and communications conduit to the broader community. The group has contributed effectively towards balancing differing aspirations for the park, refining the park's design, finding compromises, and ultimately building consensus. The group has also been a tremendous force behind record participation in community workshops and questionnaires.

Throughout the development of the Master Plan, 90- to 180-minute meetings were held in advance of each Community Workshop to capture important feedback relating to the Master Plan design and Community Workshop goals and agenda. These discussions were used to inform the larger Community Workshop programs.

In total, eight (8) SWG meetings were held to elicit feedback about the design and community process at critical stages. Full presentations and minutes for these meetings are available on the City's Website.

SWG # 1, May 22, 2019
focused on introducing the Design Team and the Stakeholder Working Group to each other, reviewing the master plan schedule, Community Workshop 01 planning, and defining the SWG's purpose and goals.

SWG # 2, July 18, 2019
focused on discussing the outcome of Community Workshop 01, planning for Community Workshop 02, and an overview of the research and analysis process.

SWG # 3, September 26, 2019
focused on discussing the outcome of Community Workshop 02 (including questionnaire results), presenting three high level design options and planning for Community Workshop 03.

SWG # 4, October 17, 2019
focused on presenting an update of the design alternatives in preparation for Community Workshop 03.

SWG # 5, December 5, 2019
focused on discussing the outcome of Community Workshop 03 (including questionnaire results), presenting the development of the preferred alternative design, and planning for Community Workshop 04.

SWG # 6, January 8, 2020
focused on presenting an update of the development of the preferred alternative design in preparation for Community Workshop 04.

SWG # 7, March 5, 2020
focused on discussing the outcome of Community Workshop 04 (including questionnaire results), presenting the development of the Draft Master Plan report, and planning for Community Workshop 05.

SWG # 8, June 25, 2020
focused on discussing how to execute the final Community Workshop 05, including creating a video and having a final questionnaire.

In addition to the above meetings, the SWG was invited to attend Research and Analysis presentations by the design team on July 18, 2019 and August 1, 2019. The SWG also participated in on-going correspondence with the project team throughout the Master Plan community engagement process.

4.4 Community Workshops

Community Workshops are a recognized, successful way to solicit public input during Master Plan development. Rather than following standard presentation and open house formats, the Workshops included interactive sessions, facilitated conversations, and site walks. The goal of the Community Workshops was for participants to feel energized about the future of the SLRC and recognize that their input is valued and heard. Once a community member participated in one workshop, the hope was for them to remain engaged in the process with a reason to come back to subsequent Workshops.

The success of the Workshops stemmed from their level of attendance and participation. From the onset, The Robert Group developed an extensive email database to disseminate information about the project to the Community. This database included local community advocacy organizations, business, schools, civic groups, and residents. To the extent possible, special attention was given to ensure the database was culturally, ethnically, and intergenerationally diverse including families, youth, and seniors to capture a full spectrum of input for the Master Plan. Throughout the engagement process, the database was updated regularly by The Robert Group.

In addition to the project's database, the Stakeholder Working Group was also integral in distributing information to their constituents.

To advertise each Workshop, at a minimum, the following outreach methods were employed:

- E-mail – blasts to the project database (three weeks prior with weekly reminders)
- Printed Flyers – over 2,000 (English and Spanish) flyers distributed around the neighborhood by The Robert Group and the Stakeholder Working Group (printed flyers were omitted for Community Workshop 05 due to Covid-19)
- Banners – installed banners at the Silver Lake Dog Park and the corner of West Silver Lake Drive and Tesla Avenue to advertise each workshop
- Social Media – advertised on the BOE Instagram, Facebook and Twitter pages. Additionally, the Stakeholder Working Group actively advertised on their own social media accounts

The Project Team led four (4) in-person and one (1) virtual Community Workshop as outlined in Figure 4-2. These workshops were held on weekday evenings and weekend days to capture a full range of participants. Full questionnaire results for these meetings are available in the Appendix. Presentations and photography from each workshop ,including break-out discussion table maps, are available on the City's project website.

Figure 4-1 Invitations and Banners to Promote Community Workshops

Figure 4-2 Community Outreach Process Summary

2019

JUN 27

community WORKSHOP 01

INTRODUCTION

purpose...

OPPORTUNITIES & CHALLENGES

approx. 220 attendees

questionnaire RESPONSES 172

AUG 22

community WORKSHOP 02

ACTIVITIES & USES

purpose... VISIONING

NATURE / BEAUTY	SOCIAL / GATHER / EAT
EDUCATION	ARTS / CULTURE
SUPPORT / MOBILITY	HEALTH / WELLNESS
WATER ACTIVITIES	SPORTS / GAMES / PLAY

approx. 600 attendees

questionnaire RESPONSES 1432

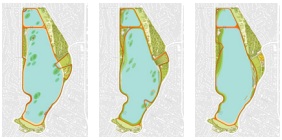
NOV 2

community WORKSHOP 03

DESIGN ALTERNATIVES

purpose...

present THREE DESIGN alternatives



approx. 450 attendees

questionnaire RESPONSES 2986

2020

JAN 23

community WORKSHOP 04

PREFERRED ALTERNATIVE

purpose...

PREFERRED alternative

approx. 300 attendees

questionnaire RESPONSES 2966

VIRTUAL community WORKSHOP 05

MASTER PLAN DRAFT

purpose...

PRESENT DRAFT MASTER PLAN

approx. 1,500 video views *at the time the questionnaire closed*

questionnaire RESPONSES 922 **4 paper questionnaires*

AUG 21

WORKSHOP PARTICIPANTS

As outlined in Figure 4-2, the Master Plan was developed within the framework of strong community participation – over 1,500 members of the community attended the Community Workshops and the Project Team received 8,478 responses to the questionnaires. A vast majority of participants reported that they are frequent visitors to the Complex and live nearby. They also represented a range of age groups.

On four of the five questionnaires, responders were asked to indicate their age group and provide the zip code where they live. Responses to these questions were similar across all four questionnaires. Respondents consistently reported living near the SLRC with 88% of respondents residing in a zip code within a 2-mile radius of the Complex and are frequent visitors, Figure 4-3. The majority of responders – 68% – were between the ages of 26 and 55 as shown in Figure 4-4.

On the questionnaires accompanying Community Workshops 02 and 05, participants were asked how often they visit the SLRC. As shown in Figure 4-5, 77% of responders visit the reservoirs at least once per week. In the final questionnaire, participants were asked how often they would visit the SLRC if the Master Plan is implemented. Respondents indicated they would increase their visits to the SLRC if the design is implemented with 86% anticipating they would visit at least once per week.

Figure 4-3 Zip Codes Where Participant Live

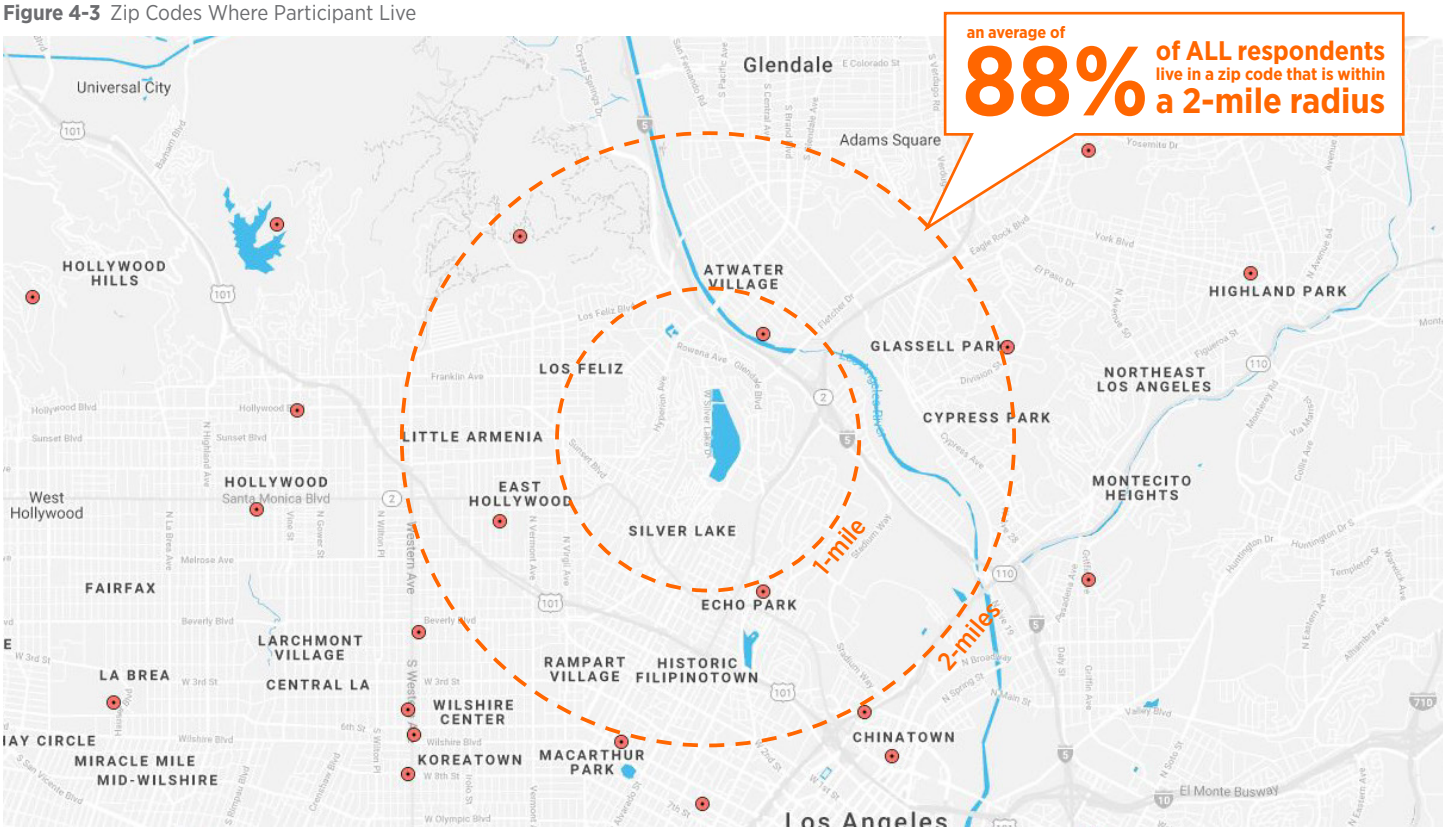


Figure 4-4 Participant Age Groups

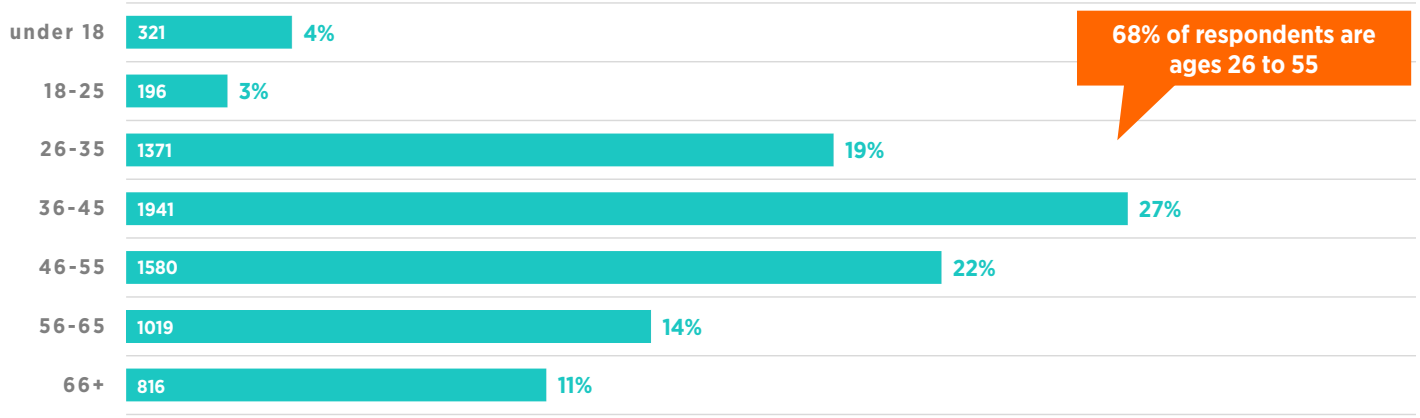
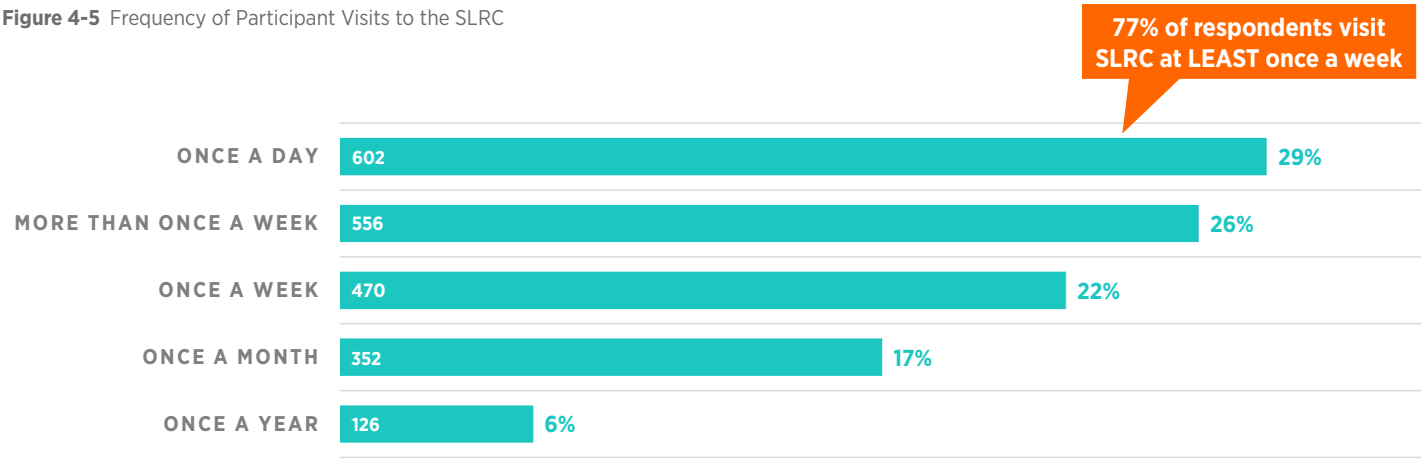


Figure 4-5 Frequency of Participant Visits to the SLRC



4.4.1 Community Workshop 01

Thursday, June 27, 2019
Friendship Auditorium from 6:00 – 8:00pm

Attended by over 230 members of the public, Community Workshop 01 focused on introducing the community to the Design Team, Stakeholder Working Group and presenting the overall project.

Figure 4-6 Community Workshop 01 Photos

WORKSHOP OVERVIEW

The BOE and the design team, led by Hargreaves Jones, introduced the project and shared research and analysis of the site. The design team also discussed their assessment of the challenges and opportunities presented by various aspects of the reservoir complex. The SWG was also introduced and each group was given the opportunity to present their organization's mission and goals for the Master Plan and discuss their work on related issues.

Following the team's presentation, 22 breakout discussions began with approximately 12 participants each, facilitated by members of the project team. Upon check-in, attendees were randomly assigned to tables to have the opportunity to hear from fellow community members whom they may not know. Most participants sat at their assigned tables, though not all. At the breakout table discussions, attendees were asked to provide input as to what they thought were the most significant challenges and opportunities at the SLRC and complete the questionnaire shown in Figure 4-7.

Each table had an enlarged project site plan and post-it notes in two different colors – one for challenges and one for opportunities. Attendees were asked to write down challenges and opportunities on the post-it notes and place these on their site plan. Tables were also asked to identify one primary character-defining feature of the SLRC they could all agree upon. These were written on post-it notes in the shape of a light bulb.

NOTE: The table maps are primarily used as tools to facilitate discussion during the breakout sessions at the workshops prior to responding to the questionnaires, and do not yield empirical information

Figure 4-7 Community Workshop 01 Questionnaire

SLRCMP

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN**

The challenges & opportunities of the **SLRCMP** were presented in the following five categories:

Now, it's your turn! *Please tell us what you think are the top challenges and opportunities within the site:*

top three **CHALLENGES?**

01 _____

02 _____

03 _____

top three **OPPORTUNITIES?**

01 _____

02 _____

03 _____

Additionally... *Help us understand what makes SLRC special:*

What are the **defining characteristics** of the SLRC to you? _____

_____

_____

What is your **favorite public open space** that could be used as an example for the SLRCMP?

_____

_____

We want to hear more! *Please let us know of you have any other comments:*

Other Comments: _____

_____

_____

TO BE ON OUR PROJECT MAILING LIST & KEEP UP-TO-DATE ON THIS PROJECT, *SIGN UP BELOW:*

Name: _____

E-mail: _____

*Please visit **https://eng.lacity.org/slrcmp-home** to learn more about the project and to stay involved!*

#SLRCMP **#SilverLakeReservoirs**

THANK YOU FOR PARTICIPATING IN COMMUNITY WORKSHOP #1
WE LOOK FORWARD TO SEEING YOU THROUGHOUT THIS PROCESS!

COMMUNITY WORKSHOP 01 FEEDBACK

Workshop Report Back
Each table was asked to identify a table leader who would report back to the entire room at the end of the Workshop, giving a brief, two-minute summary of the challenges and opportunities discussed at their table. Each table also placed their character-defining feature light bulb to a large plan at the front of the room. Attendees were also asked to share what their favorite parks or open spaces are.

During the report back, common themes ranged from balancing human access and wildlife protection to improving habitat and increasing green space as depicted in Figure 4-8. The character-defining features identified by attendees shown below included the vistas, openness, serenity, and the infamous "morning sparkle."

Figure 4-8 Character-Defining Features Identified During Community Workshop 01

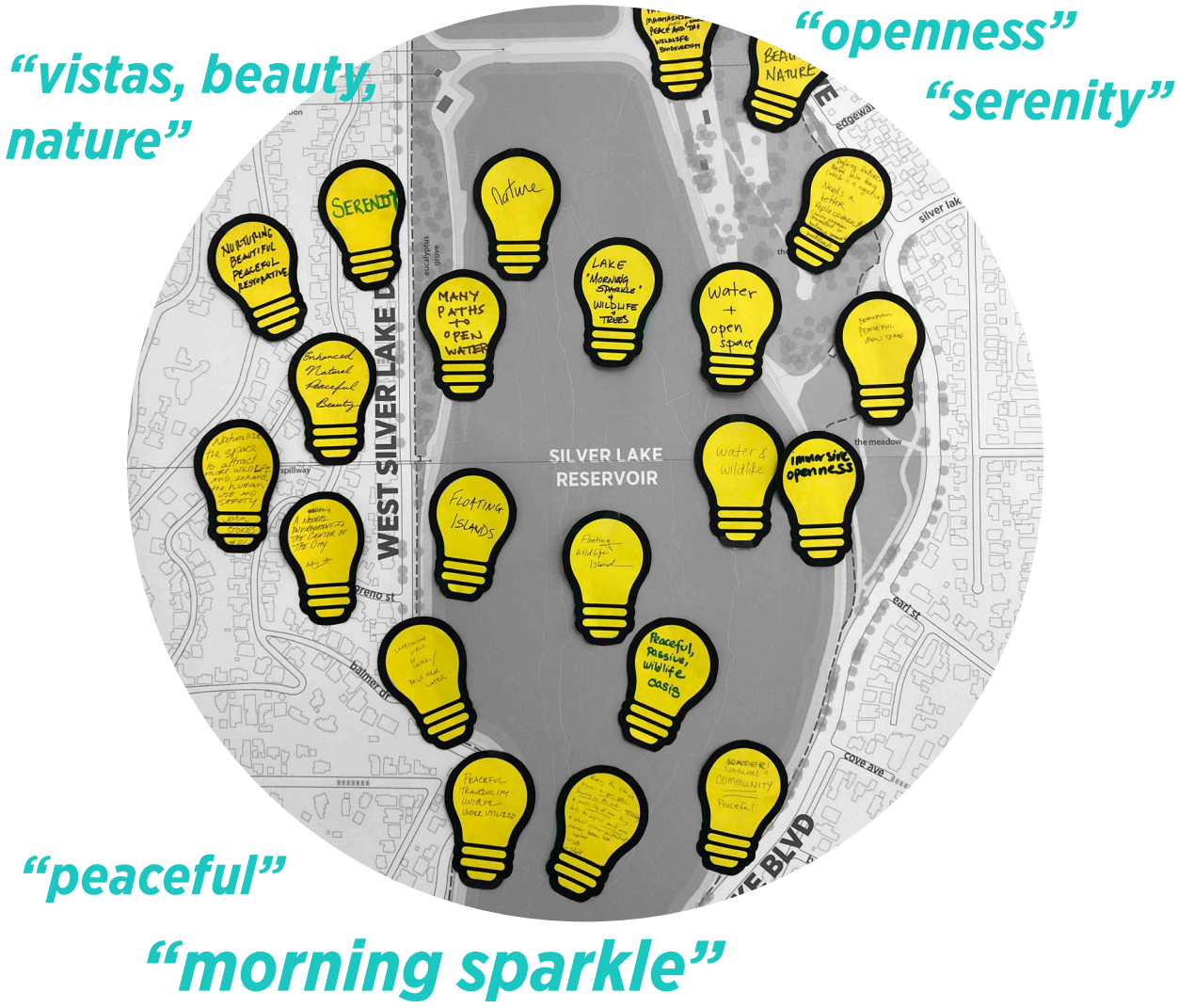


Figure 4-9 Top Challenges and Opportunities from Community Workshop 01

Questionnaire

A questionnaire was distributed to complete during the workshop and to help facilitate discussion during the breakout session (Figure 4-7). The project team received 172 questionnaire responses in total. The questionnaire asked attendees to identify what they thought were the top three challenges and top 3 opportunities for repurposing the SLRC into a public park. It also asked participants to identify their favorite open space worldwide. The questionnaire responses identified balancing human access and active uses, traffic, removing fences, maintenance, and funding as challenges. Opportunities included adding more green space, increasing outdoor activities and recreation, improving pedestrian and bike access, improving habitat for wildlife, and creating more beautiful, serene spaces. Favorite parks ranged from highly urban spaces such as the Highline in New York to more wilderness spaces like Debs Park in Los Angeles.

Synthesis

Input from the community during Workshop 01 and from the questionnaire was used to inform the visioning phase of the project and prepare for Community Workshop 02. Based on the broad range of opportunities and challenges identified by the community, the project team developed eight categories of activities and elements to more specifically access community preferences and aspirations for what they would like to see and do in their future park.

4.4.2 Community Workshop 02

Saturday, August 24, 2019
at the SLRC from 8:00 – 11:00am

Attended by over 600 members of the public, Community Workshop 02 focused on visioning – imagining what the SLRC could become and what people would want to do and see in the future – to assist the design team in developing conceptual design alternatives for the Master Plan.

OVERVIEW

The SLRC is mostly closed to public access with limited moments available to experience the scale and power of the water bodies up close. To help the community understand the project site and catalyze creative thinking and bold ideas about what the park could be, the BOE and design team, in collaboration with LADWP, opened the complex to the community for this second Community Workshop.

The project team created a walking map of the Complex, which also doubled as an Activities & Uses Questionnaire as shown in Figure 4-11. Five different information stations were set up around the SLRC, along the water and at the Knoll, to provide information on the topic areas related to the questionnaire and were staffed by project team facilitators. The goal of the workshop and questionnaire was to empirically solicit and document community priorities regarding park vision and future uses, leading to a better understanding of the desired character of a park that would best serve the community.

Attendees included people who specifically came to participate in the event, as well as others who were walking or jogging around the Complex and joined the workshop spontaneously.

Figure 4-10 Community Workshop 02 Photos

ADDITIONAL QUESTIONS
Please answer the following:

02: What is your favorite park in Los Angeles? Or anywhere? And why?

_____

03: What one word best describes what the Silver Lake Reservoir Complex (SLRC) should be or feel like?

_____

04: How often do you visit the SLRC?
- O Once a day
- O Once a week
- O More than once a week
- O Once a month
- O Once a year
- O Other: _____

05: How do you typically get to the SLRC?
- O Personal vehicle
- O Public Transit
- O Bike
- O Skateboard
- O Other: _____
- O Walk
- O Run

06: How would you like to get to SLRC in the future?

_____

07: Who do you bring with you to the SLRC?
- O Children
- O Parents
- O Friends
- O Other: _____
- O Teams
- O Dogs

Zip-code where you live:

_____

Your age (choose one): O Under 18 O 19-25 O 26-35 O 36-45 O 46-55 O 56-65 O 66+

OTHER COMMENTS?

_____
_____
_____
_____
_____

TO BE ON OUR PROJECT MAILING LIST & KEEP UP-TO-DATE ON THIS PROJECT, *SIGN UP BELOW:*

Name: _____

E-mail: _____

*Please visit **https://eng.lacity.org/slrcmp-home** to learn more about the project and to stay involved!*

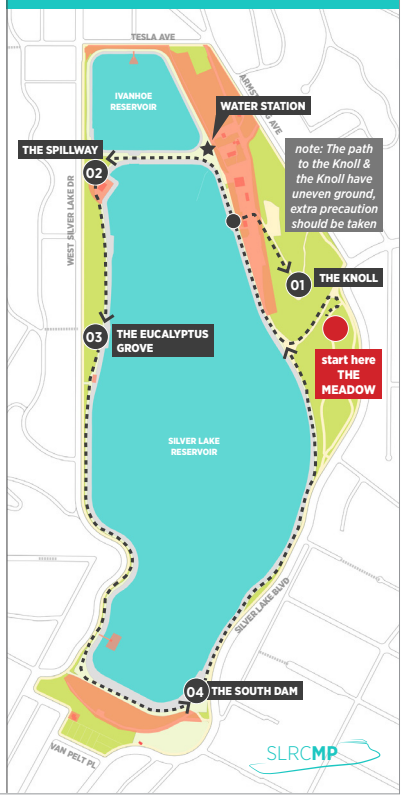
#SLRCMP **#SilverLakeReservoirs**

THANK YOU FOR PARTICIPATING IN COMMUNITY WORKSHOP #2

WE LOOK FORWARD TO SEEING YOU THROUGHOUT THIS PROCESS!

DAVID RYU COUNCILMEMBER • DISTRICT 4 · MITCH O'FARRELL · ENGINEERING CITY OF LOS ANGELES · LA DWP Los Angeles Department of Water & Power

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN**
RESERVOIR WALK & QUESTIONNAIRE



01: WHAT ACTIVITIES AND USES WOULD YOU LIKE TO SEE AT THE SILVER LAKE RESERVOIR COMPLEX?
*Choose 3 preferred activities in each of the **EIGHT** categories:*

1. NATURE / BEAUTY
- O Birdwatching
- O Enjoying Nature
- O Gardening
- O Habitat Enhancement / Expansion
- O Sunset Viewing
- O Treatment Wetlands
- O Water Conserving Native Gardens
- O Water Feature
- O NONE OF THE ABOVE
- O Other: _____

2. EDUCATION
- O Birdwatching Classes
- O Environmental Classes
- O Guided Tours
- O Outdoor Environmental Center
- O Outdoor Art Classes
- O Youth / School Programs
- O NONE OF THE ABOVE
- O Other: _____

3. SUPPORT / MOBILITY
- O Bicycle Parking
- O Metro Bike Share
- O Park Information / Interpretive Signs
- O Park Rangers
- O Park Rentals (Bike, Kayak, Paddleboard, etc)
- O Restrooms
- O Security
- O Vehicle Parking
- O Vehicle Drop-off/Pick-up (Uber/Lyft)
- O NONE OF THE ABOVE
- O Other: _____

4. WATER ACTIVITIES
- O Casting Ponds
- O Catch/Release Fishing
- O Human-Powered Boating (Kayak, paddleboat)
- O Model Sailboat Racing
- O Rowing
- O Stand-up Paddle boarding
- O Swimming
- O Viewing Area / Deck / Overlook
- O NONE OF THE ABOVE
- O Other: _____

5. SOCIAL / GATHER / EAT
- O Family Gatherings
- O Food Kiosk / Cafe
- O Food Trucks
- O Grilling
- O Local Farmers Markets
- O Outdoor Birthdays
- O Outdoor Weddings
- O Picnics
- O Seniors Classes
- O Volunteer Programs
- O NONE OF THE ABOVE
- O Other: _____

6. ARTS / CULTURE
- O Craft & Art Markets
- O Dancing
- O Feature Lighting
- O Music Concerts
- O Informal Music / DJ
- O Outdoor Movies
- O Outdoor Performances / Events
- O Permanent Art / Sculpture Garden
- O Temporary Art Installations
- O NONE OF THE ABOVE
- O Other: _____

7. HEALTH / WELLNESS

more active
- O Cycling
- O Exercise Circuit
- O Roller blading / Skating
- O Running / Jogging
- O Walking
- O Work out classes

more passive
- O Cloud Watching
- O Relaxing / Finding Peace
- O Sitting
- O Sunning
- O Tai Chi / Yoga
- O NONE OF THE ABOVE
- O Other: _____

8. SPORTS / GAMES / PLAY

more active
- O Basketball
- O Dog Play (expanded)
- O Flexible Sports Field (frisbee, pick-up games)
- O Multi-Use Courts (ping-pong, paddle tennis, pickleball)
- O Nature Playground
- O Splash Pad (play fountain)
- O Skateboarding
- O Volleyball

more passive
- O Bocce / Horseshoes
- O Chess / Checkers
- O Kite Flying
- O NONE OF THE ABOVE
- O Other: _____

Figure 4-11 Community Workshop 02 Questionnaire

VISIONING QUESTIONS AND TOPICS

The questionnaire shown in Figure 4-11 asked participants to pick the top three *Activities & Uses* they would like to see in the future across the following eight categories:

Nature and Beauty: included passive activities that are associated directly with natural areas such as birdwatching, enjoying nature, gardening, habitat enhancement/expansion, sunset viewing, treatment wetlands, water conserving native gardens, and water features.

Education: included birdwatching and environmental classes, guided educational tours, outdoor environmental center, outdoor art classes, and youth and school programs.

Support and Mobility: are all features that contribute to the safety, security, access and maintenance of the park. This included bike parking, metro bike share, park information / interpretive signs, park rangers, park rentals, restrooms, security, vehicle parking, vehicle drop-off/ pick up.

Water Activities: included casting ponds, catch/release fishing, human-powered boating, model sailboat racing, rowing, stand up paddle boarding, swimming, viewing areas, decks and overlooks.

Socializing, Gathering, and Eating: included family gatherings, food kiosks / café, food trucks, grilling, local farmers market, outdoor birthdays and weddings, picnics, senior's classes, and volunteer programs.

Arts and Culture: included cultural events such as dancing, music concerts and more informal music like DJs, outdoor movies, or outdoor performances, and art installations such as feature lighting, a sculpture garden, or temporary art, as well as craft and art markets.

Health and Wellness: included active and passive activities that contribute to overall wellness. Active activities include cycling, exercise circuits, roller blading and skating, running and jogging, walking, and workout classes. Passive activities included cloud watching, relaxing, finding peace, sitting, sunning, tai chi / yoga.

Sports, Games and Play: included active and passive recreational activities. Active activities included basketball, dog play (expanded), flexible sports fields, multi-use courts, nature playground, splash pad, skateboarding, and volleyball. More passive activities included bocce and horseshoes, chess and checkers and kit flying.

The questionnaire asked some additional open questions as well:

What is your Favorite Park in Los Angeles?

What one word best describes what the Silver Lake Reservoir Complex (SLRC) should be or feel like?

How often do you visit the SLRC?

How do you typically get to the SLRC?

How would you like to get to the SLRC in the future?

COMMUNITY WORKSHOP 02 FEEDBACK

Questionnaire
Participants were given the opportunity to complete and turn in their questionnaires at the SLRC or complete it online. The questionnaire was open for three weeks and closed on September 14, 2019. The questionnaire was completed by 1,432 participants; 89% of respondents indicated they live in a zip code within a 2-mile radius of the SLRC and 66% reported visiting the SLRC at least once a week, representing significant participation by the Silver Lake Community.

Participants were asked to select their top three activities across each of the eight categories which is summarized in Figure 4-12 below.

In general, a preference towards more passive Activities & Uses was favored with a focus on **Nature and Beauty** [Enjoying Nature (64.5%), Habitat Enhancement / Expansion (40.0%), and Water Conserving Gardens (37.4%)], **Health and Wellness** [Walking (59.5%), Running and Jogging (43.7%), Relaxing and Finding Peace (41.6%)], and **Education** [Environmental Classes (47.3%), Outdoor Environmental Center (40.4%), and Youth / School Programs(40.1%)].

Water Activities were also amongst the high-ranking activities [Viewing Area / Deck / Overlook (49.7%) Human-Powered boating (40.0%) and Swimming (38.3%)]. Being able to get on the water, get in the water, and viewing the water were desirable to most respondents. **Socializing, Gathering, and Eating** showed strong support for Picnics (49.0%) as well as favorable support for Local Farmer's Markets (36.3%) and Family Gatherings (33.4%). **Support and Mobility** uses such as Restrooms (53.6%) received a strong preference, and Bicycle Parking (37.4%) and Park Rentals (34.8%) had moderate support.

Categories that ranked the lowest overall were **Arts and Culture** [Outdoor Movies (35.9%), Temporary Art Installations (30.9%), and Permanent Art / Sculpture Garden (28.8%)] and **Sports, Games and Play** [Nature Playground (35.6%), None of the Above (24.4%), and Splash Pad (23.7%)].

The complete results of the questionnaire are shown in descending order of preference in Figure 4-13. The top three preferences from each category have been color coded to assist in understanding how these related into the overall results. For instance, while some activities were the top three in their category, they were less popular overall against all other activities.

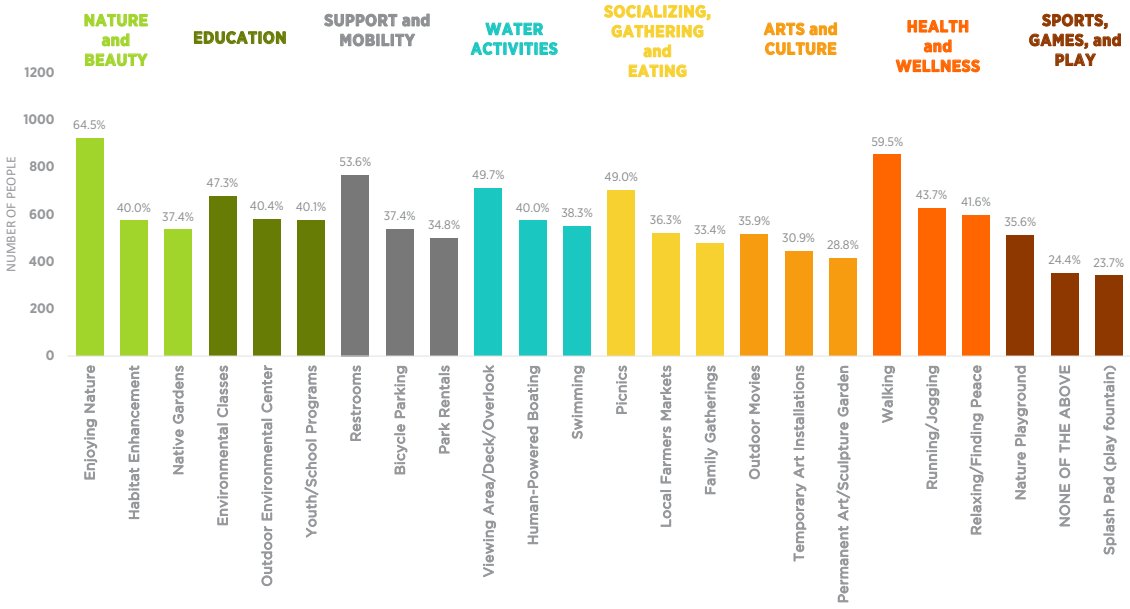


Figure 4-12 Community Workshop 02 Questionnaire Top three Activities & Uses

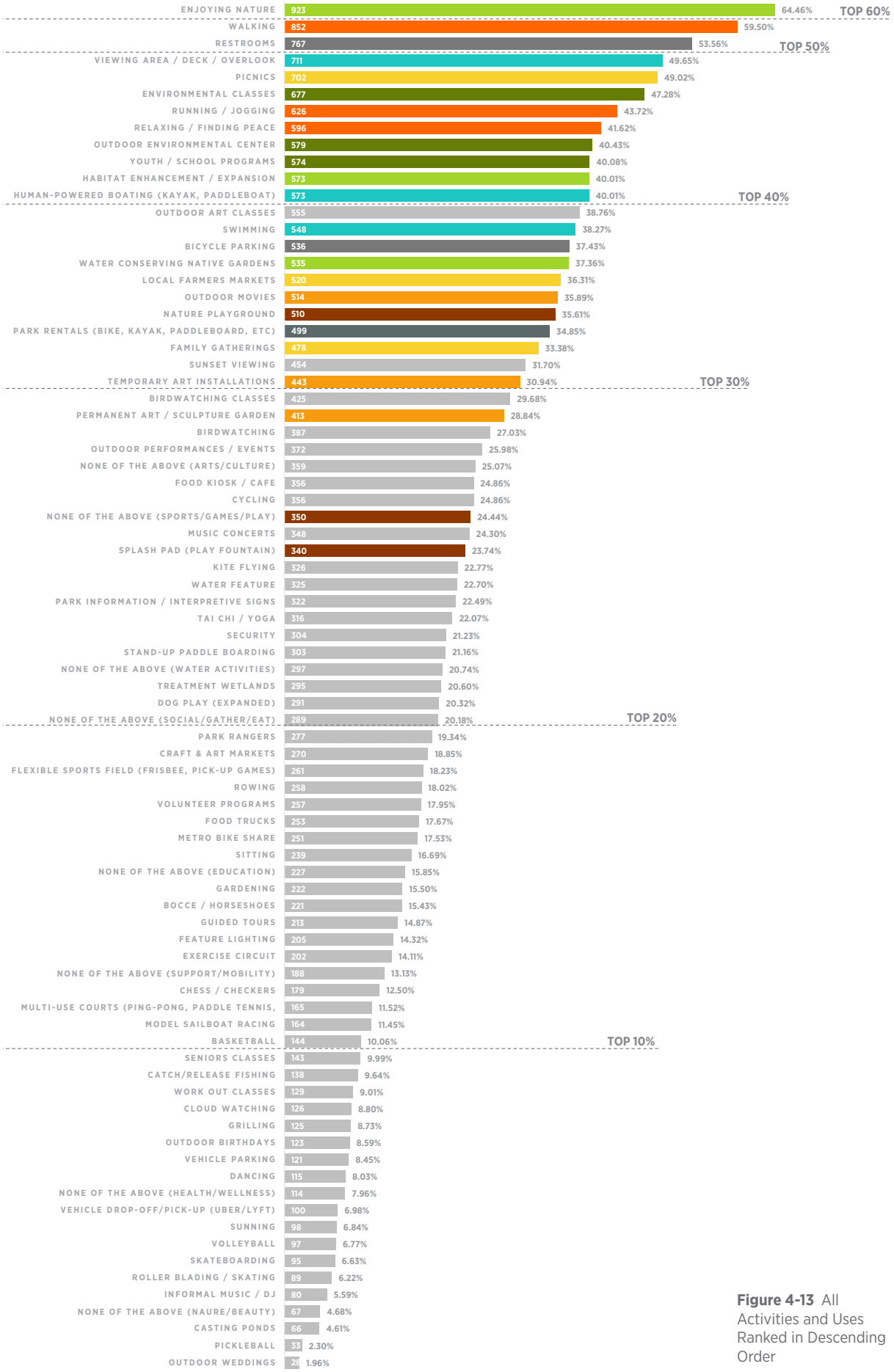


Figure 4-13 All Activities and Uses Ranked in Descending Order

Figure 4-14 Community Workshop 02 Questionnaire Results for Question 2

"What is your favorite park?" *The size of the word in this word cloud represents how many times a park was repeated. This data helps provide a frame of reference to understanding the results of the Activities & Uses questions. Key takeaways included a preference towards more natural, large open spaces (Griffith Park) but also for that of a more active park with human-powered boating (Echo Park). It's also clear that the Silver Lake Reservoir and Meadow are already beloved by the community.*

Figure 4-15 Community Workshop 02 Questionnaire Results for Question 3

"What word or phrase best describes what the Silver Lake Reservoir Complex should be or feel like?" *This word cloud represents the vision the community has for the reservoir complex. As shown, Peaceful, Natural and Nature were among the most frequently used words. Community and Neighborhood were also used frequently. Overall, these show a preference towards creating a balanced, inclusive open space for people and nature.*

SYNTHESIS

The responses to the questionnaire indicated a range of preferences, such as: enjoying nature; habitat enhancement and expansion; overlooks; picnicking; running and jogging; education, including an outdoor education center and youth programs; and accessing the water, including swimming and human-powered boating. These uses and activities were all preferred by 30% or more respondents and were preferred by 40% or more.

The design team used these preferences as a guide for developing three conceptual alternatives that created spaces which tested the physical manifestation of the community's aspirations. Some activities and uses, such as swimming require dedicated facilities, while others only need flexible open spaces. Each alternate was developed to be as inclusive of the community's wishes as possible.

The questionnaire responses were also used to develop six Key Themes, or goals, for the Master Plan design – Enjoying Nature, Wellness, Education, Community, Family Friendly, and Water Access – against which each conceptual alternative was evaluated as it was developed.

During the development of the three alternatives, the design team met with the SWG two times to review the design options and garner feedback.

POP-UP EVENT 01

A week after Community Workshop 02, on August 31, 2019, The Robert Group hosted a pop-up event at the Silver Lake Farmers Market. The purpose of the pop-up was to reach out to additional community members who might not be aware of the project. Maps and boards from the Community Workshop 02 were used to facilitate an open discussion with the public and questionnaires were provided for individuals to complete in-person and/or submit online.

4.4.3 Community Workshop 03

Saturday, November 2, 2019
Marshall High School from 1:00 – 3:30pm

Attended by over 450 members of the public, Community Workshop 03 focused on presenting three Master Plan Alternatives, based on and building upon prior input, for community review and feedback. The design alternates were titled: Island Overlooks, Active Edges, and Blended Spaces.

OVERVIEW:

A formal presentation led by Hargreaves Jones introduced each Alternative and described its unique spaces, design strategies, and the activities and uses it fostered. The presentation was followed by break-out sessions and report backs. Participants included students from King Middle School who were engaging in an environmental education curriculum related to the SLRC Master Plan. They brought drawings showing their own visions for the Complex which were displayed in the room.

Attendees were randomly assigned to tables for the presentation and breakout discussions, which were facilitated by a member of the project team. Attendees were encouraged to sit at their assigned tables to have the opportunity to hear from fellow community members whom they may not know. Fewer people sat at their assigned tables for this meeting, mostly due to the large attendance and tight room configuration which made it difficult to navigate to specific tables. Additionally, due to the high turnout, some attendees had to stand.

At the breakout table discussions, attendees were asked to identify what they perceived as the pros and cons of each design alternative and complete the questionnaire shown in Figure 4-17 . Each table had enlarged site plans of the three design alternatives, red and green post-it notes, and red and green sticky dots. “Green” was used to indicate a “pro” and “red” was used to indicate a “con.” Attendees were encouraged to write down “pros” and “cons” on the post-it notes and place them on their table maps. Attendees were also given five red and five green dots each and encouraged to use these on the maps to indicate a pro or con. Each table was asked to identify a table leader who would report back a brief, two-minute summary of their table’s discussion at the end of the Workshop.

NOTE: The table maps are primarily used as tools to facilitate discussion during the breakout sessions and do not yield empirical information. For instance, it was noted by table facilitators that some participants took more than five green or red dots, and that they sat at more than one table.

Figure 4-16 Community Workshop 03 Photos

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN** SLRCMP

COMMUNITY WORKSHOP #3 QUESTIONNAIRE

At this stage in the Master Plan development, we have presented three conceptual alternatives. We would like your feedback in order to synthesize these into a single, preferred design. Below is a list of features and elements unique to each alternative. **Please indicate whether you think these are *PROS* or *CONS* of each alternative.**

ALTERNATIVE 1:
Island Overlooks

PRO CON

- ○ ○ **Preserves** existing **embankment** alignment
- ○ ○ **Maximizes** protected **wetland habitat** *(habitat islands)*
- ○ ○ Habitat Islands **break the open water view** of the reservoirs, providing visual interest
- ○ ○ Provides a **single place to access the water** *(at wetland observation platform)*
- ○ ○ Locates an **education center** and **observation platform on west side** of site
- ○ ○ Provides the **least amount of active uses** and spaces
- ○ ○ **Does not** offer **human-powered boating**
- ○ ○ **Does not** offer **swimming**
- ○ ○ Other: _____

ALTERNATIVE 2:
Active Edges

PRO CON

- ○ ○ **Terraces** step down to the water and **provide generous seating and activity** options
- ○ ○ Habitat and people terraces hug the edges to **maximize open water views**
- ○ ○ **Habitat** and **people** spaces are predominantly **separated** *(east vs west side of reservoirs)*
- ○ ○ Provides **most active uses** and space
- ○ ○ Creates a **"Living Laboratory"** at Ivanhoe
- ○ ○ **Facilities** are located within the stepped terraces, **minimizing impact on views**
- ○ ○ **Offers** facilities and floating dock for **human-powered boating** recreation
- ○ ○ **Offers** pool facilities and **swimming pool** embedded within the terraces
- ○ ○ Other: _____

ALTERNATIVE 3:
Blended Spaces

PRO CON

- ○ ○ Open **lawn** gently **slopes to water**
- ○ ○ **Integrates** some **habitat areas** within seating terraces and walkways
- ○ ○ **Maximizes total wildlife** space by combining Habitat islands and habitat terraces
- ○ ○ Provides **most open lawn** with shade trees
- ○ ○ Locates **nature play on west side** of site *(in Eucalyptus Grove)*
- ○ ○ **Integrates** an **education center** at the **base of the Knoll**
- ○ ○ **Offers guided kayak or canoe tours** of wetland habitat led by an ecologist
- ○ ○ **Offers** pool facilities and floating **swimming pool**
- ○ ○ Other: _____

THE SOUTH VALLEY

Help us prioritize improvements in the existing Recreation and Parks area at the South.

Please rank, in order of preference (from 1 - 4) the improvments you would like to see.

_____ Expanding RAP Facilities to include a **new multi-purpose building and indoor play field**

_____ Expanding & Renovating the **dog park**

_____ **Move picnic tables** to west grassy slope

_____ **Reconfigure play field**

The following **KEY THEMES** were expressed by the community during the visioning process:

Enjoying Nature
The park should be a place to sit by the water, walk through a woodland or wetland, and observe wildlife.

Community
The park should be a place where the neighborhood comes together for shared experiences.

Education
The park should have an education center offering a range of classes and outdoor-based programs.

Wellness
The park should be a place to walk, run / jog, but also offer spaces to sit, relax, and find peace.

Family Friendly
The park should create spaces for children to play and learn about their environment.

Water Access
The park should offer opportunities to be at and on the water.

To what extent do you agree each of the conceptual alternatives reflect these ideas or themes?

ALTERNATIVE 1:
Island Overlooks

	Enjoying Nature	Wellness	Community	Education	Family Friendly	Water Access
Agree	○	○	○	○	○	○
Neutral	○	○	○	○	○	○
Disagree	○	○	○	○	○	○

ALTERNATIVE 2:
Active Edges

	Enjoying Nature	Wellness	Community	Education	Family Friendly	Water Access
Agree	○	○	○	○	○	○
Neutral	○	○	○	○	○	○
Disagree	○	○	○	○	○	○

ALTERNATIVE 3:
Blended Spaces

	Enjoying Nature	Wellness	Community	Education	Family Friendly	Water Access
Agree	○	○	○	○	○	○
Neutral	○	○	○	○	○	○
Disagree	○	○	○	○	○	○

We want to hear more! *Please let us know if you have any other comments:*

Other Comments: _____

_____

_____

Zip-code where you live: _____

Your age (choose one): ○ Under 18 ○ 19-25 ○ 26-35 ○ 36-45 ○ 46-55 ○ 56-65 ○ 66+

TO BE ON OUR PROJECT MAILING LIST & KEEP UP-TO-DATE ON THIS PROJECT, *SIGN UP BELOW:*

Name: _____

E-mail: _____

*Please visit **https://eng.lacity.org/slrcmp-home** to learn more about the project and to stay involved!*

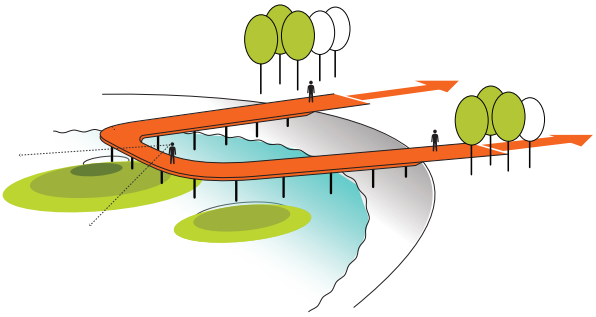
#SLRCMP **#SilverLakeReservoirs**

THANK YOU FOR PARTICIPATING IN COMMUNITY WORKSHOP #3, WE LOOK FORWARD TO SEEING YOU THROUGHOUT THIS PROCESS!

Figure 4-17 Community Workshop 03 Questionnaire

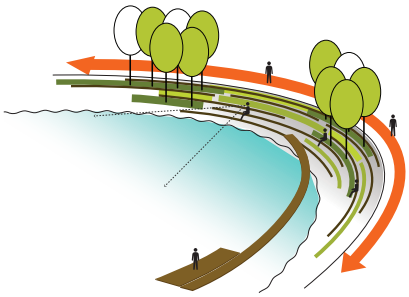
DESIGN ALTERNATIVES

Three Master Plan Alternatives were developed in order to illustrate and discuss various approaches to program distribution and design character. The purpose of the alternatives was to test ideas and elements the community showed support for in the previous meetings and questionnaires. For instance, the team consistently saw a strong preference for education based on the feedback from Community Workshop 02, so the three alternatives included educational facilities of differing sizes at various locations around the site. Similarly, the alternatives explored design options for playgrounds, picnic areas, a café, and swimming and human-powered boating, which were all elements and activities supported in the Activities & Uses questionnaires and comments.



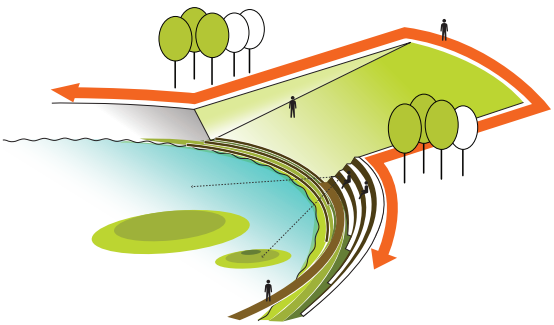
ALTERNATE 1: ISLAND OVERLOOKS

- MAINTAINS existing EMBANKMENT
- LESS ACTIVE spaces
- MAXIMIZES protected WETLAND habitat
- LEAST OPEN WATER



ALTERNATE 2: ACTIVE EDGES

- ENGAGES EDGES
- MOST ACTIVE spaces
- LEAST new HABITAT
- MOST OPEN WATER



ALTERNATE 3 BLENDED SPACES

- BALANCES spaces
- MOST ecologically IMMERSIVE
- MOST new HABITAT
- MEDIUM OPEN WATER

ALTERNATIVE 1: Island Overlooks

Islands and Overlooks is the most passive alternative with the least amount of active spaces throughout. The design focuses on upland and wetland habitat and provides minimal interaction between people and nature. The existing embankment is preserved in its entirety as a hard edge and floating islands are introduced to create wetland habitat. With the insertion of floating islands within the reservoirs, open water views become altered and varied.

The floating islands are strategically placed throughout the reservoirs to maximize protected wetland habitat and create opportunities for people to observe wildlife. Small overlooks are located along the Promenade within the East and West Narrows. At the Meadow, a large overlook swings out over the water and above the floating islands. The only place where visitors can engage with the wetlands and water is located at the 3,500sf Education Center within the rehabilitated Eucalyptus Grove. Here, a bridge leads to an observational platform within one of the floating habitat islands – creating a highly immersive experience.

Park programming is concentrated in the Meadow and includes a large open lawn, picnic grove and gardens, a small nature playground, and a 2,500sf café at the water's edge. Small trails leading up to the top of the Knoll extend from the edge of the meadow through a restored woodland habitat. At the top, the trail swings out as an overlook to amplify views out and over the water.

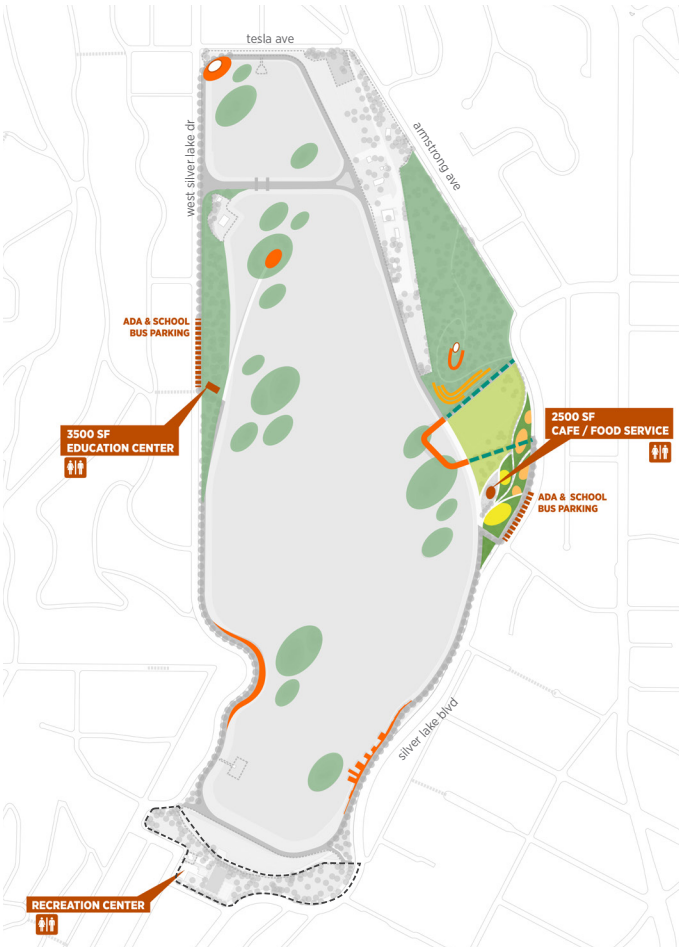
To provide additional outdoor learning experiences, two small shade pavilions are located at the Ivanhoe Overlook and at the Knoll.

Figures 4-18 through 4-21 show the proposed plan and breakdown of spaces, circulation, and habitat for the Islands and Overlooks design alternative.

Rendering from the Promenade on the east side of the Complex looking north. Floating islands create wetland habitat for waterfowl. An overlook amplifies water views and wildlife observation. The Knoll is seen in the background with seating terraces at its base.

Figure 4-18 Alternative 1: Islands & Overlooks - Site Plan

Figure 4-19 Alternative 1: Islands & Overlooks - Spaces Diagram



Total Space: **28.5 ac**
Total Recreation: **6 ac**
Increase *(from current meadow)* **3.0 ac; 75%**

- FACILITIES = 9,000 sf
- OVERLOOKS = 35,000 sf
- SEATING TERRACES = 16,000 sf
- GREAT/FLEX LAWN = 3 ac
- PICNIC GROVE = 13,000 sf
- PLAYGROUND = 14,500 sf
- ORNAMENTAL GARDENS = 1 ac
- PROMENADE/FARMER'S MARKET = 21,000 sf
- HABITAT = 22.5 ac
- SWIMMING POOL = 0 sf
- FLOATING DOCK = 0 sf
- SCULPTURE GARDEN = 0 sf
- DOG PLAY = 0 sf

(below) Rendering from the top of the Knoll in Alternative 1: Islands & Overlooks

Figure 4-20 Alternative 1: Islands & Overlooks - Circulation Diagram

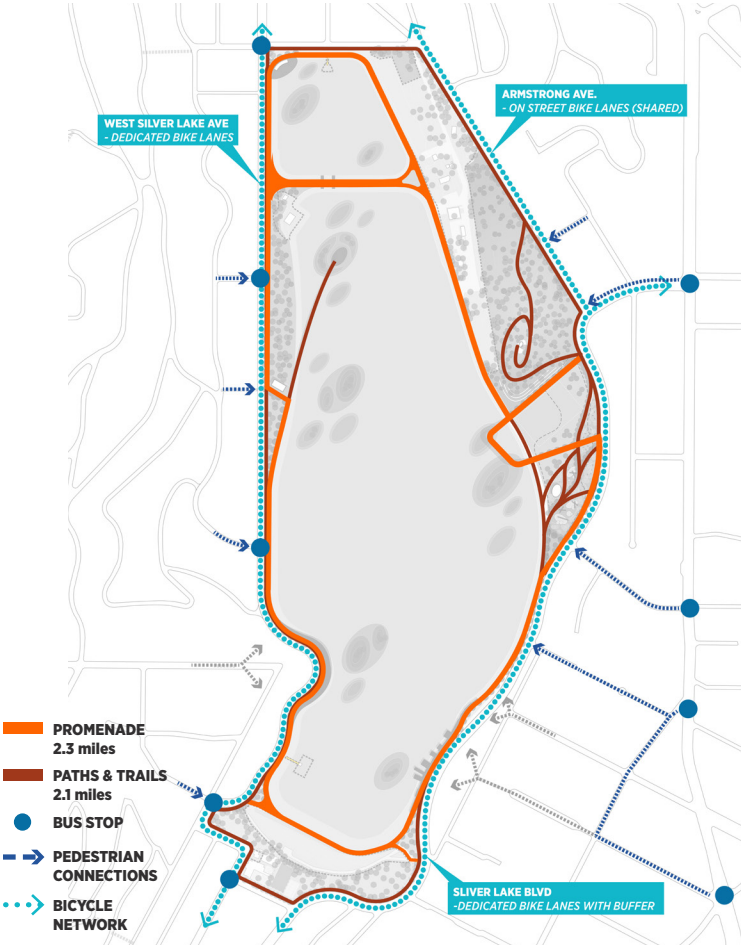
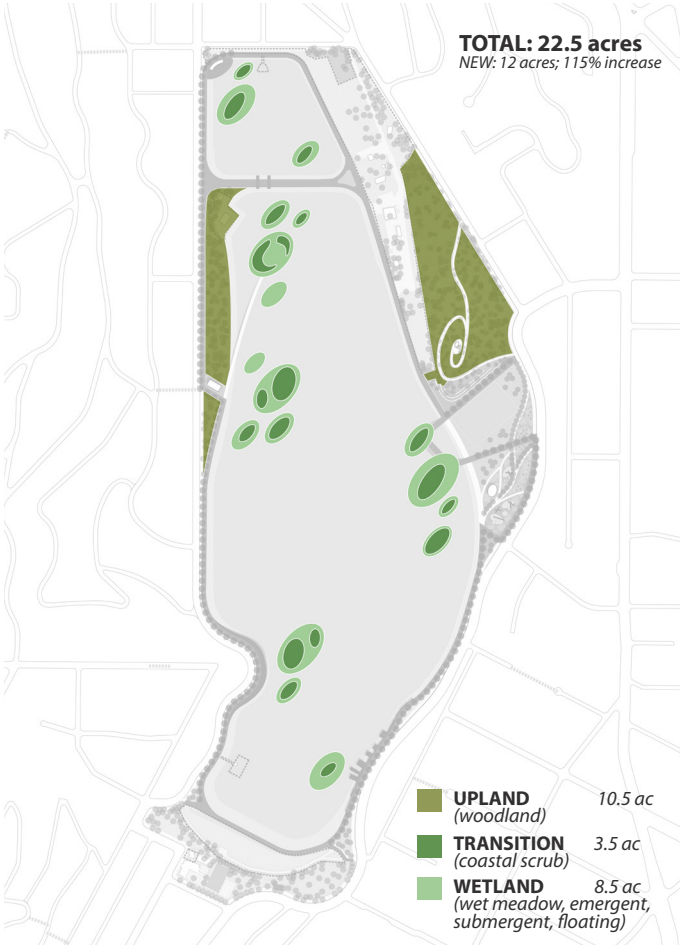
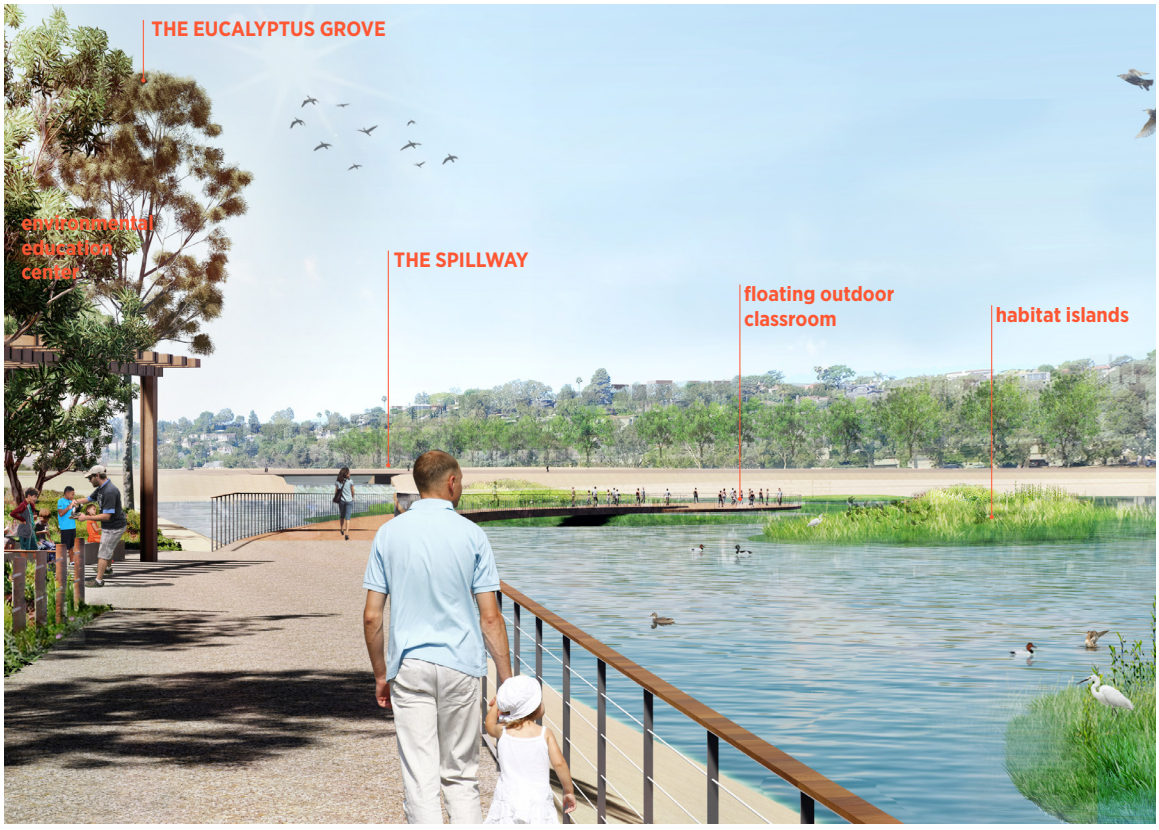


Figure 4-21 Alternative 1: Islands & Overlooks - Habitat Diagram





(right) View from the Promenade looking out past the environmental education center to the floating islands and outdoor classroom in the distance in Alternative 1: Islands & Overlooks

ALTERNATIVE 2: Active Edges

Active Edges is the most actively programmed Alternative and focuses on engaging the edges of the Complex with spaces for people and wildlife. The west edge expands to enhance habitat areas, while the east edge maximizes places for people. This alternative creates the least amount of new habitat and since it does not include any floating wetland islands open water views are maximized.

On the west side of the Silver Lake and Ivanhoe Reservoirs, habitat terraces extend out beyond the existing reservoir edge and provide a gradient of upland, transition, and wetland habitat. At the Eucalyptus Grove, a large overlook extends out over the terraces, offering one point of human/nature interaction. At the Ivanhoe Reservoir, a Living Laboratory is proposed which could be used for research and to test establishing new wetland habitat at the Complex. The Living Laboratory could include education programs as well.

On the east side of the complex next to the existing Meadow, the embankment edge becomes a tapestry of viewing platforms, terraced seating, green edges, and sloped walkways. These ornamental garden and seating terraces step down to the water to an outdoor pool. A 5,000sf boathouse, pool house, and café are integrated into the terraces below the top of the embankment to preserve views from Silver Lake Boulevard into the site. A floating dock provides direct access to the water for human-powered boating, such as kayaking, for recreational purposes. The Meadow includes several actively programmed spaces including a large open lawn, a 40,000sf nature playground, dog play, picnic grove, and a dedicated outdoor sculpture garden.

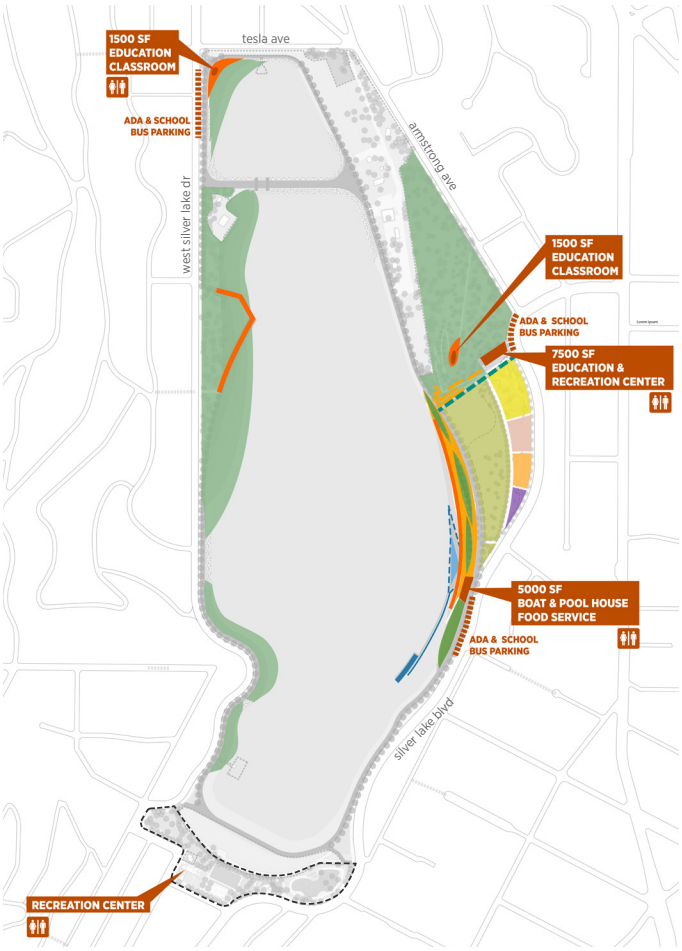
Conditioned educational classroom structures are located throughout the Complex. These include a large 7,500sf education and recreation center annex located at the base of the Knoll, a 1,500sf indoor/outdoor classroom located at the top of the Knoll and a 1,500sf indoor/outdoor classroom located at the Ivanhoe Reservoir for testing and monitor purposes related to the Living Laboratory.

Figures 4-22 through 4-25 show the proposed plan and breakdown of spaces, circulation, and habitat for the Active Edges design alternative.

Rendering from the Promenade on the east side of the Complex looking north. Seating and garden terraces step down a pool and generous boardwalk along the water's edge. Alternative 2: Active Edges

Figure 4-22 Alternative 2: Active Edges - Site Plan

Figure 4-23 Alternative 2: Active Edges - Spaces Diagram



Total Space: **28.0 ac**
Total Recreation: **10 ac**
Increase *(from current meadow)* **6 ac; 185%**

- FACILITIES = 15,500 sf
- OVERLOOKS = 1 ac
- SEATING TERRACES = 1.3 ac
- GREAT/FLEX LAWN = 3.6 ac
- PICNIC GROVE = 15,000 sf
- PLAYGROUND = 41,000 sf
- ORNAMENTAL GARDENS = 1 ac
- PROMENADE/FARMER'S MARKET = 12,000 sf
- HABITAT = 18.5 ac
- SWIMMING POOL = 6,000 sf water / 16,000 sf total
- FLOATING DOCK = 8,000 sf
- SCULPTURE GARDEN = 8,500 sf
- DOG PLAY = 19,000 sf

(below) View from the west edge of the Meadow within seating terraces and walkways looking out to the pool and pool facilities in Alternative 2: Active Edges

Figure 4-24 Alternative 2: Active Edges - Circulation Diagram

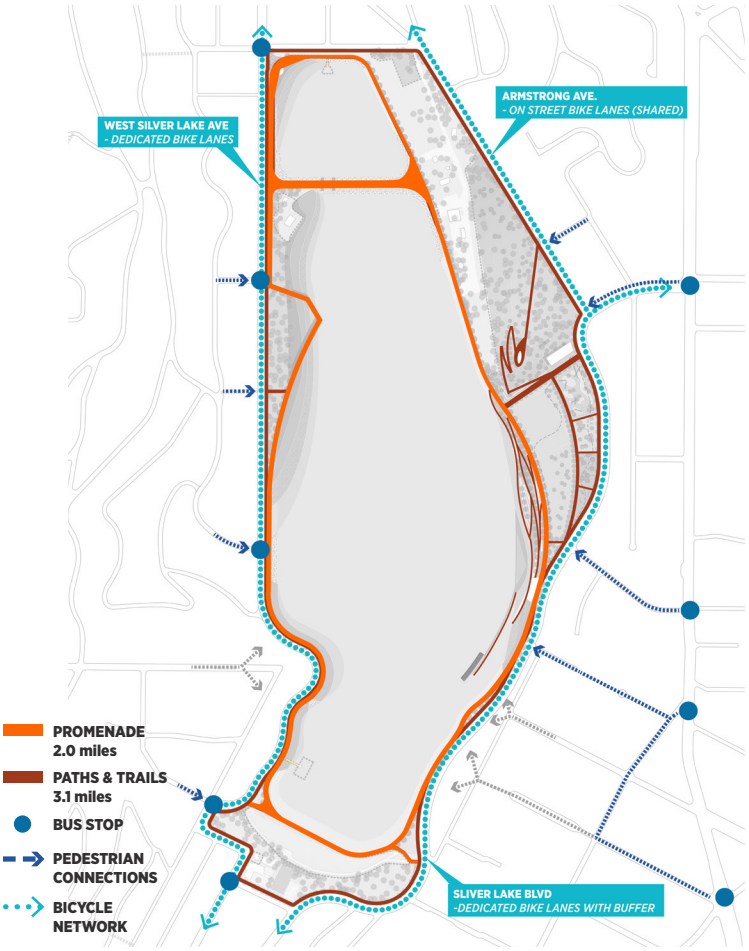
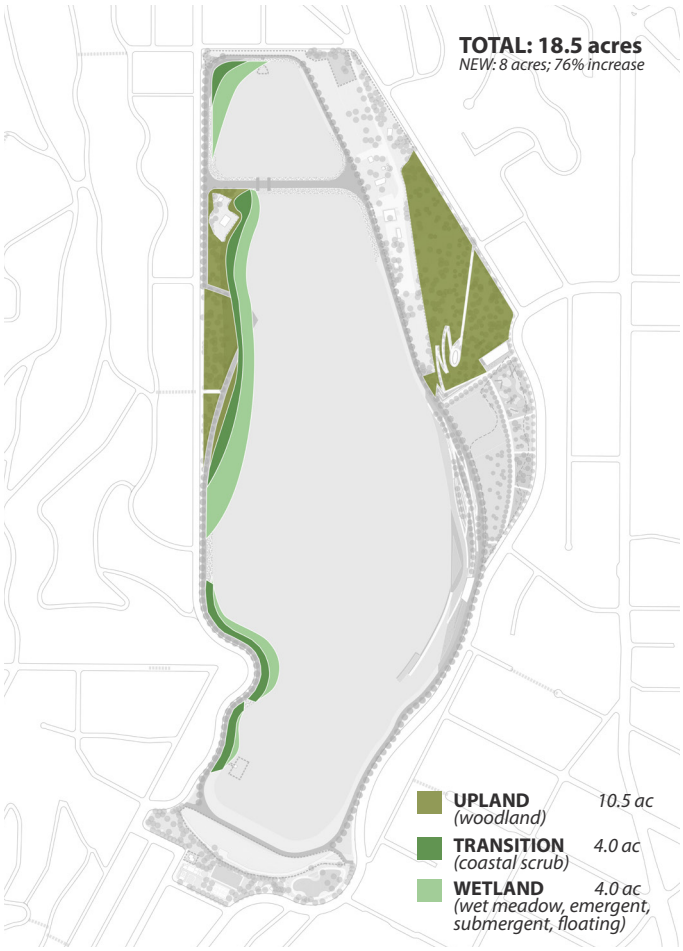


Figure 4-25 Alternative 2: Active Edges - Habitat Diagram



(right) View from Ivanhoe Overlook which is used as a Living Laboratory with educational programming in Alternative 2: Active Edges

ALTERNATIVE 3: Blended Spaces

Blended spaces achieves the most immersive experience between nature and people. The design balances active and passive programming throughout the Complex and is the most ecologically diverse, providing both wetland trays at the embankment edges and floating islands along the shores. Overall, this Alternative provides the most acreage of new habitat and with a modest impact on open water views.

This scheme offers the most open, flexible lawn and shade trees with two distinct lawn spaces. Along Silver Lake Boulevard, a large flat lawn extends to a picnic grove and gardens with a 2,500sf café located at the water's edge. A second lawn at the base of the Knoll gently slopes to the water bringing visitors to a series of seating and wetland terraces and walkways. At this lower edge, visitors can meander through wetland plant communities and learn about this critical ecosystem. A 1,500sf Pool House is nestled into the seating terraces and a floating dock leads down to a floating pool.

At the Eucalyptus Grove, restored upland habitat transitions to wetlands with habitat trays extending from the embankment edge. At an entrance along West Silver Lake Drive, a 1,500sf recreation building and nature playground is completely immersed within the restored habitat of the Eucalyptus Grove. At the base of the building, small terraces lead people closer to the water through the wetland terraces to a small viewing platform. The Promenade connects to an overlook bridge that hovers over these habitat terraces and connects to the Ivanhoe Spillway.

Additional protected wetland habitat is created by floating islands dispersed throughout the reservoirs. At the south end, a large overlook extends out over the water above a floating island to maximize water vistas and observe wildlife. Additionally, small seating terraces and overlooks are located along the reservoir edge to provide people with access to the water as well as interaction with habitat areas.

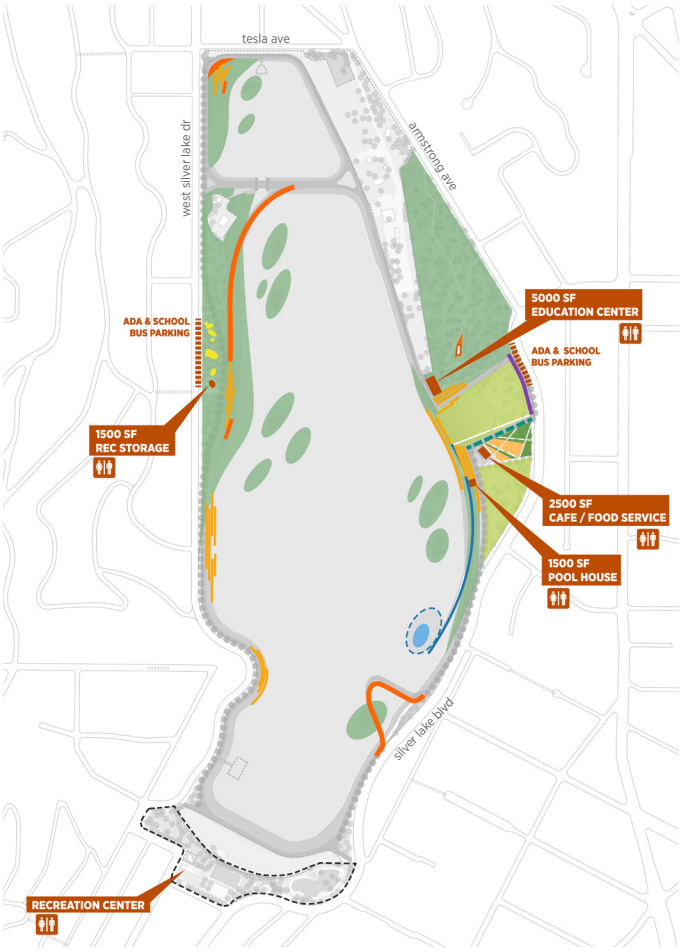
A 5,000sf environmental education center is incorporated into the base of The Knoll, overlooking the reservoir and a shade pavilion, located at the top of the Knoll, provides space for an outdoor classroom. A universally accessible nature walk connects Armstrong Ave and the Meadow to the top of the Knoll. Where walkways are located within habitat areas, wildlife-friendly fencing is incorporated to protect wildlife and sensitive habitats.

Figures 4-26 through 4-29 show the proposed plan and breakdown of spaces, circulation, and habitat for the Blended Spaces design alternative.

Rendering from the Promenade on the east side of the Complex looking north. Habitat slopes and terraces transition to seating along the water's edge. A floating dock takes visitors through a wetland with floating habitat islands in the background. An Education Center is situated at the base of the Knoll beyond. Alternative 3: Blended Spaces

Figure 4-26 Alternative 3: Blended Spaces - Site Plan

Figure 4-27 Alternative 3: Blended Spaces - Spaces Diagram



Total Space: **32.0 ac**
Total Recreation: **8.0 ac**
Increase *(from current meadow)* **5 ac; 145%**

- FACILITIES = 10,000 sf
- OVERLOOKS = 1.2 ac
- SEATING TERRACES = 28,000 sf
- GREAT/FLEX LAWN = 4.5 ac
- PICNIC GROVE = 12,000 sf
- PLAYGROUND = 16,000 sf
- ORNAMENTAL GARDENS = 14,000sf
- PROMENADE/FARMER'S MARKET = 16,000 sf
- HABITAT = 24 ac
- SWIMMING POOL = 7,000 sf water / 27,000 sf total
- FLOATING DOCK = 16,000 sf
- SCULPTURE GARDEN = 9,000 sf
- DOG PLAY = 0 sf

(below) View from terraces as the bottom of the Meadow in Alternative 3: Blended Spaces

Figure 4-28 Alternative 3: Blended Spaces - Circulation Diagram

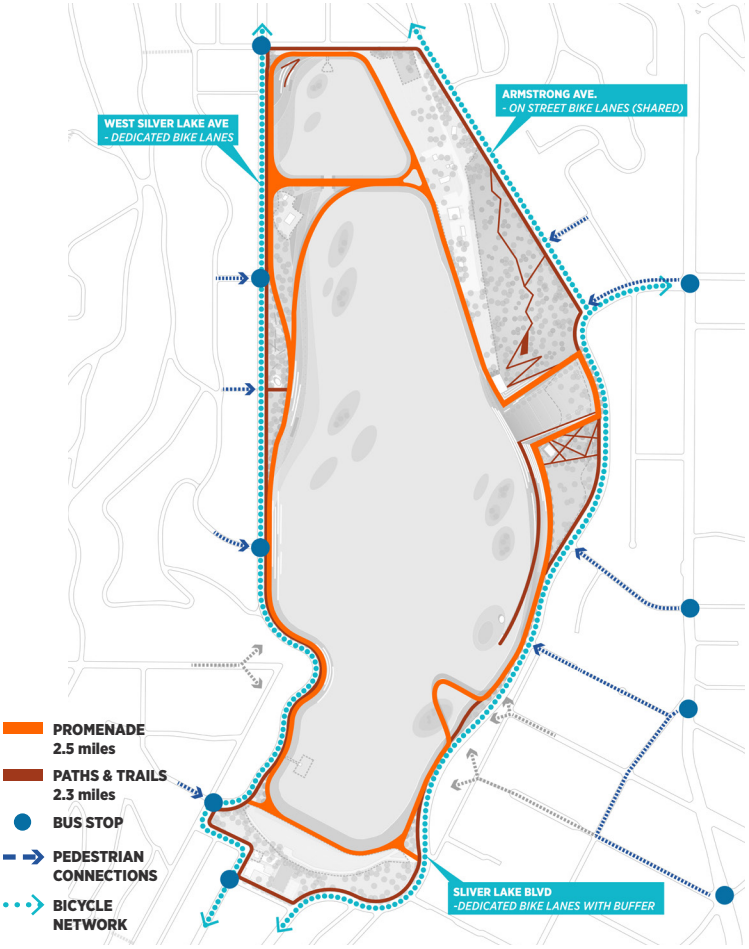
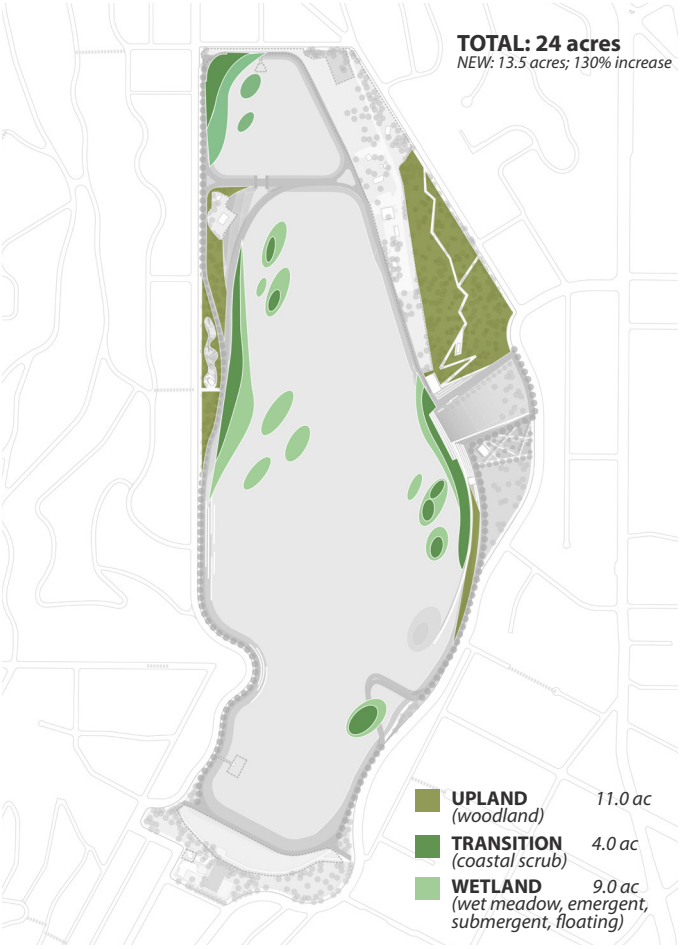


Figure 4-29 Alternative 3: Blended Spaces - Habitat Diagram



(right) View from the sloped lawn to the reservoirs in Alternative 3: Blended Spaces

COMMUNITY WORKSHOP 03 FEEDBACK

Workshop Report Back
During the report back, many of the "pros" included support for design ideas that maximized wildlife, created flexible gathering spaces, included education-related structures, allowed for water-based activities such as swimming and human-powered boating, as well as existing recreation center improvements. Many of the "cons" revolved around swimming and human-powered boating, a free-standing café, and several of the proposed education center structures or their proposed location.

Questionnaire
The questionnaire that was distributed for this workshop – to fill out at the meeting or later online – was open for four weeks online and closed on December 1, 2019. The project team heard comments from the community that there was some confusion about some of the questions, so the project team worked with the SWG to modify the format and extended the deadline by one week. The project team received 2,986 questionnaire responses in total which are summarized below and in Figure 4-30.

For **Alternative 1: Islands and Overlooks**, the community strongly supported maximizing protected habitat provided by the habitat islands and incorporating an education center at the Eucalyptus Grove with "Maximizing protected wetland habitat (habitat islands)", "Habitat islands break the open water view of the reservoir, providing visual interest", and "Locates an education center and observation platform on the west side of the site" viewed as pros by over 70% of respondents. Less favorably, 56% of respondents viewed "Having the least amount of active uses and spaces" as a con. Respondents were more neutral towards "Providing a single place to access the water" and "Preserving the existing embankment alignment".

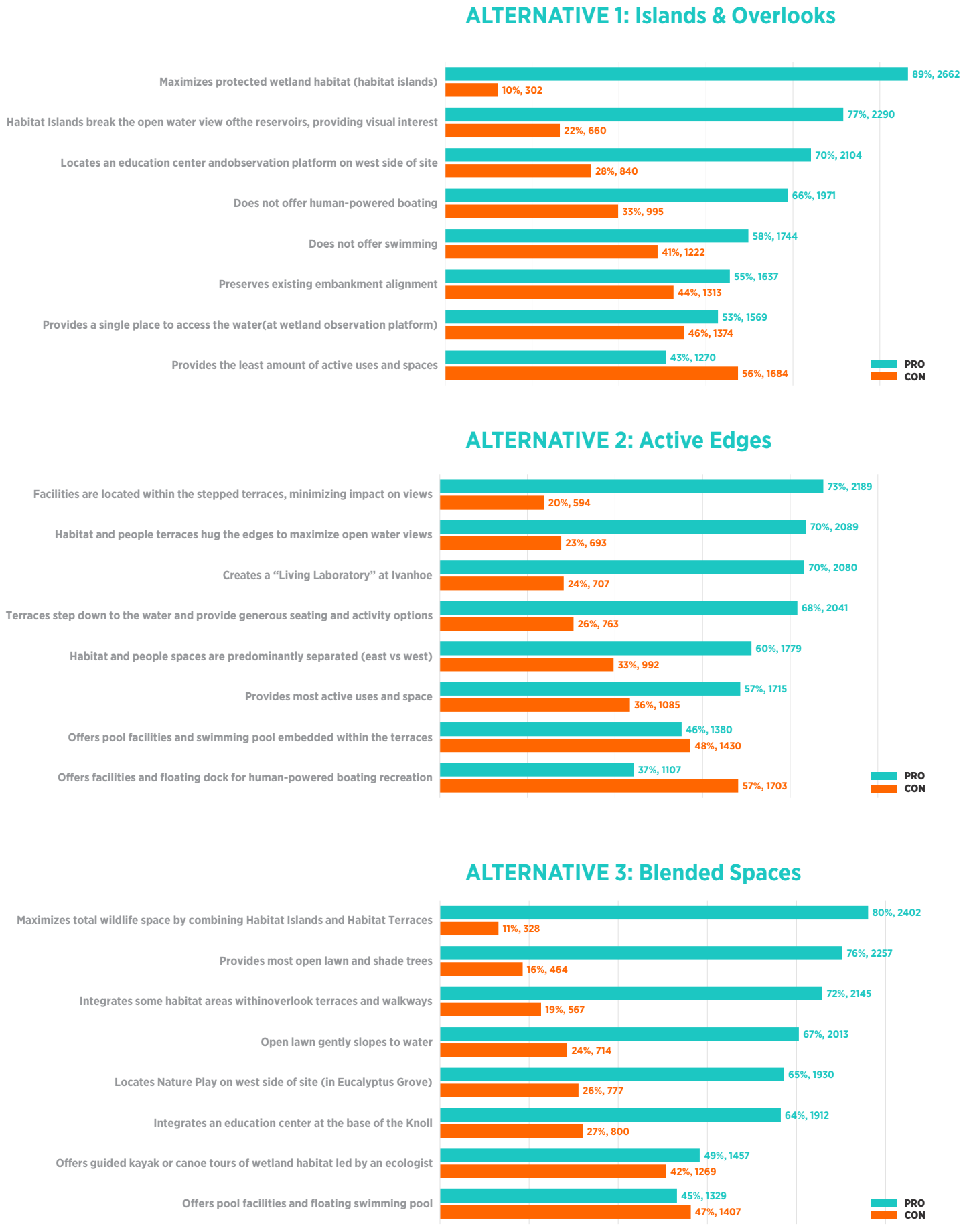
For **Alternative 2: Active Edges**, the community strongly supported maximizing water views and creating a Living Laboratory at Ivanhoe with over 70% of respondents viewing "Facilities are located within the stepped terraces, minimizing the impact on views", "Habitat and people terraces hug the edges to maximize open water views", and "Creates a "Living Laboratory" at Ivanhoe" as pros. Least favorable activities in this Alternative included human-powered boating and swimming with 57% and 46% of respondents viewing these as cons.

Overall, **Alternative 3: Blended Spaces** was seemingly the most favorable with more pros than cons. The community strongly supported maximizing space for wildlife, increasing lawn and shade trees, and blending people and habitat spaces with over 70% of respondents viewing "Maximizes total wildlife space by combining Habitat Islands and Habitat Terraces", "Provides most open lawn and shade trees" and "Integrates some habitat areas within overlook terraces and walkways" as pros. Respondents felt neutral towards swimming with "Offers pool facilities and floating swimming pool" as a 45%/47% (pro/con) split. And while recreational human-powered boating was viewed as a con in Alternate 2, "Offers guided kayak or canoe tours of wetland habitat led by an ecologist" was viewed more favorably (49% pro).

SYNTHESIS
The primary takeaways from the questionnaire results indicated that the Master Plan design should prioritize the following: habitat, water access, open flexible lawn, and some environmental education program as well as some active spaces. Elements that were lower priorities or that many respondents viewed as cons were swimming and human-powered boating. There was, however, some preference for ecological kayak or canoe tours led by an ecologist. In general, respondents indicated that the three schemes were well aligned with the projects "key themes" or goals.

These favored elements and approaches were then synthesized into a Preferred Alternative and presented to the public at Community Workshop 04. During the development of the Preferred Alternative, the design team met with the SWG two times to debrief on Community Workshop 03 and the questionnaire results as well as provide design updates and garner feedback.

Figure 4-30 Community Workshop 03 Questionnaire Results



4.4.4 Community Workshop 04

Thursday, January 23, 2020
Friendship Auditorium from 6:00 – 8:00pm

Attended by approximately 300 members of the public, Community Workshop 04 focused on presenting a single preferred Master Plan design based on synthesized feedback from Community Workshop 03 and to solicit community review and feedback.

OVERVIEW

A formal presentation led by Hargreaves Jones was followed by break-out sessions facilitated by members of the project team where participants were asked which elements and features they supported or opposed about the Preferred Alternative.

At the breakout table discussions, attendees were encouraged to use the questionnaire shown in Figure 4-31 as a guide for discussion. Each table had an enlarged site plan of the preferred Master Plan design and yellow and blue post-it notes. "Blue" was used to indicate "support" and "Yellow" was used to indicate "oppose." Attendees were encouraged to write down the names of elements or spaces they supported or opposed on the post-it notes and place them on their table maps. Each table was also asked to identify one thing they are most excited about and to write this on a star-shaped sticky note which was placed on a single, large site plan mounted to the wall. Each table was also asked to identify a table leader who would report back a brief, 2-minute summary of their table's discussion at the end of the Workshop.

NOTE: The table maps are primarily used as tools to facilitate discussion during the breakout sessions and do not yield empirical information. Also, it was noted by table facilitators that some participants moved to different tables in a coordinated manner during the breakout session, presumably to control the direction of the conversation.

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN**

SLRCMP

COMMUNITY WORKSHOP #4 QUESTIONNAIRE

Based on prior community input we have identified the following enhancement areas for the Master Plan design. Please help us refine & prioritize these by indicating your level of support for each of them

Strongly Support | Support | Neutral | Oppose | Strongly Oppose

1. THE EMBANKMENT
Replaces asphalt and adds planting, boulders, and small seating terraces.

2. THE PROMENADE (ORANGE LINE)
Creates a continuous loop for walking and jogging around the interior of the Complex including shade trees, seating, and planting.

3. THE EDUCATION CENTER
Provides spaces for classes, volunteer opportunities, community gathering, as well as restrooms and a potential snack bar.

4. UPLAND HABITAT (KNOLL & EUCALYPTUS GROVE)
Tree replanting program as well as ground cover planting to increase habitat value at the Eucalyptus Grove and Knoll.

5. THE KNOLL
Small footpaths leading to a shade structure at the top of the Knoll which can be used as an outdoor classroom.

6. GREAT & SLOPED LAWNS
Generous flat and sloped open lawns with shade trees create flexible spaces for a variety of uses and diverse ways to experience the reservoirs.

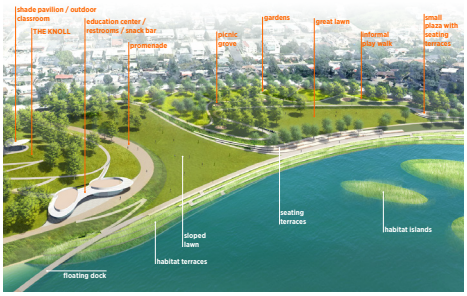
7. THE PICNIC GROVE, GARDENS & INFORMAL PLAY WALK
Picnic seating under shade trees and drought tolerant gardens are combined with a meandering path and informal play for all ages.

8. WETLAND HABITAT
Floating islands and wetland terraces provide shallow wading habitat for local and migratory birds and enable the addition of fish to the reservoirs.

9. IVANHOE
An overlook, shade structure, wetland terraces and islands, as well as footpaths to an observation platform create an immersive ecological experience and can be used as an outdoor classroom.

10. SILVER LAKE RECREATION CENTER & DOG PARK
Renovating and expanding the dog parks, building a new multi-purpose recreation building, and relocating and upgrading the existing play field and basketball court.

OUT OF THESE TOP 10 ENHANCEMENTS, WHICH ONE ARE YOU MOST EXCITED ABOUT ? _____



Based on your input throughout the Master Plan process we developed six Key Goals or themes for the design. Please indicated how well the Preferred Plan addresses these goals.

Too Much | Just Right! | Not Enough | No Opinion

A. ENJOYING NATURE
With the promenade, overlooks, small seating terraces along the embankment at habitat areas and the enhanced and expanded upland and wetland habitats areas, the preferred plan offers the right balance between connecting people with nature and providing protected habitat.

B. WELLNESS
With the promenade, walking paths and trails, sloped and flat lawns, and expanded recreation center, the preferred plan offers the right amount of open, flexible space to promote wellness-based activities.

C. FAMILY FRIENDLY
The picnic grove, flexible lawns, visitor center (at education facility), restrooms, informal play walk, plus expanded Recreation Center in the preferred plan provide the right amount of spaces for all ages.

D. EDUCATION
The single education facility with indoor / outdoor classroom spaces plus the shade structures and observations platforms which can serve as outdoor classrooms included in the preferred plan are the right amount of education facilities for the park.

E. COMMUNITY GATHERING
The generous, flexible lawns (which can be used for occasional large events), variety of seating areas throughout the park, and centrally located education facility in the preferred plan are an appropriate combination of places to meet and connect with friends and neighbors.

F. WATER ACCESS
With the sloped lawn, seating terraces, and small walkways to observation platforms and floating dock, the preferred plan offers the right amount and variety of opportunities to enjoy the water.

We want to hear more! *Please let us know if you have any other comments:*

Other Comments: _____

_____

_____

Zip-code where you live: _____

Your age (choose one): O Under 18 O 19-25 O 26-35 O 36-45 O 46-55 O 56-65 O 66+

TO BE ON OUR PROJECT MAILING LIST & KEEP UP-TO-DATE ON THIS PROJECT, *SIGN UP BELOW:*

Name: _____

E-mail: _____

Please visit ***https://eng.lacity.org/slrcmp-home*** *to learn more about the project and to stay involved!*

#SLRCMP **#SilverLakeReservoirs**

THANK YOU FOR PARTICIPATING IN COMMUNITY WORKSHOP #4, WE LOOK FORWARD TO SEEING YOU THROUGHOUT THIS PROCESS!

Figure 4-31 Community Workshop 04 Questionnaire

Preferred Alternative

Based on community feedback during the previous workshops, the questionnaires, and in combination with feedback from multiple discussions and emails with the Stakeholder Working Group, the design team created a preferred Master Plan design (Figure 4-32). This new design removed swimming and human-powered boating and scaled back the education center to a single building. Given there was some interest in a café for the previous workshops, the team proposed a modest snack bar to be integrated into the education center. Habitat enhancement and expansion were prioritized on the western side of the site as well as the Knoll, and paths (i.e. human access) within these habitat areas were significantly reduced. In the Meadow area, open lawn with shade trees as well as native gardens and picnic groves were prioritized. This Preferred Alternative was advanced into the final Master Plan design described in detail in Chapter 05.

Figure 4-32 Preferred Alternative - Site Plan

COMMUNITY WORKSHOP 04 FEEDBACK

Workshop Report Back

During the report back, most tables strongly supported habitat enhancement and expansion, as well as the embankment, promenade, flexible lawns, and gardens. Tables were in less agreement about the education center and many strongly opposed it, although they supported using the Complex for environmental education purposes. Some tables were concerned with the education center's size and many were against including a snack bar. Although it was not a question on the questionnaire, many table facilitators indicated the perimeter fence was widely discussed during the breakout session. It was noted by the project team that a few people who spoke during the report back were not table leaders or associated with a table. In general, tables were most excited about increasing habitat, the promenade, and the embankment.

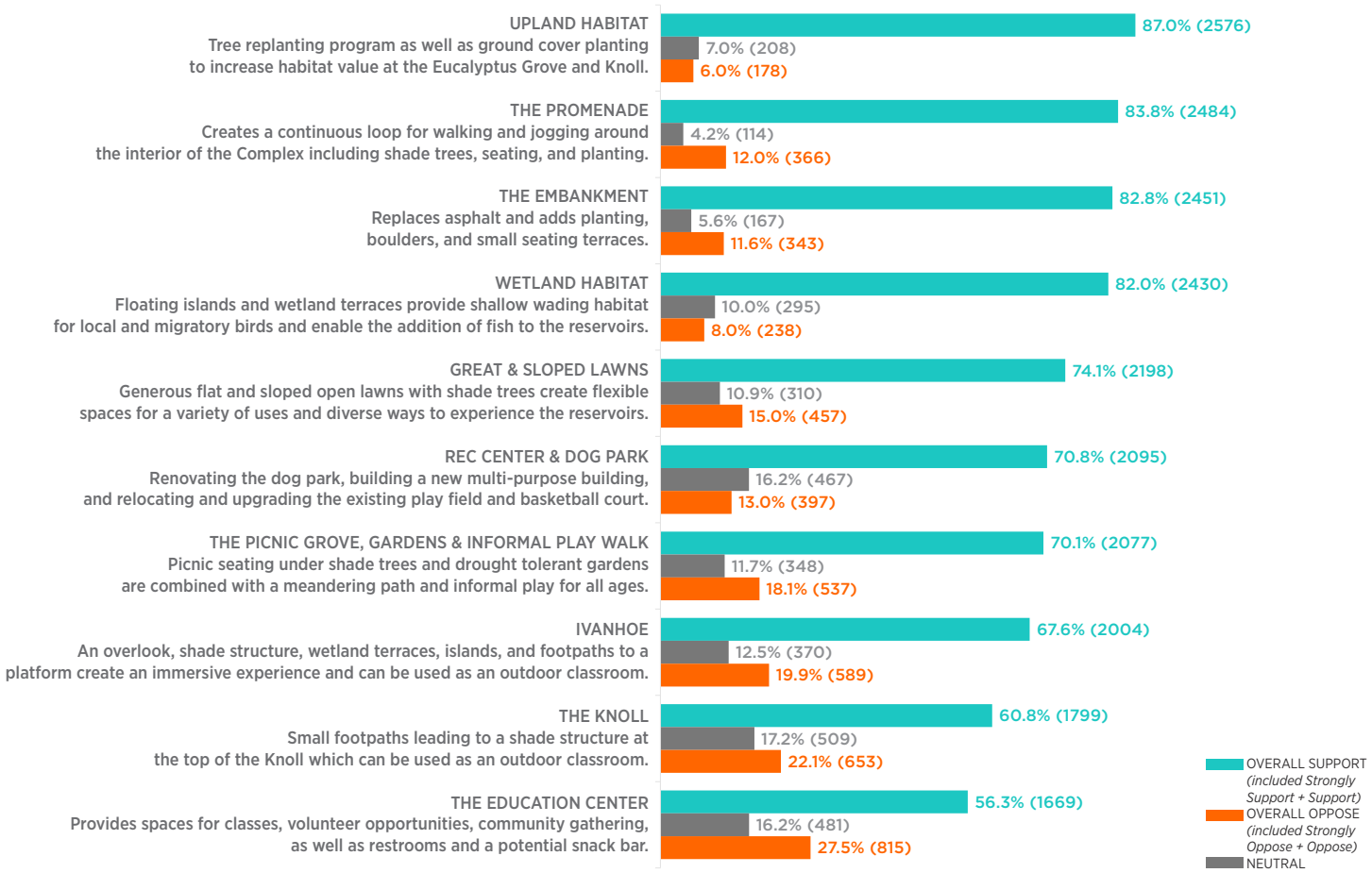
Questionnaire

The questionnaire that accompanied this workshop shown in Figure 4-31 was open for four weeks online and closed on February 21, 2020. The project team received 2,966 questionnaire responses in total.

The questionnaire was developed to assess to what extent community members supported or opposed the design of ten areas or elements within the reservoir complex: the Embankment; Promenade; Education Center; Upland Habitat Areas; Knoll; Great and Sloped Lawns; Picnic Grove, Gardens, and Informal Play Walk; Wetland Habitat; Ivanhoe; and the Silver Lake Recreation Center and Dog Park (Figure 4-33). The questionnaire also assessed how well the design achieved project goals by asking respondents if the elements and spaces were "too much, just right, not enough, or no opinion" relative to each of six Key Themes (Figure 4-34).

Overwhelmingly, the community supported restoring upland habitat in the Knoll and Eucalyptus Grove (87.0%) and re-establishing wetland habitat with the proposed habitat terraces and islands (82.0%). Similarly, the Promenade with its continuous walking and jogging loop, seating terraces, and planting were supported by 83.8% of respondents and replacing the asphalt and adding planting, boulders, and small seating terraces along the Embankment was supported by 82.8% of respondents. The flexible, open Lawns

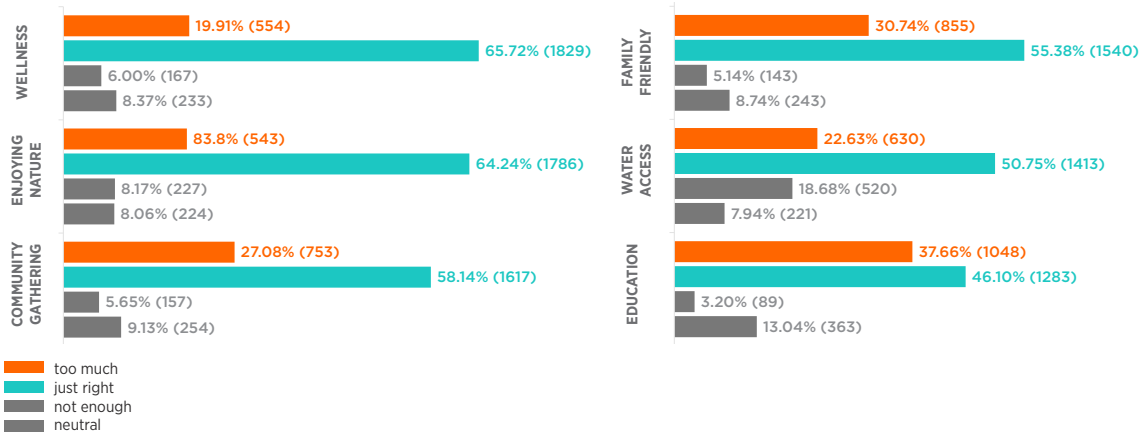
Figure 4-33 Community Workshop 04 Questionnaire Results



with shade trees (74.1%), Recreation Center and Dog Park Expansion (70.8%), as well as Picnic Grove, Gardens and Informal Play Walk (70.1%) were also tremendously supported. Also strongly supported were the outdoor classroom / shade structure, wetland terraces and islands and observation platform at Ivanhoe Reservoir (67.6%) and the nature trails from the Meadow and Armstrong Avenue to an outdoor classroom / shade structure at the top of the Knoll (60.8%). The Education Center, while receiving the lowest support overall, was still supported by the majority of respondents (56.3%).

The second set of questions were created to assess how well the Preferred Alternative balanced the achievement of Master Plan goals. Overall, respondents indicated that the amount and distribution of design elements were "Just Right" across the project's six Key Themes as shown in Figure 4-34. Out of the six Key Themes, over 50% of the community thought the elements and spaces that support five of them (Wellness, Enjoying Nature, Community Gathering, Family Friendly, and Water Access) were "Just Right." Most (46%) of respondents thought that the features supporting Education goals were "Just Right" but a close second (38%) thought it was "Too Much."

Figure 4-34 Community Workshop 04 Questionnaire Results



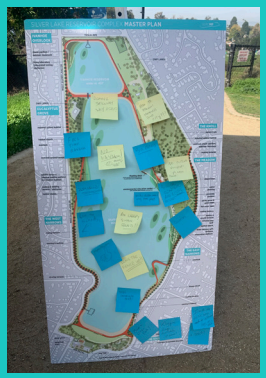
SYNTHESIS

Based on the feedback from Community Workshop 04 and questionnaire, as well as the SWG, which supported the Preferred Alternative, the project team proceeded to develop a the Master Plan Report detailing the preferred Master Plan design and revisited the education center, reducing its size and integrating it further into the Knoll to preserve views around the reservoirs.

POP-UP EVENT 02

The following weekend, on Saturday, January 25, 2020, The Robert Group held another pop-up event at The Silver Lake Meadow. A map showing the Preferred Alternative was used to facilitate an open discussion and questionnaires were provided for individuals to complete in-person and/or submit online. Approximately 75 people attended, and sixteen questionnaires were completed at the pop-up booth. Many community members were given copies of the questionnaire to complete online and/or complete on their own and submit via mail or email.

Twenty comments were placed on the map board during the pop-up event and are illustrated below. Approximately 60% of attendees mentioned wanting to remove the perimeter fence around the reservoir complex.



4.4.5 *VIRTUAL* Community Workshop 05

Video Launch on August 21, 2020

This final Community Workshop 05 was planned as a celebration of the final Master Plan design. The project team was unable to hold a final Community Workshop event due to the COVID-19 pandemic. In place of a large public meeting, the team developed two videos to celebrate and present the final Master Plan virtually. The videos describe the Master Plan process, showcase many of the key participants, and provide an overview of the design created in partnership with the community of Silver Lake.

OVERVIEW

The team posted two videos on August 21, 2020. The first video titled "THE PROCESS" is an approximately ten minute compilation of interviews with key participants in the development of the Master Plan including members of the SWG, educators and students, City of Los Angeles leaders, and project team. This video frames the Master Plan project goals and history. The second video titled "THE PLAN" is a narrated overview of the final Master Plan design. The video features "before" photos of the existing Complex paired with "after" artistic renderings of the proposed design. It also highlights key features of the design such as habitat creation. The videos were accompanied by downloadable PDFs files that describe the Master Plan design and project sustainability in more detail.

An online questionnaire also accompanied the videos which asked the community to help the project team prioritize short- and long-term features and elements of the Master Plan for implementation (Figure 4-36). The online questionnaire was supplemented with paper copies for those without computer access.

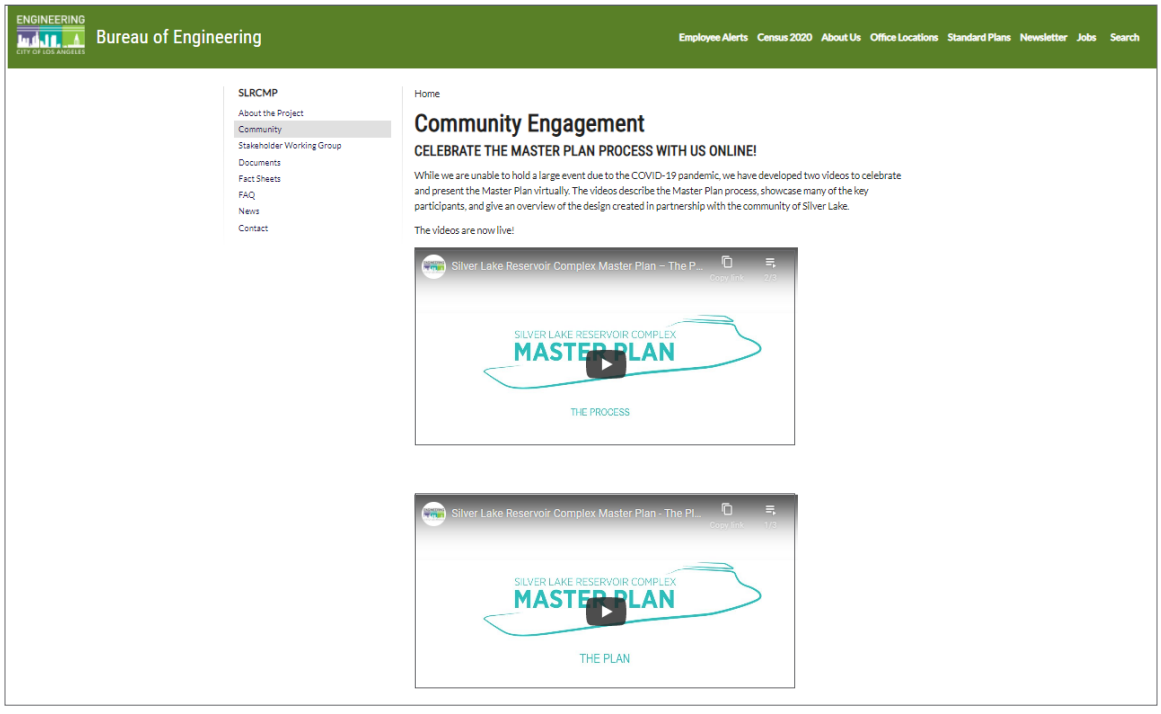


Figure 4-35 Community Workshop 05 Webpage

SILVER LAKE RESERVOIR COMPLEX **MASTER PLAN**

SLRCMP

FINAL QUESTIONNAIRE

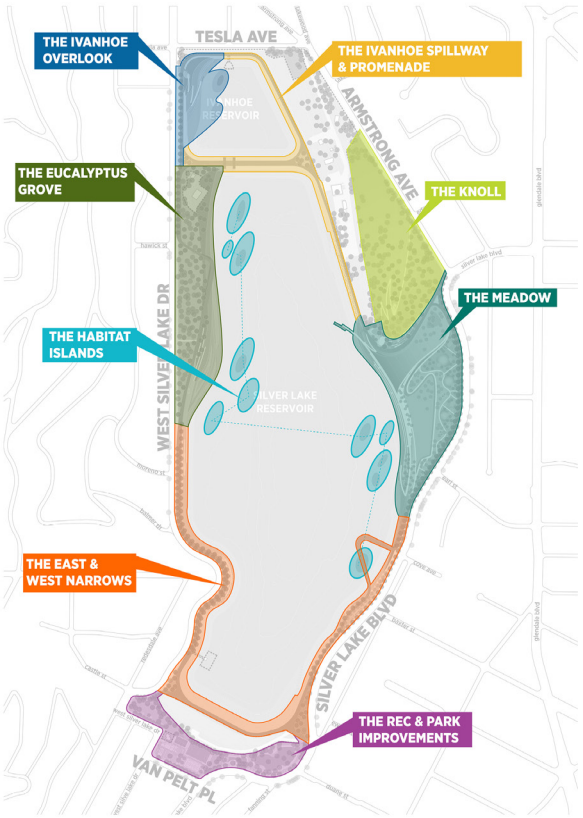
During the Master Plan process, we received many questions about how the design might be implemented. As a first step, the Master Plan design has been broken into smaller projects or phases which could be implemented concurrently or separately as discrete projects. Now we'd like to hear what you would like to see happen first!

QUESTION 1: PRIORITY AREAS

The Master Plan will be implemented as funding and community support allow. A lot will need to happen before construction starts including detailed design, environmental clearance, and permitting which typically takes 2 to 3 years. We estimate each area will take an additional 1.5 to 2 years to construct. Multiple areas could be constructed simultaneously depending on funding.

To assist us in prioritizing projects for implementation, which of the following overall areas of the Master Plan would you like to see implemented first? **Choose your top three priority areas**

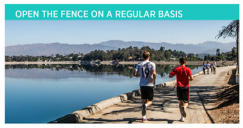
- ○ **THE MEADOW** (includes sloped lawn, flat lawn, seating terraces, wetland habitat terraces, kayak launch, picnic grove, walking paths, ornamental gardens, informal play, promenade / street edge education center (including restrooms), and knoll regrading)
- ○ **THE KNOLL** (includes walking paths, slope regrading, upland habitat planting and shade pavilion)
- ○ **THE IVANHOE SPILLWAY AND PROMENADE** (includes promenade and embankment enhancements)
- ○ **THE IVANHOE OVERLOOK** (includes wetland habitat terraces & islands, lookout, shade pavilion, sloped walk to water, and promenade)
- ○ **THE EUCALYPTUS GROVE** (includes wetland habitat and seating terraces, promenade walk and overlook, and restored upland habitat)
- ○ **THE HABITAT ISLANDS** (includes wetland habitat islands and introducing fish)
- ○ **THE EAST AND WEST NARROWS** (includes embankment enhancements, seating terraces, adult fitness, and promenade walk and overlook)
- ○ **THE REC AND PARK IMPROVEMENTS** (includes relocated picnic area and new trees, upgraded rec center, new multi-purpose room, outdoor plaza and seating, basketball court, soccer field and expanded/renovated dog park)
- ○ **NONE OF THE ABOVE** (I don't want anything changed)



QUESTION 2: SMALL PROJECTS

As the City of LA works to take the next steps towards implementing the Master Plan, smaller projects may be possible to implement in the near term as funding sources, like grants, are identified. Some smaller projects could be used to test larger ideas in the Master Plan Vision. Some of these small projects are contingent on having an on-site operator and/or environmental clearance. **To help us prioritize small projects, please choose your top three, including the "other" answer choice.**

○ OPEN THE FENCE ON A REGULAR BASIS



(i.e. monthly) to allow interior walking / jogging around the reservoir

○ CREATE IVANHOE RESERVOIR WALKING LOOP

○ EMBANKMENT PLANTING TEST AREAS

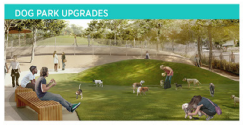
will help to discover which plants grow best on the embankments

○ FLOATING HABITAT ISLAND TEST INSTALLATION

○ CREATE WALKING PATH TO THE TOP OF THE KNOLL

○ DOCENT-LED BIRD WATCHING TOURS / CLASSES

○ DOG PARK UPGRADES



○ OTHER IDEAS

_____

_____

_____

QUESTION 3:
How often do you visit the SLRC now?

- O Once a day
- O Once a week
- O More than once a week
- O Once a month
- O Once a year
- O Other: _____

QUESTION 3:
If the Master Plan is implemented, how often will you visit the SLRC?

- O Once a day
- O Once a week
- O More than once a week
- O Once a month
- O Once a year
- O Other: _____

Zip-code where you live: _____

Your age (choose one): O Under 18 O 19-25 O 26-35 O 36-45 O 46-55 O 56-65 O 66+

THANK YOU FOR YOUR PARTICIPATION THROUGHOUT THIS PROCESS!

Please return your questionnaire response to
Master Plan project team member **Marc Salette** at:
2435 Kenilworth Avenue
Los Angles, CA 90039

TO BE ON OUR PROJECT MAILING LIST & KEEP UP-TO-DATE ON THIS PROJECT, *SIGN UP BELOW:*

Name: _____

E-mail: _____

*Please visit **https://eng.lacity.org/slrcmp-home** to learn more about the project and to stay involved!*

#SLRCMP **#SilverLakeReservoirs**

Figure 4-36 Community Workshop 05 Questionnaire

COMMUNITY WORKSHOP 05 FEEDBACK

Questionnaire

The questionnaire that accompanied this workshop shown in Figure 4-36 was open for two weeks online and closed on September 4, 2020. The project team received 922 questionnaire responses in total (4 were submitted as paper copies).

During the Master Plan process, the project team received many questions about how the design might be implemented. As noted in Chapter 01, the Master Plan design was broken into smaller projects or phases which can be implemented concurrently or separately as discrete projects. The questionnaire was developed to assist in prioritizing projects for funding and implementation by asking respondents to chose their top three priority areas for implementation. The questionnaire also assessed community preferences for smaller, initial projects that could be implemented in the near term as funding sources are identified and while the City works towards the next steps of implementing the full Master Plan. These smaller projects can be standalone projects or used to test larger ideas of the Master Plan vision. Respondents were asked to choose their top three preference and were also provided the opportunity to write in other suggestions for near-term smaller projects.

The highest priority Master Plan project identified in the first question was the Meadow with 48.7% selecting it as their top space for implementation as shown in Figure 4-37. The Eucalyptus Grove was also a top priority (42.8%). The third choice was close between the Knoll (34.2%) and improvements proposed at the Silver Lake Recreation Center (32.6%), followed by the Wetland Habitat Islands (28.0%) and Ivanhoe Overlook (24.2%). Participants were also given the opportunity to indicate if they did not want any of the Master Plan spaces implemented and for nothing to change which was selected by only 15.4% respondents.

Top responses to the second question to prioritize smaller, initial projects showed a clear preference to undertake near-term initiatives that allow more access to the SLRC from “Opening the fence on a regular basis” (60.7%), “Creating an Ivanhoe Reservoir walking loop” (42.9%) and “Creating the walking path to the top of the Knoll” (42.5%). Also popular are habitat-focused initiatives such as implementing “Embankment planting test areas” (37.5%) and a “Floating habitat island test installation” (34.0%). Implementing the “Dog Park upgrades” (29.7%) was a popular initiative as well. See Figure 4-38.

Additional ideas that participants suggested included replacing the current fence with a more beautiful, wildlife-friendly fence, installing more garbage cans and having regular pick-up of trash, installing better lighting, opening the fences all the time, monthly full-moon walks with gates open for two hours in the evening, allow swimming, adding a restroom at the meadow, removing the fence entirely, installing a kayak launch and access, introducing pedal boat rentals, installing art, installing picnic tables and game courts, widening the existing running/walking paths, creating a co-op vegetable garden, bringing DASH service to the SLRC to connect to Sunset Boulevard, water access, planting more trees, and fixing the dirt sidewalk on Van Pelt Place.

SYNTHESIS

Primary takeaways from participants responses to this final questionnaire indicated a clear desire to implement the spaces that will have the most impact in terms of creating more public park space as well as supporting habitat creation and wildlife (The Meadow and Eucalyptus Grove). Participants also showed a strong preference for smaller, near-term initiatives that open the Complex up for more access. This feedback will be used by the project team to select two grants to which to apply for funding as well as further funding and planning initiatives after Master Plan adoption by the City.

Figure 4-37 Community Workshop 05 Questionnaire Priority Areas

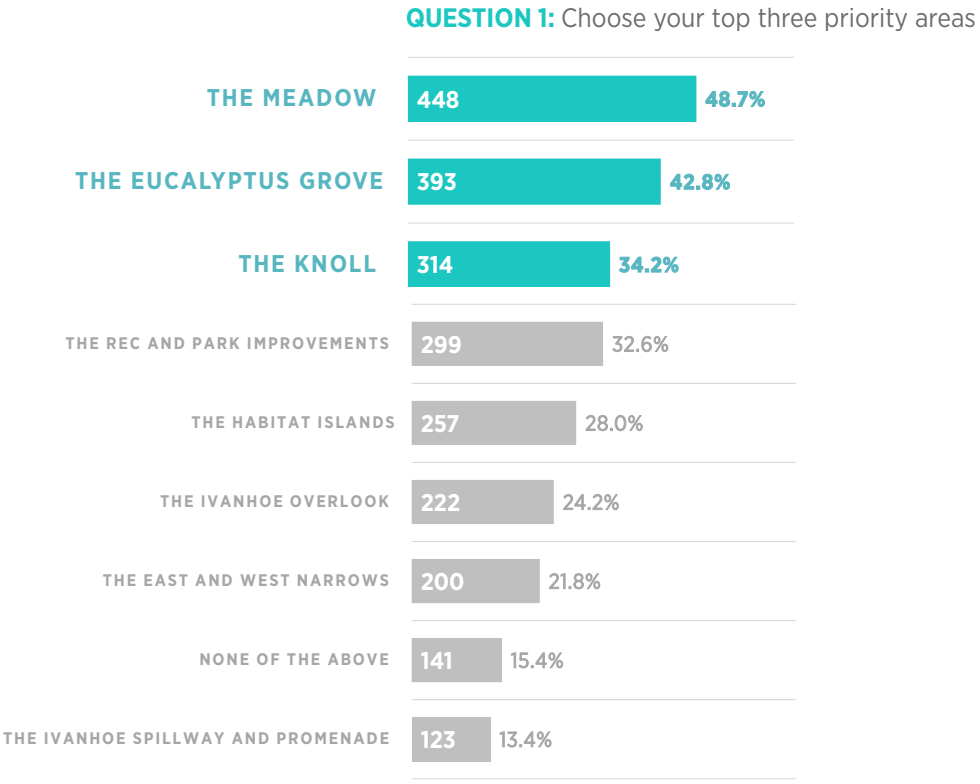
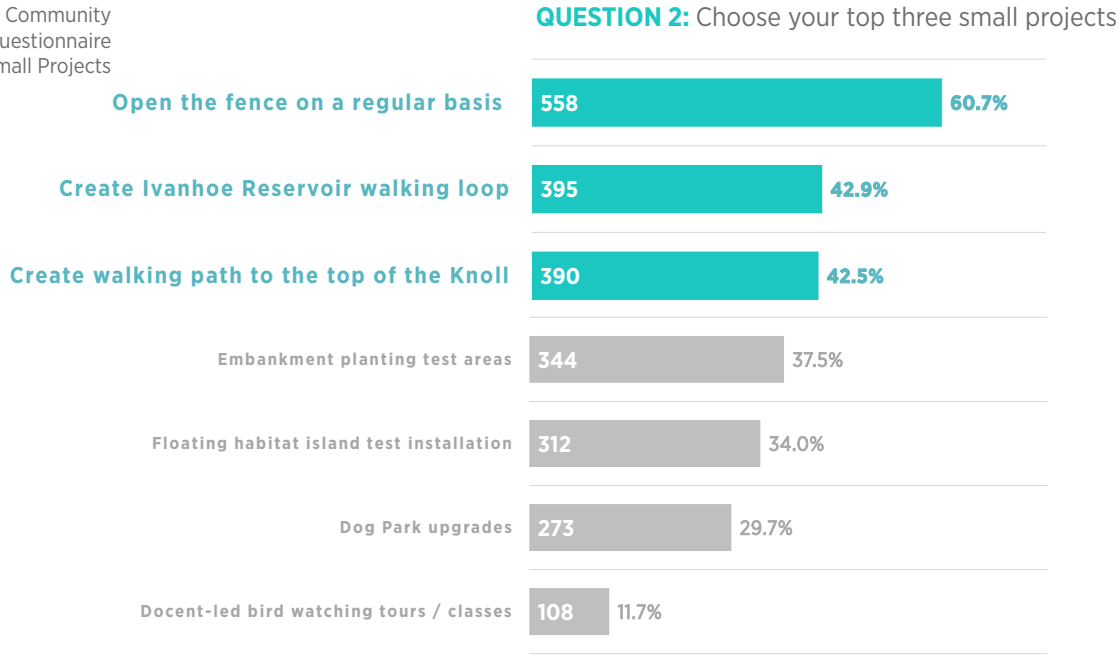


Figure 4-38 Community Workshop 05 Questionnaire Small Projects



CHAPTER 5
MASTER PLAN

contents

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figures

5.1 Master Plan Overview

From its beginnings as a marshy pond within the natural hydrological system of Ivanhoe Canyon to its transformation into an iconic, man-made urban water body, the evolutionary trajectory of the Silver Lake Reservoir Complex (SLRC) has been that of infrastructure. Building upon this narrative, the Master Plan design envisions the new Park as a hybrid infrastructure that blends urban wilderness with human uses, where traces of its history are made visible in the contemporary expressions of the community's aspirations.

The Master Plan proposes to introduce freshwater wetlands and aquatic habitat for the first time in over 100 years, an ecology that was slowly erased to meet the needs of a growing Los Angeles, and restore remnant woodland habitat from the foothills of the Santa Monica Mountains. Woven within these bold environmental ambitions are places for the community to connect with nature and one another.

The Master Plan design was developed in concert with a robust, year-long community process that included five large Community Workshops and eight focused meetings with its Stakeholder Working Group. Details of this process and development of the Master Plan design can be found in Chapter 04.

Figure 5-1 Silver Lake Reservoir Complex Master Plan Aerial View

KEY THEMES

The following Key Themes, or goals, were established through the extensive community engagement process and guided the development of the Master Plan.

Enjoying Nature

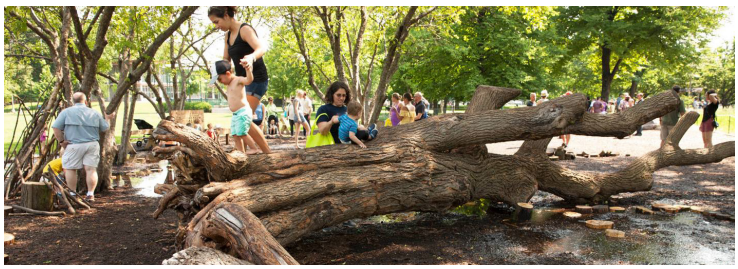
The park should be a place to sit by the water, walk through a woodland or wetland, and observe wildlife.

Wellness

The park should be a place to walk and run, but also offer spaces to sit, relax, and find peace.

Community

The park should be a place where the neighborhood comes together for shared experiences.



Family-Friendly

The park should create spaces for children to play and learn about their environment.

Education

The park should have an education center offering a range of classes and nature-based programs.

Water Access

The park should offer opportunities to be at and on the water.

5.2 Park Zones

The proposed Master Plan design consists of a series of seven overall park zones stitched together by a tree-lined Promenade as shown in Figure 5-2. These zones include:

- The Meadow
- The Knoll
- The Ivanhoe Overlook
- The Eucalyptus Grove
- The East and West Narrows
- The South Valley

Figure 5-2 Silver Lake Reservoir Complex Master Plan

5.2.3 The Meadow

The Meadow is currently the community heart of the Silver Lake Reservoir Complex. The Master Plan proposes to reconfigure and expand the Meadow's existing open lawn and shade trees. To enhance the unique views of the reservoirs and vary the experiences for people to interact with the water's edge, several elevation changes are incorporated in the new design.

A large, gently sloping lawn, Silver Lake Lawn, extends out from Silver Lake Boulevard and down approximately nine feet in elevation to the water's edge, providing unobstructed, panoramic views out to the water. Terminating at a series of small walkways interwoven within wetland terraces, visitors are offered an immersive experience of the Park's new wetland ecologies. Floating wetland islands are located offshore, supplementing the wetland terraces with protected habitat for waterfowl.

Along Silver Lake Boulevard, a wide, tree-lined Promenade connects to Ornamental Gardens, welcoming visitors into the Meadow with spaces for strolling and sitting. The Gardens will be a mix of native and regionally adapted, water wise (or drought tolerant) plants with an emphasis on pollinator species. Within the gardens are a series of depressions, or dells, which will function as rain gardens during winter months. Adjacent to the Gardens is an expansive Picnic Grove and informal play walk lined with interpretative, integrative elements such as berms and depressions that offer passive spaces for gathering and play.

A second flat, Great Lawn is set 5 feet below the Picnic Grove. This elevation change creates another unique experiential relationship to the reservoir, occupying a liminal zone between the top of the embankment and the water. Generous terraces with shade trees navigate the remaining elevation change between this lawn and the water's edge, providing ample, shaded seating with panoramic views of the open reservoir. These intersect with habitat terraces to the south and a small footpath leading to an observation platform. The design intent is to balance the cut and fill earthworks to execute these elements such that no off-haul or import of soil is required. See Figure 5-4 for a design plan of The Meadow.

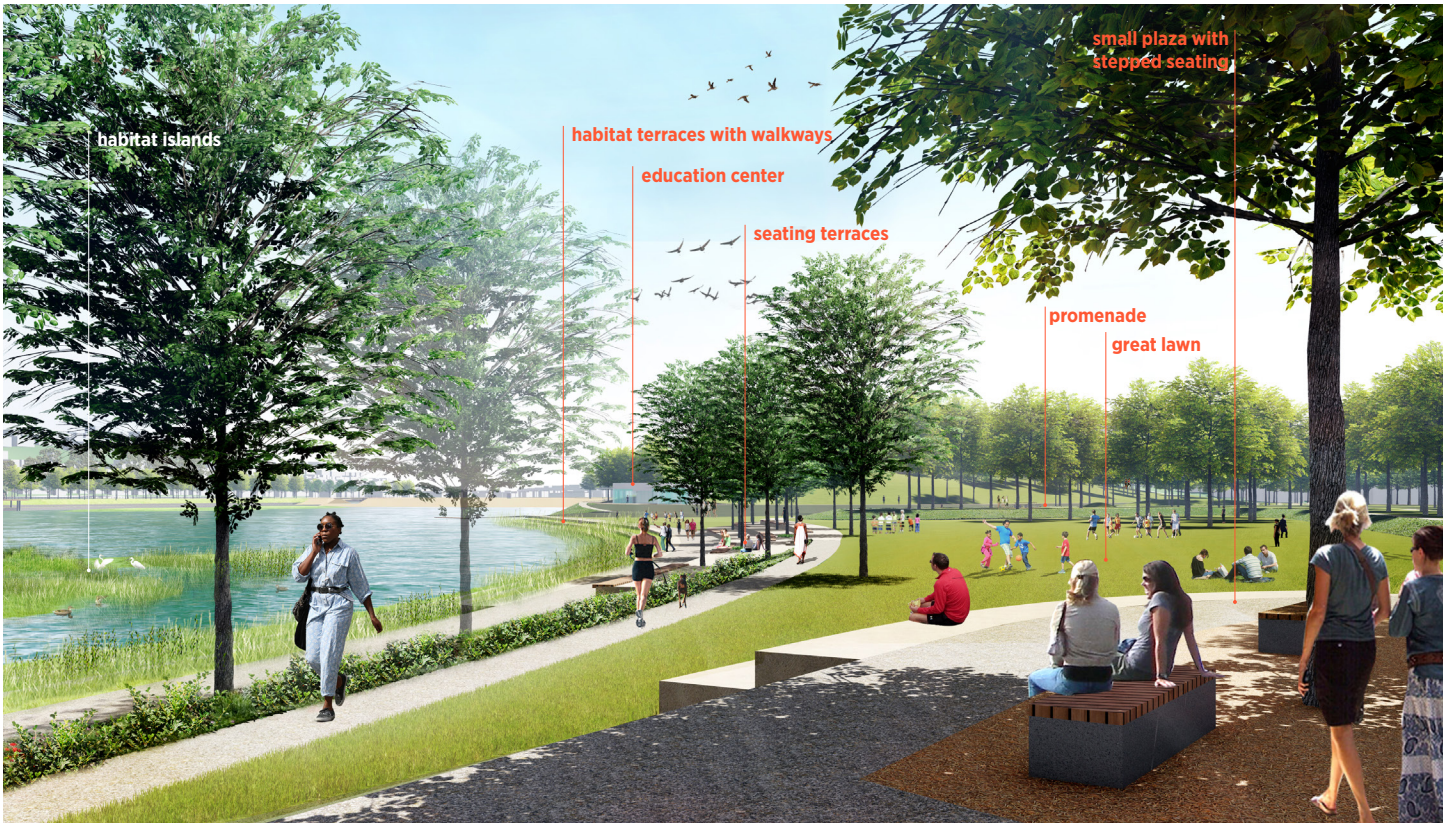
Although the Meadow area is shown to be within a DSOD restricted zone, this designation is out of date and proposed improvements will not require additional review and approval.

Figure 5-3 The Meadow Aerial View

Figure 5-4 The Meadow Detailed Plan

view A Right inside the park at Silver Lake Boulevard, a gently sloping lawn with shade trees opens up views to Silver Lake Reservoir and brings visitors down to the water's edge. Sheltered between The Knoll and a grove of trees, Silver Lake Lawn is a perfect place for relaxing, finding peace, and enjoying nature.

view B An informal play walk featuring berms to climb and hang out on meanders between the Picnic Grove and Ornamental Gardens planted with a mix of natives and species adapted to southern California's climate. The Ornamental Gardens feature plants for pollinators including migratory butterflies.



view C An small entry plaza near the intersection of Silver Lake Boulevard and Earl Street doubles as an overlook onto the Great Lawn and wetland terraces and islands. This shaded area of prospect offers a place for quiet reflection or meeting neighbors for a walk through the park's miles of paths and trails.

view D The end of sloped Silver Lake Lawn gives way to a series of seating platforms perched above wetland terraces and islands. Small footpaths into the wetlands provide moments of immersion to learn about wetland plant communities, amphibians, and the other small aquatic wildlife they support.

5.2.2 The Knoll

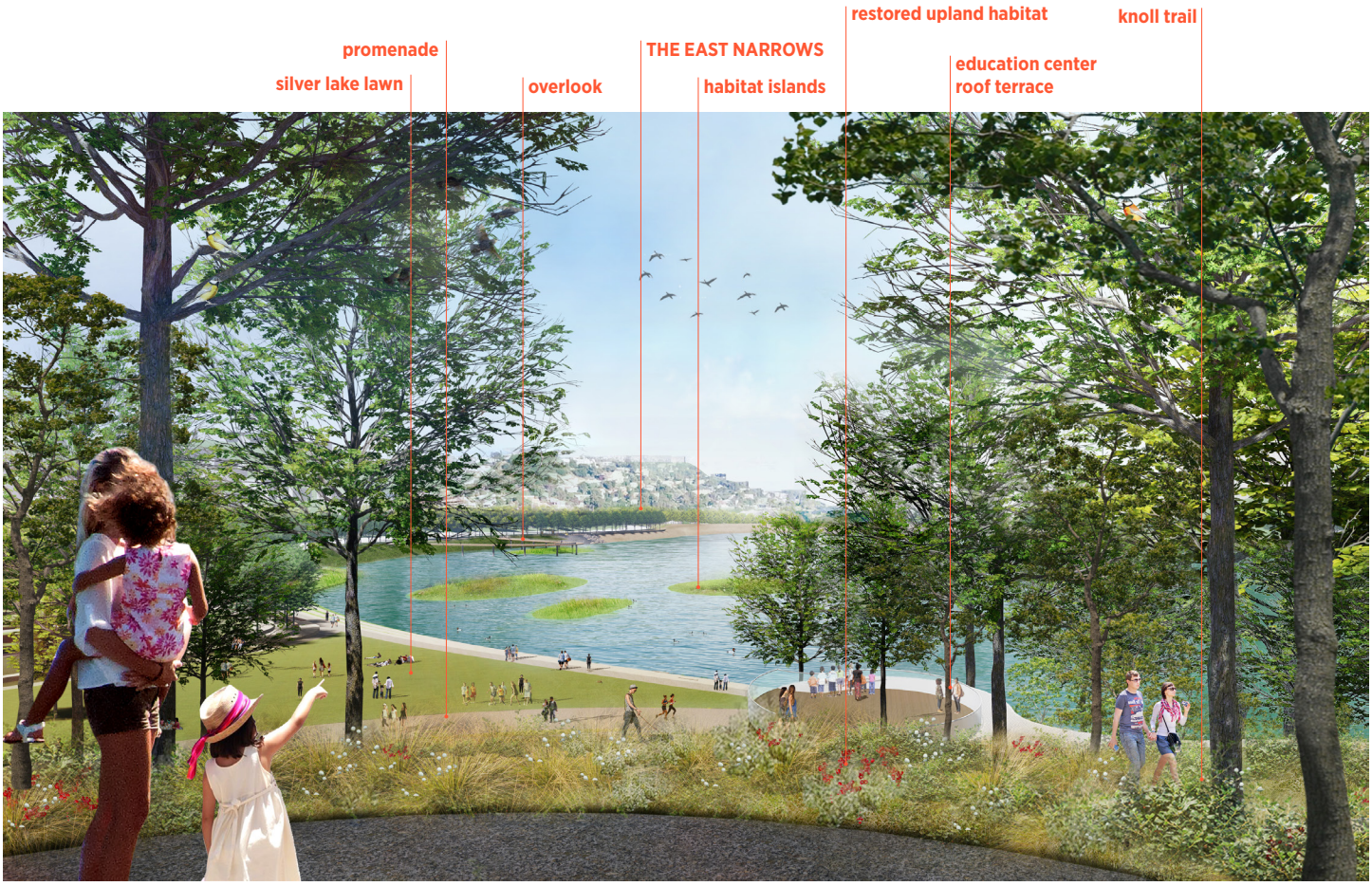
The Knoll is a large hill within the Complex and is comprised of 8.3 acres of woodland. The Master Plan proposes to enhance its upland, wooded character by proposing a replanting strategy, implemented over time, to increase species diversity and improve its overall habitat value.

With an elevation change of 45,' The Knoll offers expansive views over the reservoirs. Universally accessible nature trails lead up its slopes from the Meadow and Armstrong Ave to a promontory with small shade pavilion and seating area that offers a peaceful place to rest and enjoy the views. Additionally, this area can be used for educational purposes to host small groups of students. To protect wildlife and keep people out of sensitive areas, habitat fences are provided along all the nature trails. All sensitive habitat areas will be closed at night. See section 5.6.5 and Chapter 06 for more information on habitat fences.

A small portion of The Knoll on its southern face is regraded to heighten its form and accommodate small seating terraces facing the Meadow. The Promenade wraps around its base, connecting the Meadow to the proposed Education Center along its western edge. The Environmental Education Center is tucked into The Knoll landscape overlooking the reservoir. The Center is connected directly to the reservoir via a universally accessible pathway that leading down to a floating dock which allows hands-on education and the possibility for guided kayak or canoe tours by ecologists. See Figure 5-5 for a design plan of The Knoll.

The design intent is to balance the cut and fill earthworks such that execution of these elements requires no off-haul or import of soil.

Figure 5-5 The Knoll Detailed Plan



view A At the top of the Knoll, a small promontory under a shade pavilion creates a moment to pause and enjoy expansive views of the reservoir and park through a restored southern California native woodland and across Silver Lake Lawn to habitat islands. Here, the interwoven ecological and cultural systems of the park are understood. The pavilion will double as an outdoor classroom associated with the Education Center which includes a small roof terrace observation platform.

5.2.1 Ivanhoe Overlook

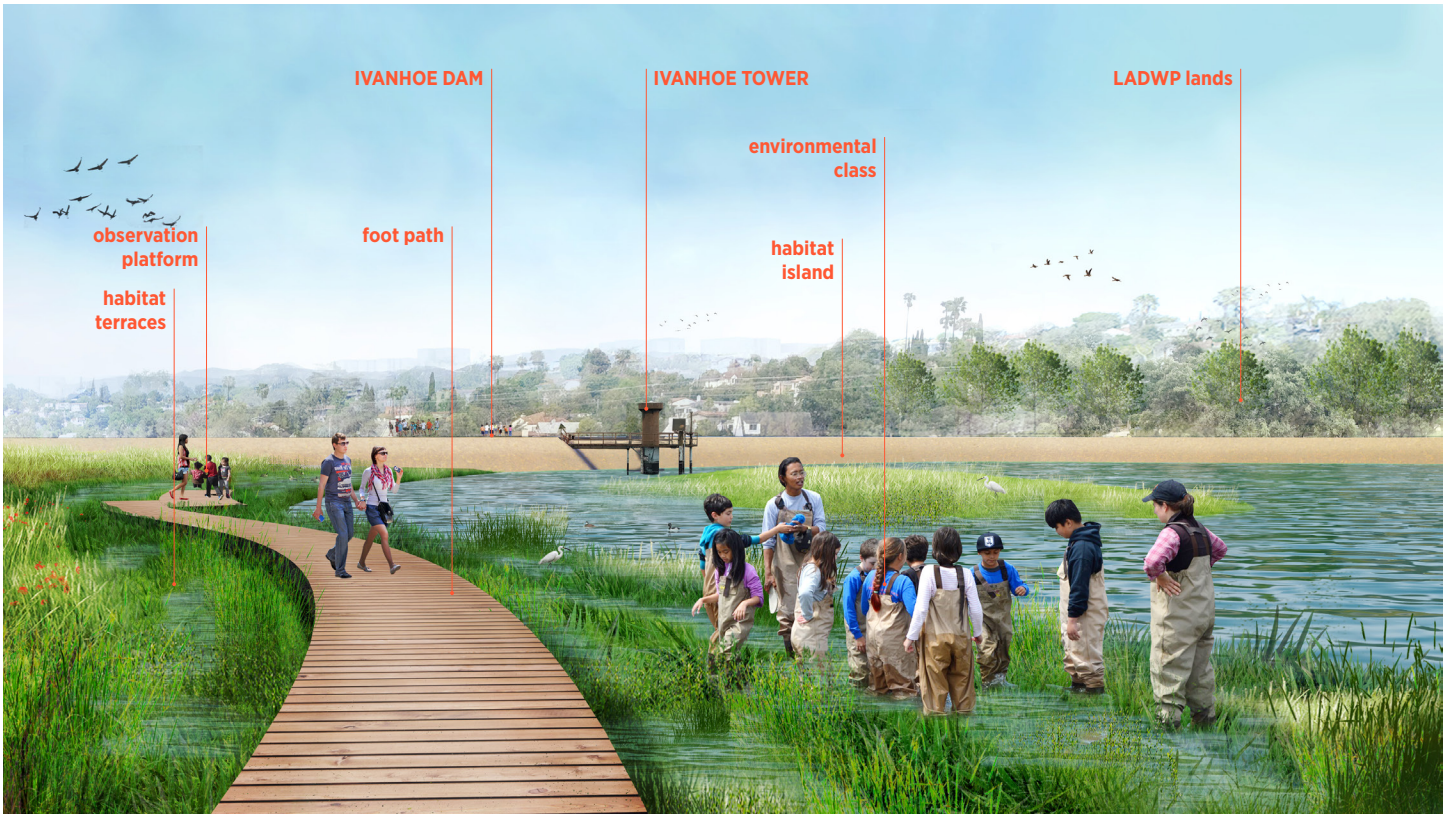
As a smaller and somewhat isolated water body, Ivanhoe Reservoir presents the opportunity to become a Living Laboratory – a testing ground for establishing new wetland habitat in the Complex and understanding the effectiveness of constructed wetland terraces and islands on water quality and aquatic habitat.

The design of Ivanhoe Overlook takes advantage of open views to the south of the Ivanhoe Reservoir with an observation deck extending out over wetland terraces which step down to the water. Small footpaths through these terraces lead to observational platforms that can be used for on-going monitoring and testing to inform how habitat is managed throughout the Complex. Complimenting the wetland terraces are two floating wetland islands.

A small shade pavilion with integrated seating provides a sheltered space for outdoor education or community gathering. Interpretive signage educates visitors about the operations of the Living Laboratory and its ecologies. See Figure 5-6 for a design plan of this area.

An existing Inlet Tower located on Ivanhoe Dam will remain in place and operational. Construction within the Division of Safety of Dams (DSOD) boundary will require additional review and approval.

Figure 5-6 Ivanhoe Overlook Detailed Plan



view A A small boardwalk brings research and academic collaborators and students through and into wetland terraces where plant community and aquatic species establishment as well as water quality can be monitored and studied.

view B A wood deck platform at the northwest edge of Ivanhoe features a shade pavilion and integrated seating which functions as gathering space and outdoor classroom. Interpretative signs will provide information about wildlife and updates on research and monitoring activities, keeping the community connected to the park's ecosystem function and management.

5.2.5 The Eucalyptus Grove

The Eucalyptus Grove is currently a wooded area predominantly planted with Eucalyptus trees of varying age and health. The Master Plan proposes to replant this zone over time to enhance and restore its upland habitat value. All walkways throughout the Eucalyptus Grove will include low habitat fencing to protect sensitive habitat areas. See section 5.6.5 and Chapter 06 for more information on habitat fences.

At the edge of Eucalyptus Grove, habitat terraces stretch out beyond the existing embankment edge creating a gradient of upland, transition, and wetland ecologies. A large overlook extends out over these terraces, offering a unique perspective to observe the new wetland habitat and a prime place for birdwatching. At the overlook, interpretive and educational signage will be included. Floating islands are added adjacent to the Eucalyptus Grove to further enhance this area's biodiversity and provide protected habitat for foraging and nesting. Figure 5-7 provides a design plan of these features and elements.

The design intent of this area is to balance a portion of cut and fill to create the habitat terraces, supplemented by pile supported landscape structures. Within the DSOD area, fill may be required to build the habitat terraces.

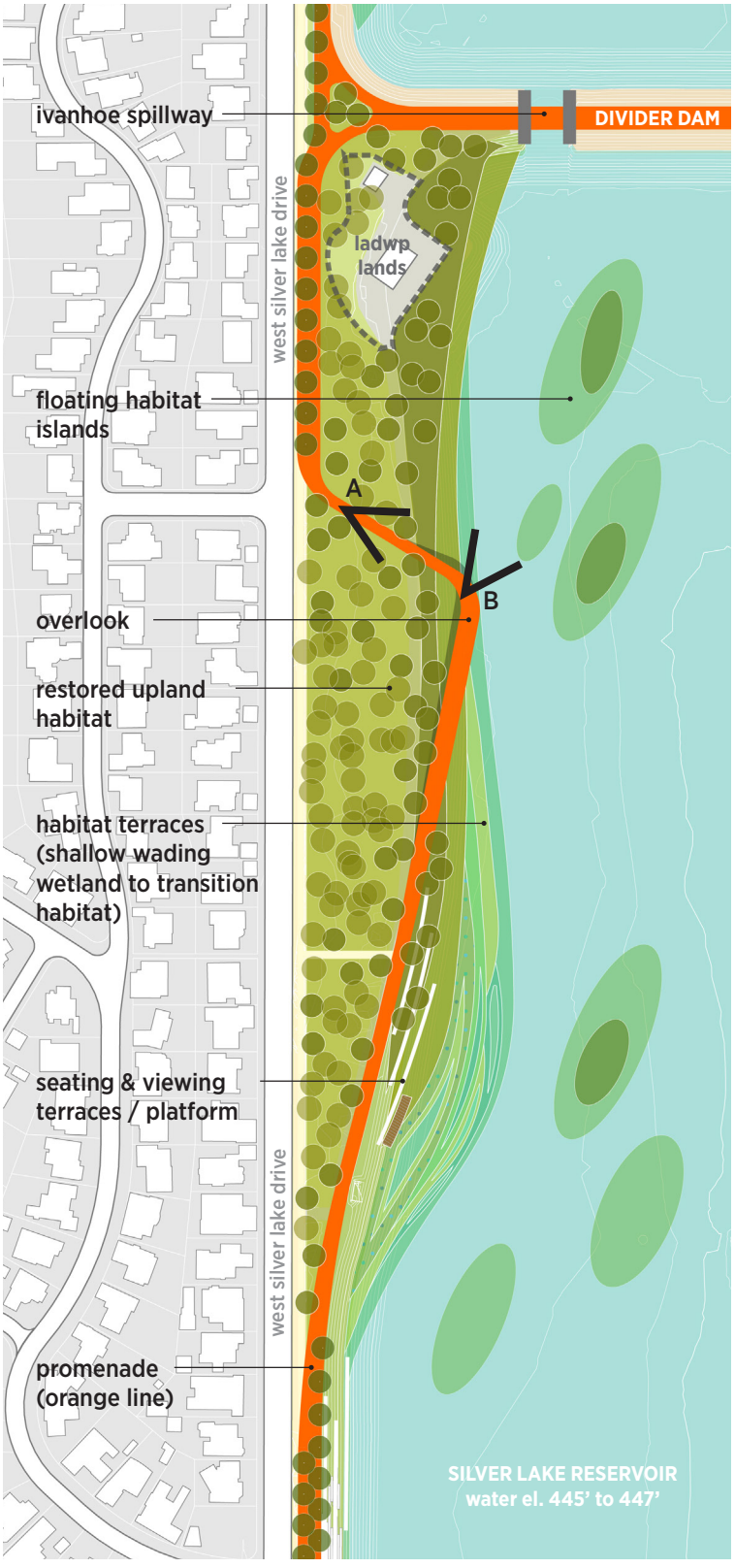
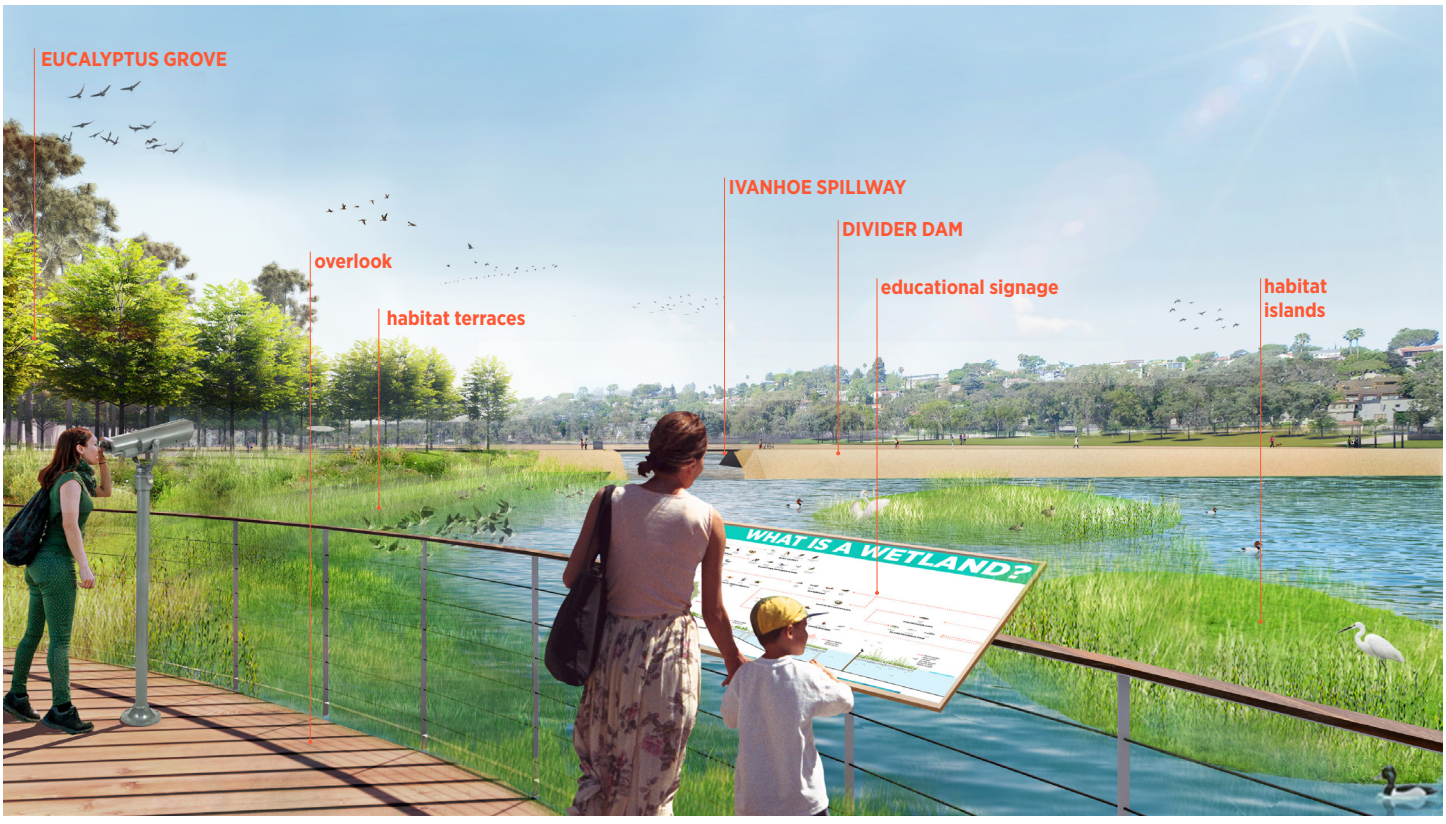


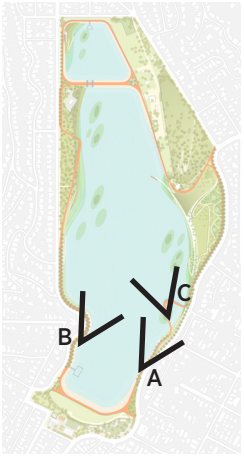
Figure 5-7 The Eucalyptus Grove Detailed Plan

view A The Promenade narrows where the it crosses into the Eucalyptus Grove to minimize its footprint. The walkway is edged with habit fences to protect wildlife and the restored native woodland plant community. It connects to an overlook beyond.



view B At the overlook, both wetland terraces and islands can be observed providing a superb location to learn about their habitat value and water quality function as well as the migratory waterfowl they support. This overlook is also equipped with free telescopes for bird watching and classes.

5.2.4 The East and West Narrows

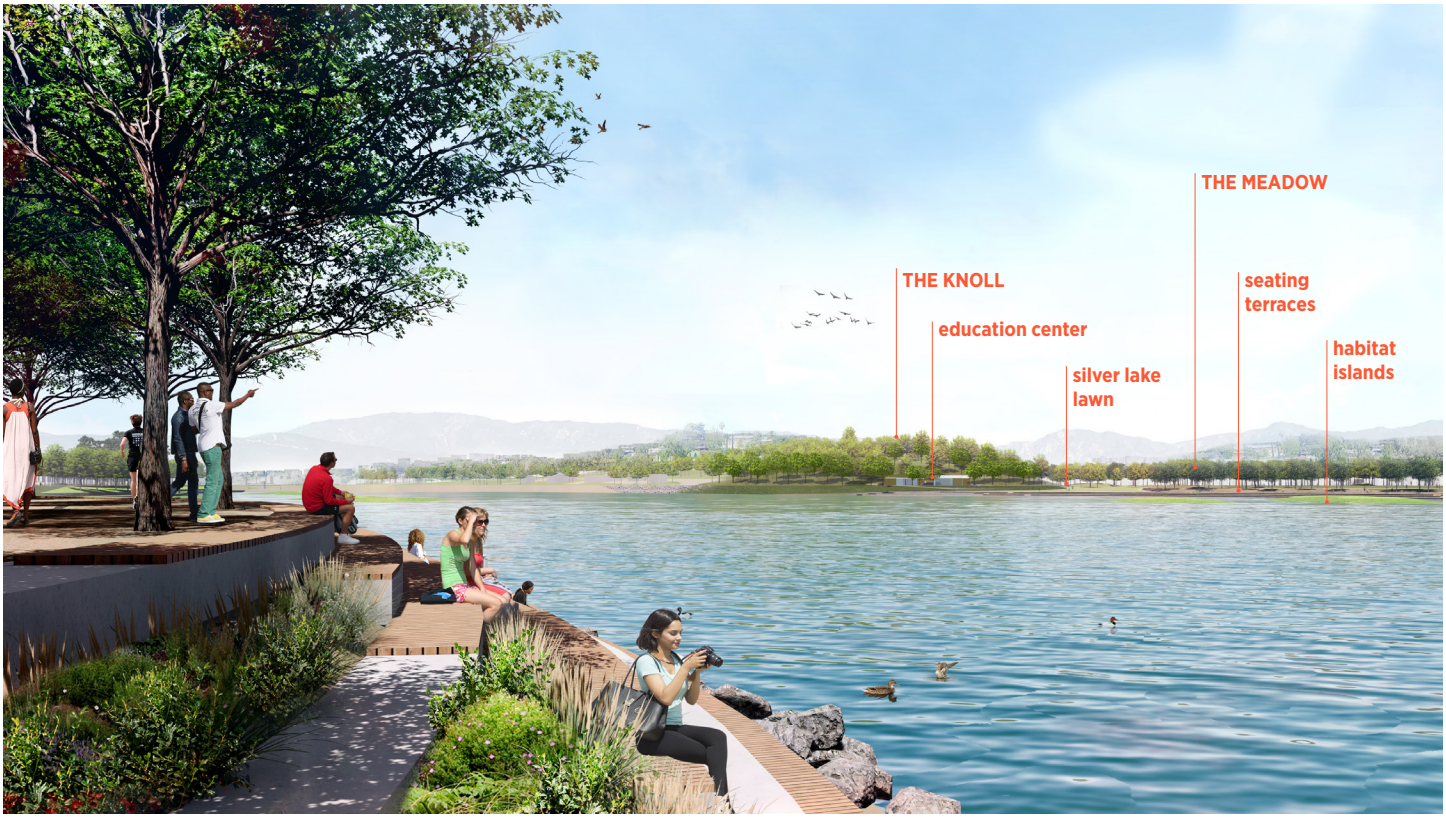


The East and West Narrows are the narrowest sections of the site and run along the south edges of the Silver Lake Reservoir embankment. The primary feature of these linear corridors is the Promenade which includes overlooks and seating terraces at strategic locations to maximize views out and across the reservoir or to habitat islands.

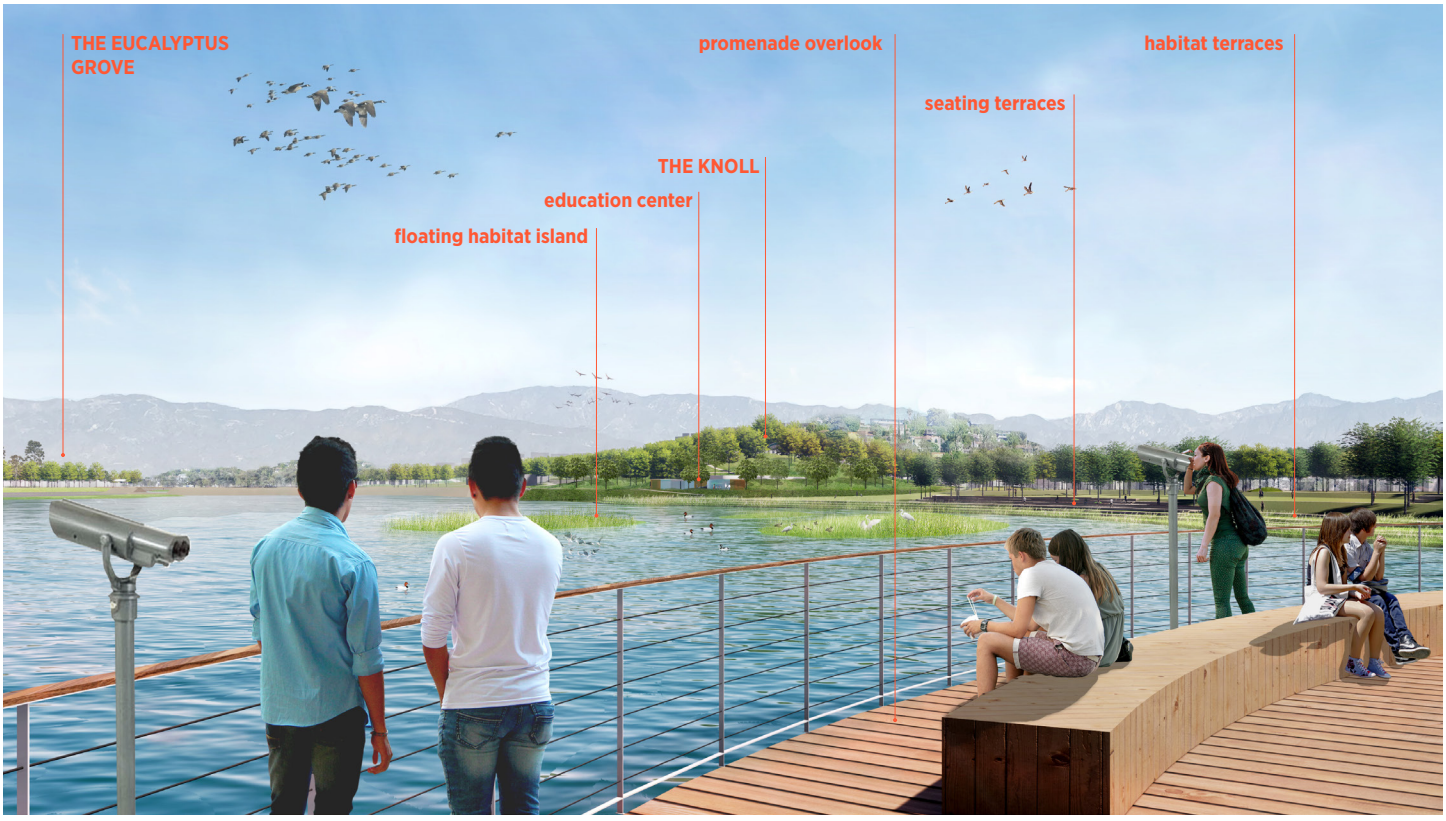
On the East Narrows (Views A and C) along Silver Lake Boulevard a varying 3- to 4-foot grade separation from the road to the top of the embankment allows for a continuous seat wall to be added to the Promenade. There are also low, historic concrete walls along these road edges which will be recognized and incorporated into the Promenade design. Where the Promenade widens along the East Narrows, a fitness circuit is proposed, creating a connection to the Recreation Center. To amplify views across Silver Lake Reservoir to the San Gabriel Mountains in the distance, an elevated bridge swings out over the water and above a habitat island.

The West Narrows (View B) include seating terraces embedded into the embankment to provide seating for people to get to the water's edge and enjoy the expansive reservoir views. An allée of trees along the Promenade provides much needed shade and shelter.

view A Where the land between the reservoir and Silver Lake Boulevard widens, the Promenade incorporates a fitness circuit which is a connection to and extension of the Recreation Center in the South Valley. Small seating terraces step down the embankment slope creating a perfect perch for taking in amazing views and spectacular sunsets.



view B Stepped seating with coastal scrub gardens along the Promenade at West Silver Lake Boulevard offer sweeping views across the reservoir to the Knoll and Meadow.



view C An overlook bridge projects visitors out over the reservoir, offering views north across the water to the San Gabriel Mountains in the distance. With integrated seat walls and equipped with free telescopes, the overlook offers a great location for bird watching classes as well as observing seasonal migratory patterns.

5.2.6 The South Valley: The Silver Lake Recreation Center

Anchored on the corner of Van Pelt Place and Silver Lake Boulevard, a new Multi-Purpose Building / Community Center, which will house one indoor basketball court, creates a welcoming entrance to the Recreation and Parks area. An outdoor plaza with shade trees and both integrated and movable seating, connects the existing Recreation Center and playground to the new facility. To accommodate this new building, the existing basketball court and playfield are relocated to the north of the Multi-Purpose Facility. The existing picnic area is relocated to the west sloping lawn and additional trees are incorporated to provide shade.

The dog play area is expanded and renovated to include two separate spaces for both small and large dogs. The area is re-graded, and materials are updated from decomposed granite to synthetic turf – a more durable surface to accommodate the high use of these spaces. Integrated seating, benches and shade structures allow dog owners a place to sit and relax while their dogs play. See Figure 5-8 for a design plan of this area.

Minor reconfiguration improvements to the Recreation Center will be included to provide additional office and storage space. Both the new facility and proposed modifications to the existing Recreation Center are discussed further in Section 5.4 Buildings & Structures.

Figure 5-8 South Valley Detailed Plan

aerial This bird's-eye view shows the new Multi-Purpose Facility which anchors the southeast corner of the Recreation Center and relocated recreation field and basketball court.

view A The existing dog parks for large and small dogs are expanded and receive a major upgrade which includes durable artificial turf with play hills as well as new seating and shade trees and structures.

5.3 Spaces, Uses, and Activities

A balanced combination of spaces is needed to create a successful, multi-functional park. At the SLRC, these spaces will support a range of activities and uses based on the preferences of the community.

The most prominent community space is the Meadow. Here a 3.4-acre area of existing lawn and shade trees has been expanded to approximately 7.5 acres comprised of two lawn areas. These new flexible lawns can support a myriad of activities from the simplicity of cloud watching to large community events such as outdoor movies. At the lawn's edge, 12,000sf of picnic grove spaces provide a focal point for friends and family to gather next to 1.5 acres of ornamental gardens. Along Silver Lake Boulevard 8,000sf of the Promenade can accommodate regular or occasional farmer's markets.

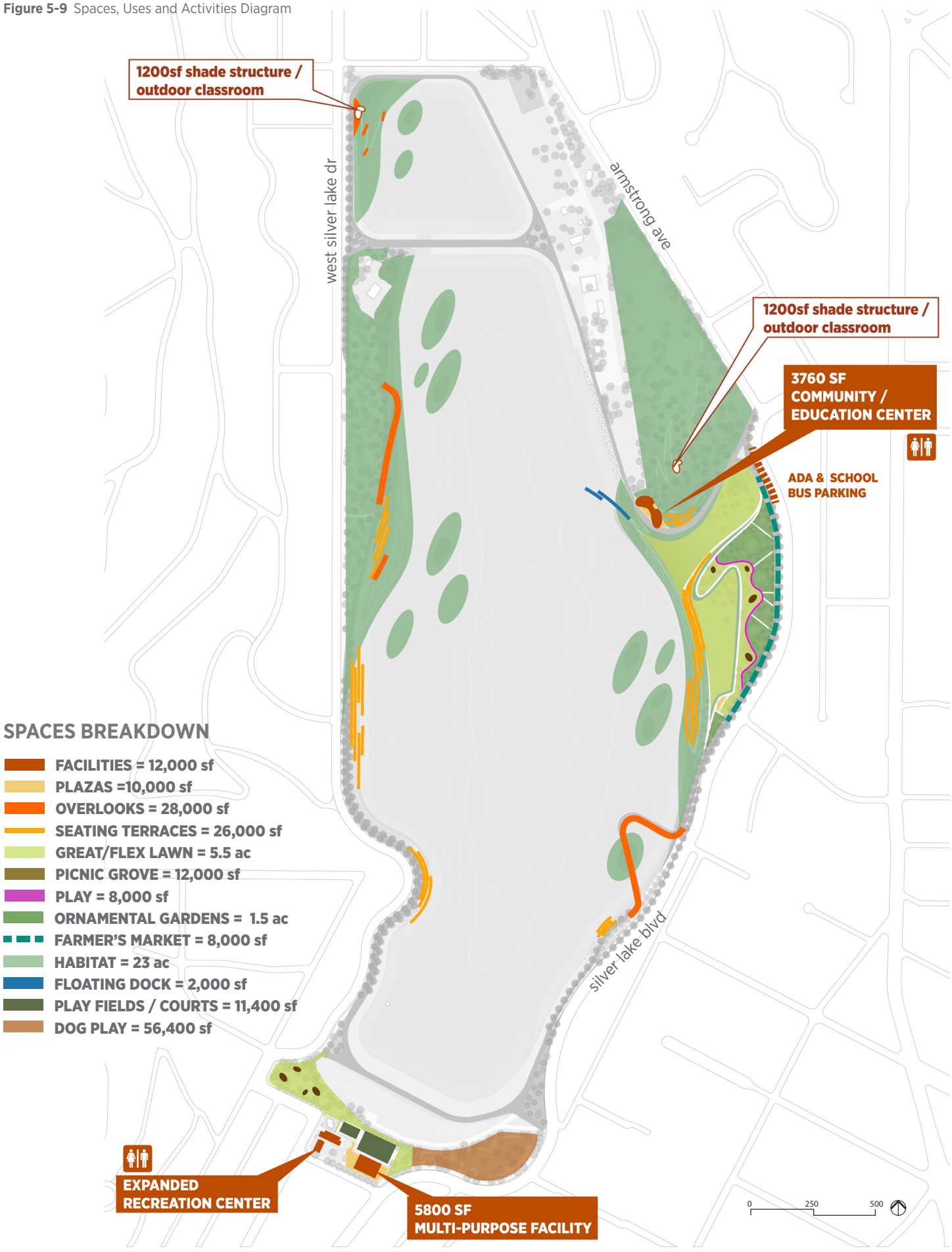
Distributed throughout the Complex, along the water's edge are 26,000sf of seating terraces for wildlife observation, sunset viewing, or spending time with friends and neighbors. Allowing more heightened views of wildlife, the reservoirs, and regional hills and mountains are 28,000sf of overlooks ranging from large bridge-like walkways to small, intimate platforms. To support the educational goals of the Master Plan, a 3,760sf education center and two 1,200sf shade pavilions which can double as outdoor classrooms are located at the Ivanhoe Dam and The Knoll. A small floating dock is proposed next to the education center to facilitate experiential, ecological-focused learning.

At the existing Silver Lake Recreation Center, several new and renovated spaces are planned. To offer more community programs and supplement its sports programs, a new 5,800sf multi-purposed building is proposed along with 11,400sf of relocated play fields and courts and 56,400sf of renovated and expanded dog play.

The largest proposed spaces within the Master Plan design are for habitat and wildlife. A total of 23 acres of the complex are dedicated to the restoration of existing upland and creation of new transition and wetland habitats. A thorough discussion of theses spaces is provided in Chapter 06 Park Sustainability.

In sum, the Master Plan design includes a total of 33 acres of new useable space including 10 acres for active and passive recreation representing a 185% increase over what is currently offered at the Meadow. See Figure 5-9 for a breakdown of the spaces described above.

Figure 5-9 Spaces, Uses and Activities Diagram



5.4 Buildings & Structures

Four modest new structures will be constructed at strategic locations around the new Park to complement the daily activities of the park, provide assembly spaces for specific community activities, and offer shelter from the sun and rain. As visitors walk along the Promenade, these architectural nodes will help orient people and promote a sense of safety in the public open space. A sensible distribution of amenities is allocated to these structures with an emphasis on environmental education. In the South Valley, a new building will address the programmatic needs of a thriving Recreation Center.

5.4.1 Architecture Concept

The three structures located within the Complex proper, an Education Center and two Shade Pavilions, have been envisioned as an architectural ensemble that relate in form to the new floating habitat islands proposed by the Master Plan and the mid-century modern architecture of the Silver Lake neighborhood. The scale of these structures is tuned to the residential character of the surrounding neighborhood, while their construction is commensurate with durable, long-lasting public facilities. Their architectural expression is contemporary and relies on natural materials to blend into the surrounding landscape. As an ensemble, the three structures add coherency to the hierarchy of the Park, creating places of pause and connection to nature as well as one another.

The goals of the Master Plan include the highest degree of environmental quality. The climate of Los Angeles requires precise sustainable strategies that generate an energy-efficient, cost-effective, and meet City standards.

aerial The Knoll wraps around, over, and through the Education Center creating a seamless transition between landscape and architecture.

Figure 5-10 Education Center First Floor Plan

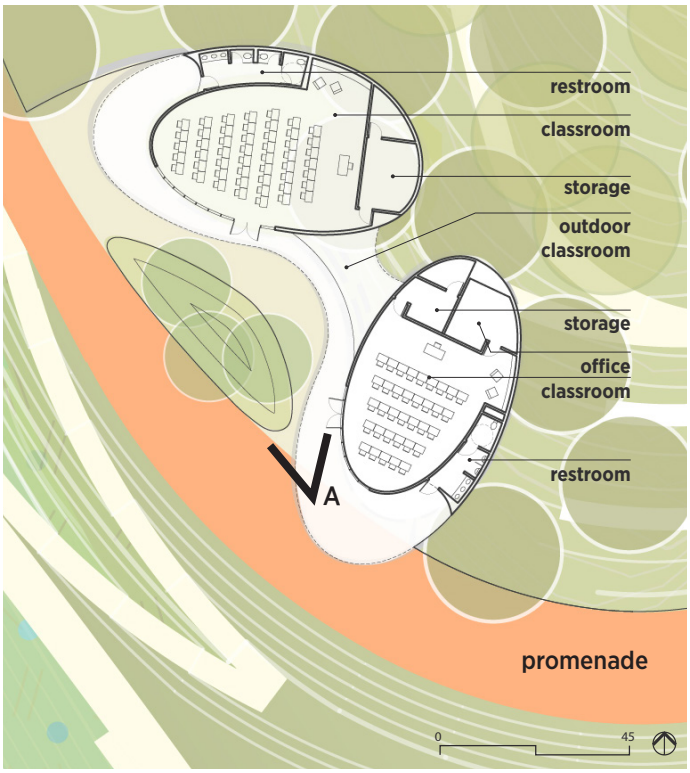
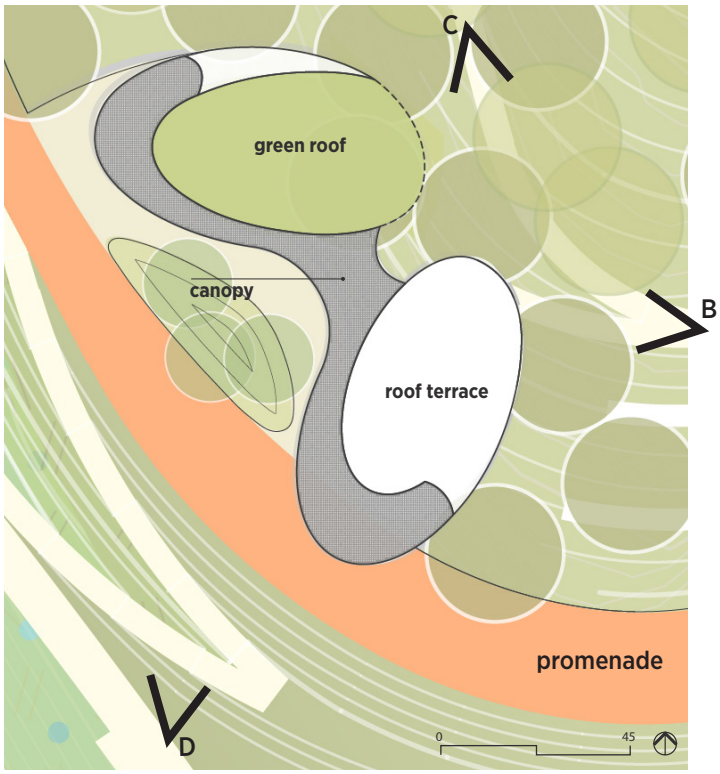


Figure 5-11 Education Center Roof Plan



5.4.2 Education Center

The Master Plan design includes an Education Center at the base of The Knoll, overlooking Silver Lake Reservoir. Located along the Promenade, adjacent to the Silver Lake Lawn, and easily accessible from Silver Lake Boulevard, the Education Center consists of a residential-scale building and seating terraces that are integrated in the topography of The Knoll and oriented to embrace views of the water.

The Education Center design includes small indoor and outdoor teaching and assembly spaces, where the unique opportunity of the Silver Lake Reservoir Complex – the re-establishment and management of a healthy ecosystem within the context of an urban park - can be introduced, discussed, and studied by visitors of all ages. It is meant to complement the educational space that is the Complex itself, a place where people can gather at the start and end of their visit, including school children on a field trip as part their environmental curriculum.

As shown in Figure 5-10, the Center contains two interior classrooms with a view of the water through a partially glazed, operable facade that open the teaching spaces to the exterior. The large classroom is a little over 1,400sf and can sit 50 people. A slightly smaller classroom is approximately 1,000sf with a capacity of 35 people. The Center also contains a 180sf office for staff, and storage rooms of 195 and 100 square feet adjacent to each classroom. Public restrooms, which are directly accessible from the Promenade, serve the Park as a whole.

The roof of the Education Center (Figure 5-11) is both a landing point along the path leading to the top of The Knoll, with a roof terrace overlooking the reservoirs and an extension of the landscape with a green roof connected to The Knoll's western slope. The Knoll envelopes the building, sliding through an opening between the two classrooms, creating a small, shaded amphitheater at the heart of the facility.

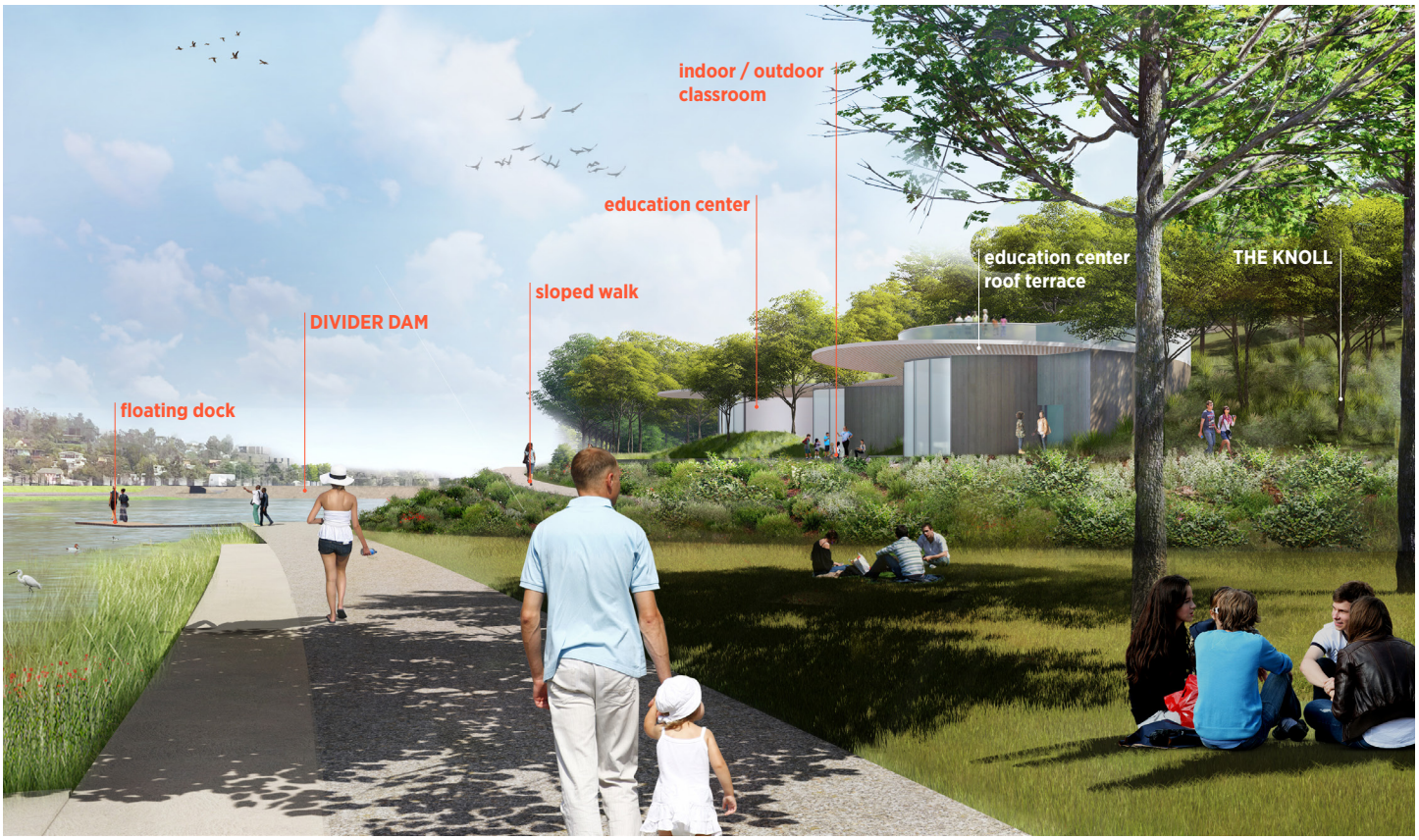
A shade canopy protects the amphitheater and extends over a plaza fronting the Education Center, creating a comfortable place for people to congregate on their journey around the Complex. The landscape of The Knoll spills onto the plaza in the form of a berm planted with native woodland trees.

As a education tool and demonstration feature, it is particularly important that the new Center be built to be environmentally sustainable. The building is clad in recycled wood, and optimizes natural ventilation, daylighting, and rainwater harvesting while minimizing heat island effects with shade trees.

view A The architecture provides an indoor/outdoor experience with sliding glass panels that open up to allow the classrooms to extend out into the landscape. The Knoll landscape cascades between the two classrooms with small seating terraces incorporated.

view B Moving up through The Knoll landscape, a path peels off to connect to the roof terrace of the education center providing a place of pause and lookout as well as a gathering space for outdoor education.

view C Moving down from the top of the Knoll, expansive views are framed by a dense tree canopy out and over the education center to the reservoir.



view D From the base of Silver Lake Lawn, a layering of vegetation leads from the waters edge, to the Promenade, and up to The Knoll. The education center sits within The Knoll and blends into the landscape.

5.4.3 Shade Pavilions

At the top of The Knoll, a shade pavilion shelters a promontory with a stunning view of the Silver Lake Reservoir, and a glimpse of the Education Center roof below. This pavilion is an amenity for all visitors climbing to the top of The Knoll, the highest point of the reservoir complex. It is also an extension of the Education Center as an outdoor classroom space for a group of 20 to 30 people providing shade and seating. A second pavilion is located at the Ivanhoe Overlook, another opportune place for visitors and students to gather during their excursion to the Complex. The pavilion is designed and positioned as a gateway to footpaths that descend through new wetland terraces and down to the Ivanhoe Reservoir where visitors will be able to touch the water and observe the flora and fauna up close.

The oval forms and materials of the shade pavilions are born out of the architecture of the Education Center, of which they are satellites.

5.4.4 Multi-Purpose Facility

Master Plan analysis identified a need for expanded facilities at the Silver Lake Recreation Center to better meet the needs of the community. A central piece of the Recreation Center expansion is the addition of a new Multi-Purpose Facility to replace the existing undersized gymnasium, which will become dance and art studios.

The proposed 5,800sf facility is located at the corner of Silver Lake Boulevard and Van Pelt Place and frames a new, intimate plaza at the heart of the recreation campus. Wrapping around the free-standing Multi-Purpose Facility, the plaza provides an inviting entrance from Van Pelt Place at mid-block and at the corner of Silver Lake Boulevard. Large windows face the street and offer views of the activities inside. The building can be entered from the east and the west through wide, glass roll-up doors that can remain open on most days of the year.

Its simple architecture is designed to fit well in the context of the existing recreation center with its traditional Spanish style. The new building has a gabled weathering steel roof with a rust color similar to the clay tiles of the existing building. The facade is clad in wood and the underside of the timber roof structure is exposed inside and outside as it cantilevers over the entry plazas to provide shade and weather protection for continuous seat walls facing the relocated play field to the north and the street to the south. The new building is conceived to be environmentally sustainable by using recycled, renewable, and local materials and optimize natural ventilation and daylighting.

The building is sized to support a variety of programming amenities including an elementary school basketball court of 74 feet by 42 feet. The north side of the court will be lined with three rows of seating risers. Its built-in sports equipment will include retractable basketball hoops, a volleyball net on removable posts doweled into the floor, demountable indoor soccer nets and an electronic scoreboard. In addition to housing youth sports activities, the Multi-Purpose Facility can be used as an assembly space for various community events and as a polling station. See Figure 5-13 for a design plan of the Silver Lake Recreation Center improvements.

Figure 5-13 New Silver Lake Recreation Center Detailed Plan

view A Around the new Multi-Purpose Facility, an outdoor plaza welcomes the community from Van Pelt Place and connects to the existing Recreation Center and Playground.

5.4.5 Existing Recreation Center Upgrades

The existing Recreation Center needs an expansion and remodel to respond to the increasing neighborhood demand for youth activities. The new Multi-Purpose Facility will allow the South Valley to work contiguously with the SLRC in terms of programming and neighborhood life.

The exterior of the existing building will be preserved and repainted while its interior will be remodeled to create new spaces. The windows and doors may have to be replaced to meet current energy code requirements, and the building structure may have to be upgraded to meet current seismic code. Four glass skylights, approximately 4 feet by 8 feet, will be added to the roof of the existing gymnasium in order to be repurposed.

The south wing of the building will be devoted to administrative functions and services. It already contains restrooms, which will be upgraded, and the existing meeting room will be used for staff offices. The north wing will be almost entirely devoted to new and improved activities. With the addition of the larger Multi-Purpose Facility, the existing high-bay gymnasium will be transformed into a series of activity spaces. A mezzanine will be added, served by a new exterior stair and elevator, to house a new Art Studio which will overlook a new two-story tall Dance Studio below, with resilient wood flooring, mirrors and ballet bars. The kitchen will be relocated under the mezzanine and improved with new counters, cabinets and equipment. Next to the kitchen will be to a new Game Room. The space vacated by the kitchen will be converted into a storage room. See Figures 5-14 and 5-15 for conceptual sections of the proposed space reallocations.

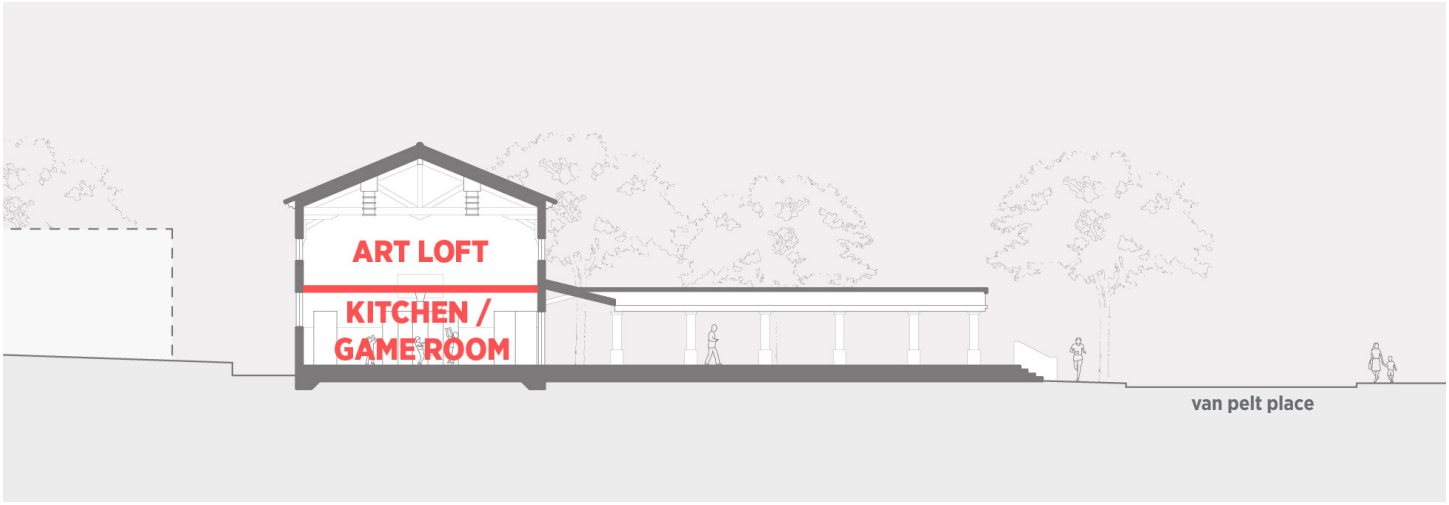


Figure 5-14 Proposed North-South Section through Recreation Center

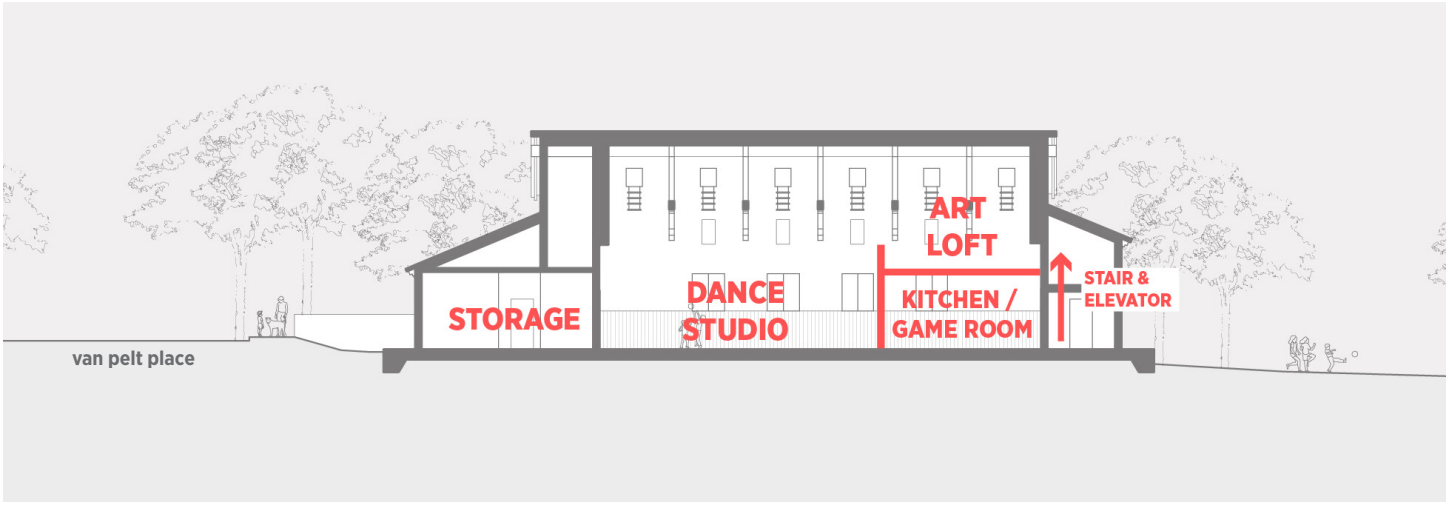


Figure 5-15 Proposed East-West Section through Recreation Center

5.5 Historic-Cultural Monument Designation Analysis

As noted in Chapter 02, the Silver Lake Reservoir Complex is designated as a Los Angeles Historic-Cultural Monument (HCM No. 422) and subject to the Los Angeles Cultural Heritage Ordinance and consequent compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards).

These Standards consider the impact of proposed alternations to a historic property on its character defining features. The proposed Master Plan design was evaluated against the Standards for compliance. Note, not every Standard will apply to every aspect of a given project, nor is it necessary to comply with every Standard to achieve compliance. Below is a summary of a more detailed analysis located in the Master Plan Report Appendices.

Standard 1. ***A property will be used as it was historically or be placed in a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.***
The proposed site plan complies with Standard #1 because the new use will require minimal change to the defining characteristics of the property and its environment. The reservoirs will remain large open bodies of water and other character defining land uses such as the Knoll and Eucalyptus Grove will be preserved overall. Features and spaces that will be substantially altered do not date from the period of significance and are therefore not character defining. These include the Silver Lake Meadow.

Standard 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.***
The proposed site plan complies with Standard #2 because the historic character of the property will be retained and preserved overall. Character-defining features that will be altered as part of the Master Plan design include the embankments and perimeter paths of the Ivanhoe and Silver Lake Reservoirs which will not diminish the historic character of the complex overall.

Standard 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.***
The SLRC Master Plan has developed conceptual designs that comply with Standard #3. New features will be adequately differentiated as new by their design, modern assembly, and hardware. They will not create a false sense of historical development.

Standard 4. ***Changes to a property that have acquired historic significance in their own right will be retained and preserved.***
The proposed site plan complies with Standard #4, as none of the changes to the Complex since 1953 have acquired significance in their own right.

Standard 5. ***Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.***
The proposed site plan complies with Standard #5 because distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the property will be preserved. Features and finishes that will be removed generally

consist of utilitarian and common materials, such as the concrete and asphalt paving at the embankments and perimeter paths. Although Ivanhoe and Silver Lake Reservoir embankments will be altered, neither is an example of distinctive construction techniques.

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

The proposed site plan complies with Standard #6 to the extent feasible. The replacement of missing historic features is not proposed and the only deteriorated historic features that will be removed and replaced are the mature trees located throughout the complex that have reached the end of their natural lifespans.

Standard 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.***

The proposed site plan complies with Standard #7 because no treatments that would cause damage to historic materials are proposed.

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

The proposed site plan complies with Standard #8 because there are no known archeological resources within the Complex.

Standard 9. ***New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.***

The proposed site plan complies with Standard #9. New construction is properly located within the complex and because of the variations in the topography and the overall scale of the complex, new features, including three proposed new structures will not dominate the complex's significant view sheds. New features and structures are modest in massing, size, and scale as well as differentiated from the old by their modern design and assemblies.

Standard 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.***

The proposed site plan complies with Standard #10. New additions and related new construction are freestanding. Therefore, if removed at a later date, the essential form and integrity of the Complex and its environment would be unimpaired.

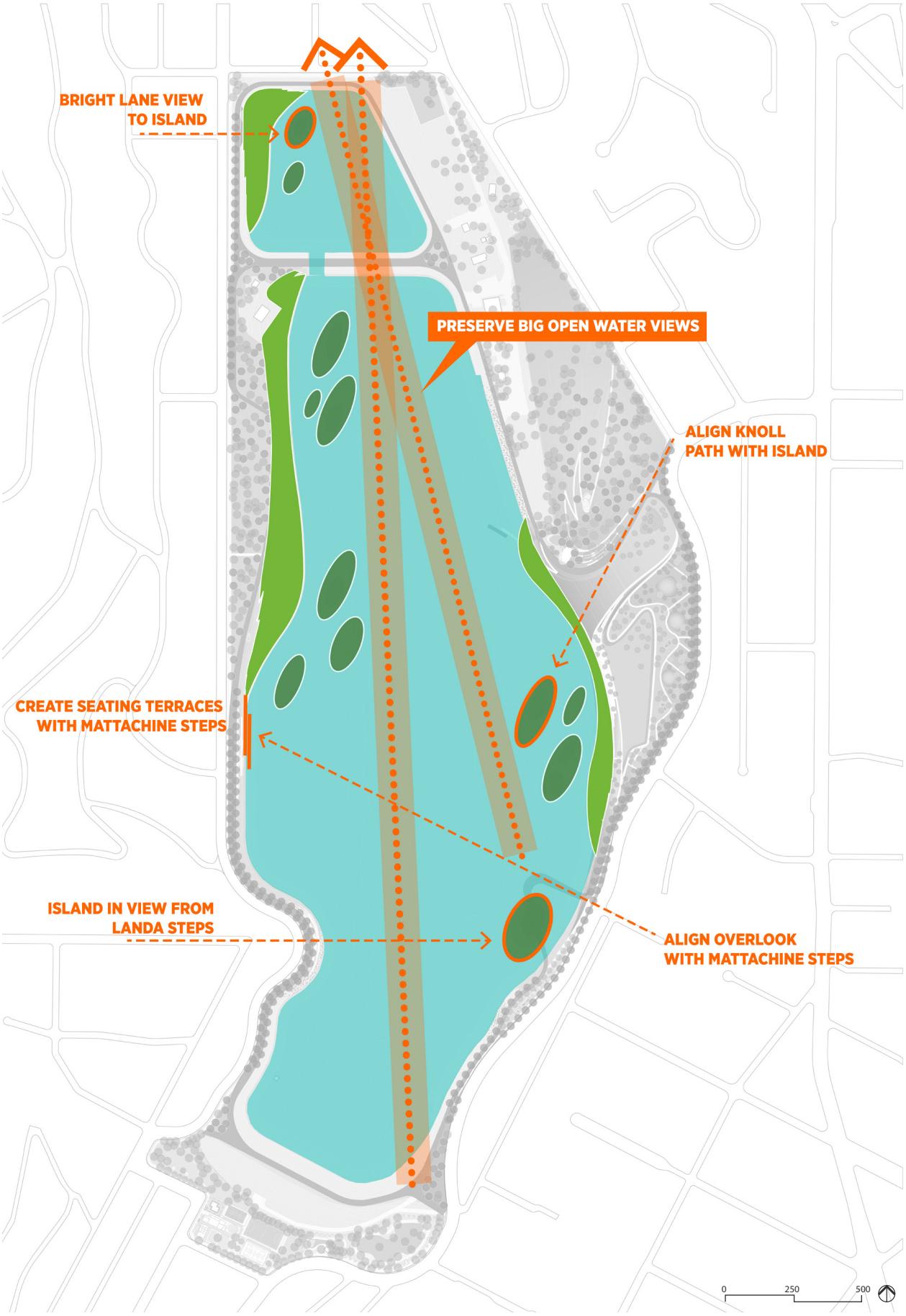
When reviewed against the Standards, the proposed Master Plan design complies with the intent and guidance set forth.

The Master Plan design was inspired in great part by its rich history from a freshwater marsh and intermittent pond within Ivanhoe Canyon to a significant and iconic piece of Los Angeles water infrastructure. It is with measured attention that traces of this evolutionary trajectory are made visible in the contemporary expressions of the complex's vision and future.

PRESERVING VIEWS

As noted in Chapter 03, views within and around the SLRC are varied from small, layered views to large, significant views across the water bodies to the surrounding mountains. Elements in the Master Plan design are located to preserve these big, open water views while creating visual interest and connections between the neighborhood and the proposed park. Two big open water views were identified which should be preserved as shown in Figure 5-16 and for which the floating wetland habitat islands anchorages will need to accommodate. Smaller, but significant relationships between Park elements and the surrounding neighborhood are also depicted in Figure 5-16.

Figure 5-16 View Diagram



5.6 Park-Wide Systems

The Complex will be defined by several overlapping park-wide systems integral to its character and function. These systems create the common threads that link the Park's diverse spaces and landscapes together, and provide a unique overall identity specific to the Silver Lake Community. Frameworks have been developed at a Master Plan level for the following park-wide systems: Planting, Circulation, Lighting, Embankment Edge, and Fencing and Guardrails.

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5.6.1 Planting

The planting design for the Silver Lake Reservoir Complex is founded on the community's aspirations to connect with nature and maximize habitat for wildlife. It is also aligned with the City's New Green Deal goals of increasing tree canopy and protecting native biodiversity.

The planting palettes in the following pages draw inspiration from the rich riparian and foothill landscapes of Southern California and represent an intersection of four distinct regional ecological zones: southern oak woodland, riparian woodland, coastal sage scrub, and freshwater wetland. The Park's planting approach expresses this rich ecological intersection throughout eight planting zones ranging from gardens within the Promenade, Ornamental Gardens, and the Embankment to habitat areas.

All habitat plant communities will be comprised of native species representative of the above regional ecologies to support wildlife foraging and nesting. The garden areas will be a combination of native and drought tolerant species appropriate to the Los Angeles region to provide visual and seasonal interest within the Park and provide a plant palette adapted to climate change.

In combination, the native and non-native plantings will represent a significant horticultural collection with educational opportunities to foster partnerships with arboreta, botanical gardens, and universities. Lawn is used sparingly and strategically distributed where needed to support multi-function cultural and recreational uses. See Figure 5-16 for a plan of the planned planting zones.

Figure 5-17 Planting Diagram

PLANTING ZONE: Promenade Sample Palette

The design intent for the Promenade planting is to define this corridor as a singular element as it wraps around and through the Park. A single tree species should be specified for this element that provides shade, is native or adapted, uniform in habit, and medium to fast growing. The Promenade trees will be planted in linear rows. The understory of the promenade should be planted with a palette that reflects a native coastal scrub ecology, is pollinator positive, and is suitable as ornamental planting and infiltrating stormwater runoff from the Promenade. A sample palette of plants for the Promenade is provided below.

TREES

Alamo Sycamore
Platanus mexicana 'Alamo'

California Sycamore
Platanus racemosa

Pasadena Oak
Quercus engelmannii

Drake's Chinese Elm
Ulmus parvifolia 'Drake'

SHRUBS & GROUNDCOVER

common name	*scientific name*
Yarrow	*Achillea millefoium*
Tufted Hairgrass	*Deschampsia caespitosa*
Bush Sunflower	*Encelia californica*
Elk Blue California Gray Rush	*Juncus patens 'Elk Blue'*
Dwarf Mat Rush	*Lomandra longifolia 'Breeze'*
Deer Grass	*Muhlenbergia rigens*
White Sage	*Salvia apiana*
Cleveland Sage	*Salvia clevelandii*

PLANTING ZONE: Picnic Grove Sample Palette

Planting for the Picnic Grove should be a simple palette with a mix of medium to large, deciduous and evergreen trees punctuated with a smaller, flowering accent tree. Trees should be planted in loose groupings to create a diversity of sun and shade in this area. The understory is envisioned as a no-mow grass blend tolerant of foot traffic. A sample palette of plants for the Picnic Grove is provided below.

TREES

Coral Gum
Eucalyptus torquata

Modesto Ash
Fraxinus velutina var. glabra

Torrey Pine
Pinus torreyana

SHRUBS & GROUNDCOVER

No mow grass blend

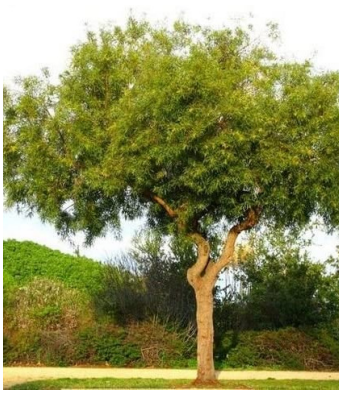
PLANTING ZONE: Ornamental Gardens

The design intent for the Ornamental Gardens is to provide a mix of native and adapted species with high pollinator and wildlife value as well as a seasonal diversity. Trees should be a blend of deciduous and evergreen species of varying size. The understory is proposed as a meadow of drought-tolerant grasses and succulents to provide year round interest. This meadow is punctuated by a series of depressions, or Dells, that will function as rain gardens and planted with native, pollinator positive, flowering species to provide a burst of seasonal color. A sample palette for the Ornamental Gardens is provided below.

TREES

Arbutus
Arbutus x 'Marina'

Catalina Ironwood
Lyonothamnus floribundus ssp asplenifolius



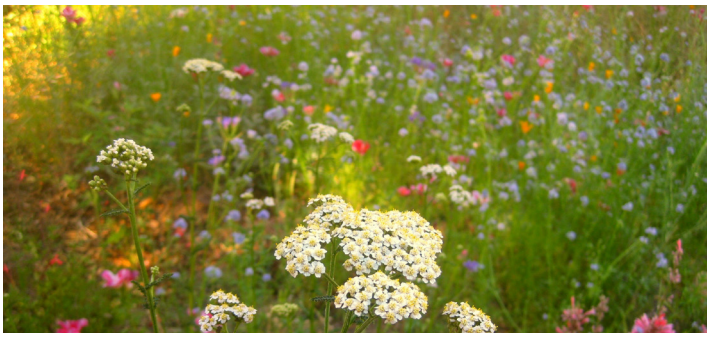
African Sumac
Rhus lancea

Tipu Tree
Tipuana tipu

SHRUBS & GROUNDCOVER

common name	*scientific name*
Foxtail Agave	*Agave attenuata*
Twin-flowered Agave	*Agave geminiflora*
Shaw's Agave	*Agave shawii*
Purple Three-Awn	*Arista purpurea*
Blond Ambition Blue Grama	*Bouteloua gracilis blond ambition*
Tufted Hairgrass	*Deschampsia caespitosa*
California Poppy	*Eschscholzia californica*
Red Yucca	*Hesperaloe parviflora*
Bull Grass	*Muhlenbergia emersleyi*
Deer Grass	*Muhlenbergia rigens*

DELL RAIN GARDENS



common name	*scientific name*
Paprika Yarrow	*Achillea millefolium 'Paprika'*
Doug Iris	*Iris douglansiana*
Sticky Monkey Flower	*Mimulus aurantiacus*
Hummingbird Sage	*Salvia spathacea*
Woolly Blue Curls	*Trichostema lanatum*

PLANTING ZONE: Lawn

The lawns are intended to be flexible spaces with a mix of sun and shade provided by large shade trees tolerant of some irrigation needed for the lawn grass. Trees should be a blend of medium to large, deciduous and evergreen species chosen for their stature and seasonal color. They should be planted in loose groups of single and mixed species. The lawn species must be suitable to sun and shade conditions, hardy, and tolerant of high foot traffic. A sample palette for the Lawns is provided below.

TREES

Evergreen Ash
Fraxinus uhdei

Blue Jacaranda
Jacaranda mimosifolia

California Sycamore
Platanus racemosa

Big Leaf Maple
Acer macrophyllum

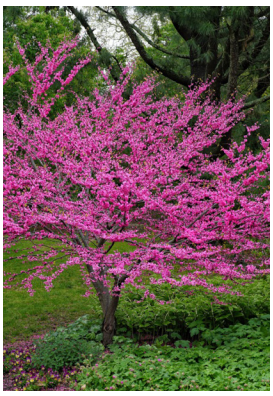
LAWN

turf grass
hybrid bermuda grass

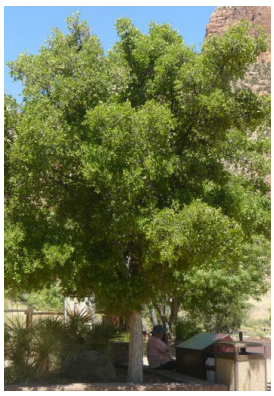
PLANTING ZONE: Upland

Trees in the Upland habitat zone should be a mix a native, deciduous and evergreen trees of varying sizes selected for their wildlife and biodiversity value. The understory is intended to be comprised of a drought-tolerant, native species indicative of a woodland / coastal scrub ecotone. A high proportion of these plants should be fruiting species to provide wildlife food resources as well as nesting habitat. A sample palette for the Uplands habitat zone is provided below.

TREES



Western Redbud
Cersis occidentalis



Western Hackberry
Celtis reticulata

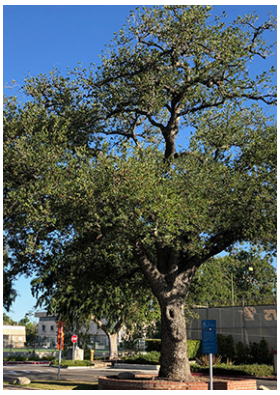
Catalina Ironwood
Lyonothamnus floribundus ssp aspleniifolius

California Sycamore
Platanus racemosa

Torrey Pine
Pinus torreyana

Catalina Cherry
Prunus ilicifolia ssp. lyonii

Coast Live Oak
Quercus agrifolia



Pasadena Oak
Quercus engelmannii

Cork Oak
Quercus suber

SHRUBS & GROUNDCOVER

common name	*scientific name*
Lester Rowntree Manzanita	*Arctostaphylos 'Lester Rowntree'*
John Dourley Manzanita	*Arctostaphylos 'John Dourley'*
Coyote Bush	*Baccharis pilularis*
Flannel Bush	*Fremontodendron californicum*
Toyon	*Heteromeles arbutifolia*
Shrub Oak	*Quercus berberidifolius*
California Coffeeberry	*Rhamnus californica*
Lemonade Berry	*Rhus integrifolia*
Hummingbird Sage	*Salvia spathacea*
Mexican Elderberry	*Sambucus mexicana*

PLANTING ZONE: Transition

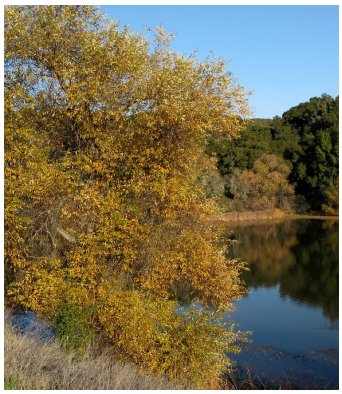
Plants in the in the Transition habitat zone should be a blend of native species indicative of an ecotone between upland and wetland ecologies. The trees should be a mix of deciduous and evergreen species of varying sizes selected for their wildlife and biodiversity value. A high proportion of the understory plants should be fruiting species to provide wildlife food resources as well as nesting habitat. A sample palette for the Transition habitat zone is provided below.

TREES

White Alder
Alnus rombifolia

Bigberry Manzanita
Arctostaphylos glauca

Fremont Cottonwood
Populus fremontii



Red Willow
Salix laevigata

SHRUBS & GROUNDCOVER

common name	*scientific name*
California Sagebrush	*Artemisia californica*
Coyote Brush	*Baccharis pilularis*
Seep Willow	*Baccharis salicifolia*
Bush Sunflower	*Encelia californica*
California Buckwheat	*Eriogonum fasciculatum*
Monkey Flower	*Mimulus spp*
White Sage	*Salvia apiana*

PLANTING ZONE: Wetland

Plant species in the Wetlands habitat zone should be indicative of the three wetland sub-types communities planned in the Park and for their wildlife value. Theses plants should comprise a range of sizes to create a diversity of nesting opportunities and appropriate for creating aquatic habitat. A sample palette for the Wetlands habitat zone is provided below by sub-type.

WET MEADOW

common name	*scientific name*
Field Sedge	*Carex praegracilis*
Tufted Hairgrass	*Deschampsia caespitosa*
American Bistort	*Bistorta bistortoides*
Wire Rush	*Juncus balticus*

EMERGENT

common name	*scientific name*
Saltgrass	*Distichlis spicata*
Arrowhead	*Sagittaria latifolia*
Tule Bulrush	*Schoenoplectus acutus*
Common Cattail	*Typha latifolia*

SUBMERGENT

common name	*scientific name*
Coon's Tail	*Ceratophyllum demersum*
Duck Weed	*Lemna minor*
Pond Weed	*Potamogeton nodosus*

PLANTING ZONE: Embankment / Slopes

Plant species used to replace the existing embankment edge and on other steep slopes in the Park should be native, coastal scrub species suitable for up to 2:1 slopes. These plants should be moderately low-growing and also offer wildlife and pollinator value. A sample palette for the embankment and slopes is provided below.

SHRUBS & GROUNDCOVER

common name	*scientific name*
California Sagebrush	*Artemisia californica*
Dwarf Coyote Bush	*Baccharis pilularis 'Pigeon Point'*
Buffalograss	*Buchloe dactyloides*
California Buckwheat	*Eriogonum fasciculatum*
Hummingbird Sage	*Salvia spathacea*

5.6.2 Circulation

A hierarchy of pedestrian paths provide universal access throughout the Complex which includes: The Promenade, the Primary Paths, and the Secondary Paths. Connections to the Park from the surrounding neighborhood were informed by the existing bus stop locations along West Silver Lake Drive (201) and Glendale Boulevard (92) as well as the existing pedestrian pathways in the neighborhood. This network is depicted by Figure 5-18.

To allow for universal access to park amenities as well as accommodate larger group education programs, an accessible vehicle and bus parking location has been identified at the corner of Silver Lake Boulevard and Armstrong Avenue. To create safe points of entry into the Park, new pedestrian-activated flashing beacon crossings are proposed along Silver Lake Boulevard and West Silver Lake Drive (Figure 5-18). The pathways described below are intended to be pedestrian only with bike circulation around the perimeter.

THE PROMENADE

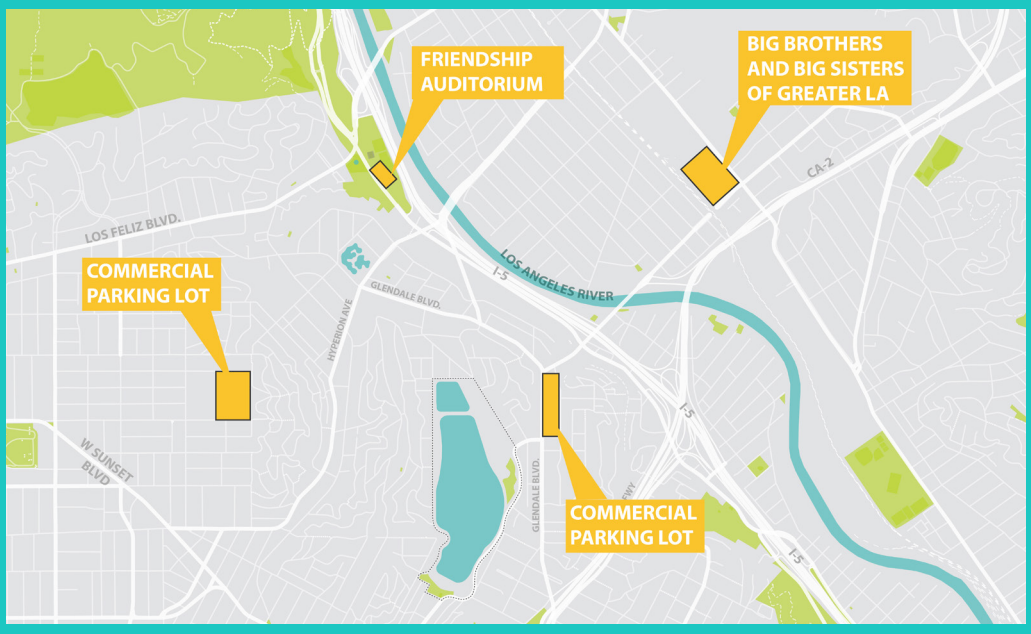
The Promenade is a 2.5-mile continuous walking / running loop connecting all the park zones to one another and the reservoirs. The Promenade is envisioned as both place and connector. On average, it will be 25-feet wide with generous seating and 5-feet wide ornamental planting bands along its edges. These will double as rain gardens during winter months. At a minimum, the Promenade will maintain a 15-foot clear pathway for LADWP maintenance and operations. See Figure 5-19 and it's related conceptual sections for more information on the Promenade design.

THE PRIMARY PATHS

The primary paths are a minimum 10-foot width and connect major destinations and link edges (at street intersections) to the Promenade.

THE SECONDARY PATHS

The smallest pathways at 6-feet in width, secondary paths will provide casual circulation within the gardens, terraces, and habitat areas.



Based on community concern about bus parking at the complex, the design team identified several potential nearby parking lots in which school or education-based buses, or shuttles could wait, including the Friendship Auditorium parking lot. Use of these parking lots as holding areas for buses will need to be negotiated by the City in the future.

Figure 5-18 Circulation Diagram

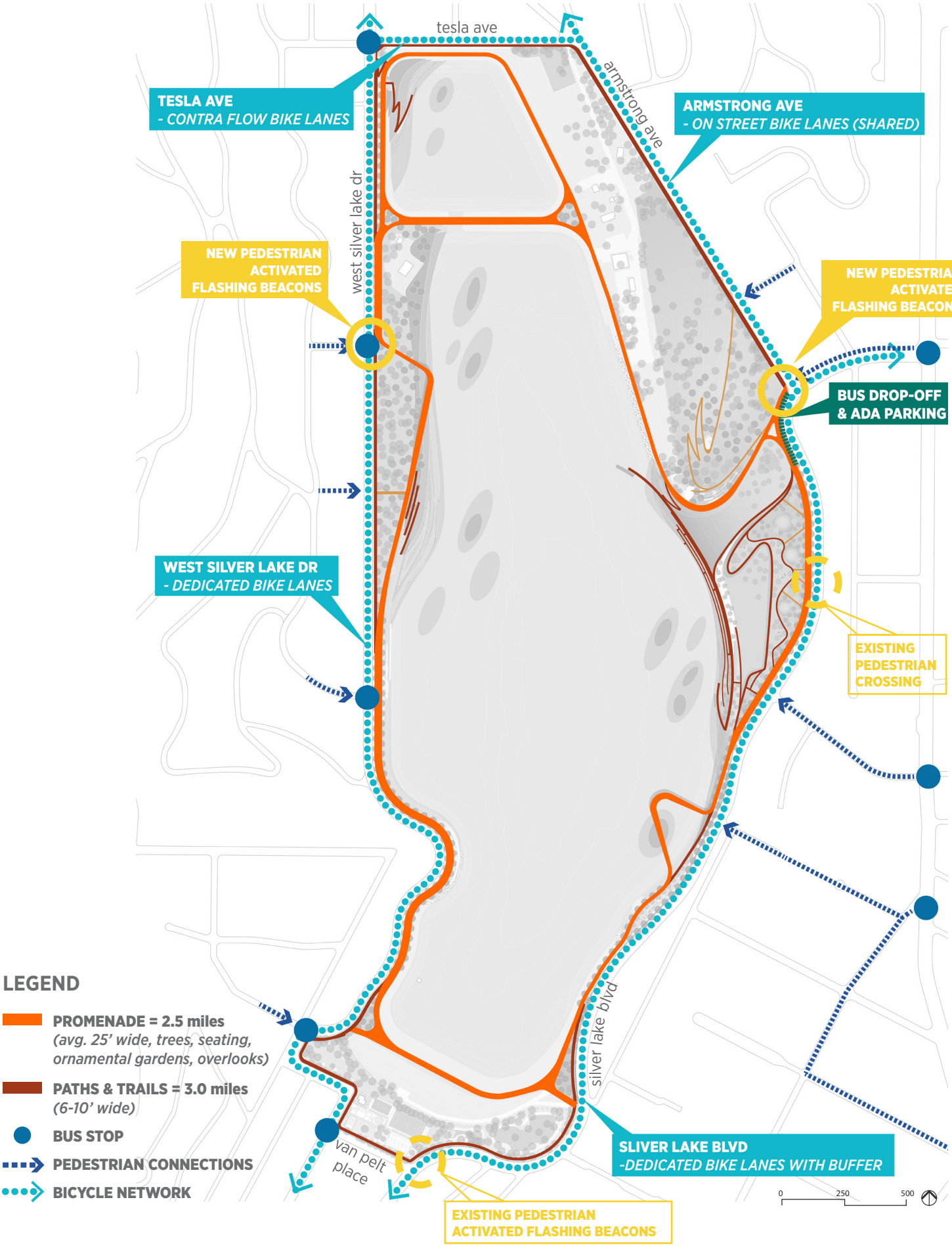
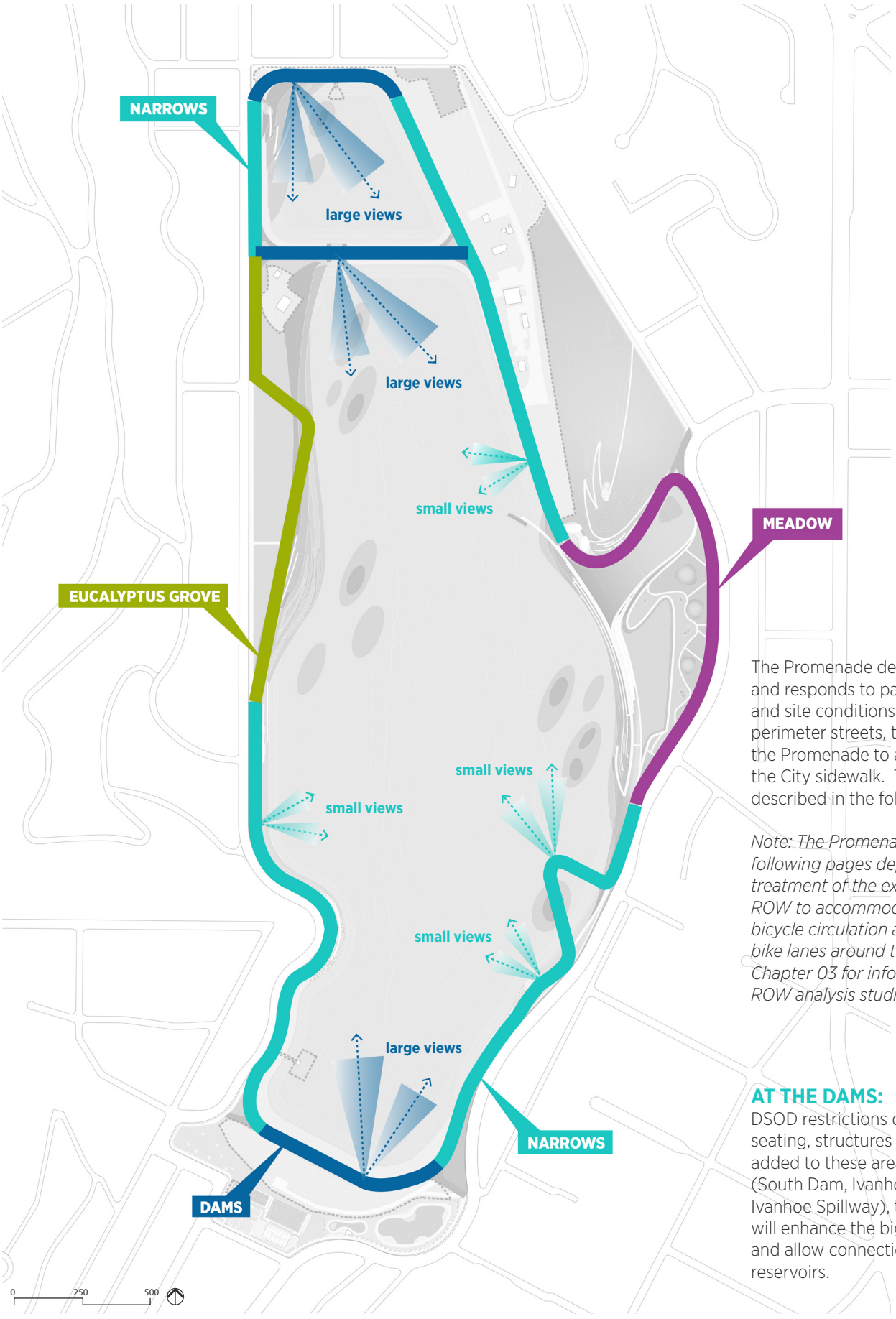


Figure 5-19 Promenade Diagram



The Promenade design is flexible and responds to park spaces and site conditions. Along the perimeter streets, the intent is for the Promenade to also function as the City sidewalk. These changes are described in the following pages.

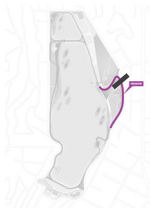
Note: The Promenade sections on the following pages depict an idealized treatment of the existing streets ROW to accommodate improved bicycle circulation and dedicated bike lanes around the complex. See Chapter 03 for information on street ROW analysis studies.

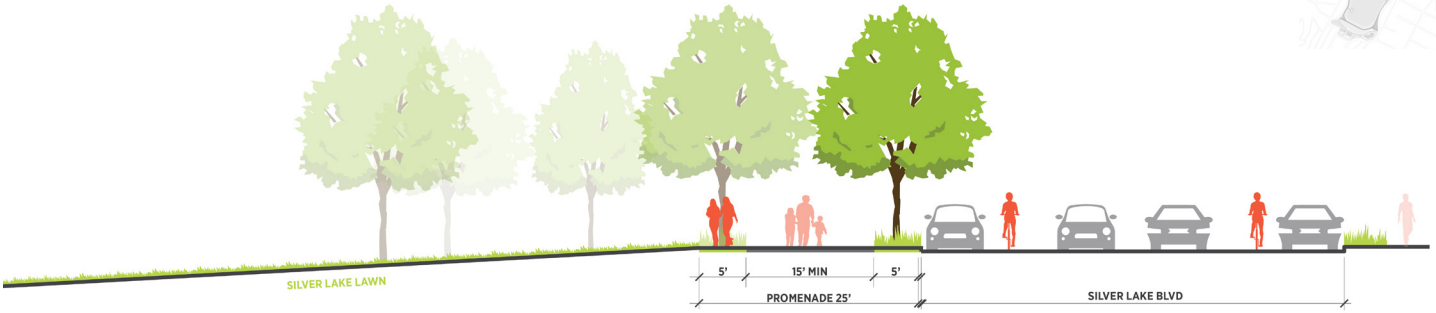
AT THE DAMS:

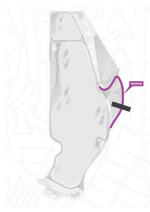
DSOD restrictions do not allow for seating, structures or planting to be added to these areas. At the dams (South Dam, Ivanhoe Dam and the Ivanhoe Spillway), the promenade will enhance the big open views and allow connections across the reservoirs.

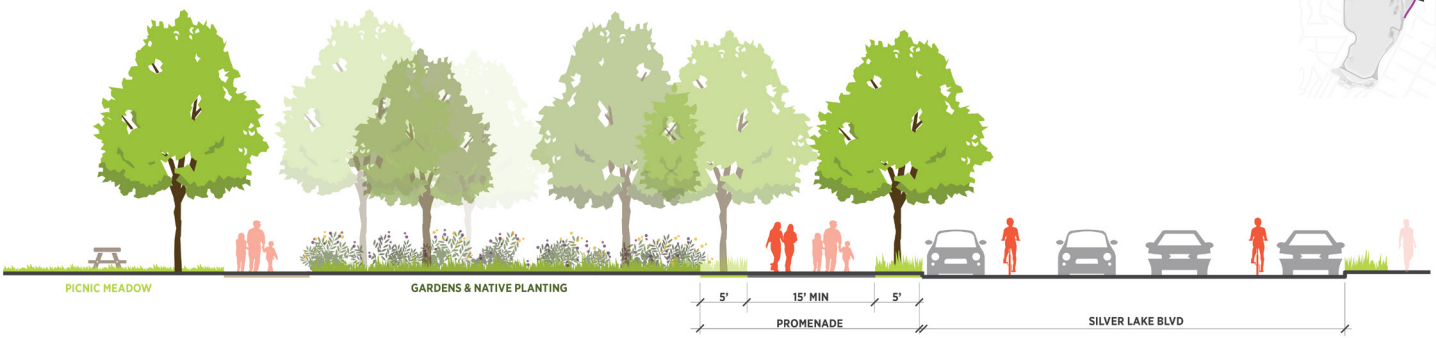
WITHIN THE MEADOW

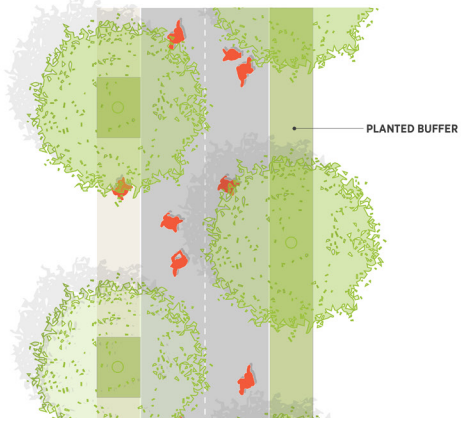
At the Meadow, the Promenade runs along Silver Lake Boulevard before turning west to follow the base of The Knoll. The clear path remains consistent at 15-feet with 5-foot bioswale buffers on either side. An allée of trees planted within the bioswales line both sides of the promenade.





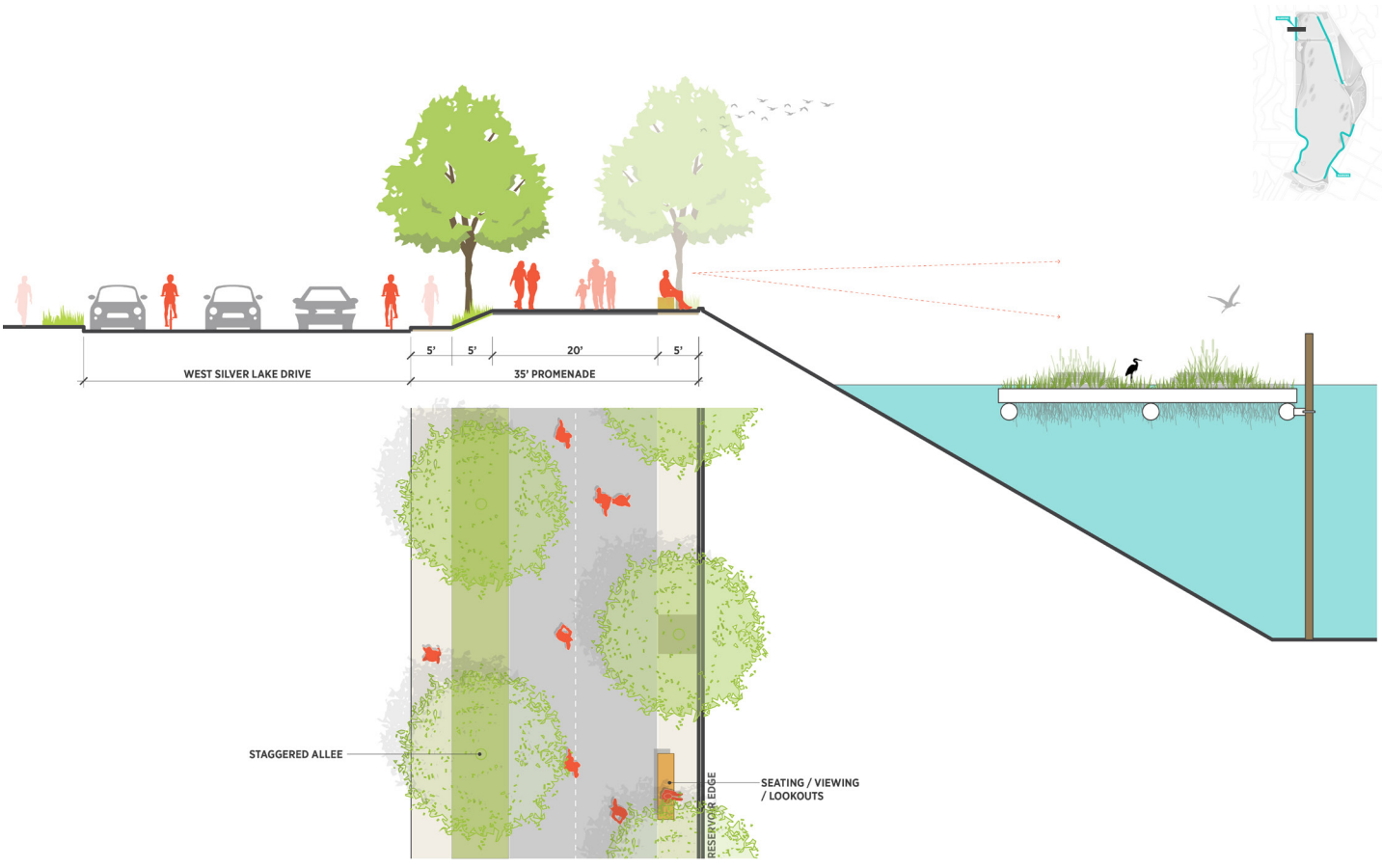


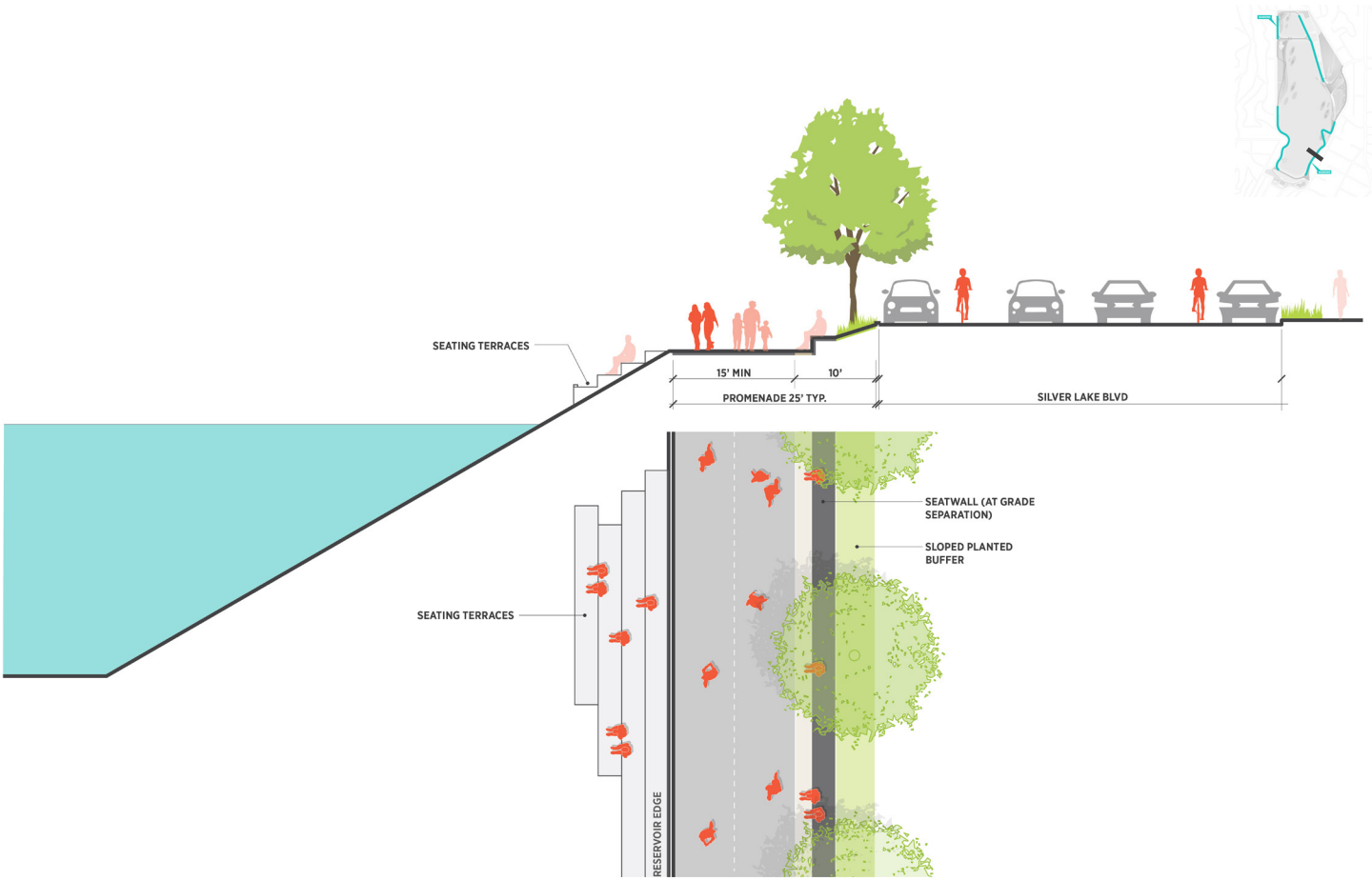


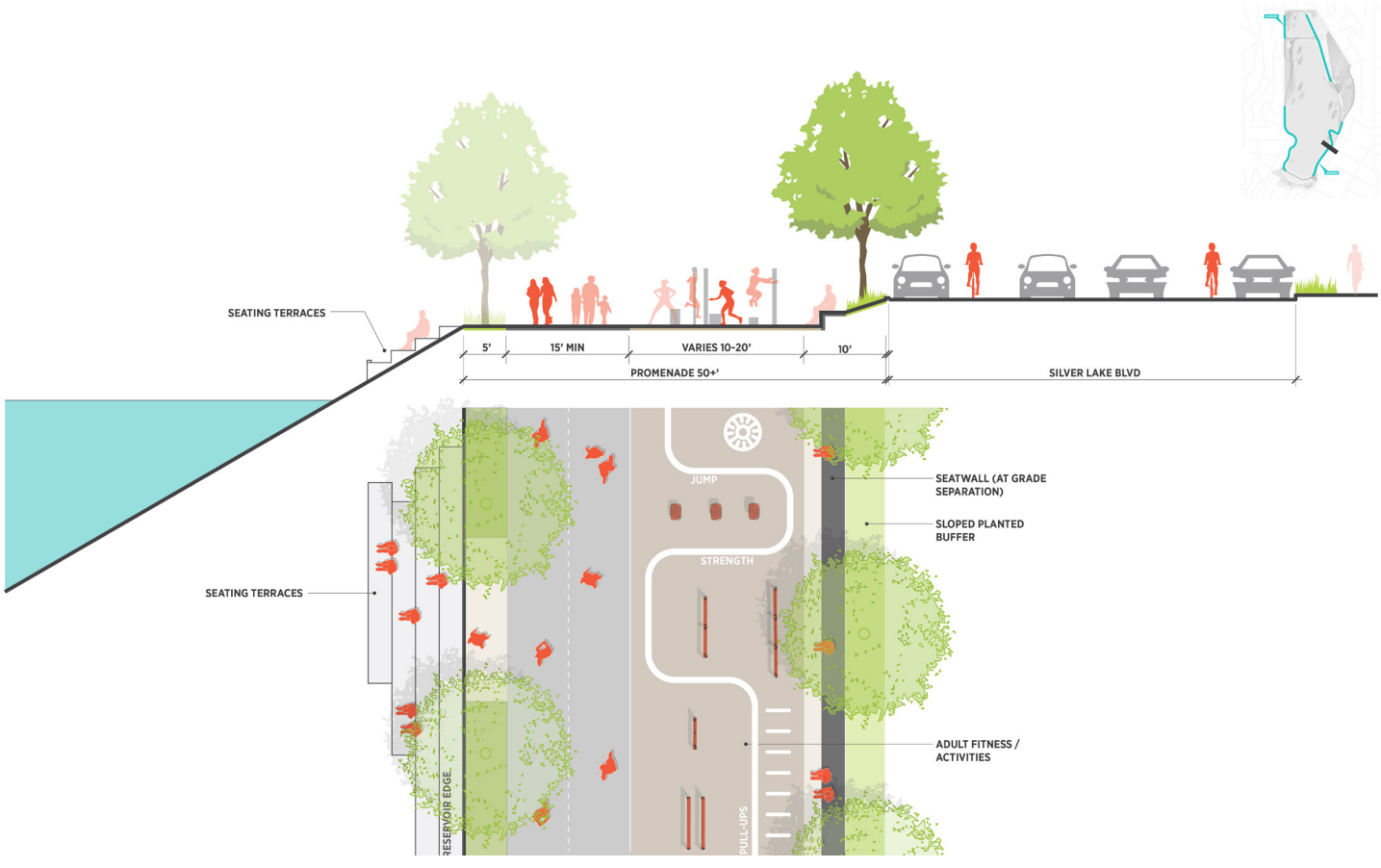


WITHIN THE NARROWS

At the narrowest locations within the site, the Promenade emphasizes inward views of the water and makes space for small overlooks and terraced seating. On the southwest end, a grade change between Silver Lake Boulevard and the reservoir allows for a small seat wall to be integrated acting as a buffer between the Promenade and the road. Where it widens, a small exercise circuit is incorporated. The clear path is 15-feet at its narrowest and 20-feet at its widest in this section.

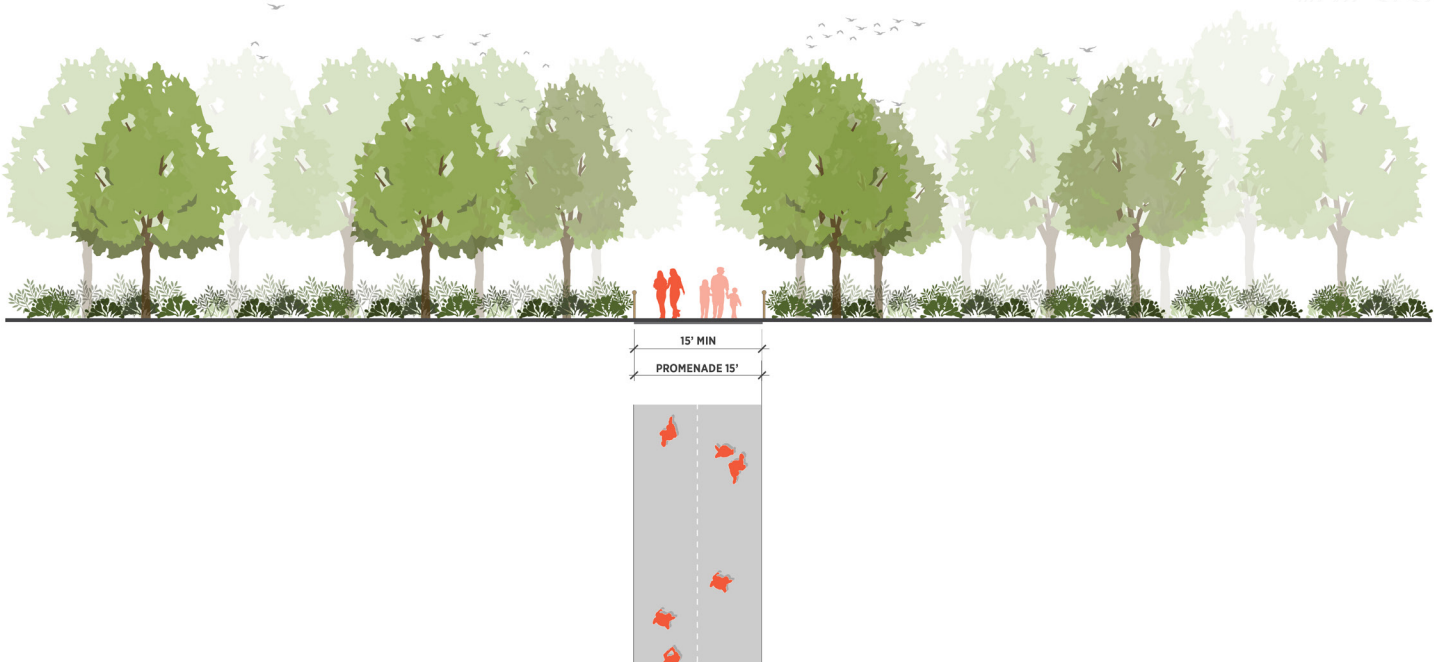


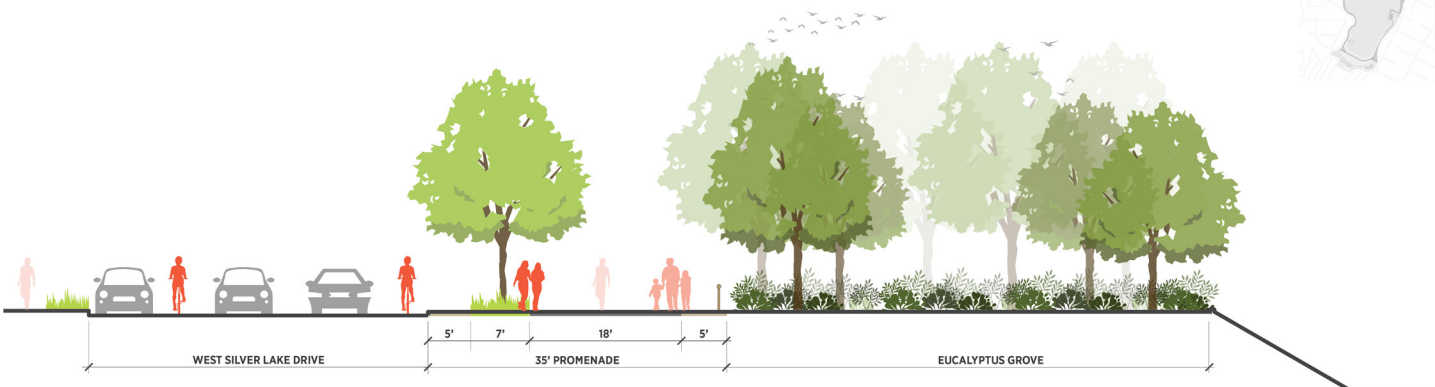

SEATING TERRACES
15' MIN
10'
PROMENADE 25' TYP.
SILVER LAKE BLVD
SEATWALL (AT GRADE SEPARATION)
SLOPED PLANTED BUFFER
SEATING TERRACES
RESERVOIR EDGE

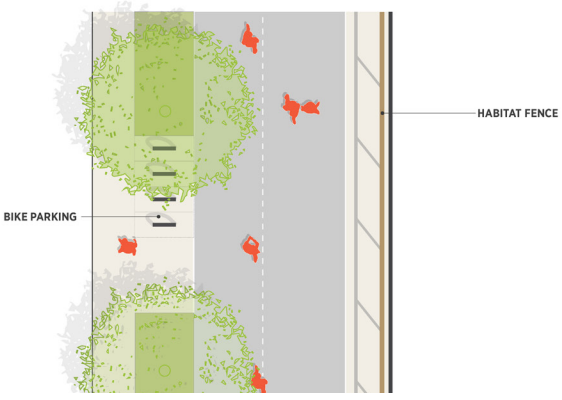

SEATING TERRACES
5'
15' MIN
VARIES 10-20'
10'
PROMENADE 50+'
SILVER LAKE BLVD
JUMP
STRENGTH
SEATWALL (AT GRADE SEPARATION)
SLOPED PLANTED BUFFER
SEATING TERRACES
ADULT FITNESS / ACTIVITIES
RESERVOIR EDGE
PULL-UPS

WITHIN THE EUCALYPTUS GROVE

Within the Eucalyptus Grove, the Promenade is designed to have minimal impact on the restored habitat. At the south end of the Eucalyptus Grove, the Promenade leaves the road and follows the embankment edge to an overlook. Here it is 25-feet wide with a seating band which provides a buffer between the Promenade and habitat area. As it returns to the road from the overlook, crossing through the Eucalyptus Grove, it narrows to 15-feet wide with habitat fences on either side to provide maximum protected habitat. At the north end of the Eucalyptus Grove, a 7-foot bioswale planting strip and trees buffer pedestrians from the street.


15' MIN
PROMENADE 15'


5'
7'
18'
5'
WEST SILVER LAKE DRIVE
35' PROMENADE
EUCALYPTUS GROVE


HABITAT FENCE
BIKE PARKING

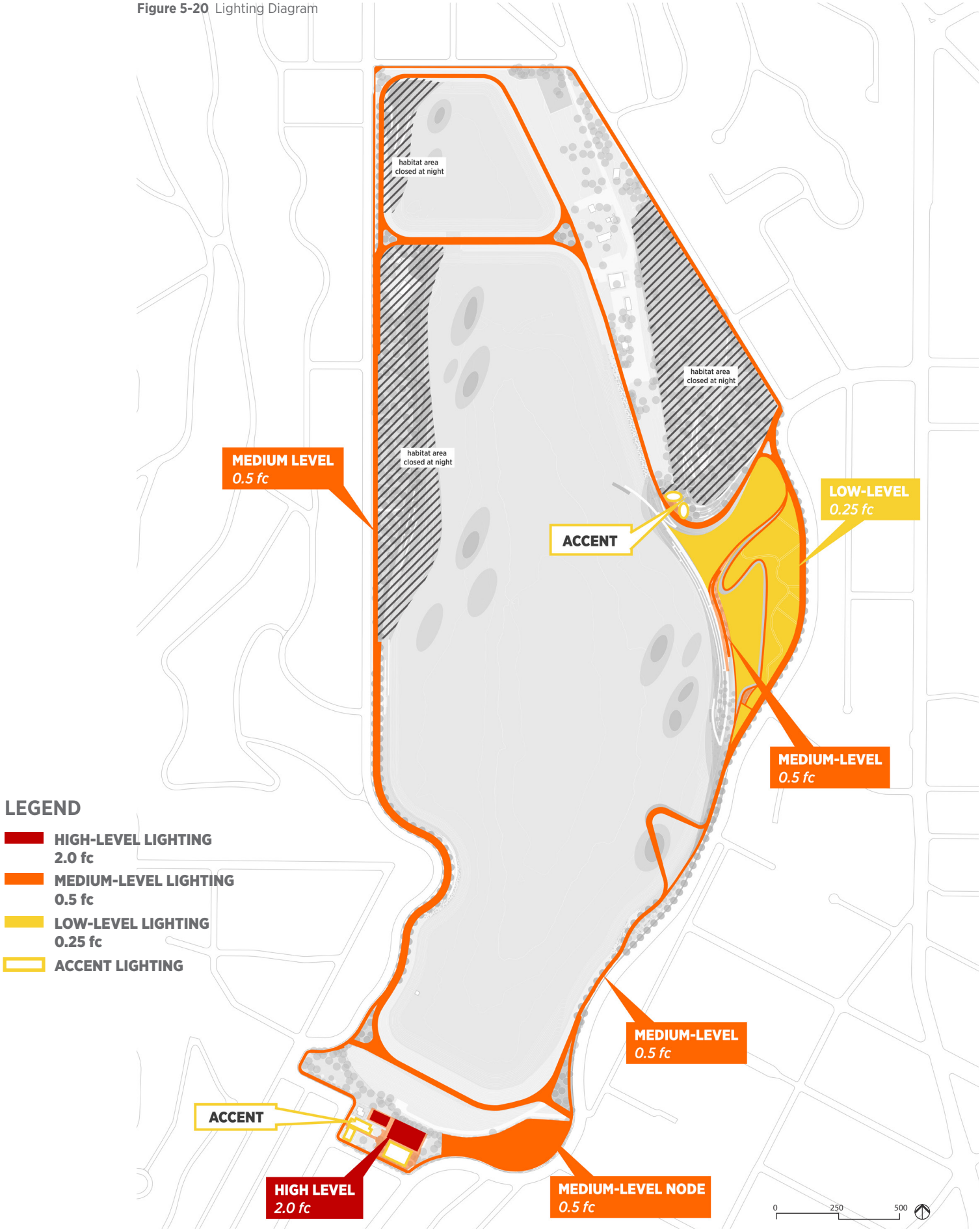
5.6.3 Lighting

An overall objective for the Master Plan is to create a comfortable, safe and secure nighttime environment.

The intent of the design is to compose a nighttime environment with a lighting system that is appropriate to the site's context-driven pressures and create a desired state of supplemental layered light. The net beneficial impacts include improved visibility, greater sense of security, comfort, reduced glare and light trespass, night sky views, reduced clutter during the day, and conserved energy when maintained by responsive management.

The Park will have a clear hierarchy of lighted spaces and connective paths. High Level lighting (+2 fc) is planned for active recreation areas in the South Valley. A Medium Level of lighting (0.5 fc) is proposed along the Promenade, on select Primary Paths and within the seating terraces at the water's edge. A Low Level of lighting (0.25 - 0.5fc) will be introduced along many of the Primary and Secondary Paths to provide circulation to and between the neighborhood and the Park in areas such as the lawns and picnic grove. No lighting is planned for Secondary Paths within habitat areas or in areas that are not intended to be used at night. Figure 5-20 Lighting Diagram depicts proposed lighting levels for the Park.

Figure 5-20 Lighting Diagram



5.6.4 Embankment Edge

The embankment edges around the reservoirs have changed significantly over time from gentler unpaved earthen slopes to steep paved surfaces.

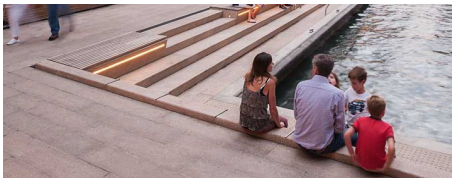
Ivanhoe Reservoir was resurfaced 25 to 29 years ago with concrete paving and is in good condition. The edges are smooth, beige in color, and have a small curb at the edge of the embankment. Silver Lake Reservoir is paved with 3-inch asphalt and is in poor condition. Around the reservoir, large cracks have been filled in and repaired over time and sporadic vegetation emerges from within the voids. An inconsistent 6" curb is located along some of the embankment edge.

The Master Plan proposes three different edge treatments for the embankment that respond to site conditions and the proposed design, working together to create a unique visual experience. These are described below and depicted in Figure 5-21.

Resurfacing
Within the DSOD jurisdictional areas, embankment edges will be resurfaced with smooth concrete (similar to Ivanhoe Reservoir).

Green Edge
To soften the embankments, edges outside the DSOD jurisdictional areas and those that are related to habitat terraces are planted with low, native groundcovers over a geoweb on the 2:1 slope. For more information on plant species, refer to Section 5.6.1.

Riprap
Riprap is proposed in the transitional areas between the Green Edge and Resurfacing. Large boulders will be embedded within the 2:1 slope as well.



People Terraces
People terraces are embedded into the embankments at key locations throughout the reservoir including the East and West Narrows and the Eucalyptus Grove.

SAFETY OF EMBANKMENT EDGES:

The proposed design removes the steep, slippery surface of the existing reservoir to the maximum extents possible and replaces it with a combination of soft vegetation, riprap, and seating terraces to minimize risk of people getting in the water.

The Master Plan recommends that a consistent curb of 6- to 12-inches be maintained around the edge of the reservoir to provide a visual barrier between the walking path and edge of slope. Wherever possible, it is also recommended there be a 5-foot buffer between the path and this edge.

Figure 5-21 Embankment Edge Diagram

5.6.5 Fences and Guardrails

Based on prior neighborhood surveys, recommendations by the design team's biologist, and documented best practices for wildlife management, the project team recommends removing the perimeter fence and strategically replacing it where needed to secure LADWP lands, protect habitat, and protect people. The perimeter fence should be removed overtime in phases and in coordination with future park operations plans as various zones of the park design are constructed. See Figure 5-22 for a conceptual plan of where fences and guardrails are proposed for the Park.

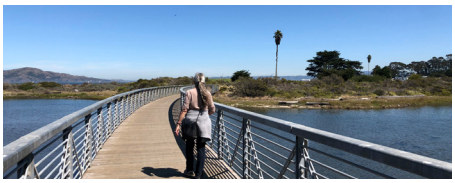
LADWP Fence

LADWP will need to secure areas around the SLRC for its operations and to ensure safety of the public and employees. These include a large area on the east side of the site in which most of LADWP's facilities and structures are located, north Ivanhoe Dam, Silver Lake Dam, and an area on the west side of Silver Lake Reservoir associated with a gatewell structure and regulator station.

These spaces will be secured with a 8-foot high, continuous fence with gates as needed for access by LADWP. The fence design should follow best practices for wildlife-friendly fence design and be highly visible to birds to minimize risk of collisions. The fence design should provide a minimum 6" clear zone at the bottom for small mammals to pass through. There should be no elements that could injure or trap wildlife.

Habitat Fence

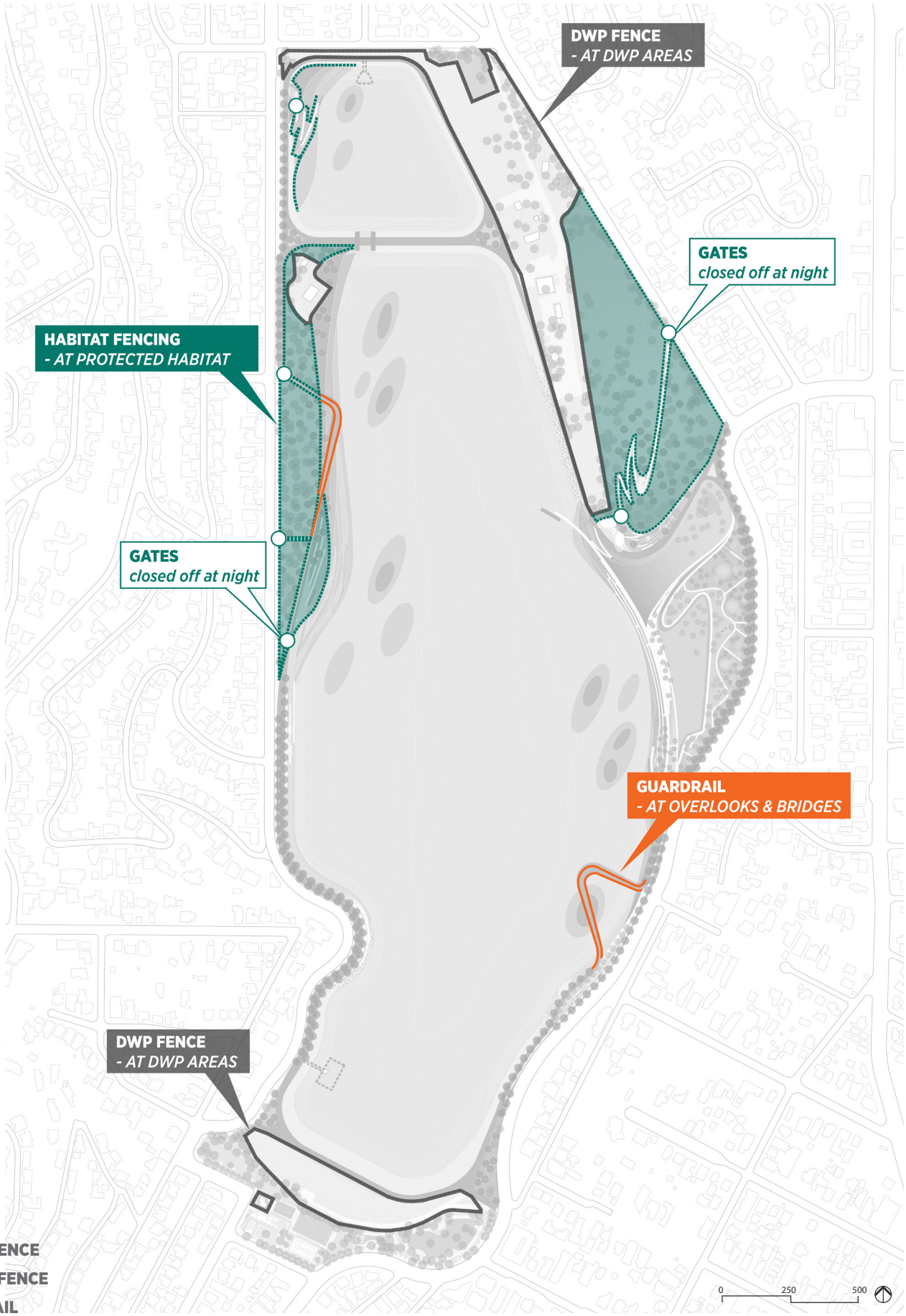
As described in Chapter 06 Park Sustainability, tall fences can be dangerous to wildlife, causing injury or death, and can block wildlife from accessing vital food, nesting, and water resources. The Master Plan recommends installing wildlife-friendly, habitat fences along all pathways within protected habitat areas. The habitat fences will be designed to allow unobstructed travel by birds and mammals to and from the SLRC. The Master Plan recommends a 3-foot high, open rail fence with untreated wood posts and rails. Where walkways enter protected habitat areas, swing gates at each end will be included to close these walkways at night and during nesting season if needed.



Guardrail

Where the two overlooks project out over Silver Lake Reservoir, 42-inch galvanized steel guardrails with wood top rails will be installed according to current California Building Code.

Figure 5-22 Fences and Guardrails Diagram



CHAPTER 6
PARK SUSTAINABILITY

contents

figures

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6.1 Park Sustainability Overview

The Master Plan design is rooted in the environmental and social values of sustainable design. Responses to the Park Activities and Uses Questionnaire for Community Workshop 02 demonstrate that the community places a high value on amplifying the power of the reservoirs to attract and sustain wildlife, connect with nature and neighbors, and educate. In subsequent questionnaires from Community Workshops 03 and 04 a clear desire was expressed for a park that balances habitat expansion and enhancement with human uses.

When habitat is disappearing and species populations are diminishing at alarming rates, reintroducing wilderness into our cities offers a means to not only offset habitat losses, but also demonstrate how we can coexist with wildlife in our urban environments. In response, the Master Plan design interweaves systems of ecology, water, and education into a balanced whole. These visible forms of sustainability help portray the Silver Lake neighborhood and the City of Los Angeles as leaders in freshwater resource management and leaders in the stewardship of urban wildlife.

The Master Plan incorporates habitat enhancement and expansion that emphasizes re-establishing wetlands at the site, a water management strategy that supports a healthy aquatic ecosystem, and an education facility and programs that engage the community and teach residents, especially youth, about wildlife stewardship and climate adaptation.

6.2 Habitat Enhancement & Expansion

Today, the SLRC is known to be home to a small group of birds including a nesting pair of herons as well as small terrestrial mammals. Additionally, it's a popular spot for migrating waterfowl along the Pacific Flyway. However, up until recently, the Complex has been managed as a sterile reservoir to support the drinking water needs of Los Angeles. Its habitat value is moderate and most significantly, it lacks food resources for birds and small terrestrial species.

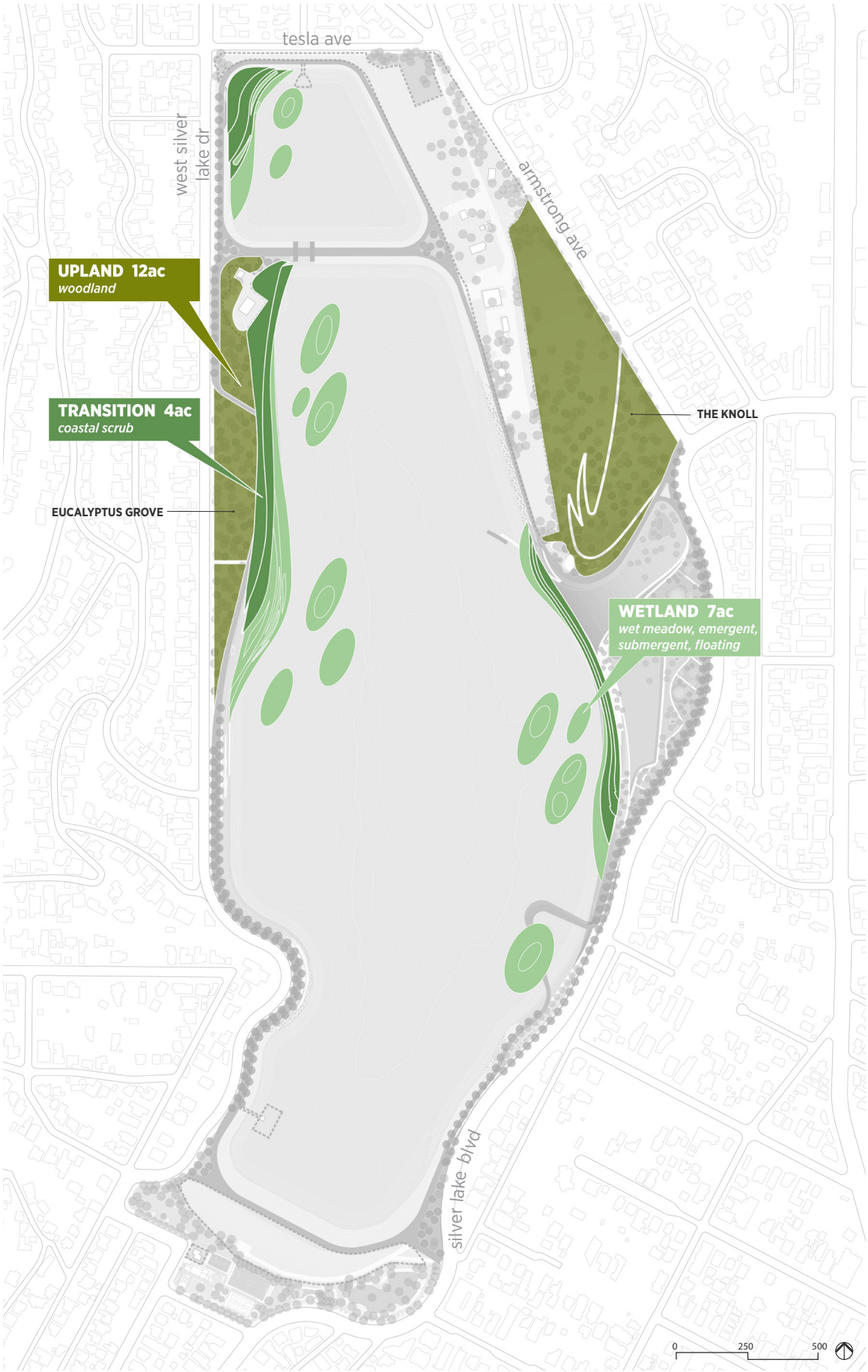
To remedy this, the Master Plan design focuses on increasing habitat diversity and introducing a food web. Many species have complex life cycles and depend on a variety of habitat types for their growth and development. The range of habitats proposed in the Master Plan will support an increasingly diverse array of birds, fish, amphibians, invertebrates, and other aquatic species. To provide this biodiversity, the Master Plan design maximizes the habitat value of existing wooded spaces and creates new habitat resulting in a combined total 23 acres of dedicated habitat area as seen in Figure 6-1.

The Eucalyptus Grove and Knoll are the two primary existing wooded areas in the Complex comprised of large trees, at varying stages of their lifespan, offering some nesting habitat for birds. Together, these woodlands total 12-acres and will be replanted to enhance their habitat value. Expanding from these lands, the reservoir embankments will be altered to create 5 acres of new transition (coastal scrub) and 6 acres of new wetland habitat to increase nesting and foraging resources for birds and terrestrial species. To complete this food web, fish will be re-introduced to the reservoirs.

The Silver Lake community will be connected to natural processes and ecological cycles, while maintaining a balance between public access and sensitive wildlife areas. To achieve this equilibrium, most habitat areas are protected with limited public access along designated pathways, boardwalks over sensitive planting areas, and overlooks and platforms to observe wildlife from a safe distance. Critical to successfully integrating habitat within an urban park is education that fosters an appreciation for conservation and stewardship.

Vibrant ecosystem supporting upland, transition, and wetland habitats.

Figure 6-1 Habit Zones Diagram



6.6.1 Habitat Goals

Measurable goals and objectives are essential for guiding the development and implementation of habitat restoration efforts and establishing a means to measure progress and evaluate success. The following goals were developed during the Master Plan process to support the Park's vision.

Goal No. 1: Improve ecological functions of the reservoir, embankments, and upland areas
To improve the ecological functions of the site, hardscape such as the embankments should be converted to native habitat where feasible, water quality and levels should be maintained to sustain wetland habitat, and an aquatic food web should be introduced.

Goal No. 2: Maximize native biodiversity
To maximize biodiversity within the Complex and with a focus on local and migratory birds, wetland habitat should be reintroduced including floating wetland islands. These wetlands should be designed and planted to meet the year-round foraging and nesting needs of a range of waterfowl species, creating shallow shorelines and water depths that vary between less than eight inches to eighteen inches.

Goal No. 3: Enhance existing native wildlife populations
The habitat value of existing wildlife areas, such as the Eucalyptus Grove and Knoll, should be enhanced via replanting strategies that protect and support existing wildlife. Disturbed habitat should be restored and the spread of non-native, invasive species prevented.

Goal No. 4: Balance wildlife and human uses
To create a park that supports wildlife and human uses, dedicated protected habitat areas and buffers between wildlife areas and active park spaces and pathways should be provided. Ecological education, interpretive signage, and outreach programs should be developed to create a platform for public understanding and support of the Park's habitat goals and objectives.

(source: sciencemag.org)

During the Master Plan design process, a September 2019 study was published in *Science* magazine indicating that the number of birds in the United States and Canada have been in sharp decline over the last half-century. Given that the reservoirs are such a large, freshwater resource for local and migratory birds, particularly waterfowl, the Master Plan's habitat recommendations prioritizes these avian species.

BIODIVERSITY

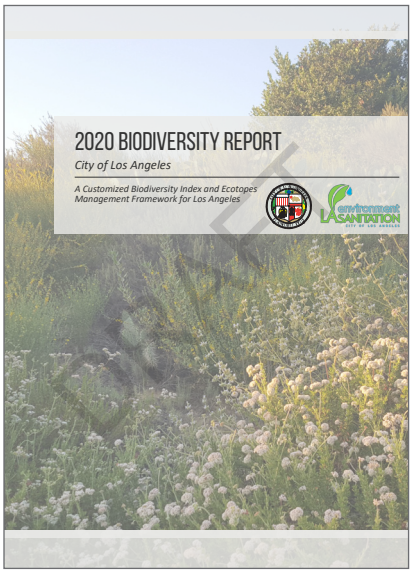
Definition: The flora, fauna, and ecosystems that enrich and sustain natural and urban areas. (source, LASAN).

In urban areas, biodiversity can be thought of as the variety of flora, fauna, and ecosystems that help maintain the balance of nature and sustain cities. Urban natural areas provide habitat connectivity and support the conservation of numerous sensitive species.

In 2017, the City of Los Angeles passed the City's Biodiversity Motion and in response, LASAN began developing a LA Biodiversity Index, planned for release in 2020. As a initial step and also in 2017, the City of Los Angeles measured itself against an established biodiversity index, the Singapore Index on Cities' Biodiversity. The City of Los Angeles then used the Singapore Index as a starting point for developing a separate index customized for the City's specific setting, the LA Biodiversity Index. The LA Biodiversity Index includes indicators that account for three core themes of urban biodiversity: conservation of native biodiversity; social aspects of biodiversity, with a focus on equity; and governance and management activities. The three themes are divided into eight indicators and 23 metrics that will be used to measure progress on biodiversity issues (Figure 6-2).

The Master Plan team recommends that the City applies this index to the implementation of the proposed Park and develop a SLRC Biodiversity Plan.

Figure 6-2 Draft 2020 Biodiversity Report and LA Biodiversity Index



Theme	Indicator CODE	Indicators	Metric CODE	Metrics
1. Native Species Protection & Enhancement	1.1	Habitat Quality	1.1a	% Natural Areas
			1.1b	Habitat Quality of Urban Landscapes, Water Features & Open Space
			1.1c	Connectivity of Natural Areas
			1.1d	Connectivity of Urban Landscapes, Water Features & Open Space
	1.2	Indicator Species	1.2a	% Open Space with Charismatic Umbrella Species
			1.2b	Common Indicator Species Presence in Urban Areas
			1.2c	Sensitive Indicator Species Gained or Lost from Ecotopes
	1.3	Threats to Native Biodiversity	1.3a	Urban Edge Effects on Natural Areas
			1.3b	Presence & Spread of Invasive Plants
			1.3c	Wildfire Frequency Departure from Natural
2. Social Considerations & Biodiversity	2.1	Access to Biodiversity	2.1a	Access to Natural Areas
			2.1b	Neighborhood Landscape/Tree Canopy Footprint
	2.2	Education	2.2a	Schools (K-12) Biodiversity Topics
			2.2b	Off-Campus Natural Area & Biodiversity Educational Visits
			2.2c	Campus & Park Nature Education Gardens/Areas
	2.3	Community Action	2.3a	Community Scientist Activities and App Utilization
			2.3b	# and Acres Certified Biodiversity-Friendly Areas
3. Governance & Management of Biodiversity	3.1	Governance	3.1a	Biodiversity Vision/Action Plan
			3.1b	% Departments with Biodiversity Programs & Policies
	3.2	Management	3.2a	% Protected Natural Areas
			3.2b	Natural Areas Management and Monitoring
			3.2c	Management of Invasive Species & Pests
			3.2d	Management of Threatened, Endangered, & Species of Concern

6.2.1 Habitat Typologies

Three primary habitat typologies are proposed for the new Park to support a healthy ecosystem and food web: Upland, Transition, and Wetland habitats as shown in Figure 6-3.

To create this new ecological transect, the existing steep embankments of the reservoirs will be modified to have a more gentle slope in order to introduce a transition habitat zone planted with coastal scrub species; vegetated habitat trays will then be built to create three distinct wetland habitat sub-types: wet meadow, emergent, and submergent. The differences between these wetlands are described in subsequent pages of this section.

To supplement the habitat trays and provide more protected wildlife areas, floating wetland islands will be introduced. The floating islands will be designed to include all three wetland habitat sub-types. In combination, these elements will increase biodiversity and allow the introduction of fish into the reservoirs. Figure 6-4 is a simplified depiction of the proposed ecosystem with the indicative species anticipated to inhabit the Park when it's completed.

Figure 6-3 Proposed Habitat Typologies

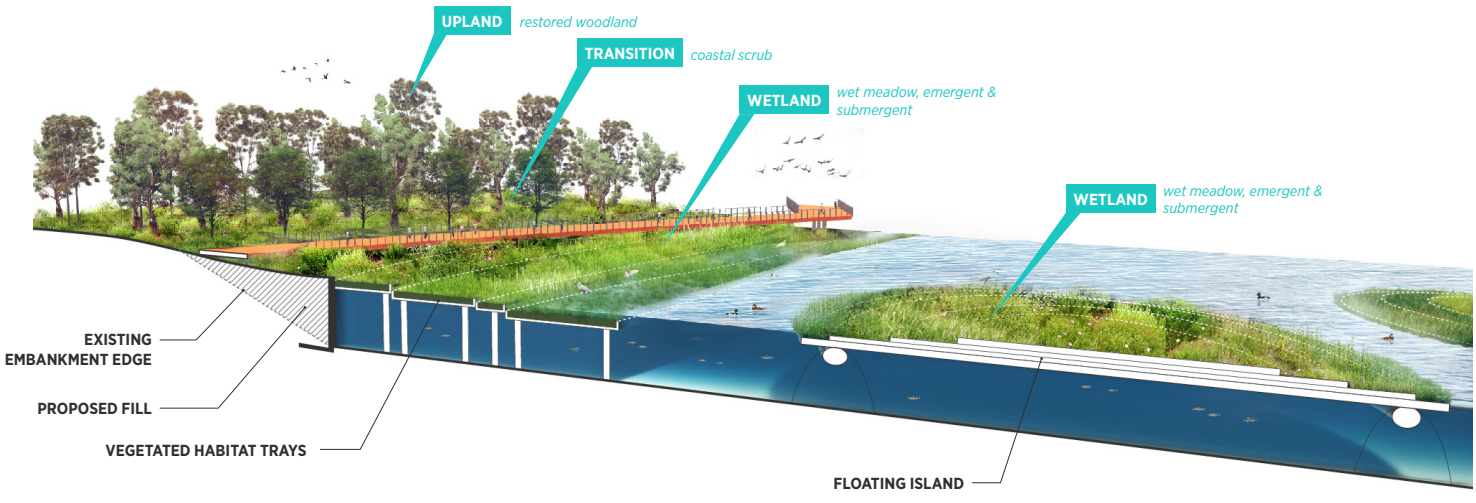
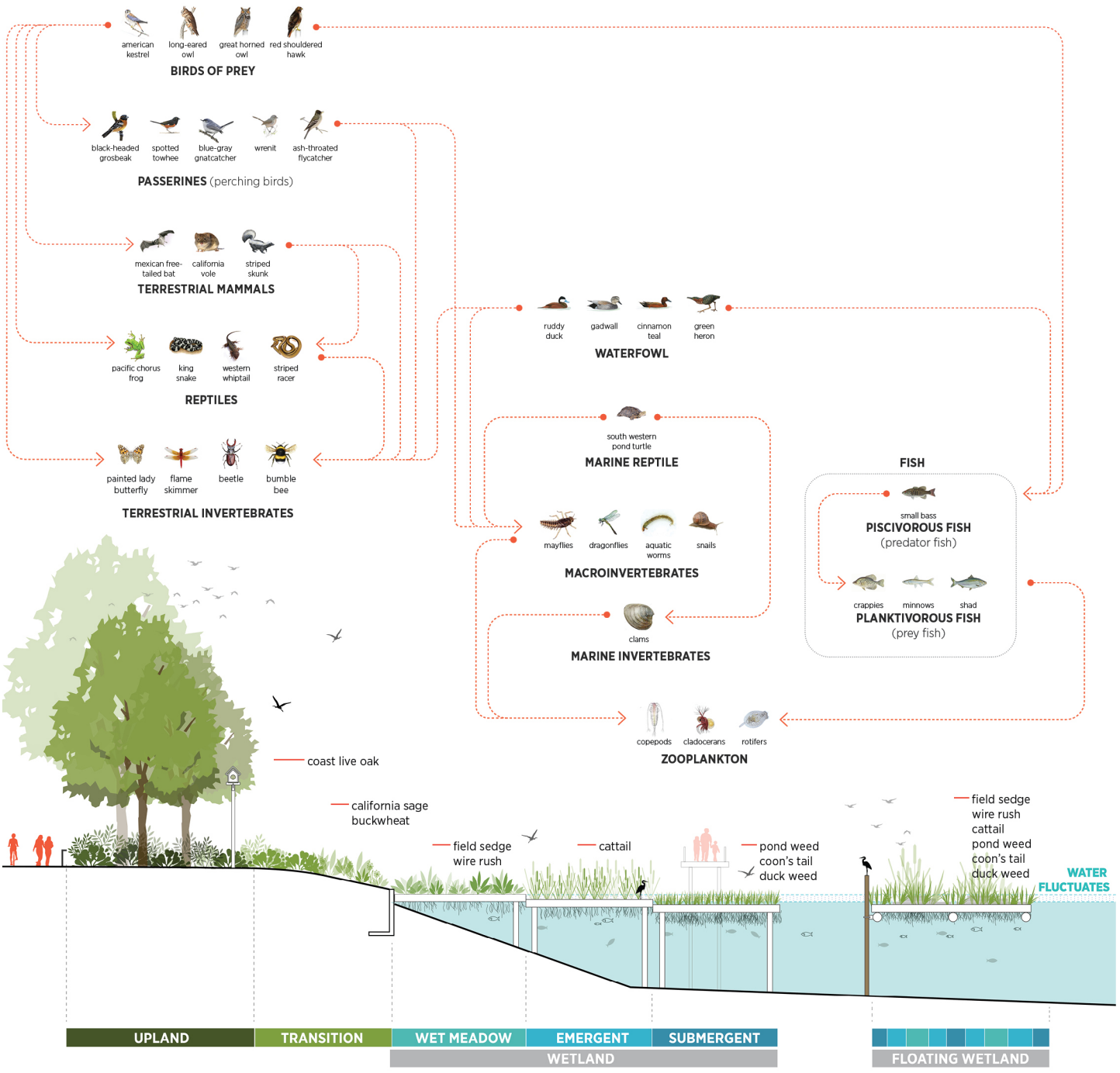


Figure 6-4 Healthy Ecosystem Conceptual Diagram



UPLAND HABITAT

Two existing wooded areas, the Eucalyptus Grove and Knoll shown in Figure in 6-1, are dominated by mature stands of non-native Eucalyptus trees and a mostly non-native understory plant community. Based on field observations, many of these Eucalyptus trees appear to be either nearing the natural end of their lives or are of questionable health. While the Eucalyptus trees offer habitat value for bird nesting they offer limited food resources outside of nectar for insects, the birds that feed on them, as well as directly to nectar feeding birds. The Master Plan recommends the development of a tree succession plan to replant these areas with more native species of higher habitat value such as the sample tree palette provided in Chapter 5 which includes species such as Coast Live Oak and California Sycamore.

Prior to developing a tree succession plan, a tree health assessment will be required for the Complex. A tree succession plan should be developed according to the following considerations:

- Selectively remove trees identified as poor in health and/or posing the risk of falling branches or fungal and pest infestation
- Replace 80% of existing trees over a 15-year timeline
- Provide 75% canopy coverage within 20 years

The tree succession plan should also support improving plant species diversity in the understory. Eucalyptus trees are highly competitive with understory plants since they are efficient consumers of available water and nutrients and can shade out and stifle smaller plants with their large canopies and leaf drop. Chapter 5 of this report offers a sample plant palette for improving upland understory habitat value. Figure 6-5 graphically depicts the tree succession strategy over the course of 15 years.

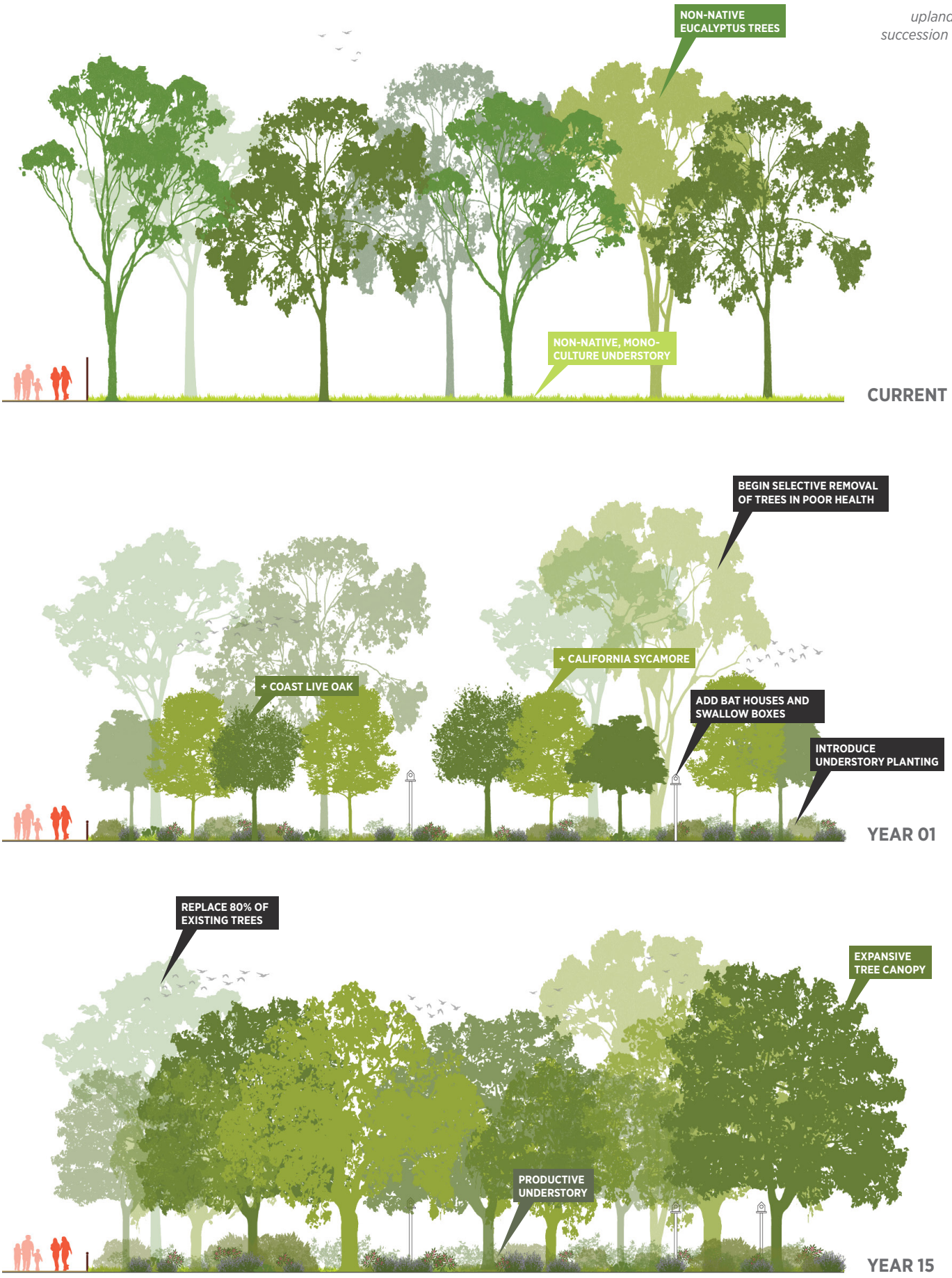
An upland habitat planting strategy for the Eucalyptus Grove and Knoll that priorities plant species diversity and food resources will benefit small mammals such as the Mexican free-tailed bat, California vole, and striped skunk, reptiles, as well as a variety of bird species who nest in large trees, such as the great blue heron and birds of prey such as the great horned owl. Bat houses and swallow boxes are also recommended additions to the upland areas to help control insect populations.

TRANSITION HABITAT

Transition habitat refers to a plant community whose species are adapted to the diverse and varying environmental conditions that occur along the boundary between upland and wetland areas. In Southern California, this zone is characterized by low-growing woody shrubs such as sage and buckwheat species. Transition habitat is a highly productive ecotone and serves a great many wildlife species. It offers food resources as well as cover while they move between aquatic and woodland areas.

A sample planting palette of species recommended for this gradient landscape is provided in Chapter 5. Many are flowering and fruiting shrubs which provide food resources for not only terrestrial mammals and bird species but also terrestrial invertebrates such as pollinators and beetles which are essential to a healthy ecosystem and food web.

Figure 6-5 Sectional Depiction of Tree Succession Strategy



WETLAND HABITAT

Wetlands are areas between terrestrial and aquatic habitats that offer a range of diversity in plant communities and the species which inhabit them. Above the soil surface, wetlands provide cover, food and nesting opportunities for birds, amphibians, turtles, and insects, primarily from vegetation. Below the soil surface, in the root zone, macrophytes (aquatic plants) provide an environment for microorganisms that helps take up nutrients into plant tissue. They are also an indicator species for water quality of the reservoirs.

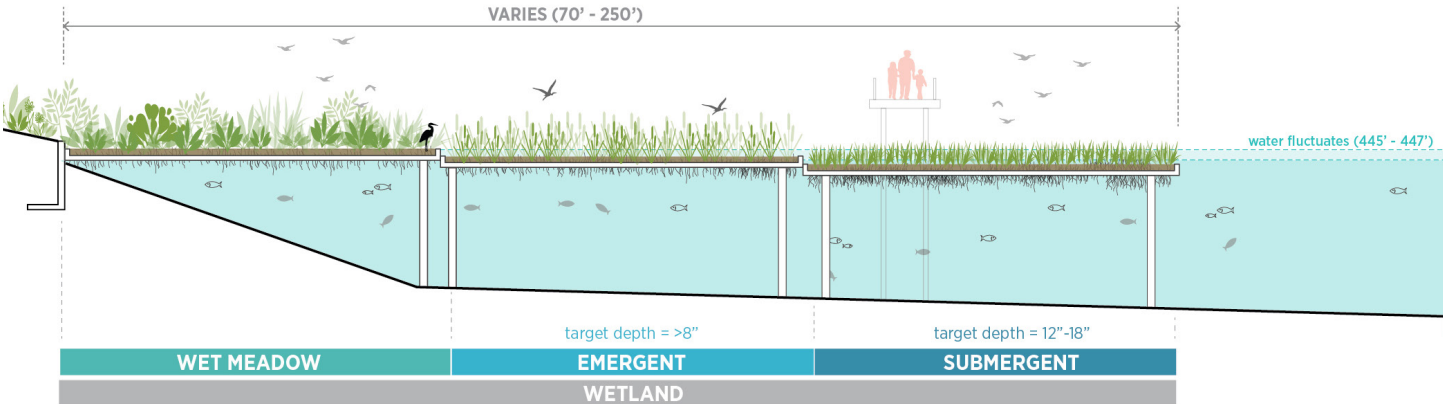
There are three sub-types of wetlands proposed in the Master Plan, each of which correlates with levels of soil saturation and has a direct relationship to the water table of the reservoirs. These wetland sub-types are described below. Sample plant palettes for the wetlands can be found in Chapter 5. Wetlands are proposed to be implemented via constructed habitat terrace trays and floating islands as depicted in Figures 6-6 and 6-7.

Wet Meadows are wetlands with soils that are saturated for part or all of their growing season. They are often referred to as the "sponge" of the local ecosystem. Unlike other wetland types, a wet meadow does not have standing water present throughout the year except for periods during rainy seasons. In Southern California, wet meadows occur with a great variety of plant species, but several are common such as field sedge and wild rush. As a highly diverse habitat, wet meadows attract large numbers of birds, small mammals, and insects — including many species of butterflies. Waterfowl, especially mallard ducks, frequent wet meadows and yellow-headed and red-winged blackbirds occasionally nest in them as do various frog species.

Fresh **Emergent** wetlands flood frequently and typically have saturated soils that support common cattail and bulrushes. While water depths within emergent wetlands can vary, the target depth for the Master Plan design is about eight inches which is ideal foraging habitat for many migratory waterfowl such as dabbling ducks. This wetland type provides food, cover, and water for numerous mammals, reptiles, and amphibians as well as macroinvertebrates such as dragon flies and snails.

Submergent wetlands are continuously inundated with water. Plants found in this habitat type are either rooted to the soil below the water table or they float. Aquatic plants such as pond weed, coon's tail, and duckweed are typical submergent wetland species. Found along the edges of open water, submergent wetlands provide critical habitat for not only waterfowl and amphibians but also for marine invertebrates and zooplankton, the building blocks of aquatic food webs. The target depth for the proposed submergent wetlands is 12 to 18 inches to not only support biodiversity but to also provide a winter refuge for local and migratory waterfowl such as the great blue heron, ruddy ducks, and cinnamon teals.

Figure 6-6 Typical Constructed Habitat Terrace Tray Wetland Section



6.2.2 Floating Wetland Islands

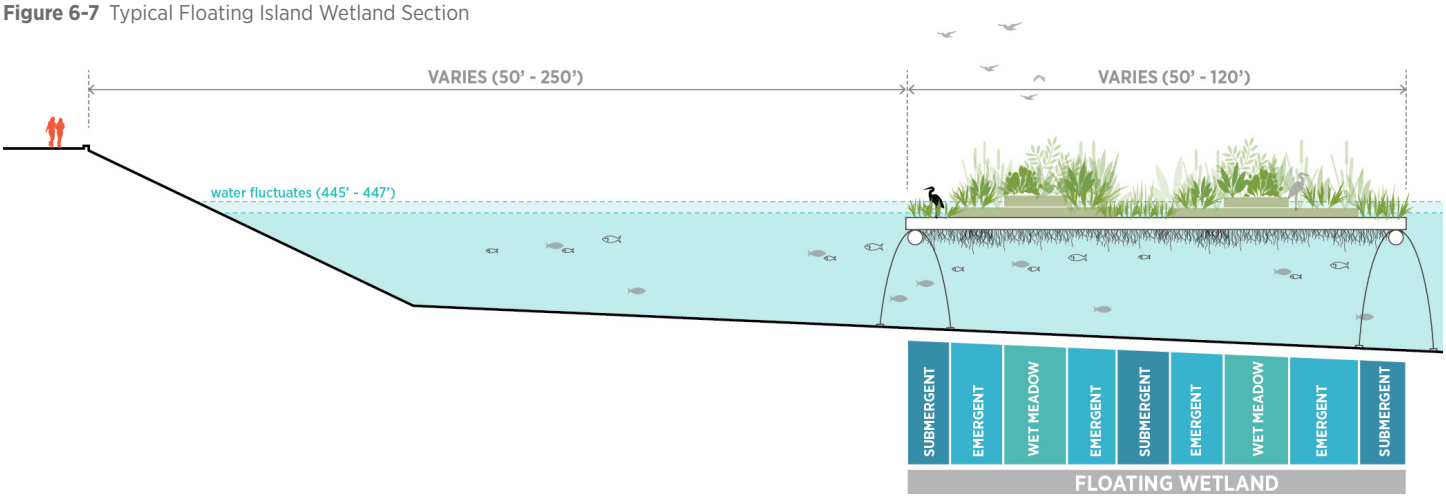
Floating wetland islands are proposed in the Master Plan design to compliment the land-based, constructed habitat terrace trays along the reservoir embankments. They will be designed with undulating soil profiles to accommodate all three wetland habitat sub-types described above to maximize biodiversity and habitat benefits. Unlike land-based wetlands, floating wetlands create habitat underneath them within their below-water root zone making the water column around floating wetlands a highly ecologically productive area that attracts fish and many other aquatic species. Microorganisms that live within this root zone, include algae, grazing snails, clams, insects (egg and larvae stages only), crustaceans, fish, and amphibians. Floating wetlands provide food for fish and other aquatic organisms, as well as shaded and sheltered spawning habitat. Additionally, they are resilient to water level fluctuations and offer a higher degree of protected nesting habitat from both human disturbance and predation than land-based wetlands.

The value of a given island to birds varies according to its location, size, shape, and surface cover. It is also important for the islands to be designed to provide a balance of feeding and nesting areas. In general, the further an island is from the shore, the more attractive it is likely to be to birds, particularly nesting waterfowl.

Floating wetlands may also be preferred nesting sites by many species of wading birds which often nest in woody vegetation either submerged or surrounded by water. The floating islands proposed in the Master Plan design are intended to be varied in size and set-back from the shoreline to offer a variety of foraging and nesting spaces for waterfowl and other aquatic species. To create additional protection for nesting birds, the density of vegetation on the islands should also be varied to provide areas with high vegetation coverage.

Together, the proposed wetland terraces and islands provide a framework to support a healthy, biodiverse aquatic ecosystem and essential access by local and migratory birds to fresh water and foraging habitat. They provide a variety of beneficial functions and value including water storage, water quality protection, habitat for fish, wildlife, and sensitive plants, as well as the opportunity for education and research.

Figure 6-7 Typical Floating Island Wetland Section



6.3 Wildlife

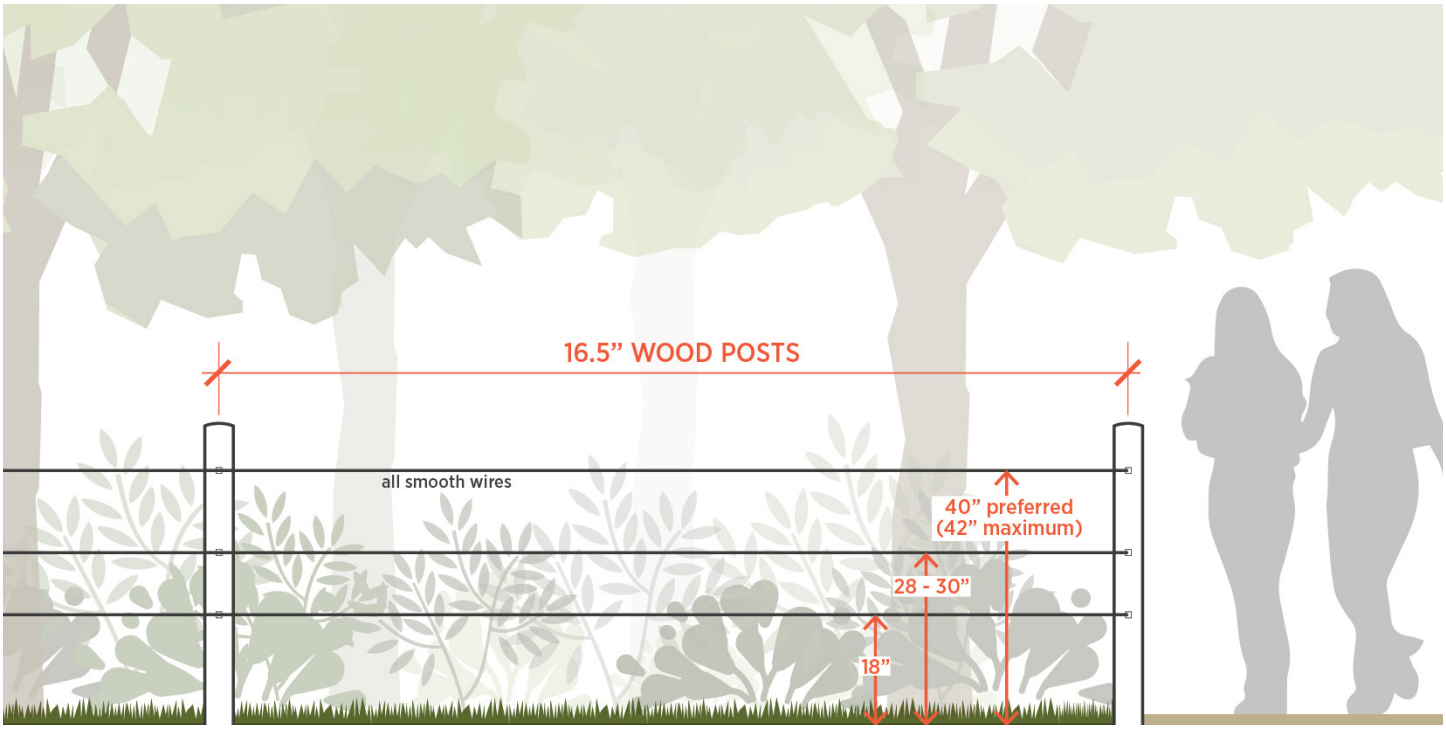
As habitat continues to disappear in our increasingly urbanized world, introducing wildlife habitat back into cities is becoming ever more critical. In so doing, more opportunities for humans and wildlife to come into contact are created. When designing space for humans and wildlife to coexist, it is important to develop suitable habitat areas and incorporate design elements that enhance human / wildlife benefits.

Research indicates that people are happier and healthier when they can experience nature, but both humans and wildlife need to be safe. Human welfare and safety depend on a thorough understanding of urban wildlife and their interactions with the urbanized landscape. Likewise, wildlife welfare depends on creating large, diverse areas of protected habitat that promote foraging and nesting behaviors. To ensure the sucessfull introduction of wildlife to the Complex, a wildlife management plan should be developed prior to implementing the habitat enhancement and expansion features of the design.

Birdwatching in wetlands.

Wildlife-friendly fence and gate.

Figure 6-8 Ideal Wildlife-Friendly Fence



WILDLIFE PROTECTION AND FENCING

In general, fences are not recommended in habitat areas for a variety of reasons. Fences can severely restrict wildlife movement or create a complete barrier for wildlife to access food and water. Tall chain-link and wooden or metal fences with closely spaced vertical or horizontal pickets are especially unfriendly to wildlife. Large, low-flying birds, may collide with fences and break wings, impale themselves on barbs, or become tangled in wires. Ducks, geese, hawks, and owls are especially vulnerable. Waterfowl fly into fences that run along waterways, and hawks and owls may careen into fences when swooping in on prey.

Designing a fence to provide wildlife with unobstructed travel to important habitat areas and corridors, as well as access to water, is ideal. A fence that is friendly to wildlife allows animals to jump over and crawl under easily without injury and should be highly visible to birds. The Silver Lake community has reported sightings of larger mammals such as bobcats, coyote, skunk, and opossum in the Complex. Post and rail fences as described in Chapter 5 and depicted in Figure 6-8 above are ideal for wildlife. The top of the fence should be low enough for adult animals to jump over, preferably 40" or less, and no more than 42" high.

When combined with education about urban wildlife and limiting human access to designated areas, such as paths and viewing platforms, habitat-friendly fences help protect wildlife while increasing their access to important habitat. The Master Plan design proposes to replace tall fences along the perimeter of the Complex with wildlife-friendly fencing along pathways adjacent to habitat areas to not only protect habitat but also maximize wildlife movement and prevent wildlife injuries or mortality.

INTRODUCING FISH

A key aspect to improving habitat value to local and migratory birds as well as biodiversity at the SLRC is introducing aquatic wildlife. Stocking fish in Silver Lake Reservoir is not a new idea. When it was first constructed, the reservoir was stocked with black bass to help maintain water quality. In addition to introducing marine invertebrates such as fresh water clams, a balance of piscivorous (predator) fish such as small bass and planktivorous (prey) fish such as minnows and crappies should be introduced to the reservoirs at a ratio of three prey fish for every predator fish.

6.4 Education and Interpretation

The Master Plan provides a bold vision to re-establish a wetland-focused ecosystem into the heart of Los Angeles and within the context of a public park. Along with the high priority placed on habitat and wildlife in the Master Plan, there is also an inherent responsibility for long-term stewardship. One of the best ways for humans to carefully and responsibility coexist with urban wildlife is through education.

As outlined in Chapter 04, during the community engagement process, participants placed a high value on educational facilities and programs. The Master Plan design provides the foundation to develop a myriad of education and interpretation opportunities from organized tours, classes, school field trips, and volunteer programs to less structured interpretive features and elements.

The SLRC has the potential to become an exemplary model of urban wilderness management and citizen stewardship. Through the lens of a living laboratory, the research and maintenance activities required for the long-term success of the proposed ecosystem can be made legible and transparent by increasing environmental and climate awareness across the community.

Education-based programs that the Master Plan design allows for range from water resource and wildlife management, tree and plant community succession and maintenance, and climate adaptation strategies to understanding ecosystem functions and services, tracking migratory birds, bird watching, pollinator conservation, and contributing to global wildlife and ecology databases through citizen science initiatives. Potential education and interpretation stations are shown in Figure 6-9.

Many of these education/interpretation activities will require ongoing funding to develop and sustain them. The benefits of this investment are enriching and enhancing the lives of a diverse City by fostering a deep connection to nature and the natural processes that sustain a healthy ecosystem.

POTENTIAL PARTNERSHIPS

Partnerships with academic institutions, non-profits, and City departments could greatly expand the educational breadth and outreach to the regional population. Examples of potential partnerships are listed below:

PARTNER WITH SCHOOL DISTRICTS

Use the SLRC as a learning opportunity to bring K-12 school groups to the park to learn about different aspects of sustainability, ecology, culture, and history.

PARTNER WITH THE UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

UCLA has the La Kretz Center for California Conservation Science which funds projects that bring together academics, resource and land policy professionals, and regulatory experts to optimally use the power of genomics in the conservation of California's threatened and exploited species. UCLA also has an Institute of the Environment & Sustainability which connects students with hands-on environmental research and practice opportunities to fuse thesis research with real field work.

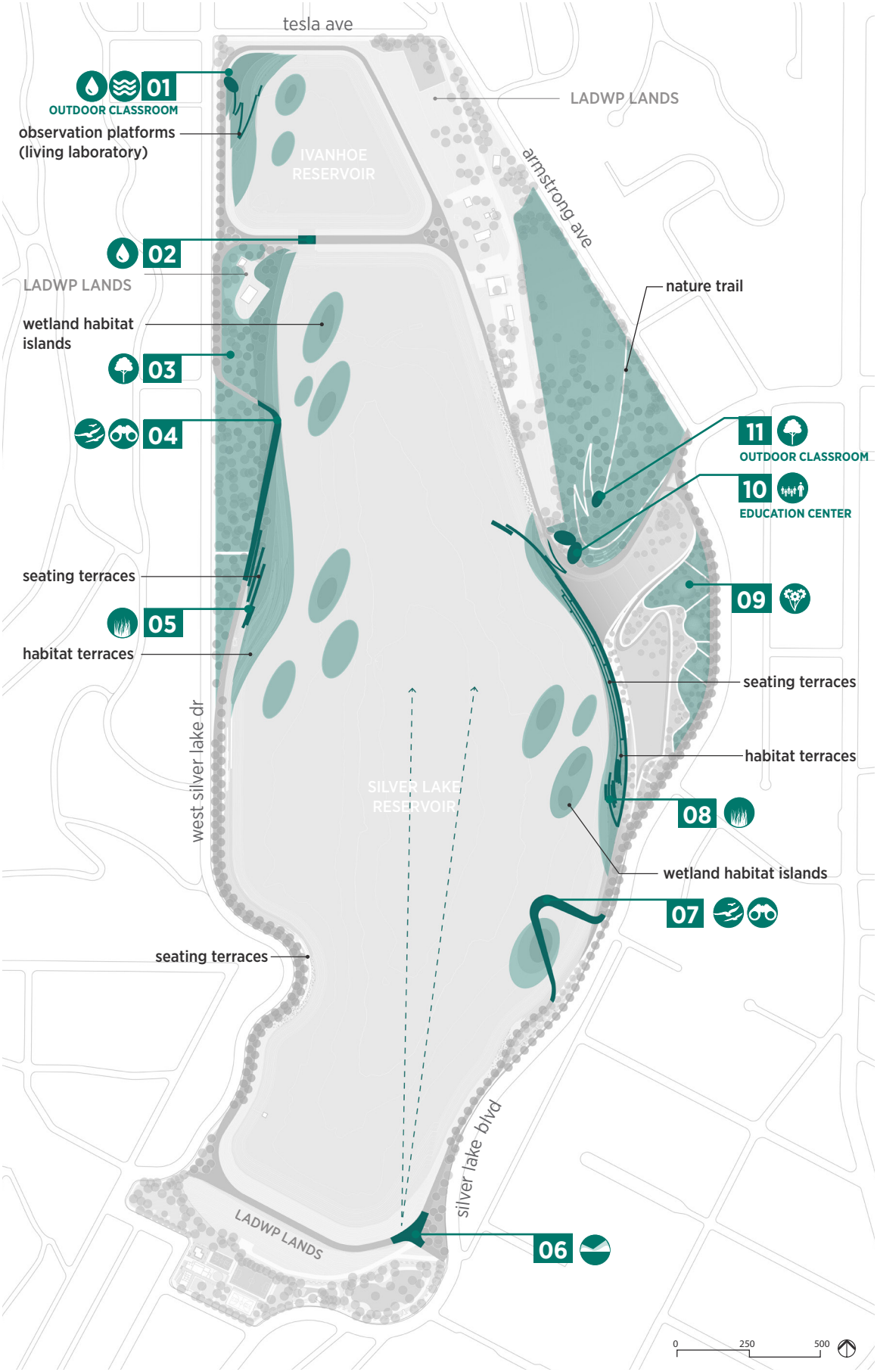
PARTNER WITH THE CITY OF LOS ANGELES

Create a living laboratory at the SLRC to allow the City to test and monitor water quality and plant community and maintenance regimes, as well as test the effectiveness of different habitat creation techniques.

PARTNER WITH THE AUDUBON SOCIETY OR NATURE CONSERVANCY

The SLRC is within the Pacific Flyway migration path. With its emphasis on establishing habitat for migratory waterfowl, the proposed Park will be an ideal place for bird-related research or just enjoyable bird watching.

Figure 6-9 Education And Interpretive Stations Diagram



EDUCATION & INTERPRETATION

01 **OUTDOOR CLASSROOM**
water quality monitoring & water microorganisms

02 recirculation for water quality at spillway

03 california native oak woodland

04 pacific flyway and migratory birds station

05 california fresh water wetlands

06 geology of Ivanhoe Canyon

07 pacific flyway and migratory birds station

08 wetland plant communities and amphibians

09 west coast pollinators and stormwater gardens

10 **EDUCATION CENTER**
classes & citizen science station

11 **OUTDOOR CLASSROOM**
california native oak woodland, living with wildlife

6.5 Water Quality & Park Water Systems

6.5.1 Reservoir Water Quality and Aquatic Habitat

Aquatic invertebrates which include insects, crustaceans, molluscs, arachnids, and annelids, are the building blocks of healthy aquatic ecosystems. They live all or part of their lives in water and their survival depends on water quality. They are also a significant part of the food chain as larger animals, such as fish and birds rely on them as a food source. These various functions aquatic invertebrate species perform are important for maintaining ecosystems services, such as converting live or dead organic material into prey items for larger consumers in complex food webs, while simultaneously providing nutrient cycling and aeration of sediments.

Aquatic invertebrates are used to assess the health of streams, lakes, and wetlands because different species have various tolerances to pollutants. Some species require high dissolved oxygen levels, or clear, non-turbid waters, or they may be predators that require a source of prey. In order to support a diverse array of invertebrates, water quality will need to meet the levels necessary to sustain these species.

6.5.2 Reservoir Water Quality System

The water system at the SLRC has been developed to support the wetland and aquatic habitat aspirations of the Master Plan. Key variables of this system are the reservoirs' water replenishment sources (stormwater and Pollock Well), annual evaporation, aeration, recirculation, nutrient loading, and treatment wetlands.

To understand the Master Plan's impact, such as introducing aquatic habitat, on long-term water quality at SLRC, a Water Quality Model was developed to predict water quality in both Silver Lake and Ivanhoe Reservoirs with the goal of maintaining a level of water quantity and quality that can support the future uses proposed at the site. The full Water Quality Model Technical Memo is available in the Appendix. T

The model, a zero-dimensional mass balance model, was built to mimic the processes that drive water quantity and quality in the SLRC, and it was calibrated against historic water level and water quality data. Four scenarios were constructed for the model as depicted in Figure 6-10. These evaluated isolation baseline conditions without Pollock Well water (Scenario 1), existing baseline conditions including Pollock Well water (Scenario 2), future conditions following the implementation of planned LADWP aeration, recirculation, and stormwater capture projects (Scenario 3), and conditions following the implementation of the Master Plan design which include habitat enhancement and treatment wetlands (Scenario 4). See Chapter 03 for a description of planned LADWP aeration, recirculation, and stormwater capture projects. Impacts to water quality were measured against specific numeric pollutant limits established as water quality goals for the SLRC.

Water Quality Objectives are established by the Los Angeles Regional Water Quality Control Board's Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), but they can also be established by the United States Environmental Protection Agency (EPA). For the purposes of the model, water quality goal assumptions were based on those established for nearby Echo Park, and are outlined in Figure 6-11. During Master Plan implementation, the Basin Plan may be updated to include revised water quality goals for the Silver Lake and Ivanhoe Reservoirs. In addition to meeting the numerical goals, the SLRC must meet various narrative goals established by the Basin Plan, including minimizing stagnant water, reducing odor, and distributing dissolved oxygen throughout the SLRC.

Figure 6-10 Water Quality Model scenarios

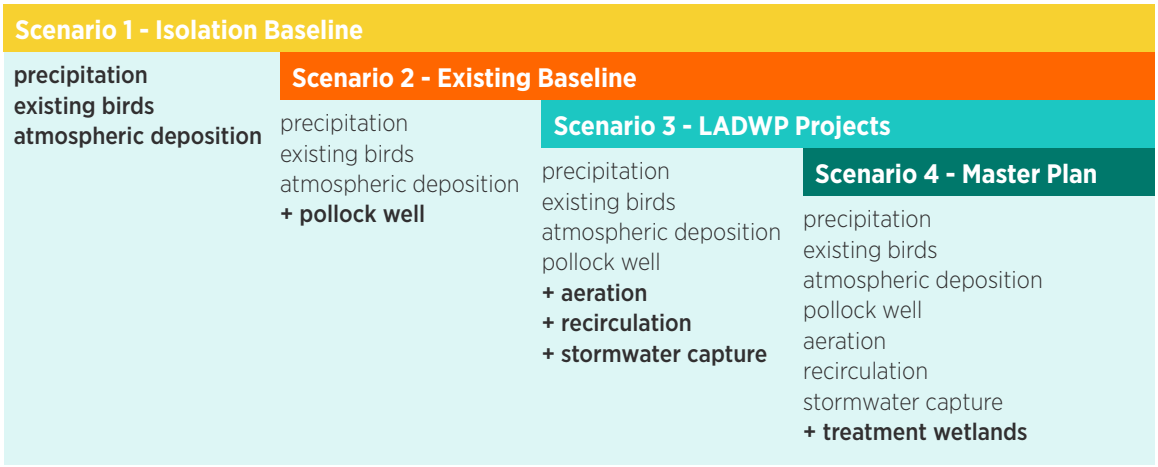


Figure 6-11 Water Quality Model Goals

WATER QUALITY GOALS	
Algae, Ammonia, Eutrophic, Odors	Total Nitrogen: 1 mg/L Ammonia-N: 2.15 mg/L (30-day average) Ammonia-N: 5.95 mg/L (one-hour average) Total Phosphorus: 0.1 mg/L Chlorophyll-a 20 mg/L Dissolved Oxygen: ≥5 mg/L (single sample one foot from bottom)
Copper	22 µg/L
Lead	11 µg/L
pH	6.5 to 8.5
Trash	Zero
Total Coliform	10,000 MPN/100 mL (single sample) 1,000 MPN/100 mL (single sample, Fecal/Total ≥ 0.1) 1,000 MPN/100 mL (geometric monthly mean)
E. coli	235 MPN/100 mL (single sample) 126 MPN/100 mL (geometric monthly mean)
Enterococci	104 MPN/100 mL (single sample) 35 MPN/100 mL (geometric monthly mean)

The results from the model indicated that the addition of wetlands will provide a significant water quality benefit for phosphorus, nitrogen, chlorophyll, and algae. Figures 6-12 and 6-13 show some of the results from the water quality model. Nitrogen peaks which were above the goal of 1 milligram per liter (mg/L) in Scenarios 2 and 3 were reduced to peaks of less than 0.3 mg/L in Scenario 4. Phosphorus, which plays an important role in the generation of chlorophyll-a, was reduced by 87% in Silver Lake Reservoir and by 91% in Ivanhoe Reservoir due to the presence of treatment wetlands. Algae coverage was reduced by 75% in both reservoirs. The model also indicated there would be a meaningful reduction in dissolved solids and in total coliform bacteria due to the treatment wetlands in Scenario 4. Over the twenty-year timespan of the model, total coliform limits were predicted to be exceeded in Ivanhoe Reservoir on fourteen days in Scenario 3 due to stormwater runoff from the future stormwater capture project. This was reduced to just one day in Scenario 4. These reductions in nutrients and bacteria highlight the importance of including wetlands in the SLRC Master Plan design.

6.5.3 Wetlands and Reservoir Water Quality

Constructed wetlands are treatment systems that use natural processes involving wetland vegetation, soils, and their associated microbial assemblages to improve water quality. As water flows through a wetland, many suspended solids, such as sediment, become trapped by vegetation and settle out. Other dissolved pollutants, such as nitrogen and phosphorus are taken up by plants or become inactive. Wetlands also support microorganisms that remove pollutants from the water.

In addition to providing terrestrial and aquatic wildlife habitat, floating wetlands are proposed to enhance water quality. These types of wetlands are considered highly effective since their soil and plant roots are consistently inundated with water and have been shown to reduce a variety of pollutants in water such as nitrogen, phosphorus, total suspended solids, pathogens, and heavy metals.

WETLAND MAINTENANCE

The habitat wetlands proposed in the Master Plan design, can only be considered “treatment wetlands” for water quality if they are maintained properly. Additionally, the water quality benefits derived from treatment wetlands are only achievable over the long term if continuous, comprehensive maintenance is sustained, especially for floating treatment wetlands, which require specialized maintenance. Prior to implementing the wetland elements proposed in the Master Plan, a Wetlands Maintenance Plan will need to be developed. The Wetlands Maintenance Plan should not only describe the maintenance requirements but also specify future funding to guarantee a sustaining source of financial support for wetlands maintenance. A summary of the operation and maintenance requirements for the proposed wetlands is provided in Chapter 08.

6.5.4 Reservoir Water Replenishment

The two sources for reservoir water replenishment are Pollock Well #3 and the Stormwater Capture project as discussed in Chapter 03. To achieve habitat and water quality goals based on the proposed design, the Master Plan recommends establishing an average water elevation of 446-feet in Silver Lake Reservoir with a no greater than a 2-foot fluctuation annually to maintain water levels between 445 and 447 feet. Implementation of this operational change will be coordinated with LADWP and occur when the projects requiring the proposed water elevation are completed. Water levels will require monitoring.

As described in Chapter 03, the operated water elevation for Ivanhoe Reservoir will be at elevation 451 feet once the LADWP Recirculation project is implemented. The proposed wetlands in Ivanhoe Reservoir assume this constant elevation.

Figure 6-12 Ivanhoe Reservoir Water Quality Modeling Results Summary

IVANHOE RESERVOIR					
Pollutant	**Limit**	**Type**	**Scenario 2**	**Scenario 3**	**Scenario 4**
Total Nitrogen	1 mg/L	Maximum	2.2 mg/L	1.6 mg/L	0.3 mg/L
Total Phosphorus	0.1 mg/	Maximum	0.053 mg/L	0.080 mg/L	0.019 mg/L
Chlorophyll-a	20 µg/L	Maximum	11.3 µg/L	15.3 µg/L	5.2 µg/L
Dissolved Oxygen	5 mg/L	Minimum	7.9 mg/L	7.9 mg/L	7.9 mg/L
Total Copper	22 µg/L	Maximum	4.3 µg/L	19.6 µg/L	16.1 µg/L
Total Lead	11 µg/L	Maximum	0.4 µg/L	5.9 µg/L	4.7 µg/L
Total Coliform Bacteria	1,000 MPN per 100 mL	Days Exceeding Limit	0 days	14 days	1 day

Figure 6-13 Silver Lake Reservoir Water Quality Modeling Results Summary

SILVER LAKE RESERVOIR					
Pollutant	**Limit**	**Type**	**Scenario 2**	**Scenario 3**	**Scenario 4**
Total Nitrogen	1 mg/L	Maximum	1.2 mg/L	1.2 mg/L	0.2 mg/L
Total Phosphorus	0.1 mg/	Maximum	0.058 mg/L	0.080 mg/L	0.019 mg/L
Chlorophyll-a	20 µg/L	Maximum	12.0 µg/L	15.4 µg/L	5.2 µg/L
Dissolved Oxygen	5 mg/L	Minimum	7.9 mg/L	7.9 mg/L	7.9 mg/L
Total Copper	22 µg/L	Maximum	8.0 µg/L	19.7 µg/L	16.7 µg/L
Total Lead	11 µg/L	Maximum	0.8 µg/L	5.9 µg/L	4.9 µg/L
Total Coliform Bacteria	1,000 MPN per 100 mL	Days Exceeding Limit	0 days	1 day	0 days

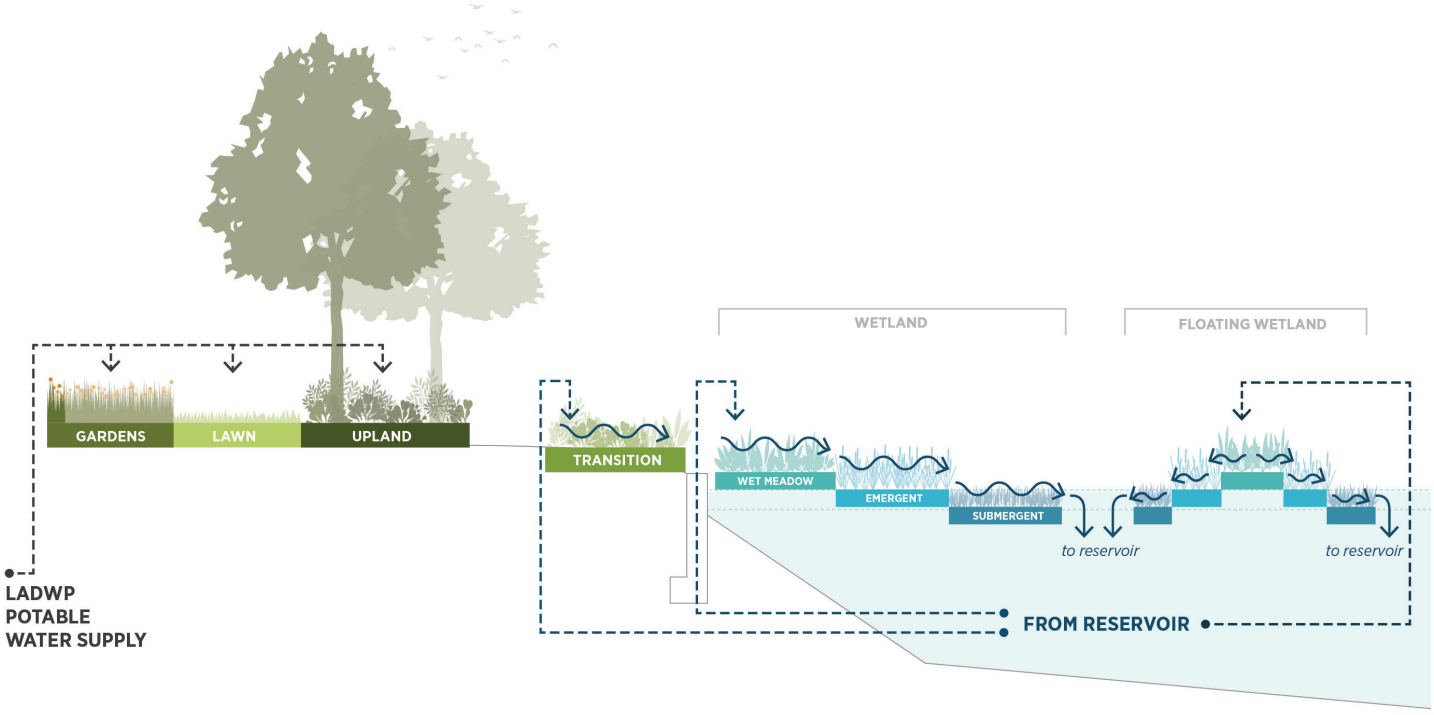
Scenario 2 - Existing Baseline
Scenario 3 - LADWP Projects
Scenario 4 - Master Plan

6.5.5 Irrigation Water System

The wetland and transition habitat areas will utilize reservoir water as the primary source of irrigation. Water will be pumped from the reservoirs to the wet meadow habitat zones which will then flow through the emergent wetlands back into the reservoirs. The water will be treated through sedimentation of suspended solids and filtration as it moves through each of the wetland zones. The wet meadows will go through wetting and drying cycles daily as reservoir water is pumped into them and then allowed to drain out. Transition habitat zones will also be irrigated with reservoir water on a separate cycle appropriate for the drought-tolerant, coastal scrub planting palette envisioned there. This water strategy will need to be validated by reservoir water quality testing and soil analysis.

Remaining upland habitat, lawn areas, and ornamental gardens will be irrigated via a potable water supply available from the LADWP distribution system which will require a dedicated meter. If recycled water is available in the future, it could be used to irrigate ornamental planting. Depending on its nutrient and dissolved solids content, future recycled water may not be suitable to irrigate upland habitat areas without additional filtration or treatment.

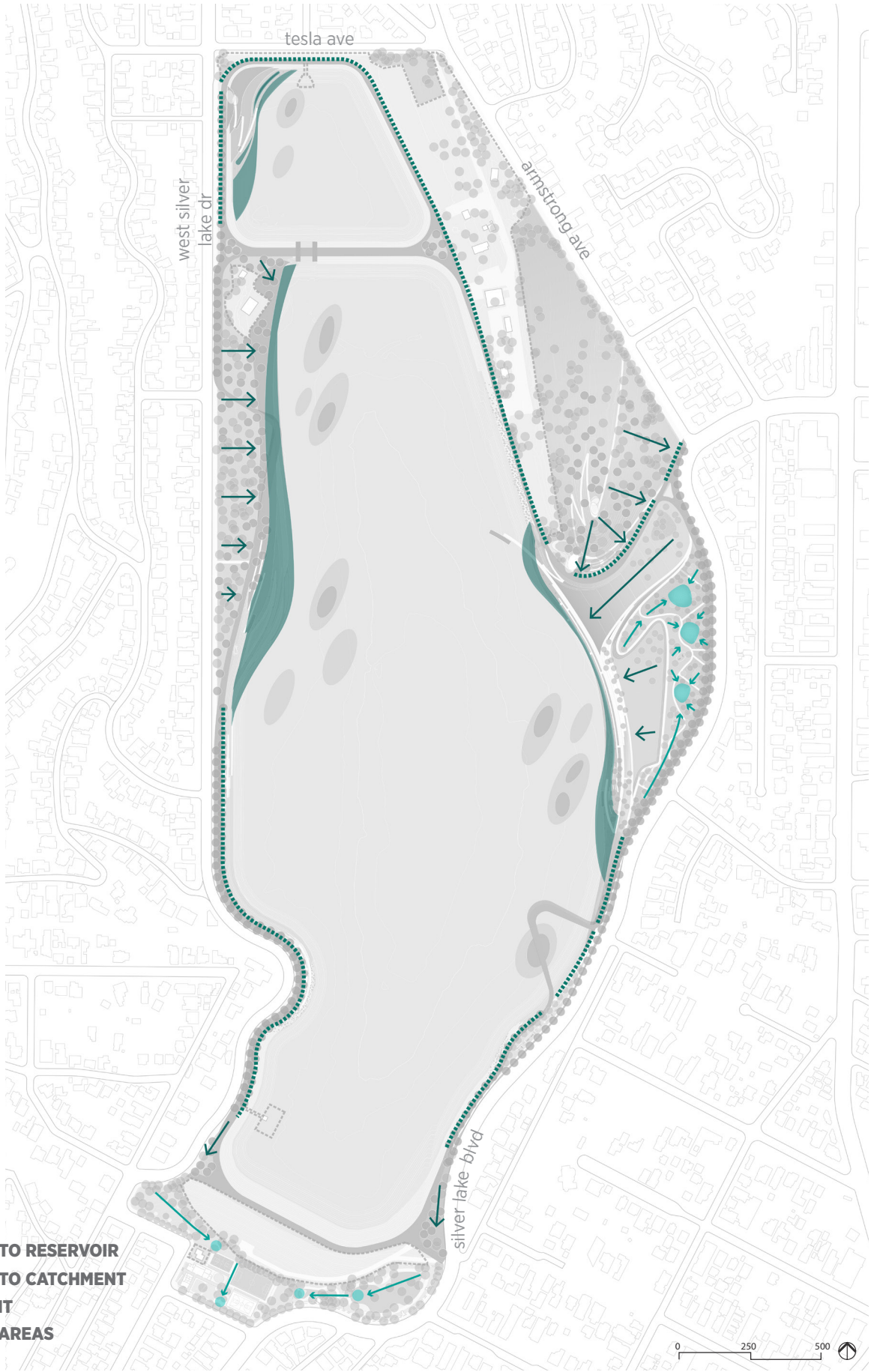
Figure 6-14 Irrigation Concept Diagram



6.5.6 Surface Stormwater Drainage

To protect the reservoir waters from untreated surface runoff within the Complex, a decentralized drainage strategy has been developed. For areas adjacent to treatment wetlands, such as the great lawns and seating terraces, these will be designed for surface runoff to move thorough the wetlands before entering the reservoirs. In other areas, stormwater runoff will be treated by infiltration gardens located throughout the park. For example, the Picnic Grove and Ornamental Gardens will drain to Dells that are depressions in the landscape which will filter stormwater before it's collected and piped into the reservoirs. At the Knoll, runoff from its slopes will be collected in swales adjacent to the Education Center and treated before entering Silver Lake Reservoir. Along the Promenade, biofiltration planting will be incorporated to treat stormwater runoff from its paving surfaces. See Figure 6-15 for a diagram of this drainage concept.

Figure 6-15 Master Plan Drainage Concept Diagram



6.6 Envision Rating

Envision™ is a rating system and best practice resource to help ensure sustainability features and elements are successfully implemented in infrastructure projects. Envision™ measures the sustainability of an infrastructure project from design though construction and maintenance across five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience.

The Envision™ Guidelines assign a points value and a level of achievement (LOA) depending on the type and amount of documentation necessary to achieve these points. A City of Los Angeles goal for this project is to achieve Envison's highest rating – Platinum. However, since the Master Plan is a conceptual document, some of the credits necessary to achieve a platinum designation depend on how the project is implemented and requires additional work outside the scope of the Master Plan project. Therefore the project team evaluated the Envision™ credits achievable under two scenarios: Baseline Scenario to achieve an Envision Gold Rating and an Additional Effort Scenario to achieve an Envision Platinum rating as shown in Figure 6-16.

The Baseline Scenario includes LOAs that are achieved through typical minimum required standards for City of Los Angeles public works projects and/or through documentation that is already planned for inclusion during the Master Plan. The Additional Effort Scenario includes LOAs that are achievable by providing additional documentation that is not currently planned, such as a Sustainability Management Plan or modified project specifications and special provisions, but that can be achieved with reasonable effort.

The Envision™ Rating assessment technical memo in the Appendix lists and describes in detail the credits that may be applied to the project to achieve a Gold and Platinum rating.

Envision™ offers four recognition and award levels based on a percentage of points achieved as follows:

Recognition Level	Total Applicable Points (%)
Bronze	20
Silver	30
Gold	40
Platinum	50

Figure 6-16 Envision™ Pre-assessment Checklist

This shows possible points for achieving Baseline and Additional Effort Scenarios.

Under the Baseline Scenario, the project is projected to achieve a Gold rating (42% of applicable points). Under the Additional Effort Scenario, the Master Plan is projected to achieve a Platinum rating (56% of applicable points).

Envision™ Credit	Baseline Scenario Points (Gold)	Additional Effort Scenario Points (Platinum)	Envision™ Credit	Baseline Scenario Points (Gold)	Additional Effort Scenario Points (Platinum)
QL1.1	20	26	RA2.2	0	12
QL1.2	12	12	RA2.3	15	20
QL1.3	10	14	RA2.4	0	0
QL1.4	0	6	RA3.1	12	12
QL1.5	10	10	RA3.2	0	0
QL1.6	2	8	RA3.3	0	8
QL2.1	7	7	RA3.4	0	0
QL2.2	16	16	NW1.1	22	22
QL2.3	14	14	NW1.2	2	2
QL3.1	0	3	NW1.3	N/A	N/A
QL3.2	12	18	NW1.4	24	24
QL3.3	14	14	NW2.1	0	22
QL3.4	11	11	NW2.2	24	24
LD1.1	5	18	NW2.3	9	12
LD1.2	18	18	NW2.4	20	20
LD1.3	18	18	NW3.1	18	18
LD1.4	0	0	NW3.2	20	20
LD2.1	0	18	NW3.3	11	14
LD2.2	9	12	NW3.4	9	12
LD2.3	12	12	NW3.5	8	8
LD2.4	0	0	CR1.1	0	0
LD3.1	0	3	CR1.2	0	0
LD3.2	0	0	CR1.3	0	0
LD3.3	0	0	CR2.1	6	6
RA1.1	0	9	CR2.2	0	0
RA1.2	9	9	CR2.3	0	0
RA1.3	0	14	CR2.4	0	0
RA1.4	7	16	CR2.5	0	0
RA1.5	8	8	CR2.6	0	2
RA2.1	0	0	**TOTALS**	**414/984 (42%)**	**547/984 (56%)**

CHAPTER 7
CAPITAL FUNDING STRATEGIES

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figures

7.1 Capital Funding Strategies Overview

Four principal types of funds are generally available nationally for park development efforts, in amounts that depend on local context and park mission:

- Public Funding (financing and/or taxation)
- Value Capture
- Earned Income
- Private (Philanthropic)

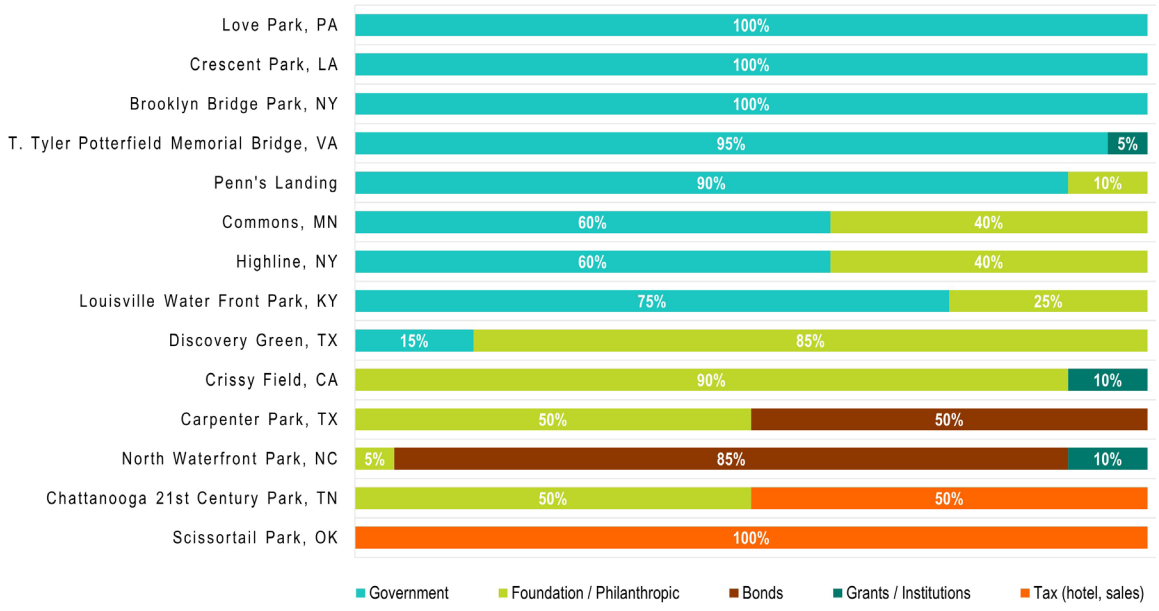
Often cities employ a combination of funding methods to develop parks (Figure 7-1). Based on community concern and opposition to revenue-generating features or elements in SLRC, earned income was not considered a viable strategy for the SLRC Park.

During the Master Plan development process, HR&A Advisors was retained to provide an analysis of potential public and other mechanisms that can be leveraged to fund capital and operating needs of the proposed Park. Six public mechanisms were reviewed including: Community Finance Districts (CFD), Development Agreement Fees, Enhanced Infrastructure Financing Districts, Parcel Taxes, Quimby Fees, and Special Assessment Districts. Additional funding sources identified were Grant Funding and Philanthropic contributions.

In addition to capital funds, funding will be needed to support the anticipated on-going operations and maintenance (O&M) needs of the Park which are described in Chapter 08.

Figure 7-1 Park Funding Benchmarking

Chart benchmarks the sources of funding for a variety of parks in the United States.



7.2 Capital Funding Recommendations

Based on the Park's context, the needs and perspective of City staff, and review of potential funding mechanisms, the following describes recommended capital funding sources for the City to explore in greater detail to implement the Master Plan vision. This capital funding strategy relies primarily on the implementation of a Community Facilities District (CFD) to generate special tax revenue to finance a significant portion of capital construction cost as well as O&M costs.

COMMUNITY FACILITIES DISTRICT

The Mello-Roos Community Facilities Act (Act) was enacted in 1982 and provides a method for local governments to fund public infrastructure and certain services, through the formation of "Community Facilities Districts" (CFDs), which provide the legal authority for local governments to levy and collect a special tax and to issue bonds or incur other debt. A two-thirds vote of the qualified electors within the CFD boundaries is required to form a CFD. Given the vote requirement, voters must clearly see the value of the Project and believe that the expected return on investment is reasonable given the proposed taxation.

The special tax may be used to pay directly for facilities and/or services, to pay debt service on bonds or other debt the proceeds of which are used to finance facilities, or for any combination of the above. Additionally, the special tax may be structured so that the tax for facilities has a sunset, and the tax for services may run in perpetuity. The Act provides flexibility in structuring the tax formula. Typically, a special tax consultant is engaged to assist with preparing the Rate and Method of Apportionment, which details the manner in which the tax will be levied.

Mello-Roos bond proceeds can be used to finance the construction, expansion, rehabilitation, or acquisition of any real or other tangible property with an estimated useful life of five years or more, which will be constructed, owned or operated by a public entity. Mello-Roos bonds are payable solely from special taxes levied on property within the boundaries of the CFD. The City is not obligated to pay the bonds from any funds of the City.

As the primary funding source for capital, CFD implementation details should be advanced as soon as possible following Master Plan adoption and should prioritize the following:

- Engagement of a municipal advisor and/or CFD tax consultant to develop and evaluate potential structure(s) and related detailed revenue estimates.
- Engagement of bond counsel to advise on the use of tax revenue.
- Evaluation of potential voter support of the CFD mechanism.
- Identification of a funding source to support CFD formation costs of approximately $500,000, excluding community outreach and engagement.

OTHER FUNDING SOURCES

While a CFD represents a significant funding source for both capital and ongoing O&M costs, its implementation will take time and a funding gap is likely to occur. As CFD implementation planning is underway, other funding sources could be used to support short- and medium-term continued planning, engineering, and design development, as well as supplement capital funding needs.

Development Agreement Fees are one-time payments most suited to supporting capital costs, which can include planning and design costs. During initial planning and detailed design stages, one-off funding opportunities negotiated through Development Agreements, can support early implementation efforts such as detailed design.

Because **Quimby Fees** must go towards park improvements on land controlled by the Board of Recreation & Parks Commissioners and are allocated by the RAP Board, they are only suited to supporting the RAP Improvements phase of the Master Plan such as the Dog Park expansion and renovation and the Multi-Purpose Facility at the Silver Lake Recreation Center.

Grant Funding opportunities to support discrete environmental projects include Federal, State, and Local grants. The full range of grant opportunities varies in size from approximately $25,000 to $10 million; priority grants range in funding potential from $1 million to $6 million.

Philanthropic contributions can be used for Park implementation as well as ongoing O&M costs; however, the experience of major civic and park investments around the country have shown that donors are more willing to contribute to capital needs, even in large amounts, than to support annual operating expenses. Demonstration Projects should be identified within the Master Plan design to generate enthusiasm and secure buy-in and fundraising interest from Park supporters. These projects should play to the singular features of the Park's design, particularly its focus on aquatic habitat restoration, environmental education, and water quality. Elements of the Master Plan design ideally suited as donor-supported Demonstration Projects are the Wetland Habitat Islands and Terraces, Ivanhoe Overlook, and the Education Center. These feature projects are well-positioned to generate interest and support from a range of potential philanthropic donors – whether individual, nonprofit, or corporate contributors. Buildout of these projects will in turn attract greater interest in the Park and serve as proof-of-concept for additional philanthropic capital to support the gap in funding capacity from CFD revenue, Quimby Fees, Development Agreement Fees, and Grants.

City General Fund appropriations from relevant budget areas may also contribute to capital costs if the funds are available. Additional public funding is assumed to be limited, and the owner of the Park, LADWP, will not contribute to capital costs for Master Plan implementation.

Figure 7-2 Parking Funding Matrix

Outline of funding sources and range of potential funding amount each source might provide.

Funding Source	Potential Funding Amount	Notes
Community Facilities District (CFD)	$150M - $200M	Includes annual O&M costs
Quimby & Development Agreement Fees	TBD	Quimby Fees can only be used on RAP lands.
Public Grants	$200k - $6M	
City General Fund	TBD	
Total	$150M to $206M+	
Remaining Capital Funding Gap	$62M - $118M	Range of capital funding needed from fundraising or City General Fund.

7.3 Philanthropy & Grants

PHILANTHROPY

In addition to implementing a CFD structure that considers both capital and O&M needs, confirmation of potential Quimby and Development Agreement Fee grants, and considering Federal, State, and local grant applications, the remaining capital needs result in a gap in funding that requires philanthropic capital, ranging from approximately $60 million to $120 million. Securing commitments for these funds requires the following:

- Identification of project elements/phases best suited for attracting donor support, including naming rights and potential design refinement or illustration of such project components.
- Completion of a fundraising feasibility study, to establish and confirm the potential amount that could be raised from among likely donors.

GRANT FUNDING

During the Master Plan development process, the project team reviewed 28 grant opportunities available from local, state, and national public agencies and non-profit organizations as potential sources for project funding. These were evaluated against five priority categories related to grant mandate, grant size, availability of funds for near-term design and planning costs, availability of funds in the future, and matching requirements. These categories are described below:

Grant Mission
How well does the Master Plan or elements of its design align with the mission of the grant? This takes into account grant function as stated in grant guideline documents, typical previously funded project types, and disadvantaged community (DAC) requirements.

Size of Grant
This factors in the size of the grant. Only grants that will likely fund $1,000,000 or more were prioritized.

Applicable to Planning Work
This factors in the amount of funding that can be spent on near-term planning and detailed design as opposed to construction costs. Grants that are available with no spending caps on design and planning were prioritized.

Future Funds
This category evaluated grants based on the likelihood of funding being available three to four years from now. Grants funded through large pools of ongoing resources were prioritized.

Match Limits
Grants with no requirements for matching funds were prioritized over those that require dollar-for-dollar matching funds.

Based on the above criteria, four grants were identified as priorities to consider for formal application once the Master Plan is adopted. These are briefly summarized in Figure 7-3.

Figure 7-3 Grant Opportunities

Recommended grant funding opportunities for City consideration

Funding Agency	Program	Funding Source	Description
Cal Parks	Regional Park Program	Proposition 68 (2018 Bond Act)	Goals of grant align with recreational features of proposed park. This grant could be used to fund a portion of the following spaces: Ivanhoe Overlook, Knoll, Eucalyptus Grove, Meadow, East and West Narrows, RAP Improvements, Ivanhoe Spillway and Promenade.
Cal Parks	Land and Water Conservation Fund - Outdoor Recreation Legacy Partnership	Land and Water Conservation Fund	This grant tends to fund urban park improvements such as playgrounds, walking paths, and planting. It could be used to fund a portion of the following spaces: Ivanhoe Overlook, Knoll, Eucalyptus Grove, Meadow, East and West Narrows, RAP Improvements, Ivanhoe Spillway and Promenade.
LA County Regional Park and Open Space District	Regional Recreation Facilities, Multi-Use Trails, and Accessibility	Measure A	This grant is intended for regional park and trail improvements. It could be used to fund a portion of the following spaces: Ivanhoe Overlook, Eucalyptus Grove, Meadow, East and West Narrows, Ivanhoe Spillway and Promenade.
LA County Regional Park and Open Space District	Regional Recreational Facilities, Multi-Use Trails, and Accessibility	Measure A	Grant emphasizes habitat creation, improving open space, water resources, and multi-benefit parks. It could be used to fund a portion of the following spaces: Ivanhoe Overlook, Eucalyptus Grove, Wetland Habitat Islands.

GRANTS FOR PUBLIC RIGHT-OF-WAY IMPROVEMENTS

In addition to the grants evaluated as described above, the pedestrian and bicycle elements proposed in the Master Plan that are located within the public right-of-way are eligible for State of California Active Transportation Program (ATP) Grants.

7.4 Governance Considerations

Capital costs and O&M funding will impact both the likely sequencing of project phases and the long-term governance structure of the stewardship entity that will carry the Master Plan forward through implementation. The responsibilities of this governance entity will likely include fundraising for continued planning and design work, grant-writing activities, and potential management of the major capital buildout. Governance is discussed in greater detail in Chapter 08.

CHAPTER 8
PARK GOVERNANCE, OPERATIONS & MAINTENANCE

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figures

8.1 Park Governance, Maintenance & Operations Overview

The management of urban parks has in recent years included a variety of structures depending on the specific situation in each locale. Identifying the right entity to manage a new urban open space and tailoring this oversight to a specific park's needs is a key step. A crucial component to this management responsibility is ongoing park operations and maintenance (O&M). The Master Plan proposes a diversity of spaces, plantings, and habitat creation which all must be maintained at a high-quality in order to effectively serve its intended purpose. To maintain the proposed urban wilderness, operate an Environmental Education Center and regular programing, as well as upkeep on miles of walking paths, acres of native and ornamental planting, and a healthy aquatic ecosystem, all requires an approach which is effective, creative and nimble.

The Master Plan's recommendation for governance is a strategy centered around the formation of an independent, special-purpose, non-profit entity charged with stewarding the build out and operation of the Park. A special-purpose entity can provide the leadership to manage project implementation and long-term operations. It can also fundraise to support capital and O&M costs, with a Board of Directors that is representative of committed project stakeholders.

The Design Team has worked closely with City departments and representatives of elected officials to develop an O&M plan that reflects the current Master Plan vision and incorporates day-to-day maintenance and operational considerations. Estimated O&M costs take into consideration critical design elements of the Park, stakeholder expectations of maintenance standards, the surrounding communities' goals for Park activation, and implications of a potential contribution of taxpayer funds.

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8.2 Park Governance and Operating Structure

To achieve the Master Plan vision, the formation of an independent, special-purpose, non-profit entity named the Silver Lake Reservoirs Park Conservancy (SLRPC) is recommended. Although LADWP will continue to own the land which comprises the SLRC, LADWP is not structured to operate a public park. Additionally, due to the extensive, specialized environmental aspects of the design, RAP does not anticipate operating the Park outside the confines of the Silver Lake Recreation Center, and as such, would no longer operate what is currently The Meadow.

This special-purpose entity could be a completely new entity or represent an expanded role for one of the existing non-profit stakeholders in Silver Lake. If the City's policy makers choose, the entity could provide the leadership to manage project implementation in addition to long-term operations. It can also fundraise to support capital and O&M costs, with a Board of Directors that is representative of committed project stakeholders. If structured to benefit from dedicated resources and funding outlined in Chapter 07, such an entity would be endowed with the staff and budget capacity necessary to: champion a multi-phase implementation process; provide sustainable operations, including maintenance of unique horticulture and wetland spaces to the elevated standard envisioned in the proposed Master Plan; and coordinate revenue allocation with the City that is generated by one or more Community Facilities District(s) and any philanthropic fundraising.

In addition to the SLRPC, a City Oversight Committee comprised of representatives from key City agencies is recommended to ensure that Park capital expenditures and operations align with the guidelines and goals for the Park, providing accountability for the expenditure of public funds. This would be similar to current oversight committees that provide direction on capital expenditure for City funded projects, and this Oversight Committee would forward to full Council and the Mayor recommendations on the expenditure of City funds for full Council and Mayor review and action.

GOVERNANCE STRUCTURE

The SLRPC will champion the planning and buildout of the Master Plan, fundraise for the balance of capital needs, and oversee Park O&M. The SLRPC should be led by a Board of Directors charged with upholding and advocating for the Park's vision, hiring and evaluating staff who manage contracts, and conducting fundraising on an ongoing basis. Its staff will also coordinate as needed with LADWP, which has a limited set of responsibilities to maintain dam and related infrastructure and to maintain water levels as required. LADWP will not otherwise participate in ongoing O&M of the Park.

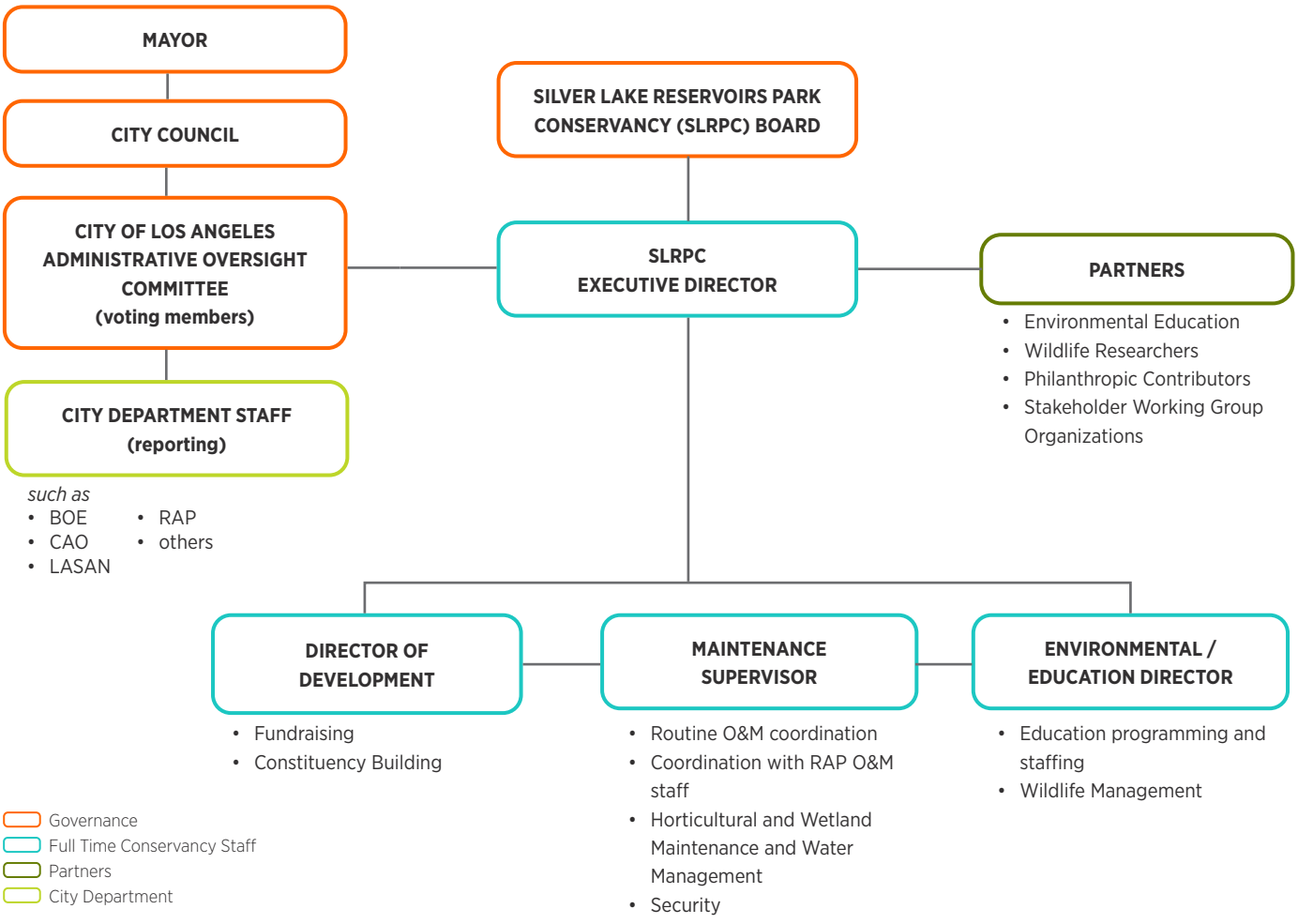
The City will provide oversight for the non-profit through an Administrative Oversight Committee. The need for oversight could fit into the City's existing committee structures, with leadership from the CAO, the Mayor, the CLA, RAP, and LADWP. Additionally, the CAO will serve as the District Administrator of the Community Facility District (CFD) on an ongoing basis. Both the Administrative Oversight Committee and CAO administration of the CFD would facilitate accountability for the use of CFD funds for the Park by ensuring the following: that funds are spent appropriately and according to the Master Plan (including with respect to scope and budget, procurement, etc.); that the Park operates to the standards set forth in the Master Plan and as a City-owned public park (including with respect to accessibility, hours of operation, etc.); and that the Park operates in harmony with the needs of the land owner, LADWP.

Upon the adoption of the Master Plan by City Council and the concurrence of the Mayor, the City will participate in the formation of the non-profit, identifying a project champion to act as a leader in this effort, including participating in assembly of an initial Board of Directors acceptable to City overseers. City participation will support development of the non-profit's vision, mission, by-laws, and action plans to advance Project implementation.

The composition of the **Board of Directors** of the governance entity will be crucial to a sustainable, inclusive governance structure that will steward the Park through the implementation and operations phases. Upon the creation of the SLRPC, the Board should be composed of a small number of committed stakeholders. This group will sustain the project's existing momentum to formulate goals, action plans, and fundraising required to advance implementation. In keeping with the community's desire for a balanced, inclusive open space as reflected during the Master Plan's community engagement process, the Board should be representative of the diverse communities that will be impacted by the Park.

The governance structure will evolve as the Project progresses. As the Park begins ongoing operations, the structure will shift as the SLRPC shifts focus to operating and management capacities. Board composition and advisory roles will grow to accommodate new functions such as educational programming and coordination of day-to-day operations. A conceptual organizational structure is shown in Figure 8-1.

Figure 8-1 Conceptual Governance Organizational Structure



GOVERNANCE RESPONSIBILITIES

The non-profit will have the following responsibilities as operator of the Park:

Fundraising: Lead fundraising for capital funding gap and ongoing O&M needs as necessary.

Routine O&M Coordination: Contract for provision of routine O&M. RAP will provide routine O&M on RAP-owned land. There is also potential for one entity to perform O&M for the entire park for economies of scale. This function should be put out to bid, with RAP given the option to pursue along with other park-maintenance contractors.

Horticulture Maintenance, Wetland Maintenance, and Water Management: Manage specialized subcontractors that ensure a high level of care and maintenance for unique park features.

Programming: Manage the Park's Education Center and coordinate additional programming, either directly or through a third party.

Security: Manage security contractor.

8.3 Park Operations & Maintenance

Many elements of the Master Plan design will require careful, dedicated maintenance beyond the standard typical of other City of Los Angeles parks, particularly its emphasis on native plantings and aquatic habitat maintenance, which also includes wetland maintenance. Also note that the communities surrounding SLRC have discouraged intensive programming.

SLRC's budget for O&M developed by consultant HR&A Advisors consists of five main categories:

Routine O&M: Includes the routine cleaning and maintenance of park spaces and park facilities, costs of clearing paths and walkways, trash removal, and cleaning of park facilities such as the Education Center and restrooms. Capital maintenance costs, including capital repairs and equipment purchases, are included in this category. Maintenance staff will have a consistent, daily presence at the park in service of ensuring a high level of care.

Horticulture Maintenance and Water Management: This is a distinct category in keeping with the high level of care and maintenance as well as the extensive Wetland and Upland Habitat zones and Ornamental Gardens envisioned in the Master Plan. Costs will grass cutting and tree pruning, as well as specialized maintenance of plantings and vegetation, including wetland habitats. Water management will include water quality permitting, monitoring, and compliance; and in-lake activities, such as debris removal and maintaining the floating wetland habitat islands.

General Administration: This covers the administration costs of the non-profit entity described above. Costs primarily include staff salaries, materials, office space, and other non-maintenance costs of the operation of facilities such as the Education Center, the programming and operation of which is to be determined.

Security Staff: Security staff will have a daily presence at the Park to provide oversight of the Park's large acreage, address safety concerns related to the reservoir space and unsafe behavior. The conceptual budget described in the following pages accommodates two full-time equivalent security personnel onsite 24 hours a day, 7 days a week.

Constituency Building: The non-profit entity will need to engage in some activities to support annual O&M costs through fundraising efforts. A significant portion of revenue to support annual O&M will come from the proposed CFD funding structure. Therefore, ongoing fundraising will be limited but will have the potential to offset taxpayer burden and provide a rainy-day fund. The conceptual budget described below accommodates one full-time staff person dedicated to Constituency Building.

APPROACH TO O&M CONCEPTUAL BUDGET

Total O&M costs are estimated at $3.64 million per year. HR&A developed this estimate through the methods detailed below and in Figure 8-2.

Routine O&M, Horticulture Maintenance, and General Administration Costs Analysis

HR&A examined the O&M costs of comparable urban parks, with a particular focus on local precedents, and selected precedent parks for each cost category based on the parks' relevance to the Master Plan's proposed program and design. Comparable park costs were normalized on a per acre basis and applied to the proposed Master Plan design acreage. Parks with the following characteristics were considered appropriately comparable:

- Medium-sized, urban park
- Located in a relatively low-density area
- Surrounded by predominantly residential use
- Minimal programming or activation
- Substantial non-profit role in management and operation of the park

The following precedents were selected for examination because they demonstrate at least some of the desired characteristics. Brief descriptions of these parks are included in section 8.4 on page 247.

- Echo Park, Los Angeles, CA
- Scissortail Park, Oklahoma City, OK
- San Francisco Botanical Gardens, San Francisco, CA
- Shelby Farms, Memphis, TN

Security and Constituency Building Costs

These costs were calculated on a per FTE salary basis. Security costs comprise full-time salaries plus benefits for a 24/7 onsite security presence, with two security personnel and three 8-hour shifts per day. Salaries for security personnel are based on the City of Los Angeles salary range for a Security Officer position as of January 2020. Constituency Building costs comprise full-time salary and benefits for one staff member. Salary for Constituency Building personnel is based on the typical range for Directors of Development and Directors of Fundraising at non-profit organizations in the Los Angeles region.

Silver Lake Recreation Center New O&M Costs

Additional O&M costs associated with the proposed design at the Silver Lake Recreation Center were calculated based on existing maintenance and programming costs. The Master Plan proposes expansion of the Recreation Center, a new Multi-Purpose Facility, renovation and expansion of the Dog Park, and other landscape features, which will result in increased operational costs for these RAP parcels. These increased costs were estimated based on current maintenance and programming costs on the RAP parcels. RAP's O&M costs are not included in the total proposed Park O&M cost detailed below, but are noted in order to give a full picture of the operational costs associated with the Master Plan design and for RAP budget planning purposes.

CONCEPTUAL ANNUAL O&M BUDGET

A conceptual annual O&M budget of $3.64 million was estimated based on O&M costs for comparable urban parks and on typical costs for salaries in the Los Angeles region. The use of CFD revenue for specific O&M, administration, and programming services expenditures will need to be reviewed by bond counsel.

Budget Item	Share of Total Budget	Annual Costs
Routine O&M	37%	$1,350,000
Horticulture Maintenance & Water Maintenance	40%	$1,460,000
General Administration	7%	$255,000
Security	13%	$460,000
Constituency Building	3%	$116,000
Total Conceptual Annual O&M Budget		**$3,641,000**
New Annual Programming & Recreation Costs at Silver Lake Recreation Center		$236,000

Figure 8-2 Conceptual Park Annual O&M Budget

8.4 O&M Precedent Parks

ECHO PARK, LOS ANGELES, CA

A 29-acre open space in neighboring Echo Park, owned and maintained by RAP. Like SLRC, Echo Park is anchored by a body of water, Echo Park Lake, and is home to wildlife habitats, walking trails, and recreational facilities. For this analysis, Echo Park's Routine O&M costs were used as a precedent to determine a baseline for Routine O&M costs for SLRC. The costs of maintenance of Echo Park Lake were also used to determine Water Management costs at SLRC.

SCISSORTAIL PARK, OKLAHOMA CITY, OK

An urban park extending from the downtown core of Oklahoma City, Scissortail Park's first phase comprises 36 acres of gardens and woodlands, a lake, and retail and recreational facilities. Also designed by Hargreaves Jones, Scissortail Park's Routine O&M costs were used as a benchmark for this analysis.

SAN FRANCISCO BOTANICAL GARDENS, SAN FRANCISCO, CA

The Botanical Gardens are home to a 55-acre arboretum and gardens, and are located within Golden Gate Park, adjacent to San Francisco's residential Inner Sunset neighborhood. With a mission that focuses on horticulture and specialized landscaping and an emphasis on passive use, the Gardens' horticulture maintenance costs were used a precedent for SLRC.

BUFFALO BAYOU PARK, HOUSTON, TX

Buffalo Bayou Park is comprised of 160 acres of parkland surrounding the Buffalo Bayou waterway that runs through several residential neighborhoods to the northwest of Downtown Houston. Its location and context, as well as its management by the non-profit Buffalo Bayou Partnership in collaboration with the City of Houston supported its use as a precedent for SLRC's General Administration costs.

8.5 Routine Maintenance

Routine maintenance activities will occur year-round on a daily, weekly, monthly, or annual basis. Daily activities include cleaning of park spaces such as the Education Center and restrooms, and litter and trash removal. Weekly activities include equipment inspection and scheduling of repairs, while monthly activities will include minor repairs. Annual activities will involve larger capital replacement projects as needed.

8.6 Horticultural Maintenance & Water Management

Three critical variables effect maintenance work: 1) the nature of the task; 2) skill levels required to performing the task; and 3) the physical setting. For example, cleaning a paved surface is different from horticultural work - in the type of equipment needed, the skills needed and in the time duration to perform the work. Quality maintenance is essential to not only protecting long-term capital investments, but to ensure park success and as a reflection of community values.

The goal for park maintenance is to provide the highest quality maintenance to ensure that the park is clean, attractive and usable for visitors. To achieve the highest levels of service for maintenance, successful parks have dedicated resources to oversee maintenance and some repairs, provide skilled horticultural care, and operational support for special events. With the addition of habitat and wildlife at the SLRC, Park maintenance staff will need to be supplemented by specialty management staff or contracted services.

A list of recommended inspection and maintenance activities are outlined below.

HORTICULTURAL MAINTENANCE

The Master Plan design includes several features that have specific maintenance needs including the following: Upland Habitat, Wetland Habitat, Ornamental Gardens, and the Reservoirs. Below are brief description of their maintenance needs or issues.

Figure 8-3 Horticultural Maintenance Examples

Activities include weeding and pruning.

ORNAMENTAL GARDENS

These gardens will be a mix of native and regionally adapted drought tolerant species. Maintenance needs of these gardens are minimal, however, specific steps must be taken to ensure the landscape flourishes and does not look like an untended, weedy, ragged feature. Maintenance needs of ornamental gardens commonly include:

- Deep waterings in times of drought
- Invasive species removal
- Light applications of compost or fertilizer (optional)
- Selective pruning and annual cut back
- Planting replacement as necessary
- Regular removal of litter and other debris

A major task associated with the maintenance of ornamental gardens is invasive species removal. The removal of unwanted species can be performed by either hand pulling or the spot use of herbicides. This task can be time-consuming for park staff regardless of the weed removal method. These areas must be annually inspected by a trained professional to evaluate their health and development.

UPLAND HABITAT

The Knoll and Eucalyptus Grove will be replanted over time to replace and supplement existing Eucalyptus trees with native species. These areas will also be planted with native shrubs and groundcover. Woodlands typically have low maintenance requirements after establishment, however, any newly planted landscape within an urban park will require regular care. Maintenance needs of woodlands commonly include:

- Deep waterings in times of drought (after establishment period)
- Invasive species removal
- Tree pruning to incrementally open and lift canopy
- Periodic pruning of groundcover plantings
- Plant replacement as necessary

Figure 8-4 Example of Ornamental Garden Plants

WETLANDS

Not only will the proposed wetlands provide critical habitat for wildlife, they are being relied upon to help meet water quality goals as outlined in Chapter 06. To sustain their function as water quality treatment wetlands, they must be maintained properly. The maintenance needs of wetland gardens can be rather intensive. Water quality will have to be regularly monitored and maintained to a minimum standard to support wetland plantings and wildlife.

Frequency	Description
Monthly, or More Frequently	• Look for invasive vegetation and schedule removal. • Check the condition and health of the wetland vegetation and identify areas that require special attention. Schedule replanting as needed. • Remove litter and debris from wetlands. • Removed dead plant material. • During initial plant establishment on the floating treatment wetlands, check the health and development of the plants and note any remedial actions needed. • Ensure floating treatment wetlands are properly anchored • Inspect for trash and debris accumulation in wetlands • Check for algal growth, signs of pollution such as oil sheens, discolored water, or unpleasant odors, and signs of flooding.
Semi-Annual or After Significant Storms	• Perform vector control, if necessary. • Repair undercut areas and erosion to banks or slopes. • Inspect wetland structures and identify needed repairs.
Annually	• Repair and replace wetland structures as necessary.
Once or As Needed	• Work with Greater Los Angeles County Vector Control District. • During initial plant establishment of the floating treatment wetlands, perform any necessary remedial actions, such as replanting bare spots.

Figure 8-5 Recommended Wetland Maintenance Activities.

Figure 8-6 Example of Wetland Maintenance

Activities include plant inspection and removal of dead plants

RESERVOIR WATER BODIES

Lake or open water body maintenance can prove to be very intensive and time consuming. LADWP currently uses small boats to routinely inspect structures and maintain the reservoirs. It is anticipated that LADWP will continue to access the reservoirs via boat. Additionally, some of the maintenance required for the proposed wetlands and embankment vegetation will require small boats to perform these tasks. Additional monitoring and maintenance will be required to meet SLRC water quality objectives and support aquatic wildlife. Common and routine maintenance activities include:

- Invasive species removal on vegetated embankments
- Erosion control of vegetated embankments
- Horticultural maintenance (edge plantings, aquatic plantings)
- Floating or submerged debris removal
- Bi-monthly (or after significant storms) water quality sampling and monitoring to ensure water quality goals are being met

Figure 8-7 Example of Wetland Plantings

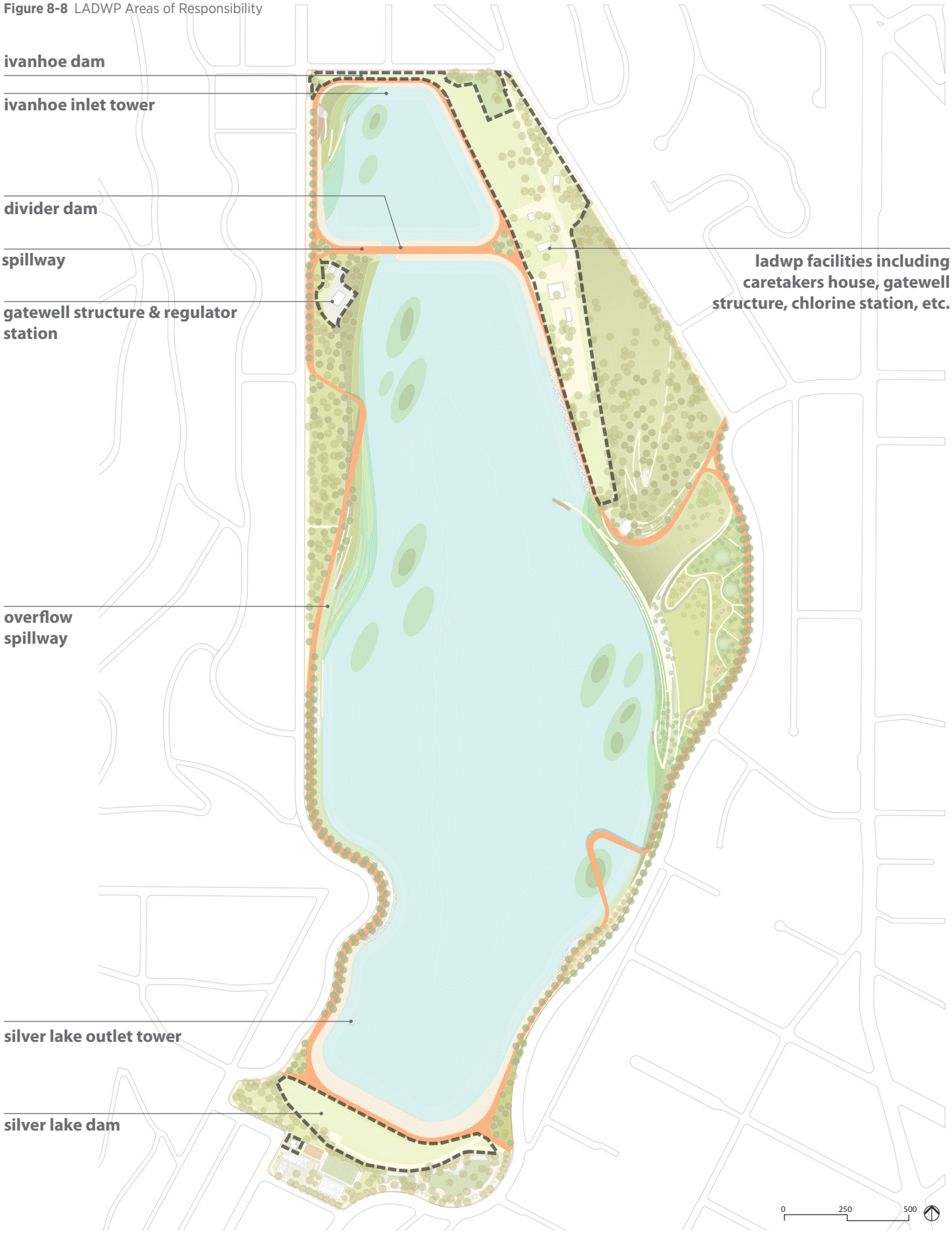
LADWP MAINTENANCE RESPONSIBILITIES

LADWP will continue to access and use the site for current and future operational needs. The areas reserved for LADWP use are shown in Figure 8-8 and include an active regulator station, pipes underneath and around the reservoirs, equipment, buildings, dams, spillways, and other facilities. These areas will be fenced to ensure public and employee safety. LADWP will require 24/7 access to the site and usage of the road that circumnavigates the site with a minimum 12 feet of road width. LADWP maintenance activities include:

- Water level as stated in approved environmental documents
- Water quality management prior to the SLRC Master Plan implementation
- Dam and spillway brush clearance and other required maintenance as directed by regulatory agencies
- Aeration and recirculation system as originally intended for reservoir water algae management
- Valves associated with the stormwater capture infrastructure
- Buildings and facilities within areas reserved for LADWP use
- Landscape maintenance of the areas reserved for LADWP use
- Gates and fencing intended to secure LADWP reserved areas

LADWP will not be responsible for any SLRC Master Plan improvements or consequent changes, including maintaining reservoir water quality after the addition of wetland habitats.

Figure 8-8 LADWP Areas of Responsibility



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APPENDICES