LOS ANGELES RIVER
MASTER PLAN UPDATE

Steering Committee Meeting #7

25 September 2019

WELCOME

Source: OLIN

MEETING PURPOSE AND AGENDA

Source: OLIN

PURPOSE OF TODAY'S MEETING

1

SUMMARIZE ENGAGEMENT ROUND 2 AND PREVIEW ROUND 3

2

REVIEW WHAT'S IN THE PLAN AND SCHEDULE TO COMPLETION

3

PRESENT DESIGN FRAMEWORK

FEEDBACK / Q&A

MEETING AGENDA

WELCOME AND AGENDA OVERVIEW

- River Story #7
- Welcome and Steering Committee Updates
- Roundtable Introductions
- Meeting Purpose, Agenda and Objectives
- Discussion/Q&A

COMMUNITY ENGAGEMENT UPDATE

- Additional Meetings
- Engagement Round 2 Summary
- Engagement Round 3 Preview
- Community Partner Events
- Discussion/Q&A

WHAT'S IN THE PLAN AND SCHEDULE TO COMPLETION

- What's Included
- Timeline for Feedback and Completion
- Discussion/Q&A

DESIGN FRAMEWORK

- Goal Informed Project Design
- Site Selection Review
- Kit of Parts
- Common Elements
- System-Based Examples
- Site-Based Examples
- Discussion/Q&A

PUBLIC COMMENT

- Verbal Comments
- Comment Cards
- Email Comments Anytime to LARiver@dpw.lacounty.gov

WRAP UP

- November Agenda Overview
- Important Upcoming Dates

INPUT, QUESTIONS, IDEAS?

Contact Genevieve Osmeña at (626) 458-4322
or LARiver@dpw.lacounty.gov

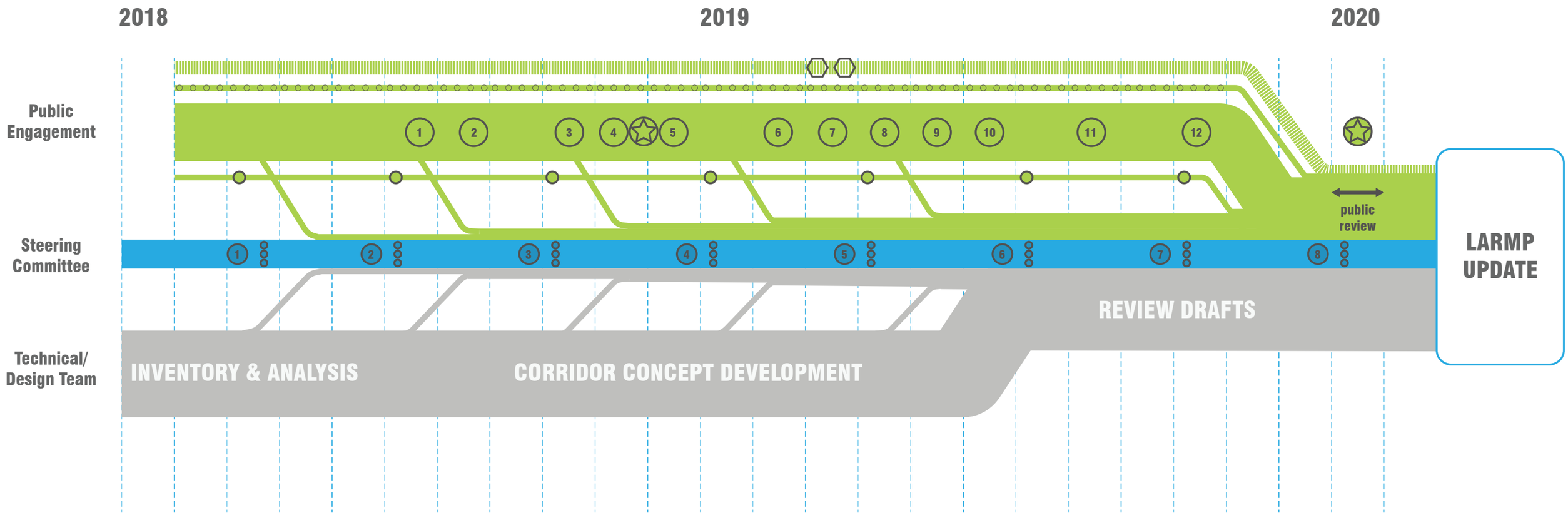
GUIDES FOR PRODUCTIVE DISCUSSIONS

- Everyone equally contributes.
- Stay concise.
- Listen for understanding.
- Help forge paths for solutions.

STEERING COMMITTEE UPDATES

Source: OLIN

LA RIVER MASTER PLAN SCHEDULE



STEERING COMMITTEE FRAMEWORK

WE ARE HERE

2018 2019

	1	2	3	4	5	6	7	8
Key Theme & Tentative Date	LAUNCH 11 APRIL 2018	INVENTORY & VISION PRINCIPLES 27 JUNE 2018	GOALS & ANALYSIS 26 SEPTEMBER 2018	GAPS & PLANNING 12 DECEMBER 2018	PRIORITIES & OPPORTUNITIES 10 APRIL 2019	DESIGNS & PLANS 26 JUNE 2019	PLANS & STANDARDS 25 SEPTEMBER 2019	DRAFT REVIEW 12 DECEMBER 2019
Dialogue Focus	Vision Brainstorming Project Schedule and Scope Committee Organization Draft Community Outreach Plan, Branding Strategy, and Website Flood Control History, Plan Priorities, Channel Strategies	Draft Vision Principles Existing Conditions Literature Review Community Outreach Plan Demographics, Affordable Housing, Displacement	Revised Draft Vision and Goals Goal-Driven Planning Jurisdictional Boundaries Water Resources, O&M, Access and Security, Safety, Homelessness Youth Summit	Policy Framework Planning Reaches Design Guidelines Review Geographic Gap Analysis Intro	Gap Analysis Draft Planning Concepts Table of Contents Revised Goals, Actions, & Methods Introduction	Design Guidelines Goals, Actions, and Methods and Implementation Matrix Site Selection	Design Concepts and Design Guidelines Update	Preview of LARMP Key Concepts

Q & A AND DISCUSSION

Source: OLIN

COMMUNITY ENGAGEMENT UPDATE

Source: USACE, Los Angeles District, E-1517 - NW of 7th St - 9-7-1927, http://cespl.maps.arcgis.com/apps/MapSeries/index.html?appid=e15694dbf7c54f8c96285a0e74039e69

MEETINGS WITH OTHER ORGANIZATIONS

NATIVE AMERICAN COMMUNITIES ONGOING COORDINATION

June 26, 2019

- Discussion of placenames and village locations

RIO HONDO CONFLUENCE AREA PROJECT

ONGOING COORDINATION



- Community engagement meeting and discussions with project team

SELA CULTURAL CENTER & RIVERS AND MOUNTAINS CONSERVANCY

ONGOING COORDINATION



- Discussions with project team and sponsoring agency

CITY OF LA DEPARTMENT OF CITY PLANNING

July 12, 2019

- Coordination of facilities and amenities along the LA River Trail

UPPER LA RIVER & TRIBUTARIES (AB466)

July 25, 2019



- Working Group discussed and voted on recommended Design Areas for each of the six tributaries—areas are now selected.
- Alternate sites along the tributaries will still be proposed but are not the single recommended site for each tributary
- Minimal overlap between ULART Design areas and LARMP Site Selection, but some coordination may be necessary for Verdugo Wash and Burbank Western

COMMUNITY ENGAGEMENT MEETINGS

WE ARE HERE

ROUND 1

JUNE 2018 – DECEMBER 2018

ROUND 2

FEBRUARY 2019 – JULY 2019

ROUND 3

AUGUST 2019 – OCTOBER 2019

1	2	3	4	5	6	7	8	9	10	11	12	13
Canoga Park	Cudahy	Long Beach	Friendship Auditorium	Studio City / North Hollywood	West Valley	South Gate	Compton / Lynwood / East Rancho Dominguez	Pacoima	Glendale	Canoga Park	North Long Beach	Central Los Angeles
Survey 1						Survey 2				Feedback		

1291 ENGAGED IN COMMUNITY MEETINGS & SURVEY

110 Community members attended the West Valley meeting

75 Community members attended the South Gate meeting

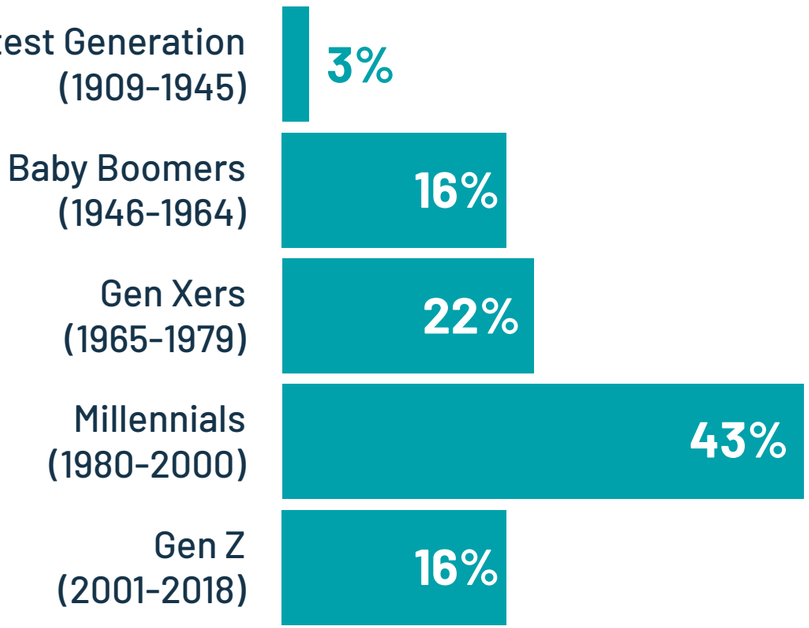
60 Community members attended the Compton / E Rancho Dominguez meeting

55 Community members attended the Pacoima meeting

80 Community members attended the Glendale meeting

991 Completed digital and in-person surveys as of August 5, 2019

GENERATIONS REPRESENTED:

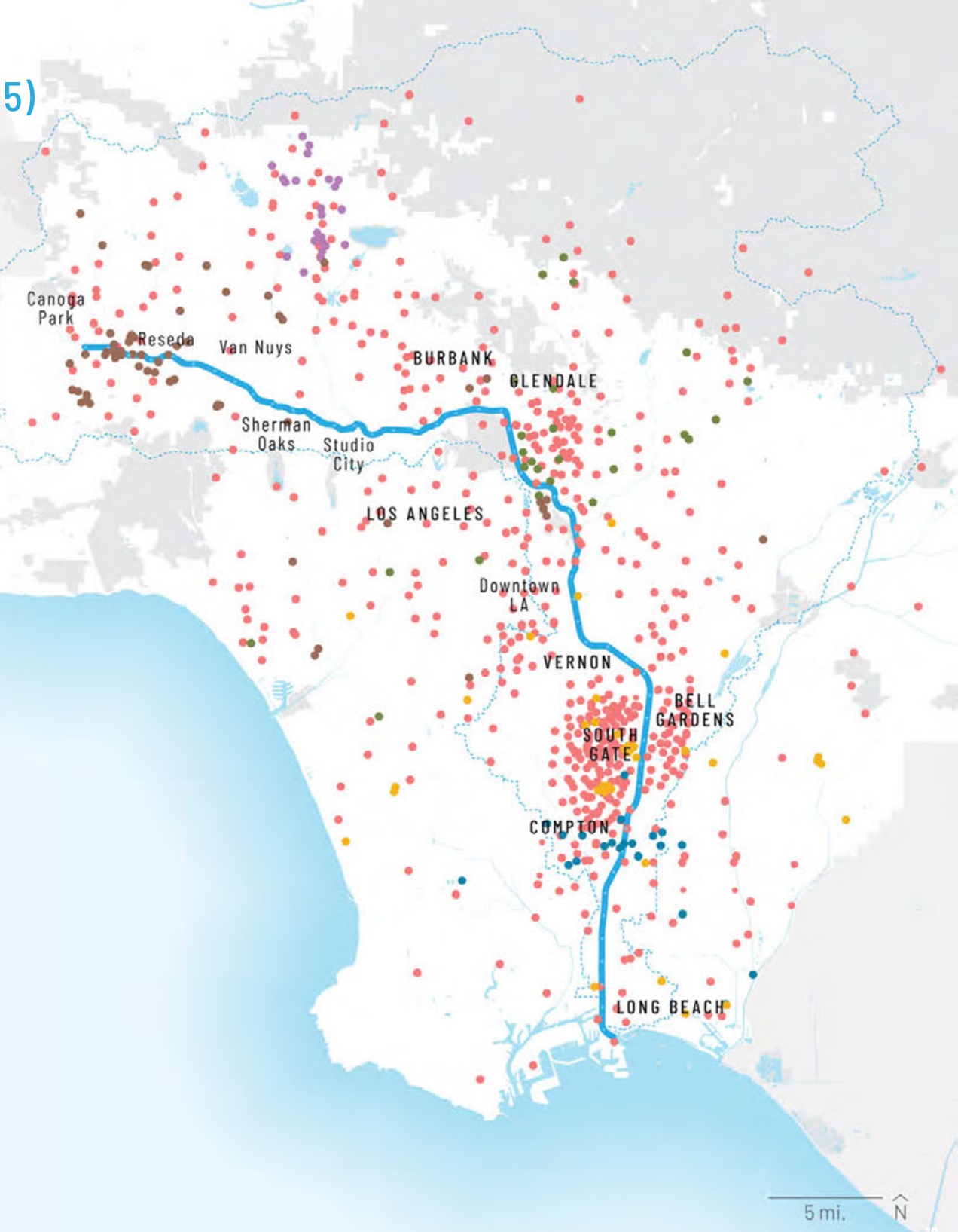


Source: Community Meetings, Survey

ENGAGEMENT UPDATE ROUND 2 (FEBRUARY-AUGUST 5)

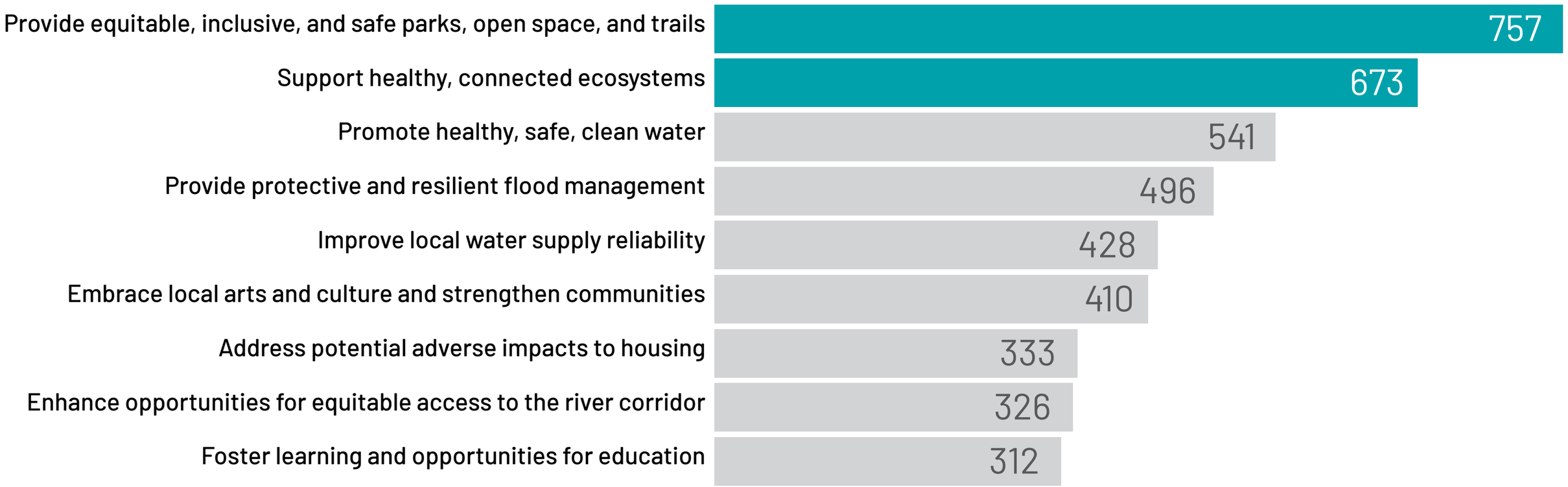
WHERE DO YOU LIVE?

- West Valley Attendees
- South Gate Attendees
- Compton / E Rancho Dominguez Attendees
- Pacoima Attendees
- Glendale Attendees
- Digital & In-Person Survey Respondents



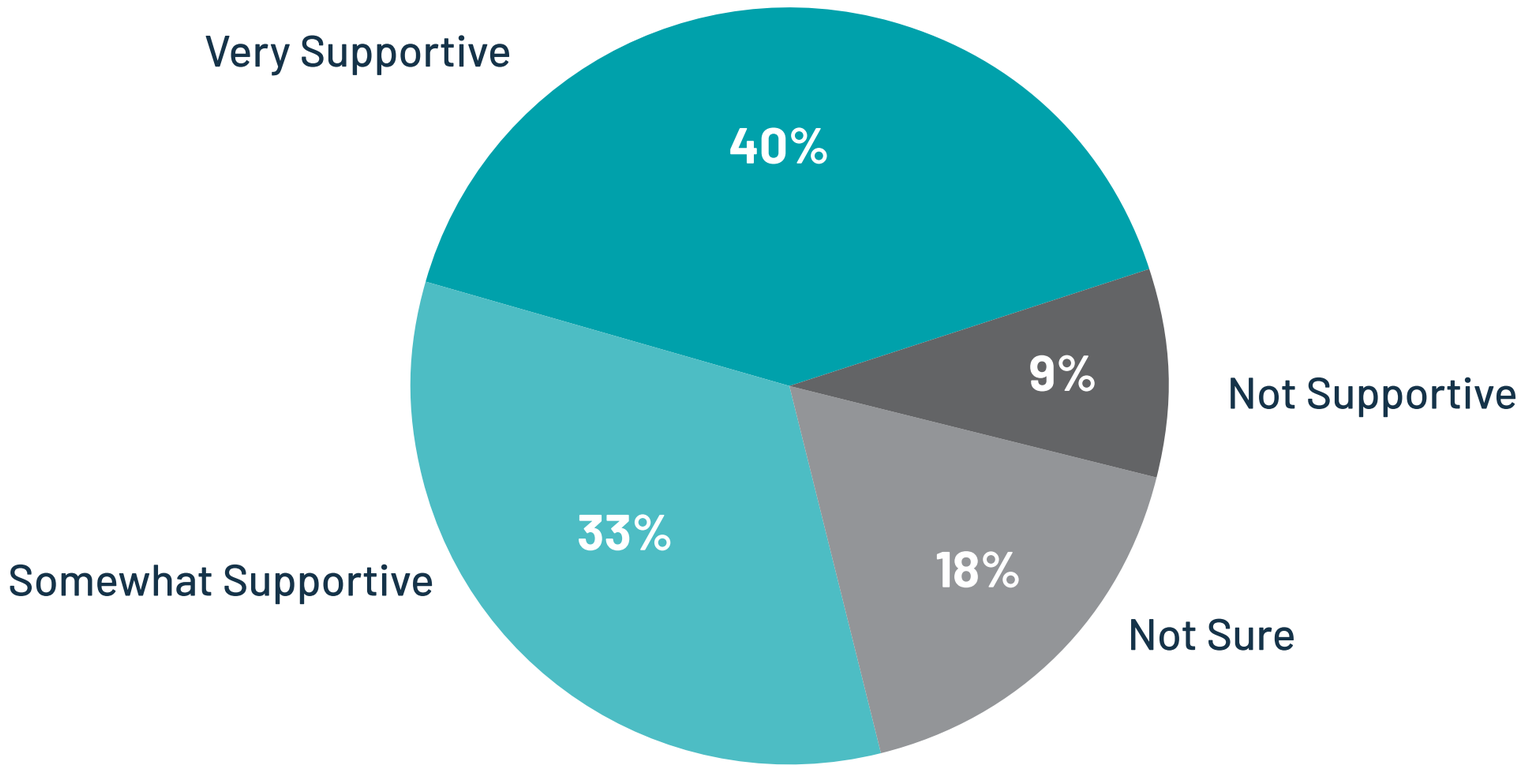
Source: Community Meetings, Survey

WHICH OF THE GOALS FOR THE LA RIVER ARE MOST IMPORTANT TO YOU?



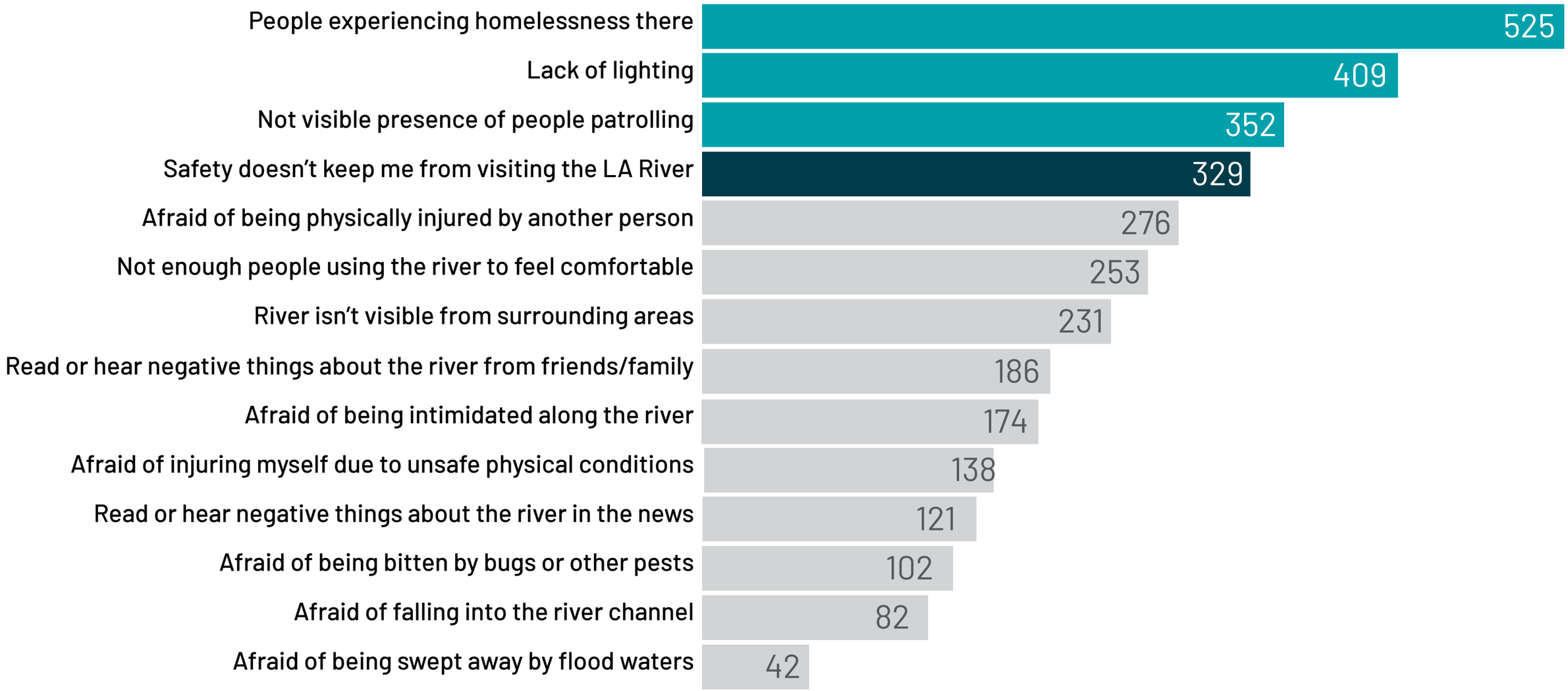
Source: Community Meetings, Survey

HOW SUPPORTIVE ARE YOU OF SOME INCREASE IN TAXES TO FUND PROJECTS THAT WOULD ACHIEVE THE 3 GOALS FOR THE LA RIVER YOU IDENTIFIED AS MOST IMPORTANT TO YOU?



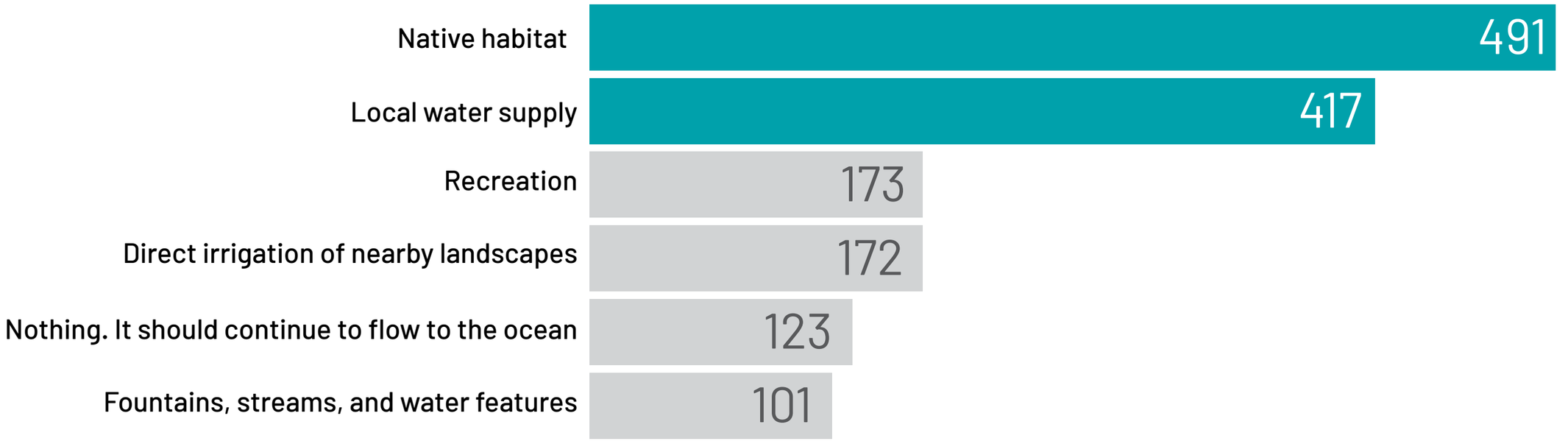
Source: Community Meetings, Survey

WHAT ABOUT SAFETY KEEPS YOU FROM VISITING THE LA RIVER?



Source: Community Meetings, Survey

WHEN IT'S NOT RAINING, THERE IS STILL FLOW IN THE LA RIVER. WHAT DO YOU THINK IS A BETTER USE FOR THIS WATER INSTEAD OF LETTING IT FLOW TO THE OCEAN?



Source: Community Meetings, Survey

COMMUNITY PARTNER UPDATE

- Resource Conservation District of the Santa Monica Mountains
- Pacoima Beautiful
- Fernandeños Tataviam Band of Mission Indians
- Gabrielino-Tongva Tribe
- Anahuak
- From Lot to Spot
- East Yard Communities for Environmental Justice
- Friends of the LA River
- Las Fotos Project
- Weaving the River

ENGAGEMENT ROUND 3 (SEPTEMBER)



Free Event!

Saturday, September 21, 2019
9am – 1pm
Sepulveda Basin Wildlife Reserve
6100 Woodley Ave., Van Nuys, CA. 91406

Free Event!

Creek Cleanup | 9:00am - 12:00pm

Be one of 70,000 people across California to participate in Coastal Cleanup Day! Start the day by helping the San Fernando Valley Audubon and Heal the Bay clean up Haskell Creek, where it runs through the Sepulveda Basin Wildlife Reserve.



Older children welcome if accompanied by an adult.

Meet at the amphitheater. Stay right of the Japanese Garden and continue all the way to the end of Wildlife Way.

Wear sturdy shoes!
Please come ready to get muddy and possibly wet



Community Event | 10:30am - 1:00pm

Join RCD Educators to learn more about the L.A. River and Sepulveda Basin.
This event is made possible by our partnership with the L.A. River Master Plan effort.
Lots of hands-on experiences! All ages welcome!

- Learn about the wildlife lake by testing the water quality and viewing live plankton through microscopes
- Use binoculars to view the birds
- Visit booths and go on a hike to learn more about enjoying the L.A River

Free water bottles! *While supplies last

Please visit HealtheBay.org/CCD to register.
Questions: email Kelly at rcdsmm.edu@gmail.com

Heal the Bay

San Fernando Valley Audubon Society

RCD Resource Conservation District of the Santa Monica Mountains

LA River Master Plan

ENGAGEMENT ROUND 3 (OCTOBER)

LA RIVER MASTER PLAN

LA RIVER MASTER PLAN COMMUNITY MEETING

CANOGA PARK



JOIN US FOR A MEETING WHERE YOU'LL:

- Share your thoughts on the future of the LA River
- Hear the vision of the LA River Master Plan
- Receive updates on river-related issues

Date: Tuesday, October 15, 2019
Time: 6 - 8 pm
Location: Rose Goldwater Community Center
21710 Vanowen St.
Canoga Park, CA 91303

This event is free and open to the public. Food will be provided, and parking is free.

For information, visit LARiverMasterPlan.Org for email updates and event recaps.

LARiverMasterPlan.org

CANOGA PARK
October 15

LA RIVER MASTER PLAN

LA RIVER MASTER PLAN COMMUNITY MEETING

NORTH LONG BEACH



JOIN US FOR A MEETING WHERE YOU'LL:

- Share your thoughts on the future of the LA River
- Hear the vision of the LA River Master Plan
- Receive updates on river-related issues

Date: Wednesday, October 16, 2019
Time: 6 - 8 pm
Location: Jordan High School
6500 Atlantic Ave
Long Beach, CA 90805

This event is free and open to the public. Refreshments will be provided, and parking is free.

For information, visit LARiverMasterPlan.Org for email updates and event recaps.

LARiverMasterplan.org

NORTH LONG BEACH
October 16

LA RIVER MASTER PLAN

LA RIVER MASTER PLAN COMMUNITY MEETING

CENTRAL LOS ANGELES



JOIN US FOR A MEETING WHERE YOU'LL:

- Share your thoughts on the future of the LA River
- Hear the vision of the LA River Master Plan
- Receive updates on river-related issues

Date: Thursday, October 17, 2019
Time: 6 - 8 pm
Location: Felicitas & Gonzalo Mendez High School
1200 Plaza Del Sol E
Los Angeles, CA 90033

This event is free and open to the public. Refreshments will be provided, and street parking is available.

For information, visit LARiverMasterPlan.Org for email updates and event recaps.

LARiverMasterplan.org

CENTRAL LOS ANGELES
October 17

ENGAGEMENT ROUND 3 (OCTOBER)

GOAL 2 META

PROVIDE EQUITABLE, INCLUSIVE, AND SAFE PARKS, OPEN SPACE, AND TRAILS.

PROVEER PARQUES, ESPACIOS ABIERTOS, Y SENDEROS EQUITATIVOS, INCLUSIVOS Y SEGUROS.

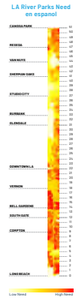
Members of the community identified walking and bicycling as the top two activities they participate in along the river—with combined participation greater than all other activities combined. Yet, 61% said they do not use the river due to safety concerns. This is apparent when looking at available parks and trails. Twelve of seventeen cities along the LA River do not meet the World Health Organization's minimum standards of 2.2 acres of parks per thousand people, and only 31 of the river's 51 miles have trails. By aiming to provide 51 miles of safe, connected open space, the LA River can be a valued recreational resource for the surrounding communities in LA County.

Los miembros de la comunidad identificaron caminar y andar en bicicleta como las dos actividades principales en las que participan a lo largo del río, con una participación combinada mayor que todas las demás actividades combinadas. Sin embargo, el 61% dijo que no usa el río debido a problemas de seguridad. Esto es evidente cuando se observan los parques y senderos disponibles. Doce de diecisiete ciudades a lo largo del río de Los Ángeles no cumplen con los estándares mínimos de la Organización Mundial de la Salud de 2.2 acres de parques por cada mil personas, y solo 31 de las 51 millas del río tienen senderos. Con el objetivo de proporcionar 51 millas de espacio abierto seguro y conectado, el río de Los Ángeles puede ser un valioso recurso recreativo para las comunidades circundantes en el condado de Los Ángeles.



31 OF 51 RIVER MILES ARE ACCESSIBLE BY TRAILS

DE 51 MILLAS DE RÍO SON ACCESIBLES POR SENDEROS



ACTIONS

2.1. Create 51 miles of connected open space.
The LA River could serve as a 51-mile open space spine for LA County. This open space spine would be unique within the county, providing park space to communities that overwhelmingly have little access to it. Its new parks, while serving as a destination for the entire county and beyond, offering a variety of experiences from one mile to the next.

2.2. Complete the LA River Trail so that there is a continuous bicycle and pedestrian route along the entire river, on both sides.
As a recreation and transportation route, the LA River Trail serves multiple purposes. However, it has yet to live up to its full potential because it is fragmented. Cyclists and pedestrians have to navigate around gaps in the trail, leaving the pedestrian artery through LA County, offering short- and long-distance routes for cyclists and pedestrians that are protected from vehicular traffic. Not only would the trail itself provide a new experience, but the connections it would make between parks, trails, job centers, and other destinations would make an exponentially greater number of nearby experiences more accessible to those who could access the river.

2.3. Provide support facilities at a regular cadence along the length of the river, on both sides.
Basic amenities, such as signage, benches, and water fountains, make casual and experienced users more comfortable. In addition, the climate in LA County can be hot for much of the year, and shade can be a key asset that can negatively affect usage. Shade and water can mitigate these effects.

2.4. Ensure design excellence within and along the river corridor.
Excellence in design enhances function. From the earliest stages of project development, the design process should consider how to best serve the river while addressing multiple needs of adjacent communities. Design excellence requires an attention to quality of built structures, the landscape, the way buildings and landscape meet the ground, and how they relate to the experience of the river and surrounding communities. Elevating the quality of design along the LA River will also serve to elevate the level of design across LA County.

2.5. Encourage compatibility of the river and adjacent land uses.
The appeal of the LA River corridor can be undercut by adjacent uses that are incompatible with the river's ecological function. Conversely, complementary adjacent uses could act as or be permeated to be a barrier to access to the river. Conversely, complementary land uses can be mutually beneficial. For example, adjacent open spaces, restaurants, or retail that connect with the river could encourage patrons to use the river trail, and users of the river trail could increase patronage of those adjacent uses.

2.6. Re-purpose single-use spaces, such as power-line easements, rail rights-of-way, or flood infrastructure, to serve multiple functions such as multi-use trails or habitat.
There are many single-use spaces that serve only a single purpose. With little vacant land and relatively high property values and construction costs, multiple uses are necessary to ensure benefits outweigh costs.

2.7. Promote life safety along the river.
A reimagined river is intended to draw more people to use the river corridor. With increased usage comes a responsibility to ensure the safety of those users through increased awareness, hazard mitigation, and emergency response.

2.8. Promote public safety along the river.
Community members named safety as the top reason they do not use the LA River. Perception of safety is influenced by a number of factors, including physical design factors. Physical factors include having appropriately scaled railings and a path that is clear of debris. Perceptual factors include adequate lighting and "eyes on the river" by other users, security officials, or adjacent uses.

HECHOS

2.9. Cree 51 millas de espacio abierto conectado.
El río LA podría servir como una columna vertebral de espacio abierto de 51 millas en todo el condado de Los Ángeles. Esta columna vertebral de espacio abierto sería única dentro del condado, proporcionando espacio para parques a comunidades que abrumadoramente casi no tienen acceso a ellos. Sus nuevos parques, mientras que sirve como un destino para todo el condado y más allá, ofreciendo una variedad de experiencias de una milla a la siguiente.

2.10. Complete el sendero del río de Los Ángeles para que haya una ruta continua para bicicletas y peatones a lo largo de todo el río, en ambos lados.
Como una ruta de recreación y transporte, el LA River Trail tiene múltiples propósitos. Sin embargo, aún no ha estado a la altura de todo su potencial porque está fragmentado. Una ruta continua a lo largo de todo el río serviría como una arteria principal para bicicletas y peatones a través del condado de Los Ángeles, ofreciendo rutas de corta y larga distancia para ciclistas y peatones que están protegidos del tráfico de vehículos. El sendero en sí no solo proporcionaría una nueva experiencia, pero las conexiones que haría entre parques, senderos, centros de trabajo y otros destinos harían que una gran cantidad de experiencias cercanas fuera más accesible para aquellos que pudieran acceder al río.

2.11. Proporcione instalaciones de apoyo a una cadencia regular a lo largo del río, en ambos lados.
Las comodidades básicas, como señalización, bancos y fuentes de agua potable, hacen que los usuarios ocasionales y experimentados se sientan más cómodos. Además, el clima en el condado de Los Ángeles permite muchos días calurosos durante todo el año que pueden afectar negativamente el uso. La sombra y el agua pueden mitigar estos efectos.

2.12. Asegure la excelencia del diseño dentro y a lo largo del corredor del río.
La excelencia en el diseño mejora la función. Desde las primeras etapas del desarrollo del proyecto, el proceso de diseño debe considerar cómo servir mejor al río mientras se abordan múltiples necesidades de las comunidades adyacentes. La excelencia en el diseño requiere una atención a la calidad de las estructuras construidas, el paisaje, la forma en que los edificios y el paisaje se encuentran con el suelo y cómo se relacionan con la experiencia del río y las comunidades circundantes. Elevar la calidad del diseño a lo largo del río LA también servirá para elevar el nivel de diseño en todo el condado de Los Ángeles.

2.13. Fomentar la compatibilidad del río y los usos de la tierra adyacentes.
El atractivo del corredor del río LA puede verse socavado por usos adyacentes que son desagradables debido a la seguridad, el olor, la contaminación o el ruido. Por el contrario, los usos adyacentes complementarios podrían ser permitidos como una barrera para el acceso al río. Por el contrario, los usos complementarios de la tierra pueden ser mutuamente beneficiosos. Por ejemplo, los espacios abiertos adyacentes, restaurantes o comercios minoristas que se conectan con el río podrían alentar a los clientes a usar el sendero del río, y los usuarios del sendero del río podrían aumentar el patrocinio de esos usos adyacentes.

2.14. Reutilice espacios de un solo uso, como servidumbres de líneas eléctricas, derechos de vía ferroviarios o infraestructura de inundación, para cumplir múltiples funciones, como senderos de usos múltiples o hábitat.
El condado de Los Ángeles no puede permitirse el lujo de tener espacios que sirvan para un solo propósito. Con pocos terrenos baldíos y valores de propiedad y costos de construcción relativamente altos, se necesitan múltiples usos para garantizar que los beneficios superen los costos.

2.15. Promover la seguridad de la vida a lo largo el río.
Un río renovado tiene la intención de atraer a más personas a usar el corredor fluvial. Con un mayor uso viene la responsabilidad de garantizar la seguridad de esos usuarios a través de una mayor conciencia, mitigación de riesgos y respuesta de emergencia.

2.16. Promover la seguridad pública a lo largo del río.
Los miembros de la comunidad mencionaron la seguridad como la razón principal por la que no usan el río LA. Mejorar la percepción de seguridad significa abordar factores físicos y de percepción. Los factores físicos incluyen tener barandas adecuadamente escaladas y un camino libre de escombros. Los factores de percepción adecuados incluyen tener iluminación y "ojos en el río" por otros usuarios, funcionarios de seguridad o usos adyacentes.

Please place sticky notes here.

Por favor coloque etiquetas adhesivas/ post-its aquí.

KIT OF PARTS

EQUIPO DE PIEZAS

Within the LA River Master Plan, the kit of parts is a recommended collection of multi-benefit design components organized within six major infrastructure and urban river typologies. The components of the kit of parts connect design to the nine Los Angeles River Master Plan goals and their associated spatial needs.

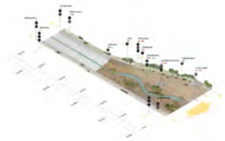
Dentro del Plan Maestro del Río de Los Ángeles, el kit de piezas es una colección recomendada de componentes de diseño de beneficios múltiples organizados dentro de seis infraestructuras principales y tipologías de ríos urbanos. Los componentes del kit de piezas conectan el diseño con los nueve objetivos del Plan Maestro del Río de Los Ángeles y sus necesidades espaciales asociadas.

FLOODPLAIN RECLAMATION

COMPONENTS
- Wetland
- Naturalized Bank
- Braided Channel
- Field
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)

RECLAMACIÓN DE LLANURAS DE INUNDACIÓN

COMPONENTES
- Humedal
- Banco naturalizado
- Canal trenzado campo
- Campo de recreación
- Almacenamiento (superficie: Embalse, lago, estanque)

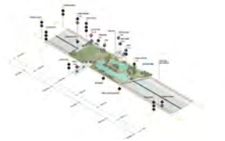


CROSSINGS & PLATFORMS

COMPONENTS
- Pedestrian Bridge
- Bike Bridge
- Equestrian Bridge
- Multi-use Bridge
- Cantilever
- Platform

CRUCES Y PLATAFORMAS

COMPONENTES
- Puente peatonal
- Puente de bicicleta
- Puente ecuestre
- Puente de usos múltiples voladizo
- Plataforma

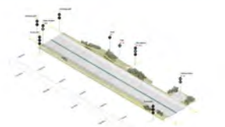


TRAILS & ACCESS GATEWAYS

COMPONENTS
- River Gateway
- Pedestrian Trail
- Bike Trail
- Equestrian Trail
- Equestrian Facility
- Multi-use Trail
- Light Tower / Water Tower
- Lookout
- Boardwalk
- Channel Access
- Vehicular Access
- Underpass and Overpass
- Landscape Buffer
- Habitat Corridor
- Swale, Rain Garden, BMP

SENDEROS Y PUERTAS DE ACCESO

COMPONENTES
- Puerta de entrada al río
- Sendero peatonal
- Camino para bicicletas
- Sendero ecuestre
- Instalación ecuestre
- Sendero de usos múltiples
- Torre de luz / Torre de agua
- Estar atento
- Paseo marítimo
- Acceso al canal
- Acceso vehicular
- Paso subterráneo y paso elevado
- Paisaje Buffer
- Corredor de hábitat
- Cunegal, jardín de lluvia, mejores prácticas de manejo



CHANNEL MODIFICATIONS

COMPONENTS
- Terraced Bank
- Check Dam
- Deployable Barrier (Dam, Levee)
- Levee
- Armored Channel
- Flood Vent
- Vertical Wall
- Reshape/Low Flow
- Channel Smoothing
- Texturizing or Grooving
- Concrete Bottom
- Soft Bottom
- Sediment Removal / Vegetation Conversion
- Bridge Pier / Abutment Removal / Modification / Addition
- Access Ramp

MODIFICACIONES DE CANAL

COMPONENTES
- Banco aliviado
- Verificar presa
- Barrera desplegable (presa, dique)
- Dique
- Canal blindado
- Ventilación de inundación
- Pared vertical
- Reformar bajo flujo
- Suavizado de canales
- Texturizado o rematado
- Fondo de hormigón
- Fondo blando
- Eliminación de sedimentos / conversión de ve
- Puente Muelle / Remoción de pilares / Modific
- Rampa de acceso



DIVERSIONS

COMPONENTS
- Pump
- Diversion Pipe
- Diversion Channel
- Diversion Tunnel
- Overflow Weir

DIVERSIONES

COMPONENTES
- Bomba
- Tubo de desvío
- Canal de desvío
- Túnel de desvío
- Vertedero de desbordamiento



OFF CHANNEL LAND ASSETS

COMPONENTS
- Urban Agriculture (Orchard, Farm, Nursery, Community Garden)
- Solar Power Generation & Storage
- Composting and Waste Management
- Natural Treatment System
- Wetland
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)
- Storage (Subsurface: Reservoir, Cistern, Tank)
- Injection Well
- Mechanical Water Treatment Facility
- Purple Pipe Connection
- Gallery / Dry Well
- Spreading Ground
- Affordable Housing
- Museum, Gallery, or Other Arts Installation or Institution

ACTIVOS INMOBILIARIOS FUERA DEL CANAL

COMPONENTES
- Agricultura urbana (huerta, granja, vivero, jardín comunitario)
- Generación y almacenamiento de energía solar
- Compostaje y gestión de residuos
- Sistema de tratamiento natural
- Humedal
- Campo de recreación
- Almacenamiento (superficie: embalse, lago, estanque)
- Almacenamiento (subsuperficie: depósito, cisterna, tanque)
- Pozo de inyección
- Instalación mecánica de tratamiento de agua
- Conexión de tubería púrpura
- Galería / Pozo seco
- Esparcimiento
- Vivienda asequible
- Museo, galería u otras artes instalación o institución



COMMENTS COMENTARIOS

Please place sticky notes here.

Por favor coloque etiquetas adhesivas/ post-its aquí.



Q & A AND DISCUSSION

Source: OLIN

WHAT'S IN THE PLAN

Source: OLIN

WHAT'S IN THE PLAN

STRATEGIC DIRECTIONS

- **Goals, Actions, Methods**
- **Implementation Responsibility and Partners**
- **Funding Sources**

DESIGN FRAMEWORK

- **Needs Analysis**
- **Sites**
- **Kit of Parts and Common Elements** (possible intervention strategies)
- **System Recommendations**
- **Design Examples**

TABLE OF CONTENTS

LARMP

SECTION I: INTRODUCTION

- Executive Summary
- Master Plan 2020

SECTION II: CONTEXT

- History of the River
- Existing Conditions Summary

SECTION III: FUTURE OF THE LA RIVER

- Goals and Needs
- Sites
- Design Framework

SECTION IV: IMPLEMENTATION

- Public Stewardship
- System Management
- Operations and Maintenance
- Funding Sources
- Implementation and Funding Matrix

VISION STATEMENT

VISION FOR THE LA RIVER

The LA River is an iconic, 51-mile connected open space, seamlessly woven together with neighboring communities. It is an integral part of daily life in LA County—a place to enjoy the outdoors and to get across town, a place to appreciate the serene and to bring all people together, a place to celebrate a thriving urban habitat and respect feats of infrastructure, a place to learn from the past and to shape the future.

VISION AND GOALS

Perhaps no other river occupies Southern California's imagination like the LA River. Small wonder 4.6 million people live within its watershed and a million people live beside.The river offers us the opportunity to bring 16 municipalities together. It's a connector unlike the numerous highways, because it truly can bring people together face-to-face across 51 miles. This capacity was recognized early on in the seminal Olmsted-Bartholomew regional plan of 1929. Their plan completed at the start of the Great Depression and just before the massive floods of the 1930's foresaw the rapid urbanization of Los Angeles County and they knew parks, open spaces, and connection to nature would be essential to the health, environment, and economy of the region.

In 1996 LA County rediscovered the ambitions of this past planning as numerous citizens, communities and advocates have pushed for an inclusive vision of shared open spaces and parks, stewardship of precious water resources and safeguarding communities from hazardous floods. Now the river is poised to take on greater use to the people of Los Angeles County, it was never meant to be one thing, it was meant to collect water as much as it is to move it. It was meant to connect Angelinos on foot, wheel, and hoof. It was meant to be community open space and ball fields. It was meant to support the life of humans as well as Southern California's wildlife and migratory birds. It was meant for Los Angeles's vibrant creative arts culture and most of all it was meant for everyone regardless of income or condition, the River is welcome to all.

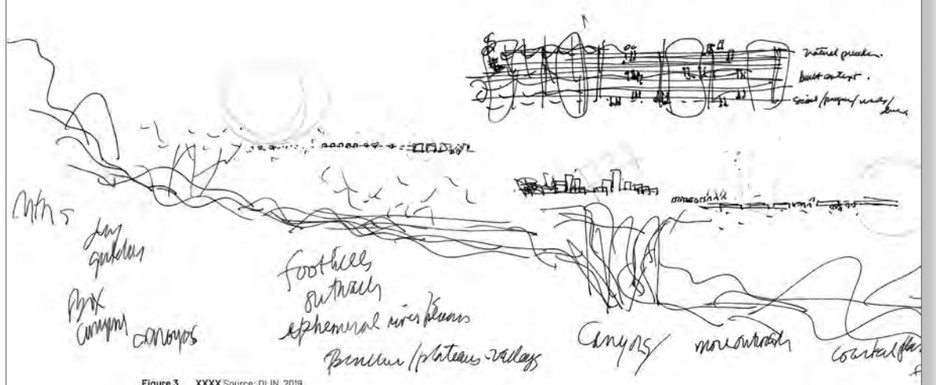


Figure 3. XXXX Source: OLIN, 2019

GOAL DRIVEN PLANNING AND IMPLEMENTATION: GOALS, ACTIONS, AND METHODS

To achieve the proposed vision for the LA River, the LA River Master Plan is organized to provide clear guidance to decision-makers, administrators, and implementation partners.

The policy framework for the plan is built around the plan's nine goals, which are active priorities for the future of the river. Each goal is supported by a set of actions that the County can take to move towards its achievement. Each action is, in turn, supported by a set of methods that provide specific, tangible implementation steps. Together, the goals, actions, and methods form the policy framework of the LA River Master Plan. With the adoption of this plan by the Board of Supervisors, its planning framework is County policy.

The realization of the goals, actions, and methods will require collaboration among many LA County departments and collaboration between the County and external public, private, and institutional partners.

PLANNING TIMELINE

The 2020 LARMP is part of a larger sequence of planning for the LA River. Between the 1996 LA County LARMP and the 2007 City of Los Angeles LA River Revitalization Plan, technological advances, GIS, and new data sources enabled the City of Los Angeles to advance thinking. Today, the 2020 LARMP process can benefit from additional climate information, advanced mapping and scripting technologies, and a series of studies that have been completed, such as 2016 Los Angeles countywide Comprehensive Parks & Recreation Needs Assessment and the 2016 LA County Health Survey, which were not available in 1996.

As an update to the 1996 Los Angeles River Master Plan (LARMP), the LARMP 2020 plan is intended to be a living document that should be updated periodically and comprehensively again in 20-25 years. In addition, an interim review and partial update should be completed in 10-12 years and annual progress reports on the status of the Master Plan and related projects should be part of the overall recommendations in the LARMP 2020. The Consultant Team has identified a planning period of at least 50 years for the goals to be realized within the 2020 Plan.

HISTORICAL CONTEXT



Figure 17. Indigenous Tribes and Villages along the LA River. Source: Fernando Tatavium Band of Mission Indians, Los Angeles County Villages map, 2015

FIRST PEOPLES UNTIL THE ARRIVAL OF THE SPANISH

A growing body of data obtained from archaeological research indicates that a fully "maritime-adapted, seafaring culture existed in Southern California at least ten thousand years ago. During a period between approximately 2,000 B.C. and 700 A.D., the Uto-Aztecan (formerly known as Shoshonean) peoples, referred to by a linguistic stock that extended across the Great Basin Region of Utah, Nevada, and California), entered the Los Angeles Basin, either absorbing or displacing the previous Hokan-speaking peoples. These peoples lived in the Los Angeles Basin until the arrival of Europeans. (McCawley, 2).

The Uto-Aztecans that inhabited the Los Angeles Basin are commonly referred to as the Gabrielino, though several distinct nations and identities exist within this lineage. The name Gabrielino derives from the incorporation of many of the native peoples into the Mission San Gabriel during the 18th century, whereas the native peoples of the region surrounding the Mission San Fernando are referred to as the Fernandeño. Many descendants of the Gabrielinos now identify as Tong-va, a traditional name that potentially refers to a village in the San Gabriel Mission area, whereas a lineage of the Fernandeños refers to their traditional name Tataviam (McCawley, 9). William McCawley notes in his work The First Angelinos (1996, 3) that culturally the Gebrielino and Fernandeño are very closely related, and while there are distinct differences in linguistic dialect, the tongues were mutually intelligible (McCawley, 90).

The Los Angeles River provided for all the Gabrielino needed to become one of the largest concentrations of indigenous peoples in North America—at the time of European contact, approximately five thousand Gabrielino inhabited the region (Gump, 26). Impressively, Gumprecht notes that despite their dependence on the river, the native peoples were remarkably resourceful in their use of the natural environment (Gump, 26),.

Over generations, the Gabrielino lineages occasionally split and reorganized when a population became too large for the surrounding territory to support or when resources became too limited due to environmental change (McCawley, 89). When these groups departed, some obliged themselves to change their speech and customs to become a new distinct nation upon the new land they inhabited. Language itself was an important indicator of lineage and identity, though the linguistic differences among lineages also fostered harmony. Each dialect possessed only a portion of the components for rituals and ceremonies, which meant two or more lineages needed to come together to perform them successfully (McCawley, 89).







Figure 18. (Top) Building a simulacrum of power.
Source: Clockshop, The Bowtie Project

Figure 19. (Middle) The Spanish-Built ZanJa Madre (mother ditch) brought river water to the city center.
Source: Hall, Wm. Ham. (William Hammond). California Department of Engineering

Figure 20. (Bottom) The ZanJa Madre irrigated agricultural fields.
Source: Water and Power Associates

ENGAGEMENT SUMMARY

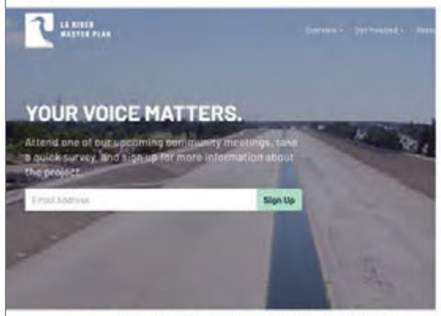


Figure 74. Captions velent et que cum alit estecep erorrum sunt.



Figure 75. Captions velent et que cum alit estecep erorrum sunt.



Figure 76. Captions velent et que cum alit estecep erorrum sunt.
Source: Los Angeles County Public Works

WEBSITE

The LA River Master Plan website functioned as a digital archive for the master planning process, bulletin board for upcoming meetings and events, and portal to digital surveys. The website provided access to all public presentations, digital mapping, technical memos, research, and drafts of the Master Plan document.

DIGITAL OUTREACH

Social media posts, social media ads, and a monthly email communicated the breadth of river-related issues, the planning process, and engagement opportunities to a wide, diverse audience.

OTHER PRESENTATIONS

LA County staff and the consultant team met with other groups and organizations throughout the process to coordinate efforts and present on the progress of updating the LA River Master Plan. Presentations were given to the Regional Water Quality Control Board, AB466 Upper Tributaries Working Group, Gateway Cities Council of Governments.

DRAFT



Figure 77. Captions velent et que cum alit estecep erorrum sunt.

RIVER STORIES

Stakeholders ranging in age and level of involvement with river-related advocacy were interviewed about their personal connections to the river. Videos of these interviews, called *River Stories*, were posted on the Master Plan website and screened at community meetings and events.

DRAFT



Figure 90. Nes expliberum ipsamus eligent rest, omnimil maximol uptionet latem nosa sequi qui dictur acererae alit odi velest lab illicab orestrum eatium, ipit et, conse doloria
Sources: XXXXXXXXXX

61 PERCENT

OF SURVEY AND COMMUNITY MEETING PARTICIPANTS SAID THAT THEY DO NOT USE THE LA RIVER DUE TO SAFETY

GOAL

GOAL TWO

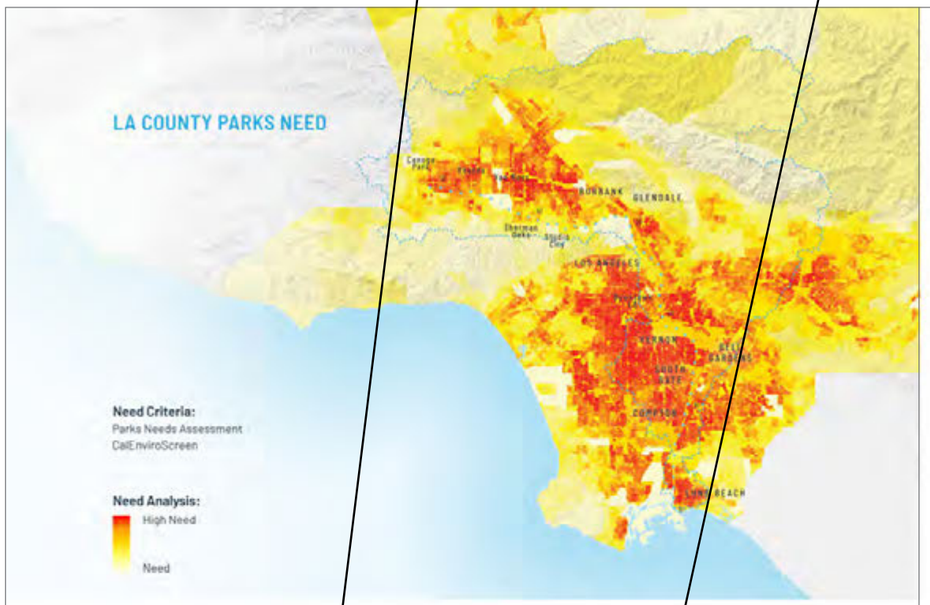
PROVIDE EQUITABLE, INCLUSIVE, AND SAFE PARKS, OPEN SPACE, AND TRAILS.

Members of the community identified walking and bicycling as the top two activities they participate in along the river—with combined participation greater than all other activities combined. Yet, 61% said they do not use the river due to safety concerns. This is apparent when looking at available parks and trails. Twelve of seventeen cities along the LA River do not meet the World Health Organization's minimum standards of 2.2 acres of parks per thousand people, and only 31 of the river's 51 miles have trails. By aiming to provide 51 miles of safe, connected open space, the LA River can be a valued recreational resource for the surrounding communities in LA County.

NEEDS

EXISTING CONDITIONS

RULER



NEEDS: PARKS

The Los Angeles County Department of Parks and Recreation's Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment was combined with the California Office of Environmental Health Hazard Assessment's CalEnviroScreen 3.0 to assess both where park need was highest, and where communities would benefit most from environmental and recreational improvements.

PARKS NEEDS ASSESSMENT

Park Need was evaluated using Los Angeles County Department of Parks and Recreation's Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment completed in May, 2016. In the assessment, park need was evaluated on an acre by acre basis and scored based on a weighted combination of park pressure (amount of park land available to residents around each park), park access (percent of population living within 1/2 mile of a park), and park acre need (acres of park per 1,000 people). In the assessment, numeric scores were then categorized into five park need categories: very low, low, moderate, high, and very high need. For the LARMP park need analysis a higher park need assessment resulted in a higher park need.

CALENVIROSCREEN 3.0

CalEnviroScreen 3.0, released in 2017 is a science-based mapping tool created by the California Office of Environmental Health Hazard Assessment (OEHHA) and the California Environmental Protection Agency (EPA) that helps identify California communities that are most affected by multiple sources of pollution, and are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce a numerical score for each census tract in the state.

CalEnviroScreen was used in addition to Park Need to further prioritize the potential impact of new parks and open space on existing pollution levels and to provide recreation and health amenities and services to communities most vulnerable to pollution's harmful health effects. Areas with high need had a score near 100%, meaning they had the worst environmental conditions in the state of California relative to other census tracts in the state. Areas with low need had a 0% score, meaning they had the best environmental conditions in the state, and areas with no data were categorized as having no need.

Figure 107. Indigenous Tribes and Villages along the LA River. Source: Fernando Tatavlam Band of Mission Indians, Los Angeles County Villages map, 2015

Figure 108. (Left) Soft bottom sections of the river provide in-channel species habitat. Source: OLIN, 2018



ACTIONS

METHODS

ADDRESS POTENTIAL ADVERSE IMPACTS TO HOUSING AFFORDABILITY AND PEOPLE EXPERIENCING HOMELESSNESS.

ACTIONS

6.1. Create an ongoing forum for the coordination of housing and community stabilization strategies along the river.

Ensuring that river improvements strengthen communities without contributing to already intense housing affordability challenges requires a complex balancing act and the best strategies are likely to change. LA County needs ongoing input from impacted communities in order to help guide the evolution of this strategy over time.

6.1.1. **Establish an LA River Housing Affordability Task Force that includes representatives from the County and river adjacent cities, as well as key community stakeholders, including affordable housing advocates and representatives of communities directly experiencing displacement. Provide funding for staffing or consultants to support the Task Force.**

6.2. Require a housing impact assessment be completed as part of the planning for all sizable river improvement projects.

A housing impact assessment is a tool for quantifying how a project might affect nearby housing prices or rents. By conducting such an assessment during the planning phase of a project, proactive steps can be taken in proportion to the projected impact to mitigate adverse effects on housing affordability and the risk of displacement.

6.2.1. **Develop an assessment tool to evaluate whether projects are likely to significantly impact housing affordability.**

6.2.2. **Prior to committing County resources to river projects or approving permits that impact the river right-of-way, require completion of a concise assessment of affordable housing needs and opportunities. The extent of analysis required should vary depending on the scale of the river project.**

AFFORDABILITY HOUSING NEEDS ASSESSMENT

- Analysis of the potential impact of the proposed project on housing affordability and displacement.
- Summary of existing affordable housing programs and projects serving the community including any existing affordable housing developments with affordability restrictions scheduled to expire.
- 'Community roadblock analysis' which identifies local barriers to approval of supportive housing in the surrounding community.
- Analysis of the existing stock of currently unsubsidized but affordable market rate rental housing in the area surrounding the project
- List of specific sites which could be appropriate for development of supportive housing for persons experiencing homelessness.
- Affordable and supportive housing strategy outline tailored to the local needs and opportunities.

DRAFT

6.3. Increase units of affordable housing within one mile of the river.

The most effective way to mitigate adverse effects on housing affordability is to increase the supply of affordable housing or preserve existing affordable housing. By investing in more housing units with restricted rents near the river we can help ensure that river adjacent communities remain income diverse even as the river improves.

6.3.1. **Encourage a mix of supportive housing, affordable rental, and affordable homeownership units in both new construction and preservation buildings.**

6.3.2. **Expand the LA County Community Development Commission's Home Ownership Program (HOP) to provide additional affordable homeownership opportunities in river adjacent communities.**

6.3.3. **Designate river adjacent communities at risk of increased displacement as priority areas for County affordable housing investment.**

6.3.4. **Publicly report on the progress toward this goal annually through the LA River Housing Affordability Task Force.**

6.4. Develop an affordable housing land bank authority, land acquisition loan fund, or similar organization to strategically purchase land along the river and hold it for future development as affordable housing or permanent supportive housing.

The primary obstacle to building new affordable housing and permanent supportive housing is the lack of available land on which to build it. LA County is largely built out, with few vacant properties and relatively high property values. A land bank authority or similar organization that is specifically tasked with assembling development parcels could lower the barrier to creating new affordable housing.

6.4.1. **Commission a study to identify all public agency owned land within one mile of the LA River and identify surplus or underutilized sites appropriate for development of affordable or supportive housing, including sites where housing could be collocated with other uses.**

6.4.2. **Designate and fund a single land bank or similar entity within county government or an outside partner.**

LAND BANK OR SIMILAR ENTITY

- Coordinate site acquisition and financing river-wide.
- Initially target land acquisition efforts largely (but not exclusively) in areas identified as facing the greatest risk of displacement.
- Partner with local agencies and community-based organizations to manage community planning processes to identify local priorities for development in each area.
- Manage RFPs or other public process for selecting housing developers for disposition or joint development projects.
- Transfer ownership of land to local nonprofit housing providers, or other long-term owners when sufficient local capacity exists.
- Recapture land purchase funds for reuse in future sites to the extent possible.

DRAFT

ADDITIONAL INFO TO SUPPORT METHODS

ADDRESS POTENTIAL ADVERSE IMPACTS TO HOUSING AFFORDABILITY AND PEOPLE EXPERIENCING HOMELESSNESS.

ACTIONS

6.1. Create an ongoing forum for the coordination of housing and community stabilization strategies along the river.

Ensuring that river improvements strengthen communities without contributing to already intense housing affordability challenges requires a complex balancing act and the best strategies are likely to change. LA County needs ongoing input from impacted communities in order to help guide the evolution of this strategy over time.

6.1.1. **Establish an LA River Housing Affordability Task Force that includes representatives from the County and river adjacent cities, as well as key community stakeholders, including affordable housing advocates and representatives of communities directly experiencing displacement. Provide funding for staffing or consultants to support the Task Force.**

6.2. Require a housing impact assessment be completed as part of the planning for all sizable river improvement projects.

A housing impact assessment is a tool for quantifying how a project might affect nearby housing prices or rents. By conducting such an assessment during the planning phase of a project, proactive steps can be taken in proportion to the projected impact to mitigate adverse effects on housing affordability and the risk of displacement.

6.2.1. **Develop an assessment tool to evaluate whether projects are likely to significantly impact housing affordability.**

6.2.2. **Prior to committing County resources to river projects or approving permits that impact the river right-of-way, require completion of a concise assessment of affordable housing needs and opportunities. The extent of analysis required should vary depending on the scale of the river project.**

AFFORDABILITY HOUSING NEEDS ASSESSMENT

- Analysis of the potential impact of the proposed project on housing affordability and displacement.
- Summary of existing affordable housing programs and projects serving the community including any existing affordable housing developments with affordability restrictions scheduled to expire.
- 'Community roadblock analysis' which identifies local barriers to approval of supportive housing in the surrounding community.
- Analysis of the existing stock of currently unsubsidized but affordable market rate rental housing in the area surrounding the project
- List of specific sites which could be appropriate for development of supportive housing for persons experiencing homelessness.
- Affordable and supportive housing strategy outline tailored to the local needs and opportunities.

DRAFT

6.3. Increase units of affordable housing within one mile of the river.

The most effective way to mitigate adverse effects on housing affordability is to increase the supply of affordable housing or preserve existing affordable housing. By investing in more housing units with restricted rents near the river we can help ensure that river adjacent communities remain income diverse even as the river improves.

6.3.1. **Encourage a mix of supportive housing, affordable rental, and affordable homeownership units in both new construction and preservation buildings.**

6.3.2. **Expand the LA County Community Development Commission's Home Ownership Program (HOP) to provide additional affordable homeownership opportunities in river adjacent communities.**

6.3.3. **Designate river adjacent communities at risk of increased displacement as priority areas for County affordable housing investment.**

6.3.4. **Publicly report on the progress toward this goal annually through the LA River Housing Affordability Task Force.**

6.4. Develop an affordable housing land bank authority, land acquisition loan fund, or similar organization to strategically purchase land along the river and hold it for future development as affordable housing or permanent supportive housing.

The primary obstacle to building new affordable housing and permanent supportive housing is the lack of available land on which to build it. LA County is largely built out, with few vacant properties and relatively high property values. A land bank authority or similar organization that is specifically tasked with assembling development parcels could lower the barrier to creating new affordable housing.

6.4.1. **Commission a study to identify all public agency owned land within one mile of the LA River and identify surplus or underutilized sites appropriate for development of affordable or supportive housing, including sites where housing could be collocated with other uses.**

6.4.2. **Designate and fund a single land bank or similar entity within county government or an outside partner.**

LAND BANK OR SIMILAR ENTITY

- Coordinate site acquisition and financing river-wide.
- Initially target land acquisition efforts largely (but not exclusively) in areas identified as facing the greatest risk of displacement.
- Partner with local agencies and community-based organizations to manage community planning processes to identify local priorities for development in each area.
- Manage RFPs or other public process for selecting housing developers for disposition or joint development projects.
- Transfer ownership of land to local nonprofit housing providers, or other long-term owners when sufficient local capacity exists.
- Recapture land purchase funds for reuse in future sites to the extent possible.

DRAFT

ACTIONS **LEAD AGENCY** **PARTNERS** **FUNDING**

2. PROVIDE EQUITABLE, INCLUSIVE, AND SAFE PARKS, OPEN SPACE, AND TRAILS.

Action/Methods	Implementation Lead	Potential Partners	Geographic Boundaries	Potential Funding Sources	Related Actions/Methods
2.1. Create 51 miles of connected open space.	**DPR**	**PW/FCD, DRP, USACE, MRCA, RMC**	**LA River Corridor + Surroundings**		
2.1.1. Create a park setting along the entire river utilizing this plan's design guidelines (LA River Design Guidelines).					2.4.2.
2.1.2. Utilize river channel right-of-way and adjacent areas to increase park space.					
2.1.3. Promote the river as a greenway spine of the larger LA County regional parks, multi-use trails, habitat, and open space network.					
2.1.4. Use river areas to assist in ensuring all LA County residents live within a half mile of a park.					
2.1.5. Create two new regional parks south of Downtown LA and one new regional park west of Sepulveda Basin, while continuing the development of large regional parks currently underway.					
2.1.6. Provide amenities and experiences in existing and new park spaces that are not currently available at nearby parks and increase unique programming along the river corridor.					
2.1.7. Preserve and create viewsheds along the river, between adjacent neighborhoods and the river, and from bridges over the river.					
2.1.8. Secure ongoing and long-term funding for land acquisition, construction, and maintenance of additional parks and recreational facilities.					
2.1.9. Increase recreation uses within the corridor where compatible with ecological function.					
2.2. Complete the LA River Trail so that there is a continuous bicycle and pedestrian route along the entire river, on both sides.	**DPR**	**PW, Municipalities, MRCA, RMC**	**LA River Corridor + Surroundings**		
2.2.1. In places where right of way is too narrow for a river trail, pursue easements on adjacent property to complete the trail or utilize bridges, platforms, or cantilevers.					
2.2.2. Increase the extent of multi-use trails parallel to the river with separate paths for active transport, pedestrians, and equestrians in areas of high traffic.					
2.2.3. Provide bicycle parking and encourage bicycle rental facilities along the river.					
2.2.4. Develop signage and curriculum that promotes the benefits of using the river trail for recreation and improved health.					1.5.3., 7.2.
2.2.5. Include shade trees and shade structures along the trail.					2.3.1, 2.4.1, 3.3.7
2.3. Provide support facilities at a regular cadence along the length of the river, on both sides.	**PW**	**DPR, MRCA, RMC**	**LA River Corridor**		
2.3.1. Ensure there is a shaded place to rest every half mile, on average, along the river.					2.2.5
2.3.2. Ensure there is access to a public restroom every mile, on average, along the river.					
2.3.3. Ensure there is wayfinding information at river access points and every half mile, on average, along the river.					
2.3.4. Supplement County facilities and services with concessionaire agreements for food, convenience item sales, recreation equipment rentals, recreation instruction, and guided tours.					
2.3.5. Ensure there are trash receptacles at a regular cadence along the river on both sides.					
2.4. Ensure design excellence within and along the river corridor.	**PW**	**DPR, Municipalities, MRCA, RMC**	**LA River Corridor + Surroundings**		
2.4.1. Utilize unified design guidelines for adjacent parks and river amenities that are flexible enough to reflect the diversity of local communities. (LA River Design Guidelines).					
2.4.2. Encourage local jurisdictions to adopt this plan's design guidelines (LA River Design Guidelines).					1.5.1., 2.2.5, 2.5.1., 2.5.2., 3.2.6, 3.4., 4.2.4., 6.6.2., 8.1.3.
2.4.3. Require this plan's guidelines (LA River Design Guidelines) be followed for all projects permitted by the County, constructed on County property, or funded by the County.					2.1.1.

Action/Methods	Implementation Lead	Potential Partners	Geographic Boundaries	Potential Funding Sources	Related Actions/Methods
2.5. Encourage compatibility of the river and adjacent land uses.	**DRP**	**Municipalities**	**LA River Corridor + Surroundings**		**7.5.**
2.5.1. Encourage the entire river channel and corridor to be zoned as open space.					1.5.1., 2.4.1., 2.5.2., 3.4., 4.2.4., 6.6.2., 8.1.3.
2.5.2. Encourage the re-zoning of incompatible land uses, such as waste sites, adjacent to the river, where feasible.					1.5.1., 2.4.1., 2.5.1., 3.4., 4.2.4., 6.6.2., 8.1.3.
2.5.3. Develop buffering strategies to mitigate air quality and other impacts of incompatible uses, such as industrial uses, that are expected to remain adjacent to the river.					3.3.4., 3.4.3
2.5.4. Use County and local development and zoning review processes to ensure compatibility and, where feasible, add new river-adjacent amenities.					
2.6. Repurpose single-use spaces, such as power-line easements, rail rights-of-way, or flood infrastructure, to serve multiple functions such as multi-use trails or habitat.	**DRP**	**PW, DPR, County Counsel, Utility Providers, CSO, MRCA, RMC**	**LA County**		
2.6.1. Develop master agreements with utilities for easements to maximize use of ground space under overhead or above buried utility lines for parks, open space, and trails.					
2.6.2. Discuss options to create multi-use space with private rail companies.					
2.6.3. Foster opportunities for urban agriculture to encourage access to local healthy foods.					
2.7. Promote life safety along the river.	**PW/FCD**	**DPR, Sheriff, Fire Department, Health Agency, USACE, Municipal Emergency Services, River Rangers**	**LA River Corridor**		
2.7.1. Improve safety signage, including what to do in an emergency.					1.5.2.
2.7.2. Utilize this plan's consistent 51-mile marker system (0 at Long Beach, 51 at Canoga Park) to assist response teams in locating emergencies along the river.					
2.7.3. Ensure anchor points for swift water rescue teams.					
2.7.4. Remove hazards and dangerous objects, such as old fencing, metal, or debris, from the river corridor.					
2.8. Promote public safety along the river.	**PW/FCD**	**DPR, Sheriff, Fire Department, Health Agency, USACE, Municipal Emergency Services, River Rangers**	**LA River Corridor**		
2.8.1. Coordinate with the River Rangers program.					8.8.4, 7.2.3
2.8.2. Ensure adequate and consistent lighting along the river trail that complies with guidelines to reduce light pollution.					
2.8.3. Ensure emergency phones are located along the river trail.					
2.8.4. Utilize CPTED (Crime Prevention Through Environmental Design) principles in projects.					
2.8.5. Encourage adjacent neighborhood watch groups to include the river in their area of influence.					
2.8.6. Consider the use of video monitoring systems in isolated locations.					

APPENDICES

DESIGN GUIDELINES

- Plant Species
- Soils Guidelines
- Trail Widths Requirements
- Signage Leading to Projects
- Permitting Overview
- O&M Planning

TECHNICAL DOCUMENTS

- Additional River Rulers
- Hydrology and Hydraulics Analysis
- Needs Mapping and Weighting
- Project Database / Library of Sources and Data Catalog

DRAFT SCHEDULE

- SUBCOMMITTEES TO RECEIVE KEY CHAPTERS BY: **DECEMBER 2019**

- SUBCOMMITTEES TO RECEIVE FULL DRAFT BY: **JANUARY 2020**
  (ESTIMATED 3 WEEKS FOR REVIEW)

- FINAL DRAFT: FOR PUBLIC COMMENT **(ESTIMATED: APRIL 2020)**

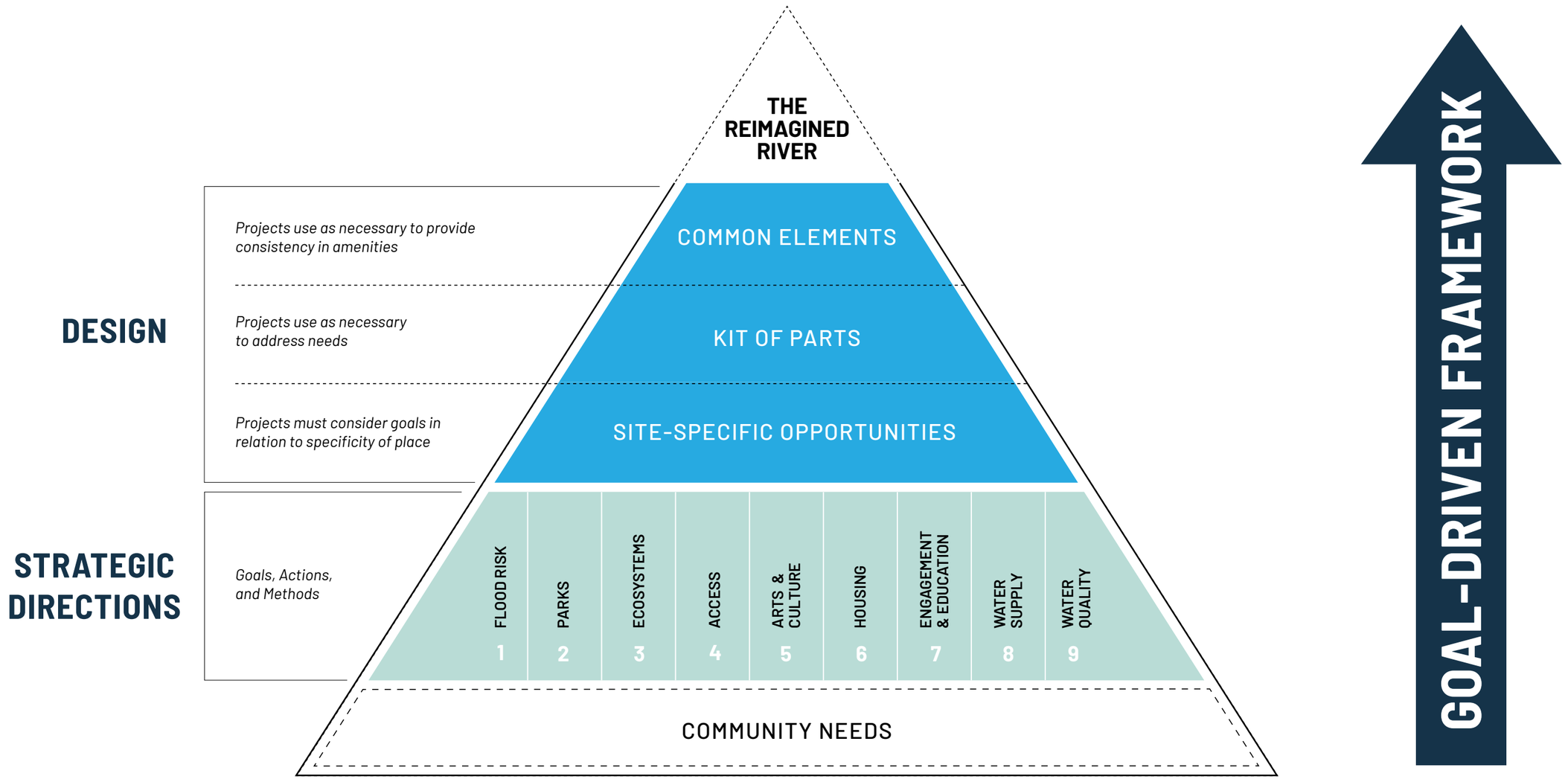
Q & A AND DISCUSSION

Source: OLIN

DESIGN FRAMEWORK

Source: OLIN

GOAL-DRIVEN FRAMEWORK



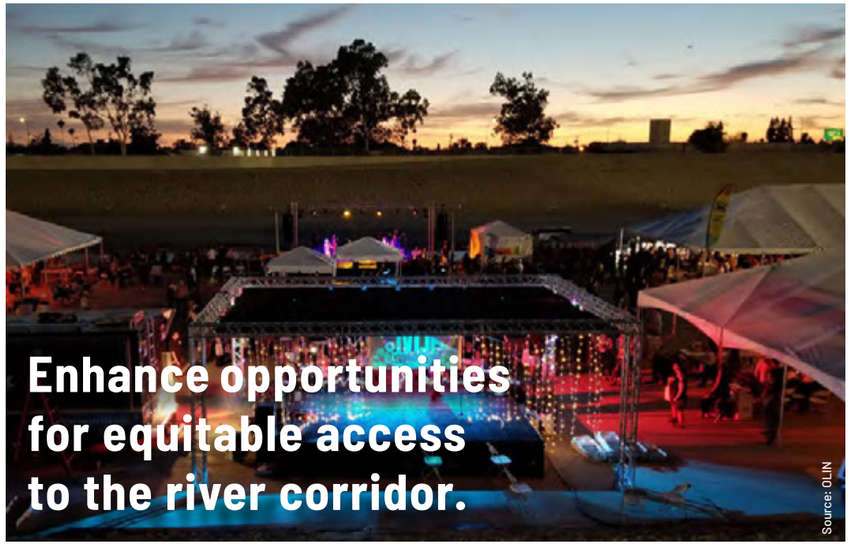
GOAL INFORMED PROJECT DESIGN

Source: OLIN


Reduce flood risk and improve resiliency.
Source: Flickr user Scott L_1_ETC7392, 2015, https://www.flickr.com/photos/41802269@N03/13904608860/


Provide equitable, inclusive, and safe parks, open space, and trails.
Source: The Source, And the existing segment from Griffith Park to DTLA just shy of its current terminus near the Riverside Drive bridge. http://s3-us-west-1.amazonaws.com/media.thesource.metro.net/wp-content/uploads/2017/11/06135450/5415743344_0615c3818d_o-1.jpg


Support healthy, connected ecosystems.
Source: KCET Departures, South L.A. – Willow Street, 2010, https://www.flickr.com/photos/kcetdepartures/5057066201/in/album-72157624140270775/

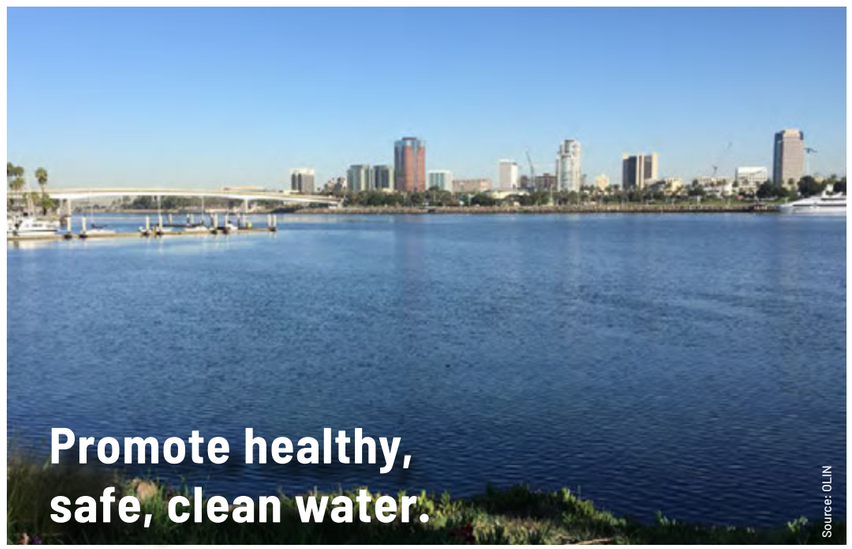

Enhance opportunities for equitable access to the river corridor.
Source: OLIN


Embrace and enhance opportunities for arts and culture.
Source: Clockshop, The Bowtie Project, The L.A River Campout, 2017, https://clockshop.org/wp-content/uploads/2017/12/LAriver-featured.jpg


Address potential adverse impacts to housing affordability and people experiencing homelessness.


Foster opportunities for continued community engagement, development, and education.
Source: Randall, R. Flickr User, https://www.flickr.com/photos/zeroy/2406085732/in/pool-lariver/


Improve local water supply reliability.
Source: OLIN


Promote healthy, safe, clean water.
Source: OLIN

GOAL 1: FLOOD RISK

Source: OLIN

ACTIONS

METHODS

REDUCE FLOOD RISK AND IMPROVE RESILIENCY.

ACTIONS

1.1. Maintain existing flood carrying capacity of all reaches of the LA River channel.

Levels of flood risk management vary along the 51-mile channel. Because development up to the channel's edges has nearly completely encroached upon the floodplain, it is critical to maintain the existing capacity and not reduce the flood carrying capacity of any reach of the river.

1.1.1. Review new projects within and along the LA River to ensure that flood risk is not increased.

1.1.2. Review new projects with in-channel components to ensure the flood carrying capacity of the river is not reduced.

1.2. Increase capacity of the river in high risk areas to provide flood risk reduction to at least the one-percent ("100-year") annual chance flood event.

One way to reduce flood risk in communities near the LA River is to increase the conveyance capacity of the river, so that it can safely pass larger storm flows to the Pacific Ocean.

1.2.1. Purchase or repurpose land along the channel and immediately adjacent areas to increase width and capacity of the river, and encourage acquisition of land within the floodplain to serve as a buffer for flooding.

1.2.2. Prioritize natural features and processes for flood risk reduction.

1.2.3. Deepen the channel or raise levees.

1.2.4. Build bypass channels and tunnels.

1.2.5. Remove invasive plants from the channel.

1.2.6. Manage sediment and invasive plants using best practices before they accumulate in the river channel.

1.2.7. Manage dry-weather flows to discourage the growth of invasive and non-native vegetation within the flood channel.

1.2.8. Retrofit infrastructure and other obstructions, such as bridges, to remove hydraulic constrictions.

DRAFT

1.3. Reduce peak flood flows into the river.

In addition to increasing capacity of the river, flood risk can also be improved by reducing the amount of water that enters the LA River. Upstream storage or detention facilities, such as dams, help to store runoff during large storm events and slowly release the water so as not to exceed the downstream channel capacity.

1.3.1. Evaluate regional scale upstream dams and detention basins.

1.3.2. Increase capacity of existing dams and detention basins.



Figure 100. Increasing capacity of existing basins will reduce peak flood flows into the river. Sources: OLIN, 2019

1.4. Include climate change research in the planning process for new projects along the river.

Current infrastructure in and along the LA River was designed based on historic climate data. However, a changing climate is likely to increase the frequency of extreme precipitation events that result in flows that exceed the channel's current capacity. New projects along the LA River must consider the long-term impacts of climate change and the need to incorporate resilient infrastructure to handle these extreme events.

1.4.1. Conduct inter-institutional study on climate change impacts in the LA Basin and how they impact hydrology and sea level rise.

1.4.2. Apply latest accepted climate change prediction models in flood risk reduction planning.



Figure 101. Remove invasive species fro mthe channel to contiue to increase capacity of the river in high-risk areas. Sources: U.S. Army Corps of Engineers, Los Angeles River Arundo Removal, 2004

DRAFT

HOW CAN THE LARMP HELP?

DO NO HARM

- **MAINTAIN EXISTING CHANNEL CAPACITY** (Actions 1.1, 1.6)
- **NEW PROJECTS SHOULD NOT REDUCE CAPACITY** (Actions 1.1, 1.6, 1.7)

IMPROVE CAPACITY

- **WHERE POSSIBLE, REDUCE FLOOD RISK BY INCREASING THE CHANNEL'S CONVEYANCE CAPACITY** (Actions 1.1, 1.6)

REDUCE PEAK FLOOD FLOWS

- **REDUCE WATER ENTERING THE LA RIVER CHANNEL THROUGH UP-STREAM STORAGE AND DETENTION** (Actions 1.2)

INCLUDE CLIMATE CHANGE RESEARCH

- **NEW PROJECTS SHOULD CONSIDER THE IMPACTS OF CLIMATE CHANGE TO CREATE A MORE RESILIENT INFRASTRUCTURE** (Actions 1.3)

GOAL 3: HEALTHY CONNECTED ECOSYSTEMS

Source: OLIN

ACTIONS

METHODS

SUPPORT HEALTHY CONNECTED ECOSYSTEMS.

ACTIONS

3.1. Increase ecosystem function along the river corridor.

Intact ecosystems perform multiple critical services beyond providing habitat for wildlife and adding to public enjoyment. They make air more breathable, water more drinkable, and climate more stable. They help mitigate the negative effects of urban development by filtering and absorbing stormwater, dampening noise pollution, and reducing greenhouse gases. Reports such as the Trust for Public Land's Conservation: An Investment that Pays (2009) have shown that all of these ecological services have economic value, which would be costly for LA County to replace.

3.1.1. Prioritize projects that include improvements to ecosystem function.

3.1.2. Collaborate to collect data on ecosystem function within the LA River watershed and along the LA River corridor.

3.1.3. Collaborate with scientific research teams to increase the knowledge available about wildlife along the LA River and create species profiles for different conditions along the river.

3.1.4. Continue to track the Regional Water Quality Control Board Environmental Flows study to determine habitat opportunities.

BASIN CONDITIONS

SOFT-BOTTOM BASIN



LANDSIDE ROW - RIPARIAN



CHANNEL CONDITIONS

CONCRETE CHANNEL

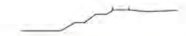


CONCRETE TERRACES



SOFT BOTTOM CHANNEL





PLATFORM CONDITIONS

PLATFORM - RIPARIAN



PLATFORM - UPLAND

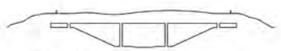
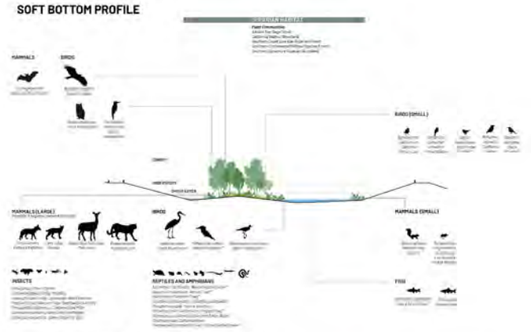
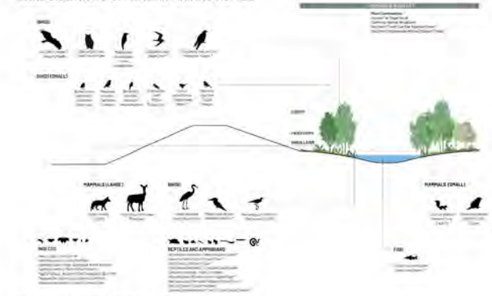


Figure 118. **XXXX.** Sources: XXXXXXXXXX

SOFT BOTTOM PROFILE



LANDSIDE RIGHT-OF-WAY RIPARIAN PROFILE



RIPARIAN PLATFORM PROFILE

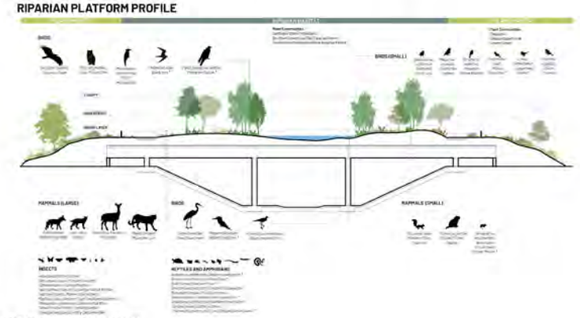


Figure 119. **XXXX.** Sources: XXXXXXXXXX

HOW CAN THE LARMP HELP?

RECOMMEND NEW STUDIES

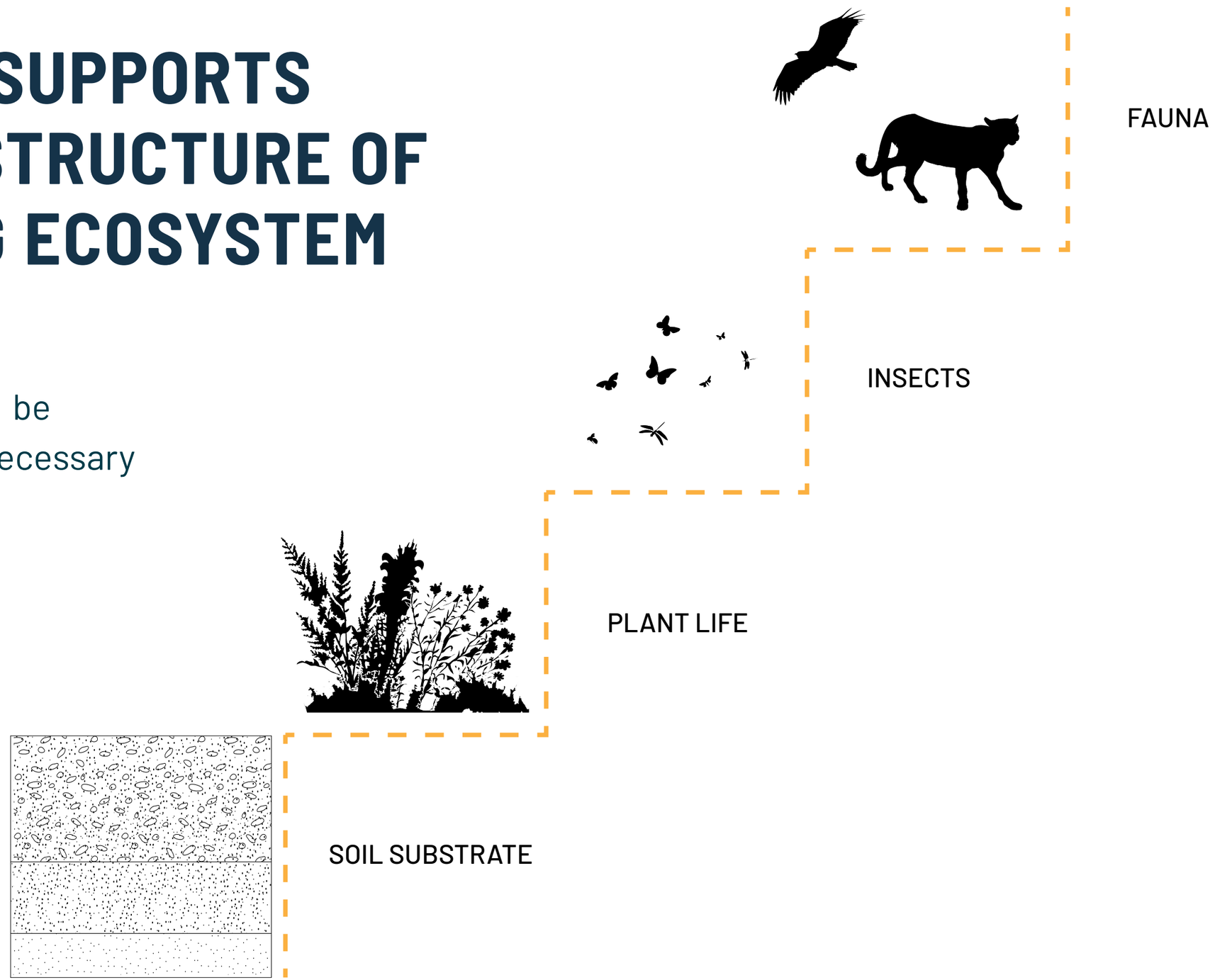
- **DEVELOP METHODOLOGY FOR EVALUATING ECOSYSTEM FUNCTION ALONG THE LA RIVER** (Actions 3.1, 3.6)
- **FILL GAPS IN SCIENTIFIC RESEARCH ON WILDLIFE ALONG THE LA RIVER** (Actions 3.2, 3.6)

ESTABLISH BIODIVERSITY PROFILES

- **ADOPT NATIVE PLANT COMMUNITY SPECIES LISTS** (Actions 3.2)
- **CREATE PROFILES OF HABITAT AND SPECIES THAT ARE SUPPORTED IN THE VARIOUS SECTIONS OF THE LA RIVER** (Actions 3.1, 3.2)

HEALTHY SOIL SUPPORTS THE LIFE AND STRUCTURE OF A FUNCTIONING ECOSYSTEM

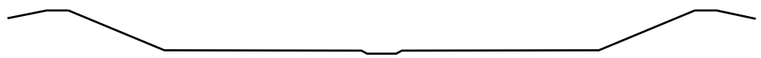
- Contaminated soils should be evaluated and treated as necessary



BIODIVERSITY PROFILES - INDEX

CHANNEL CONDITIONS

CONCRETE CHANNEL



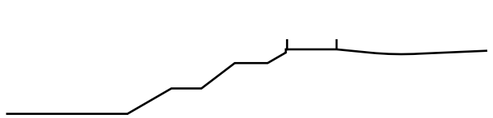
SOFT BOTTOM CHANNEL



CONCRETE TERRACES



RIPARIAN RAMP



LANDSIDE ROW - UPLAND

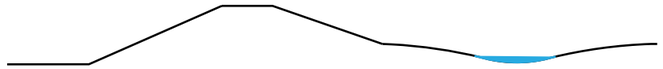


BASIN CONDITIONS

SOFT-BOTTOM BASIN

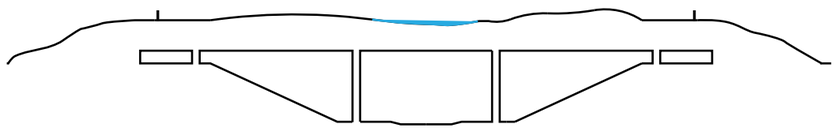


LANDSIDE ROW - RIPARIAN

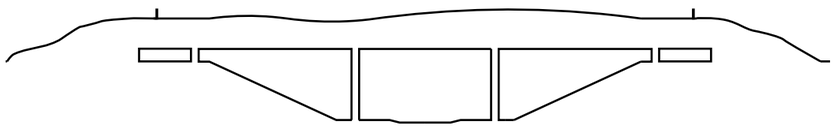


PLATFORM CONDITIONS

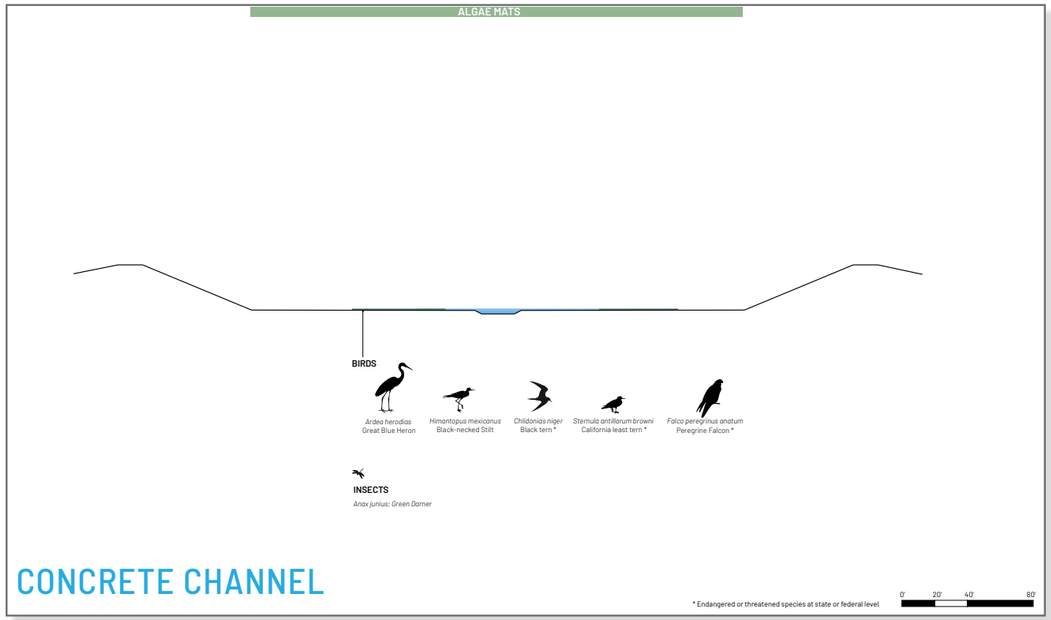
PLATFORM - RIPARIAN



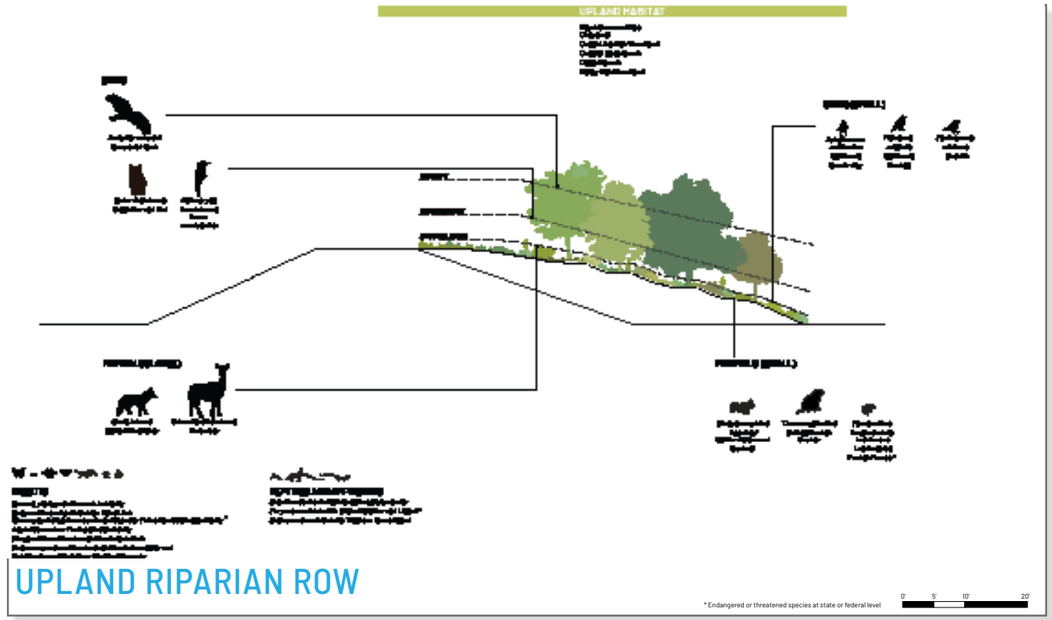
PLATFORM - UPLAND



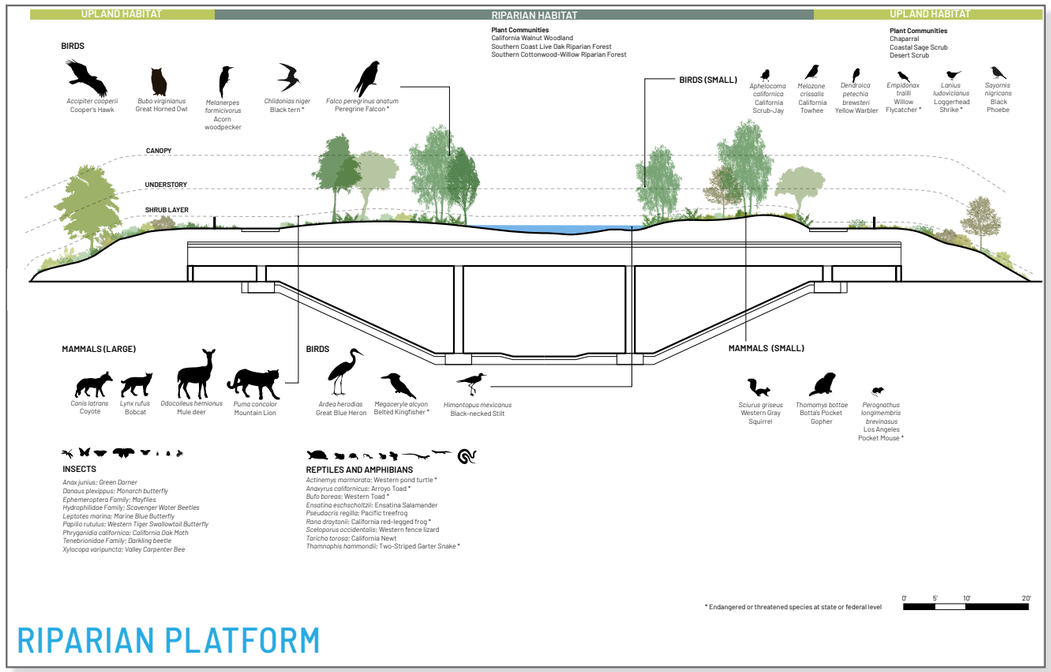
HEALTHY CONNECTED ECOSYSTEMS
BIODIVERSITY PROFILES



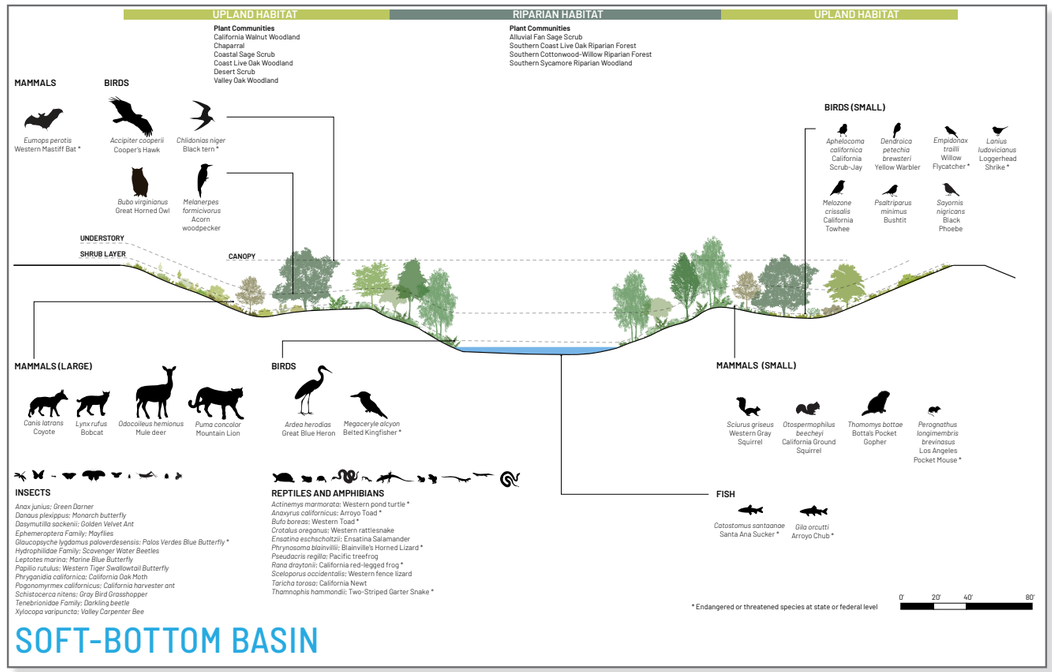
CONCRETE CHANNEL



UPLAND RIPARIAN ROW



RIPARIAN PLATFORM



SOFT-BOTTOM BASIN

GOAL 4: EQUITABLE ACCESS

Source: OLIN

ACTIONS

METHODS

ENHANCE OPPORTUNITIES FOR EQUITABLE ACCESS TO THE RIVER CORRIDOR.

ACTIONS

4.1. Create welcoming access points and gateways to the LA River and LA River Trail to optimize physical access along its length, on both sides.

Along parts of the river that currently have trails, only about a third of access points have signs, less than two thirds appear to be ADA accessible, less than half connect to bridges that allow access to both sides of the river, and one in ten are just user-created holes in fences. Together, these conditions obscure, limit, and impede access to the LA River Trail. All access points should be welcoming so that potential users are drawn to and feel welcome to use the river.

4.1.1. Make the river trail and gateways universally accessible and inclusive.

4.1.2. Prioritize access for areas with limited access or areas that need improvements to existing access points.

4.1.3. Prioritize access near major destinations, including schools, libraries, parks, transit stops, and job centers.

4.2. Increase safe transportation routes to the river.

Ensuring that there are clear, safe connections from neighborhoods to the LA River makes nearby neighbors more likely to use the river and, by extension, the broader LA County network of parks and trails that the river connects to. The ease and quality of these connections is important because impressions of traveling to and from the river can influence the entire river experience. Current research by scholars such as Dr. Richard Jackson of the University of California at Los Angeles and Dr. William Sullivan of the University of Illinois at Urbana-Champaign indicates a relationship between parks and health. , , Increasing overall acres of park land and access to parks can positively benefit communities by reducing rates of preventable diseases such as diabetes and obesity.

4.2.1. Coordinate with LA County transportation plans, including Vision Zero, the Bicycle Master Plan, and the Step by Step Pedestrian Plan.

4.2.2. Provide pedestrian and bicycle connections across the river every half-mile.

4.2.3. Require all new pedestrian or road bridges over the river to provide pedestrian and bicycle access to the river trail.

4.2.4. Provide continuous pathways between the river and nearby recreation spaces.

4.2.5. Encourage cities to adopt complete streets policies to better connect neighborhoods to the river.

4.2.6. Increase the extent of multi-use trails that connect to the river with separate paths for active transport, pedestrians, and equestrians.

4.2.7. Coordinate with transportation planning to enhance public transit to and along the river.

4.2.8. Coordinate with transportation planning to encourage transit lines that cross the river to have stops that provide access to the river trail.

4.2.9. Promote the use of public transportation to connect to the river trail.

4.2.10. Develop informational materials and signage that highlight the river as an alternative to other modes of transportation to major job centers and destinations.



Figure 129. Gateways should be welcoming and reflect the neighborhood they are located in.
Sources: LA Public Works, 2018.

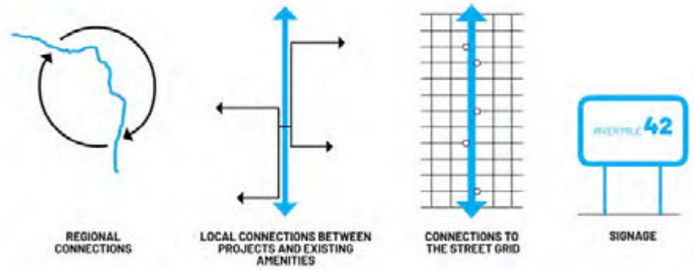


Figure 130. Highlighting regional connections, neighborhood connections, infrastructural connections, and wayfinding creates a more accessible and welcoming river trail.

HOW CAN THE LARMP HELP?

REGIONAL CONNECTIONS

- **INCREASE THE EXTENT OF MULTI-USE TRAILS THAT CONNECT TO THE RIVER** (Action 4.2)

LOCAL CONNECTIONS BETWEEN PROJECTS AND EXISTING AMENITIES

- **PRIORITIZE ACCESS NEAR MAJOR DESTINATIONS OR AREAS THAT NEED IMPROVEMENTS TO EXISTING ACCESS POINTS** (Action 4.1)

CONNECTIONS TO THE STREET GRID

- **ENCOURAGE THE DEVELOPMENT OF SAFE ROUTES TO THE RIVER** (Action 4.1)

SIGNAGE

- **MAKE THE TRAIL AND GATEWAYS UNIVERSALLY ACCESSIBLE AND INCLUSIVE** (Action 4.1)
- **DEVELOP INFORMATIONAL MATERIALS AND SIGNAGE** (Action 4.2)

EQUITABLE ACCESS

MAJOR REGIONAL TRAILS

- Existing Regional Trails
- Existing Local Trails
- Planned Trails
- Transmission Line Right-of-Way

Major Existing Regional Trails

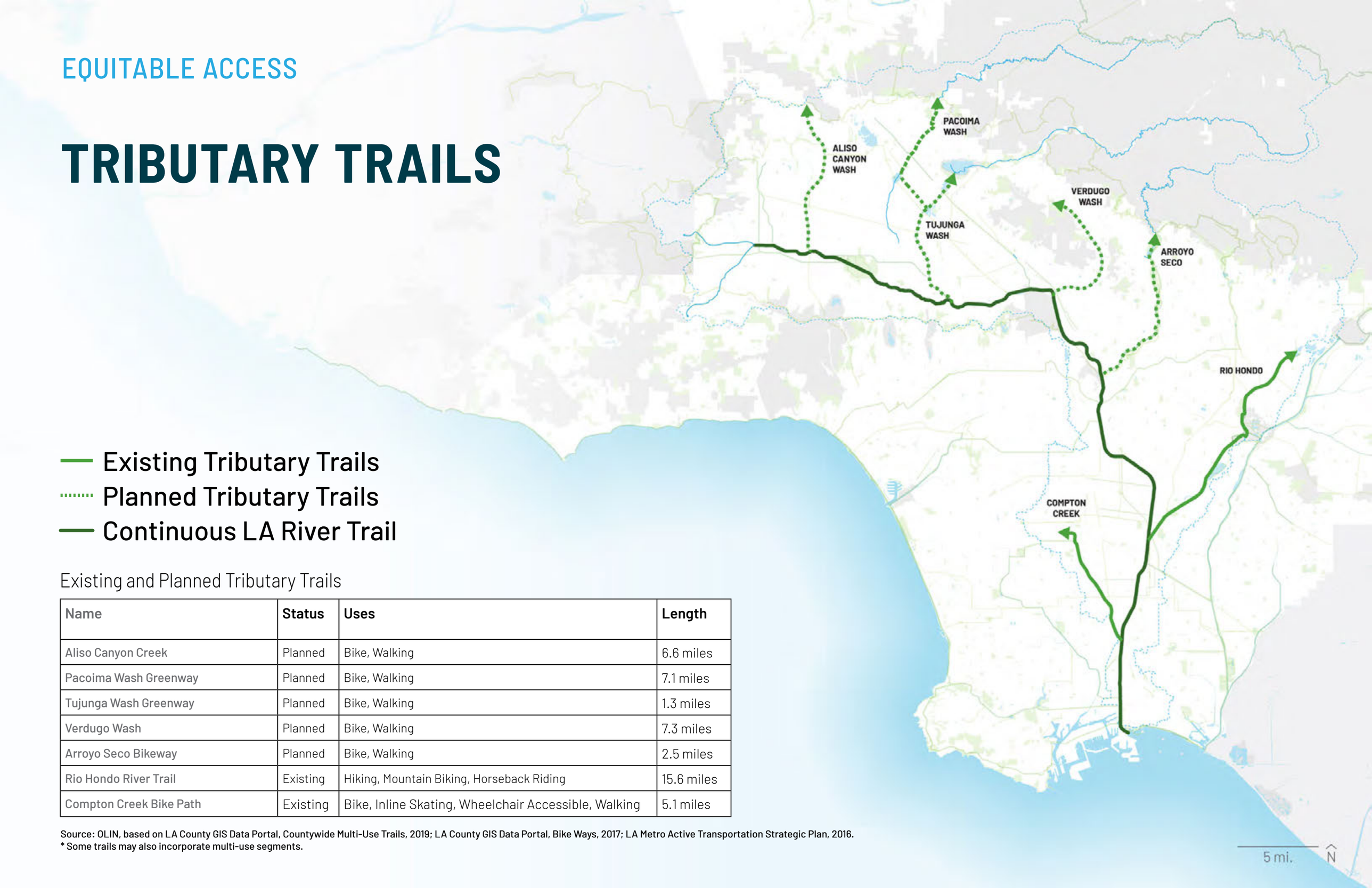
#	Name	Uses	Length
1	LA River Trail	Bike, Horseback Riding, Wheelchair Accessible, Walking	30 miles
2	San Gabriel River Trail	Hiking, Mountain Biking, Horseback Riding, Walking	37.8 miles
3	Orange Line	Bike, Inline Skating, Wheelchair Accessible, Walking	32.9 miles
4	Schabarum-Skyline Trail	Hiking, Mountain Biking, Horseback Riding	29.9 miles
5	Rio Hondo River Trail	Hiking, Mountain Biking, Horseback Riding, Walking	15.6 miles
6	The Strand (Marvin Braude Bike Trail)	Bike, Inline Skating, Wheelchair Accessible, Walking	11.5 miles
7	Coyote Creek Bikeway	Bike, Inline Skating, Wheelchair Accessible, Walking	9.5 miles
8	Ballona Creek Bike Path	Hiking, Mountain Biking, Walking	6.7 miles
9	Santa Anita Wash Trail	Hiking, Mountain Biking, Horseback Riding	6.5 miles
10	San Fernando Road Bike Path	Bike, Inline Skating, Wheelchair Accessible, Walking	5.7 miles
11	Palos Verdes Drive N	Bike, Walking	4.8 miles
12	Whittier Greenway	Bike, Inline Skating, Wheelchair Accessible, Walking	4.7 miles
13	Shoreline Beach	Bike, Inline Skating, Wheelchair Accessible, Walking	4.1 miles

Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some Class I bike paths may also incorporate multi-use segments.

5 mi.
N

EQUITABLE ACCESS

TRIBUTARY TRAILS



— Existing Tributary Trails

····· Planned Tributary Trails

— Continuous LA River Trail

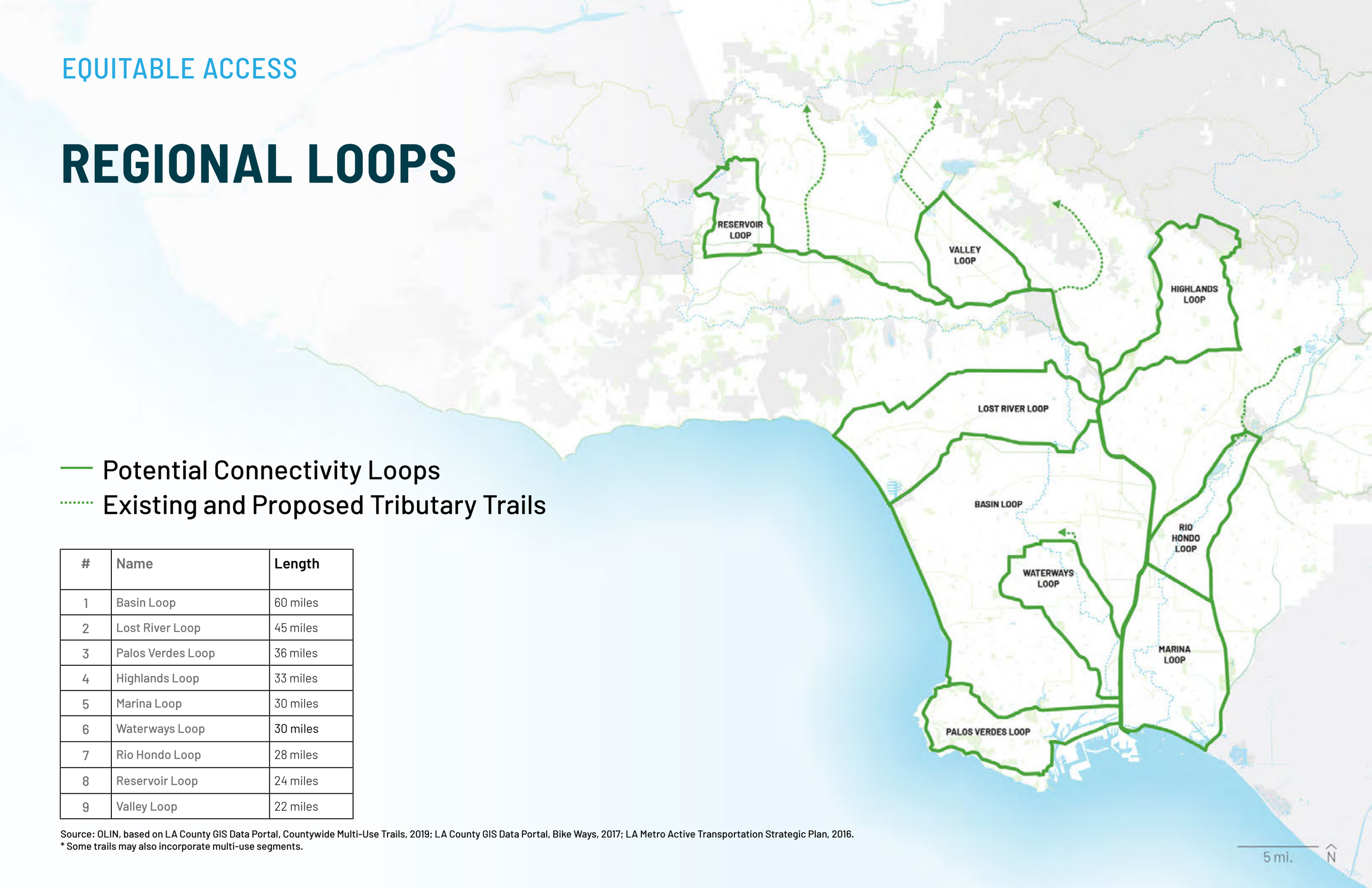
Existing and Planned Tributary Trails

Name	Status	Uses	Length
Aliso Canyon Creek	Planned	Bike, Walking	6.6 miles
Pacoima Wash Greenway	Planned	Bike, Walking	7.1 miles
Tujunga Wash Greenway	Planned	Bike, Walking	1.3 miles
Verdugo Wash	Planned	Bike, Walking	7.3 miles
Arroyo Seco Bikeway	Planned	Bike, Walking	2.5 miles
Rio Hondo River Trail	Existing	Hiking, Mountain Biking, Horseback Riding	15.6 miles
Compton Creek Bike Path	Existing	Bike, Inline Skating, Wheelchair Accessible, Walking	5.1 miles

Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some trails may also incorporate multi-use segments.

EQUITABLE ACCESS

REGIONAL LOOPS



— Potential Connectivity Loops

····· Existing and Proposed Tributary Trails

#	Name	Length
1	Basin Loop	60 miles
2	Lost River Loop	45 miles
3	Palos Verdes Loop	36 miles
4	Highlands Loop	33 miles
5	Marina Loop	30 miles
6	Waterways Loop	30 miles
7	Rio Hondo Loop	28 miles
8	Reservoir Loop	24 miles
9	Valley Loop	22 miles

Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some trails may also incorporate multi-use segments.

EQUITABLE ACCESS

REGIONAL LOOPS ANALYSIS

Existing Planned

- Multi-Use Trail
- Class I Bike Path
- Class II Bike Path
- Class III Bike Path
- Class IV Bike Path
- Hiking Trails
- Gaps

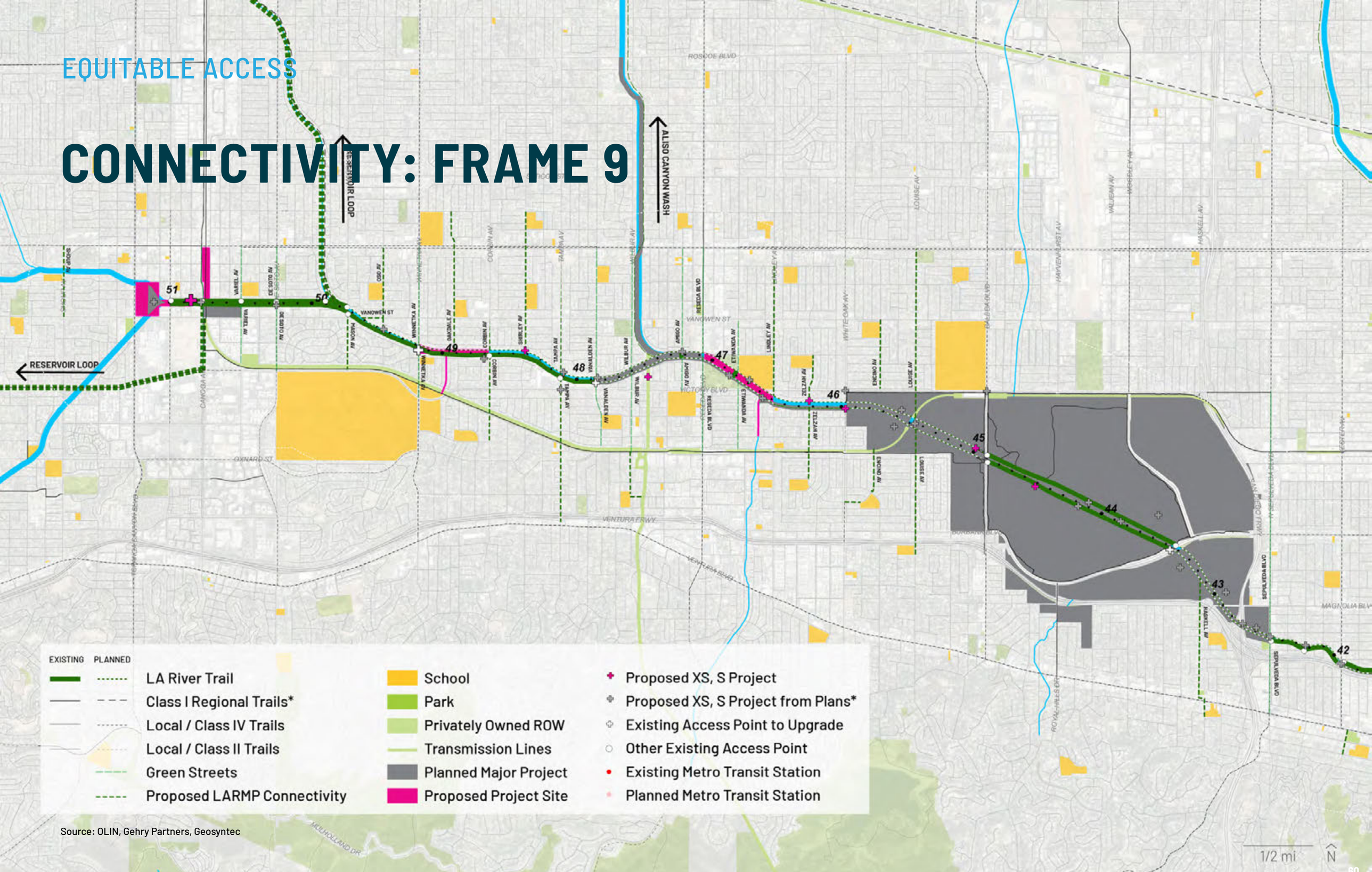
#	Name	Length
1	Basin Loop	60 miles
2	Lost River Loop	45 miles
3	Palos Verdes Loop	36 miles
4	Highlands Loop	33 miles
5	Marina Loop	30 miles
6	Waterways Loop	30 miles
7	Rio Hondo Loop	28 miles
8	Reservoir Loop	24 miles
9	Valley Loop	22 miles



Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.

EQUITABLE ACCESS

CONNECTIVITY: FRAME 9



Source: OLIN, Gehry Partners, Geosyntec

GOAL 5: ARTS & CULTURE

Source: OLIN

ACTIONS

METHODS

EMBRACE AND ENHANCE OPPORTUNITIES FOR ARTS AND CULTURE.

ACTIONS

5.1. Develop a comprehensive 51-mile arts and culture corridor along the river.

The LA River corridor offers a unique opportunity to create the longest continuous corridor of arts and culture in LA County. Not only does this 51-mile corridor provide a place to reflect each unique community along its banks through arts and culture, it provides a place to bring these diverse communities together and celebrate their similarities and differences.

5.1.1. Site permanent civic art, temporary art installations, cultural amenities, and cultural facilities along the river where appropriate.

5.1.2. Encourage incubation of diverse talent through commissions for local as well as regional and national artists and cultural organizations.

5.1.3. Secure reliable funding for art and cultural projects along the river.

5.2. Identify and activate cultural assets along the LA River corridor.

A community's cultural assets contribute to its creativity, traditions, robustness, and vitality and can act as both resources and opportunities. Cultural assets can be material, ephemeral, and even spiritual. They include buildings, sites, and objects holding local and national cultural significance; people, places, events, and organizations recognized as cultural anchors within a specific community; and stories that are powerful enough to bind people together in a place over time. Making cultural assets visible and acknowledging them is a key element in sustaining livable communities.

5.2.1. Create a methodology for understanding existing cultural assets in collaboration with community members.

5.2.2. Work with community partners and creative strategists on cultural asset mapping activities in neighborhoods where there is limited existing data.

5.2.3. Continue asset mapping along the 51 miles of the LA River cCorridor after pilot project completion.

5.2.4. Conduct community training in the tools and strategies for documenting cultural assets through methods including interviews, photography, mapping, and video.

5.2.5. Share ongoing asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing County resource.

5.3. Integrate artists, cultural organizations, and community members in planning processes and project development along the river.

The most effective way to integrate more local arts and culture into the LA River corridor is to have meaningful, ongoing engagement with those who are already deeply embedded in the arts and culture communities. Their voices should help create and shape, rather than react to, new opportunities along the river.

5.3.1. Create a framework for arts and cultural asset mapping to identify preliminary resources and opportunities along the 51 miles of the LA River.

5.3.2. Share, monitor, and cultivate the asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing county resource.

5.3.3. Use both quantitative and qualitative data in planning arts and cultural activities along the river.



Figure 133. Le Ballet Dembaya. Sources: Shabaka Johnson.



Figure 134. The City Project: Great Wall of Los Angeles Resotration
Sources: https://bit.ly/2YuewCx, 2011.

HOW CAN THE LARMP HELP?

RECOMMEND NEW STUDIES

- **FILL GAPS IN CULTURAL ASSET MAPPING**
  (Actions 5.2)

ESTABLISH GUIDING PRINCIPLES

- **CULTIVATE A UNIFIED APPROACH TO ART FOR THE LA RIVER**
  (Actions 5.1, 5.3, 5.4)

ENCOURAGE STREAMLINED PERMITTING

- **CREATE A FASTER PERMIT PROCESS FOR PERMANENT AND TEMPORARY ART ALONG AND IN THE LA RIVER**
  (Actions 5.5)

ART ALONG THE LA RIVER SHOULD BE BOTH PERMANENT AND EPHEMERAL

Faces of Elysian Valley by Greenmeme



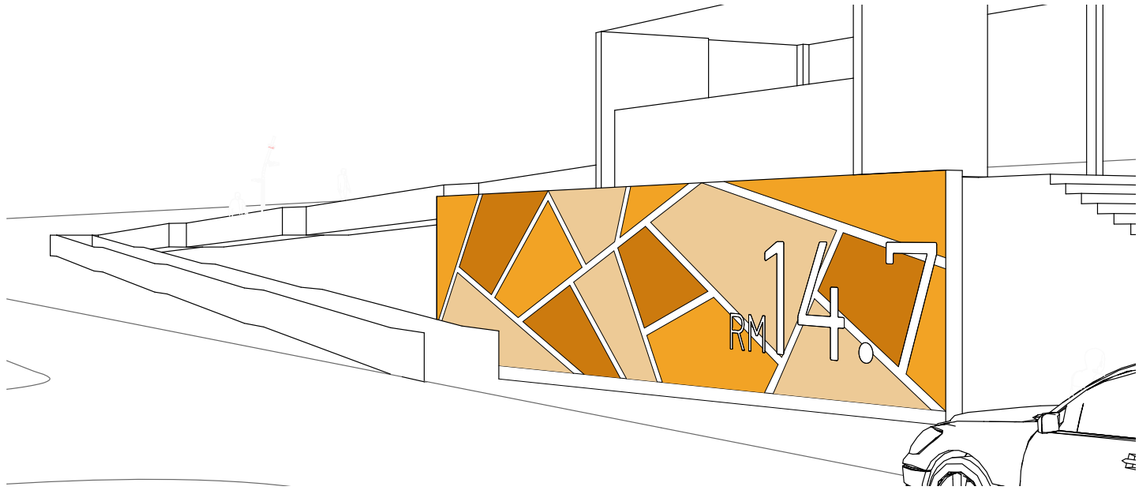
Source: Greenmeme, http://www.greenmeme.com/RIVERSIDE-ROUNDABOUT, 2017

Le Ballet Dembaya Performance

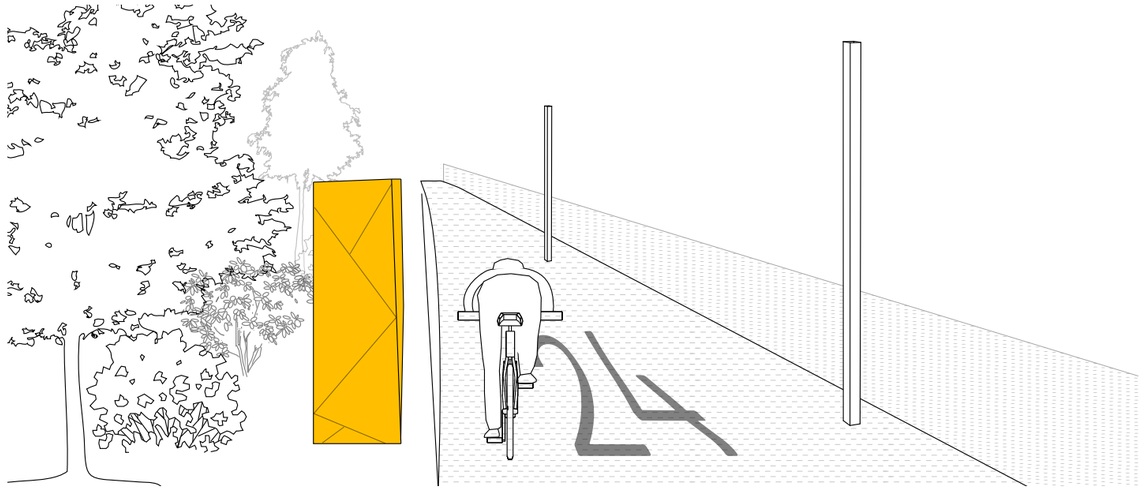


Source: Shabaka Johnson, Le Ballet Dembaya

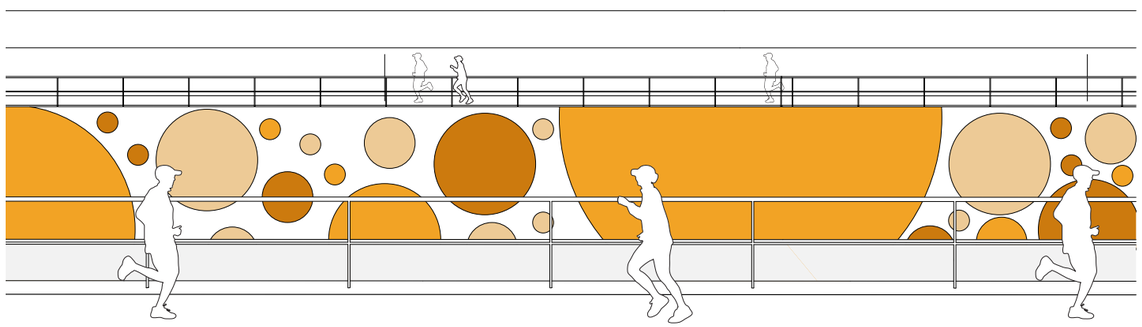
EXAMPLES OF LA RIVER ART



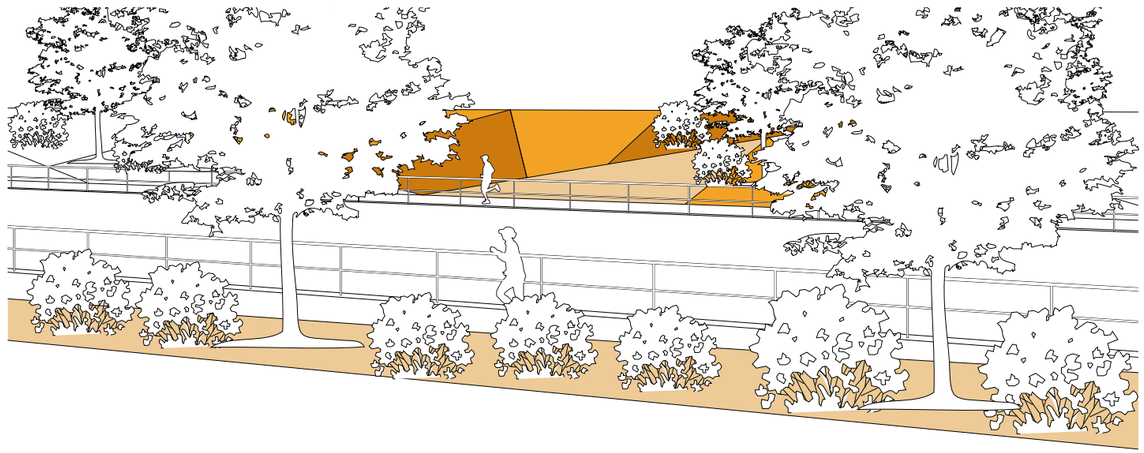
WAY-FINDING + COMMUNICATION



SCULPTURE + FREESTANDING ELEMENTS



MEDIA ART + PROJECTIONS



TEMPORARY LAND ART INSTALLATIONS

GOAL 9: WATER QUALITY

Source: OLIN

ACTIONS

METHODS

PROMOTE HEALTHY, SAFE, CLEAN WATER.

9.4. Increase public awareness of river water quality and watershed health.

There is a common misperception that the water in the LA River is unclean. While all rivers are subject to sporadic events where water quality dips below normal, the majority of water in the river during dry weather comes from the three water reclamation plants that treat it to a very high standard of quality. This water is clean enough for people to kayak in the soft-bottom parts of the river. In areas where polluted runoff discharges into the LA River, water in these areas can become polluted. Education can help improve public awareness of safe and unsafe conditions and teach communities how to improve the quality of their runoff.

9.4.1. **Develop a website to coordinate information, provide consistency in water quality reporting, and assist in educating other agencies, cities, and the general public on river issues such as water quality.**

9.4.2. **Post consistent and inclusive signage and communication about water quality on bridges, access points, and along the river.**

9.5. Improve water quality facility operations and maintenance.

Water quality projects, like all other infrastructure, require proper operations and maintenance to help maximize long-term viability of the projects. Insufficient funding and maintenance procedures can decrease the effectiveness in delivering proper water quality benefits, as well as shorten the lifespan of the infrastructure.

9.5.1. **Expand coordination between responsible water quality agencies to streamline O&M, facility management, funding, and permitting.**

9.5.2. **Review and update operations and maintenance protocols and best practices.**

9.5.3. **Implement new technologies such as real-time monitoring, reporting, and controls.**



Figure 159. Increasing the public's awareness to river health will improve water quality. Source:OLIN, 2019.

HOW CAN THE LARMP HELP?

PRESCRIBE PROJECT ATTRIBUTES

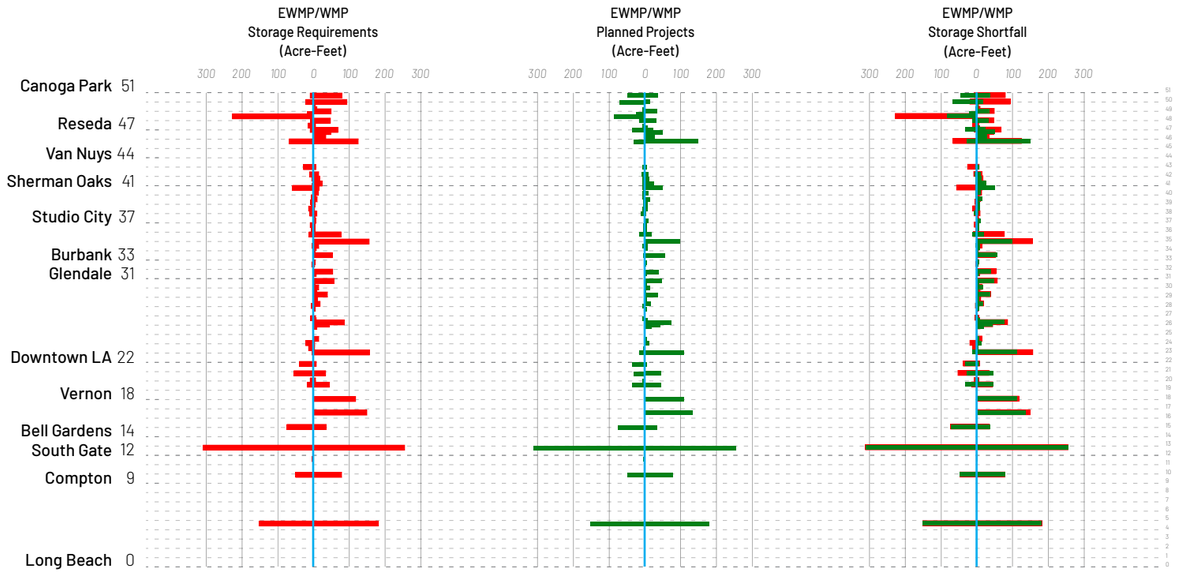
- **INCORPORATE LID TECHNIQUES ACROSS PROJECTS** (Actions 9.1, 9.2, 9.3)
- **PRIORITIZE REGIONAL WATER QUALITY IMPROVEMENTS TO PROJECTS IN AREAS OF GREATEST NEED** (Actions 9.3)

REINFORCE REGIONAL POLICIES

- **DEVELOP DESIGN GUIDELINES THAT REFLECT REGIONAL REQUIREMENTS** (Actions 9.3, 9.5)
- **ENCOURAGE IMPLEMENTATION OF EXISTING WATERSHED MANAGEMENT PLANS** (Actions 9.2, 9.3)

PROJECTS CAN CONTRIBUTE TO EWMP/WMP TARGETS

EWMP/WMP TARGET RULER



Source: ULAR EWMP (2016), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/upper_losangeles/20160127/UpperLARiver_mainbody_revEWMP_Jan2016.pdf, LAR UR2 WMP (2015), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/upper_reach2/Upper_LA_River_R2_FinalWMP.pdf, LLAR WMP (2017), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/lower_losangeles/LLARWMP2017updated.pdf



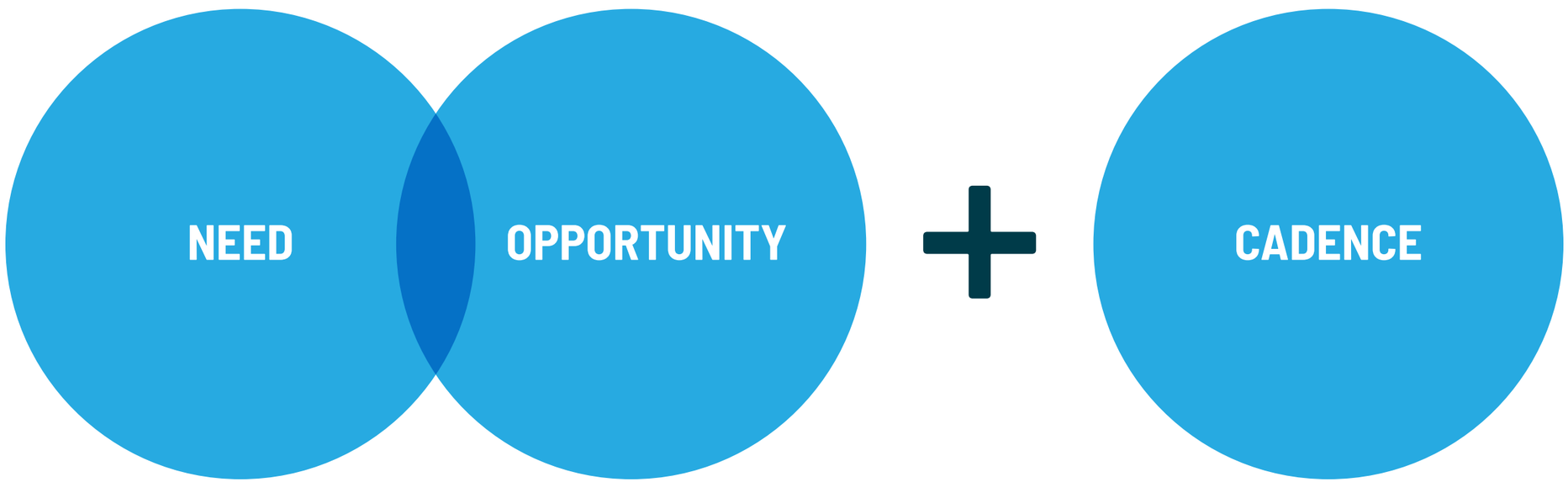
Source:https://www.flickr.com/photos/healthebay/7153361501/in/album-72157629989023189/

SITE SELECTION REVIEW

Source: Joe Mabel, 2001. Wikipedia. https://commons.wikimedia.org/wiki/File:Los_Angeles_River_aerial_01.jpg

HOW DO WE LOCATE NEW PROJECTS?

Align need, opportunity, and cadence along the LA River Corridor.

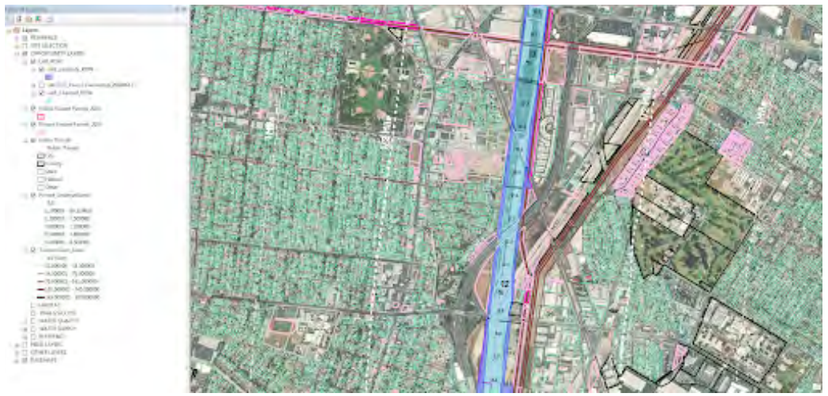


SITES OF INTEREST ARE LOCATED AT OVERLAPPING AREAS OF NEED AND OPPORTUNITY

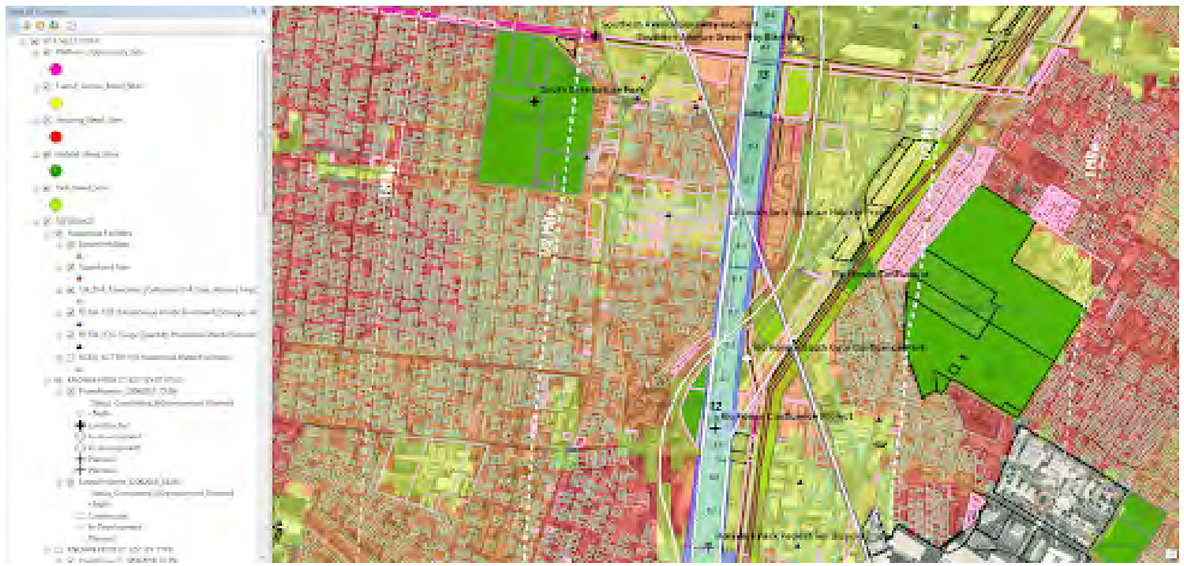
Need



Opportunity



Overlay



Source: OLIN

CADENCE

Confirm projects are distributed along the river equally and vary in scale.

XL
ex: Regional Parks, Water Recharge Area

L
ex: Community Park, Cultural Center

M
ex: Neighborhood Parks, Community Center, Bridges

S
ex: Pocket Parks, Park Nodes, Access Gateways, Restrooms, Pavilions

XS
ex: Pavilions, Lighting, Signage, Benches

OVERLAYS

River Improvement Overlay Zone (LARRMP)

The Los Angeles River Improvement Overlay (RIO) was developed out of the LA River Revitalization Master Plan. It is a 32-mile zoning overlay that establishes an area in which new projects must comply with certain design standards related to three categories: watershed, urban design, and mobility. The RIO is intended to help the city coordinate land use development along the river, enhance the unique qualities of the river, and better serve adjacent communities within the city's boundaries.

Habitat Restoration Zones (ARBOR Study)

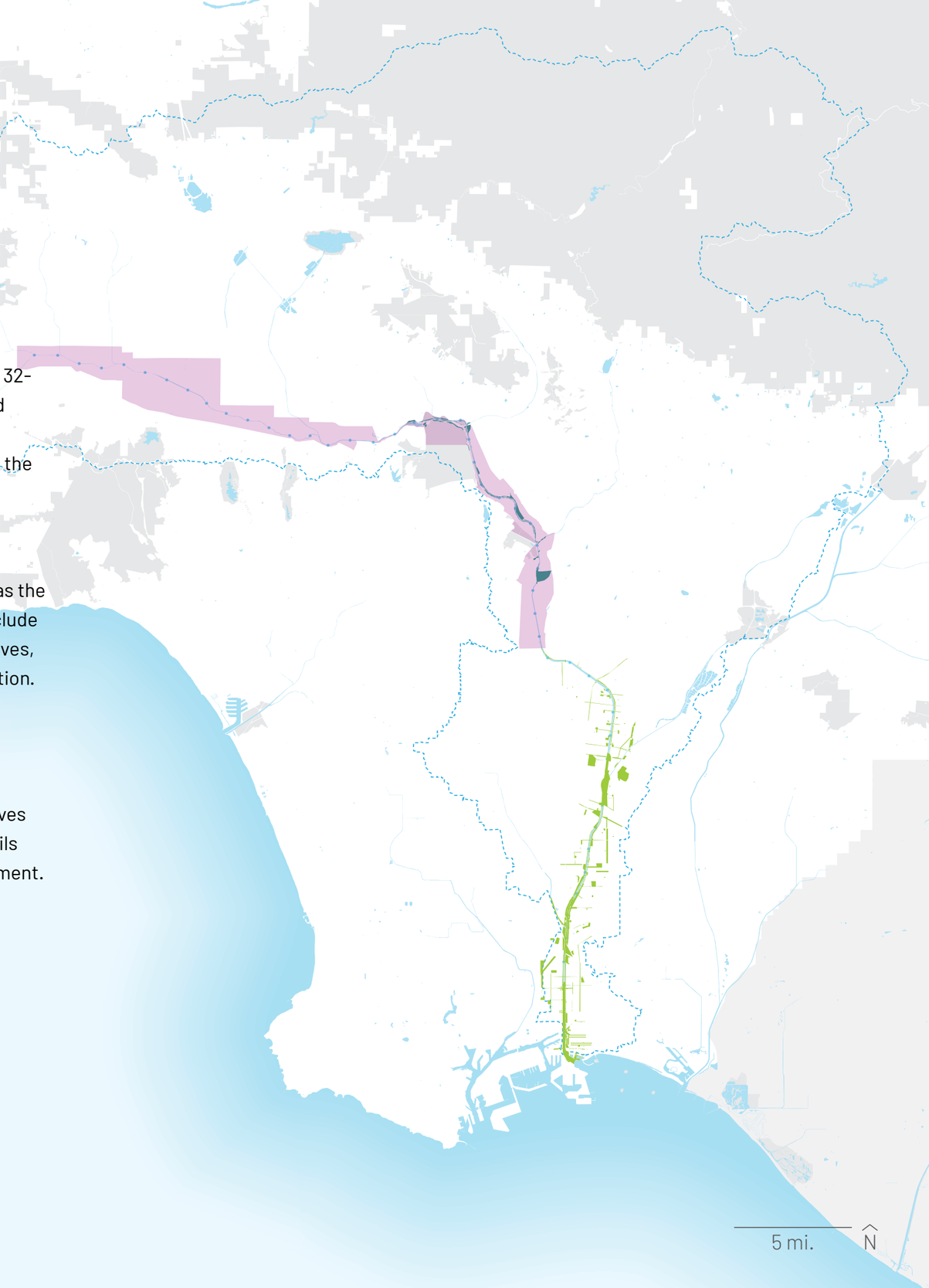
The Los Angeles River Ecosystem Restoration Integrated Feasibility Report and its Recommended Plan (also known as the ARBOR Study) present potential alternatives for environmental restoration of 11 mile of the Los Angeles River that include the soft-bottomed Glendale Narrows. The study analyzes the environmental impacts of implementing those alternatives, reviews the process for selecting the best alternative, and concludes with recommendations for project implementation.

Opportunity Zones (LLARRP)

Opportunity zones are comprised of publicly-owned open spaces and other areas with revitalization potential, as determined through the Lower LA River Revitalization Plan. Each opportunity zone is associated with a set of objectives based on existing conditions and context, as well as strategies for achieving those objectives. The LLARRP also details the "opportunity potential" of each zone to address various focus areas of the overall plan, such as water and environment.

RIO Zone (LARRMP)
Habitat Restoration Zones (ARBOR Study)
Opportunity Zones (LLARRP)

Source: OLIN, Geosyntec, based on Lower LA River Revitalization Plan (2017) ARBOR Study (2015), and LA River Revitalization Master Plan (2007).



SITE SELECTION REVIEW

M, L, XL SITE-BASED PROJECTS

22 PROPOSED PROJECT SITES
54 PLANNED MAJOR PROJECTS



Proposed Project Sites

Planned Major Projects

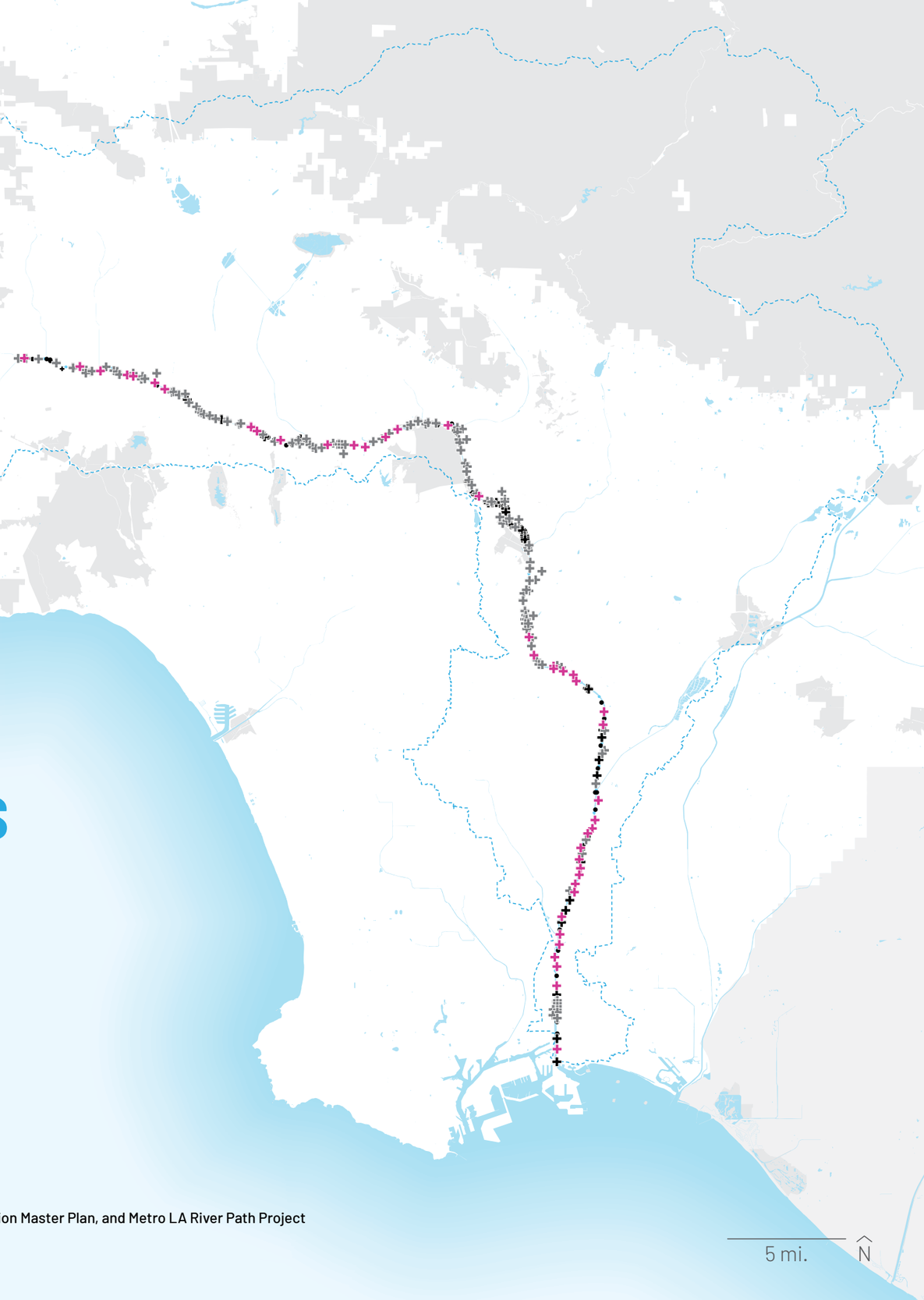
Sources: OLIN, Gehry Partners, Geosyntec

SITE SELECTION REVIEW

XS, S PROJECTS

43 NEWLY PROPOSED PROJECTS
123 ADDITIONAL PROJECTS FROM PLANS
42 IMPROVED ACCESS POINTS

- XS, S Proposed Projects
- XS, S Projects from Plans*
- Potential Access Points to Upgrade
- Existing Access Points



Source: OLIN, Gehry Partners, Geosyntec

*Plans referenced include Lower Los Angeles River Revitalization Plan, Los Angeles River Revitalization Master Plan, and Metro LA River Path Project

SITES AND NEEDS

RM 51.1
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION

RM 51
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 50.6
FLOOD RISK
PARKS
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 48.9
FLOOD RISK
WATER SUPPLY
PARKS
ECOSYSTEMS
ARTS & CULTURE
EDUCATION

RM 47.8
FLOOD RISK
ECOSYSTEMS
ACCESS
WATER SUPPLY
EDUCATION

RM 47.5
PARKS
ARTS & CULTURE
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 47.4
FLOOD RISK
ACCESS
ARTS & CULTURE
WATER SUPPLY
PARKS, ECOSYSTEMS
EDUCATION
WATER QUALITY

RM 46.8
FLOOD RISK
ACCESS
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE
EDUCATION
WATER QUALITY

RM 46.5
FLOOD RISK
ACCESS
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE

RM 44
ECOSYSTEMS
WATER SUPPLY

RM 41.2
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 40.9
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 40.8
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS

RM 39.4
WATER SUPPLY
ECOSYSTEMS
EDUCATION
WATER QUALITY

RM 38.8
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 38.2
FLOOD RISK
WATER SUPPLY
ECOSYSTEMS
ACCESS
EDUCATION
WATER QUALITY

RM 37.6
FLOOD RISK
WATER SUPPLY
WATER QUALITY
ECOSYSTEMS
EDUCATION

RM 37.5
ECOSYSTEMS
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 35.9
ACCESS
FLOOD RISK
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 33.5
ECOSYSTEMS
ACCESS
EDUCATION
WATER SUPPLY

RM 33
FLOOD RISK
ECOSYSTEMS
ACCESS
EDUCATION
WATER SUPPLY

RM 32.8
FLOOD RISK
ACCESS
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 31
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 30.9
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.8
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.7
PARKS
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 30.65
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.6
ECOSYSTEMS
WATER QUALITY
ARTS & CULTURE
EDUCATION
WATER SUPPLY

RM 30.5
ECOSYSTEMS
WATER QUALITY
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 29.3
FLOOD RISK
ACCESS
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 29.1
FLOOD RISK
ACCESS
ECOSYSTEMS
WATER SUPPLY

RM 27.7
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 26.2
ECOSYSTEMS
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER SUPPLY

RM 25.6
ECOSYSTEMS
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER SUPPLY

RM 25.3
FLOOD RISK
AFFORDABLE HOUSING
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 25.2
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
PARKS
WATER SUPPLY

RM 24.5
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
FLOOD RISK
PARKS
ECOSYSTEMS

RM 24.1
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 24
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING

RM 23.5
FLOOD RISK
ACCESS
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 23.2
FLOOD RISK
ACCESS
WATER SUPPLY
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING

RM 22.6
FLOOD RISK
PARKS
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 21.6
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
PARKS
ECOSYSTEMS

RM 21.5
AFFORDABLE HOUSING
ACCESS
PARKS
ECOSYSTEMS
WATER SUPPLY
WATER QUALITY

RM 21.1
ACCESS
AFFORDABLE HOUSING
PARKS
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY

RM 19.9
ACCESS
AFFORDABLE HOUSING
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER QUALITY

RM 18.2
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY

RM 16.2
ECOSYSTEMS
WATER QUALITY
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING

RM 15.8
ECOSYSTEMS
ARTS & CULTURE
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 15.3
PARKS
WATER QUALITY
ARTS & CULTURE
AFFORDABLE HOUSING

RM 14.1
ARTS & CULTURE
WATER QUALITY
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION

RM 13.9
ARTS & CULTURE
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

RM 13.5
ARTS & CULTURE
WATER SUPPLY
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 12.9
WATER SUPPLY
ECOSYSTEMS
AFFORDABLE HOUSING
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE

RM 12.7
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY
FLOOD RISK, PARKS
ARTS & CULTURE

RM 12
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY
WATER QUALITY
FLOOD RISK, PARKS
AFFORDABLE HOUSING

RM 11.9
ECOSYSTEMS
PARKS
ACCESS
ARTS & CULTORE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 11.8
ECOSYSTEMS
AFFORDABLE HOUSING
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE

RM 11.7
ECOSYSTEMS
WATER QUALITY
FLOOD RISK
ARTS & CULTURE

RM 10.5
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 10.4
FLOOD RISK
PARKS
ECOSYSTEMS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 10.2
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 9.4
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 8.1
ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY
FLOOD RISK
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

RM 7.2
ECOSYSTEMS
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 6.3
ECOSYSTEMS
FLOOD RISK
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 5.5
ECOSYSTEMS
WATER SUPPLY
FLOOD RISK, PARKS
ARTS & CULTURE
EDUCATION
WATER QUALITY

RM 5.1
ECOSYSTEMS
WATER SUPPLY
FLOOD RISK
WATER QUALITY

RM 4.4
ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY

RM 3.7
ECOSYSTEMS
WATER SUPPLY
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION

RM 2.9
ECOSYSTEMS
FLOOD RISK
PARKS
ARTS & CULTURE
WATER SUPPLY
WATER QUALITY

RM 1.7
FLOOD RISK
ARTS & CULTURE
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 1.6
FLOOD RISK
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY

RM 0.9
FLOOD RISK
PARKS
ARTS & CULTURE
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 0.7
FLOOD RISK
AFFORDABLE HOUSING
ARTS & CULTURE
WATER SUPPLY

RM 0.6
AFFORDABLE HOUSING
FLOOD RISK
ECOSYSTEMS
WATER SUPPLY

Potential Project Site
Planned Major Project

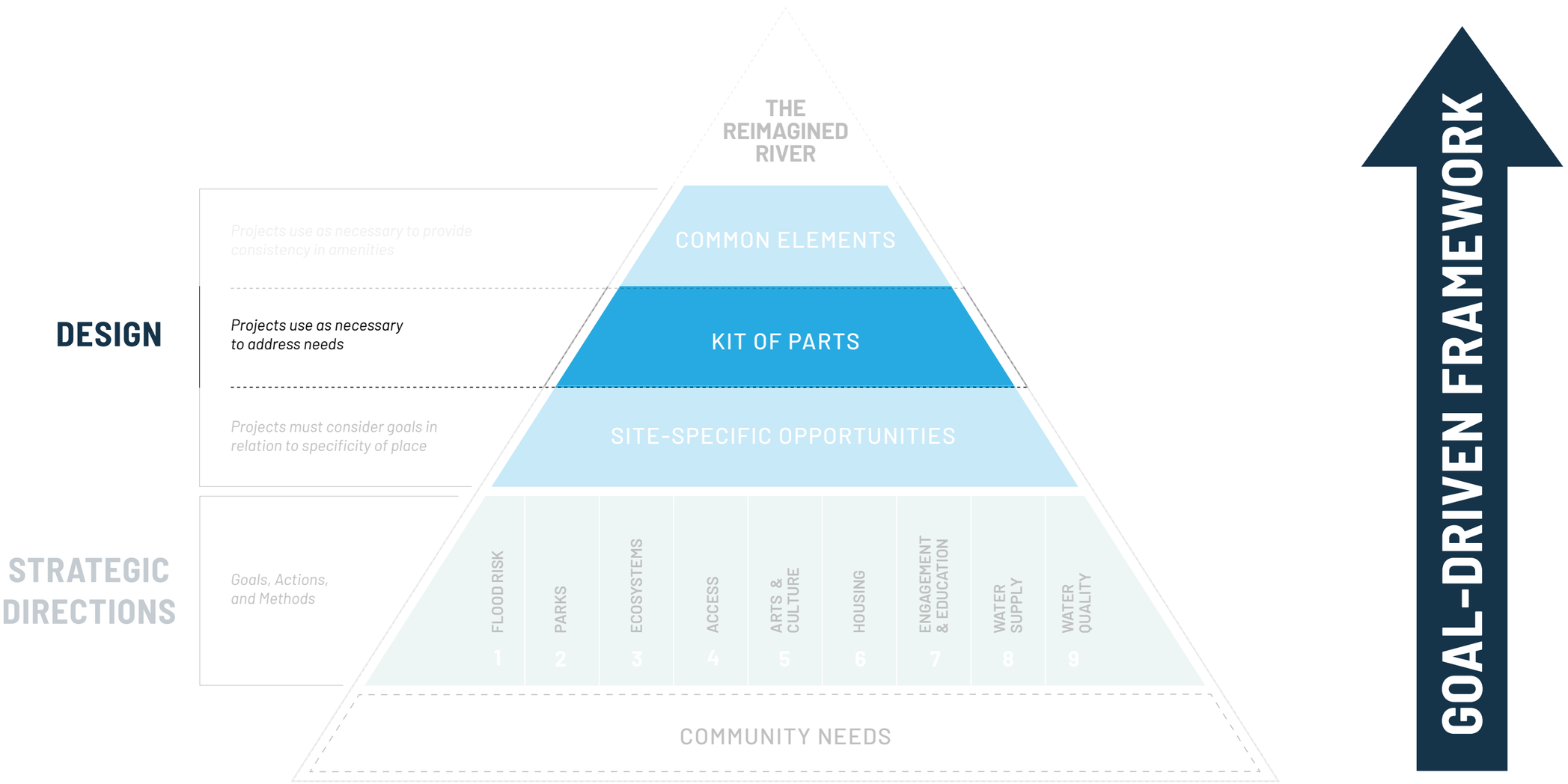
VERY HIGH NEED
HIGH NEED
NEED

Sources: OLIN, Gehry Partners, Geosyntec

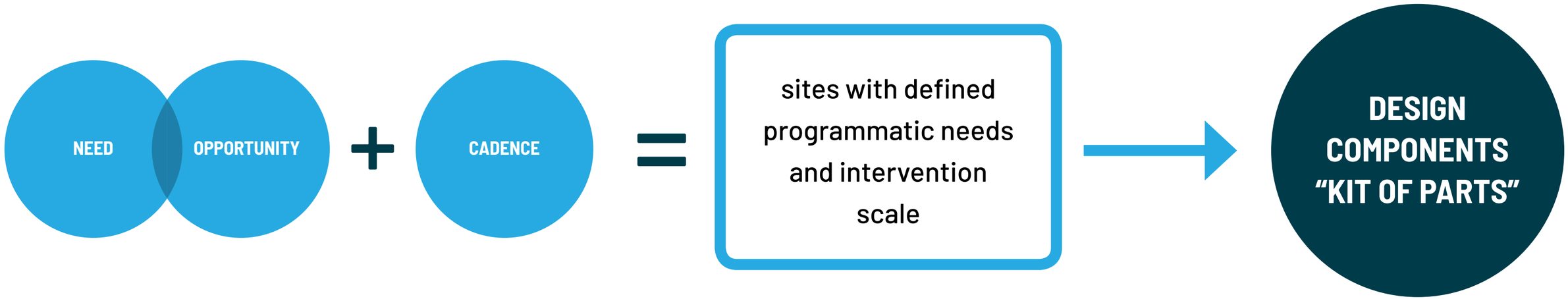
KIT OF PARTS

Source: OLIN

PROJECTS SHOULD BUILD UPON THE GOALS USING THE KIT OF PARTS AND COMMON ELEMENTS



GOAL-DRIVEN DESIGN FRAMEWORK



KIT OF PARTS: CATEGORIES & COMPONENTS

1 FLOODPLAIN RECLAMATION

- Wetland
- Naturalized Bank
- Braided Channel
- Field
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)

2 CROSSINGS & PLATFORMS

- Pedestrian Bridge
- Bike Bridge
- Equestrian Bridge
- Multi-use Bridge
- Cantilever
- Platform

3 TRAILS & ACCESS GATEWAYS

- River Gateway
- Pedestrian Trail
- Bike Trail
- Equestrian Trail
- Equestrian Facility
- Multi-use Trail
- Common Elements
- Light Tower / Water Tower
- Lookout
- Boardwalk
- Channel Access
- Vehicular Access
- Underpass and Overpass
- Vegetated Buffer
- Habitat Corridor
- Swale, Rain Garden, BMP

4 CHANNEL MODIFICATIONS

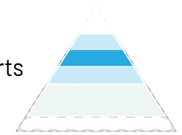
- Terraced Bank
- Check Dam
- Deployable Barrier (Dam / Levee)
- Levee
- Armored Channel
- Storm Drain Daylighting
- Vertical Wall
- Reshape Low Flow
- Channel Smoothing
- Texturizing or Grooving
- Concrete Bottom
- Soft Bottom
- Sediment Removal / Vegetation Conversion
- Bridge Pier / Abutment Removal / Modification / Addition
- Access Ramp

5 DIVERSIONS

- Pump
- Diversion Pipe
- Diversion Channel
- Diversion Tunnel
- Overflow Weir
- Underground Gallery

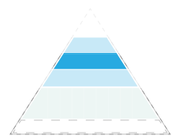
6 OFF CHANNEL LAND ASSETS

- Urban Agriculture (Orchard, Farm, Nursery, Community Garden)
- Solar Power Generation & Storage
- Composting and Waste Management
- Natural Treatment System
- Wetland
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)
- Storage (Subsurface: Reservoir, Cistern, Tank)
- Injection Well
- Mechanical Water Treatment Facility
- Purple Pipe Connection
- Gallery / Dry Well
- Spreading Ground
- Storm Drain Daylighting
- Affordable Housing
- Museum, Gallery, or Other Arts Installation or Institution

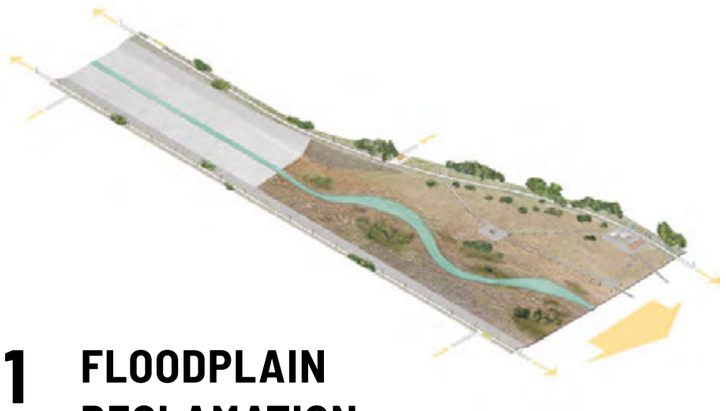


KIT OF PARTS: EXAMPLE

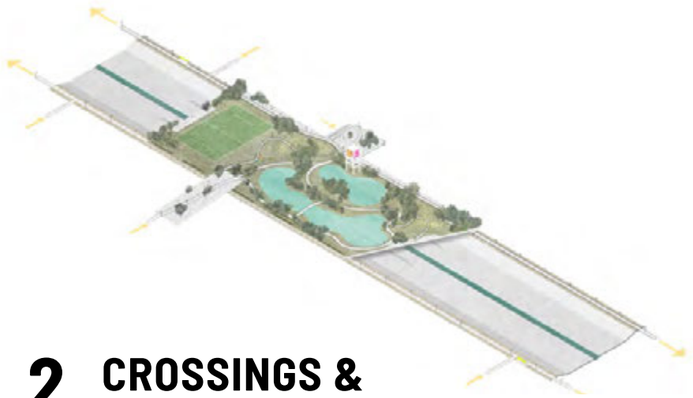
NEED	OPPORTUNITY	CADENCE (SCALE)	DESIGN COMPONENT
Flood risk reduction + Water quality + Habitat	Landside RM 11.5 Right bank (Vacant parcel, Publicly owned)	15 acres	Wetland



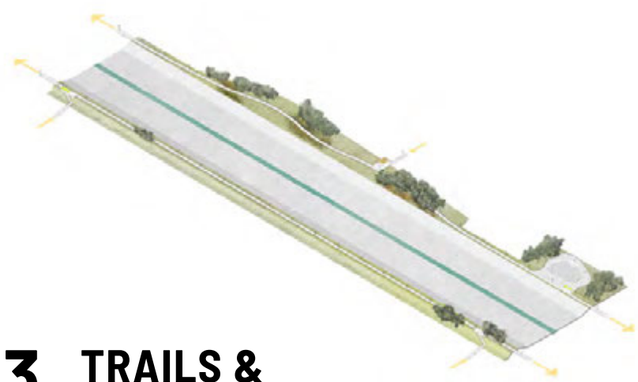
KIT OF PARTS: CATEGORIES-TRAPEZOIDAL CHANNEL



1 FLOODPLAIN RECLAMATION



2 CROSSINGS & PLATFORMS



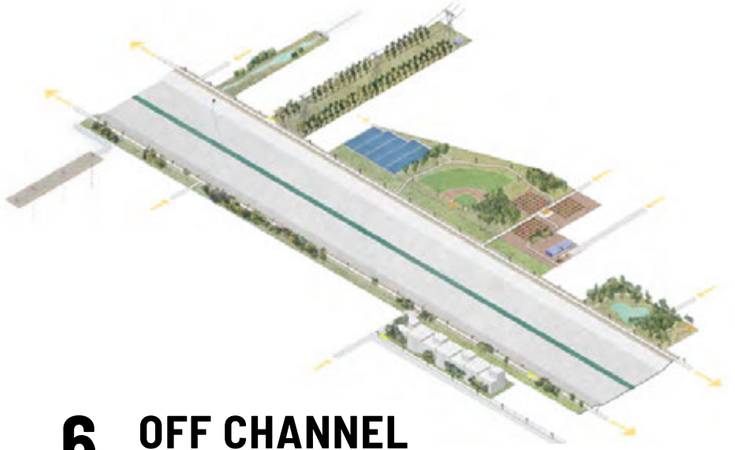
3 TRAILS & ACCESS GATEWAYS



4 CHANNEL MODIFICATIONS



5 DIVERSIONS



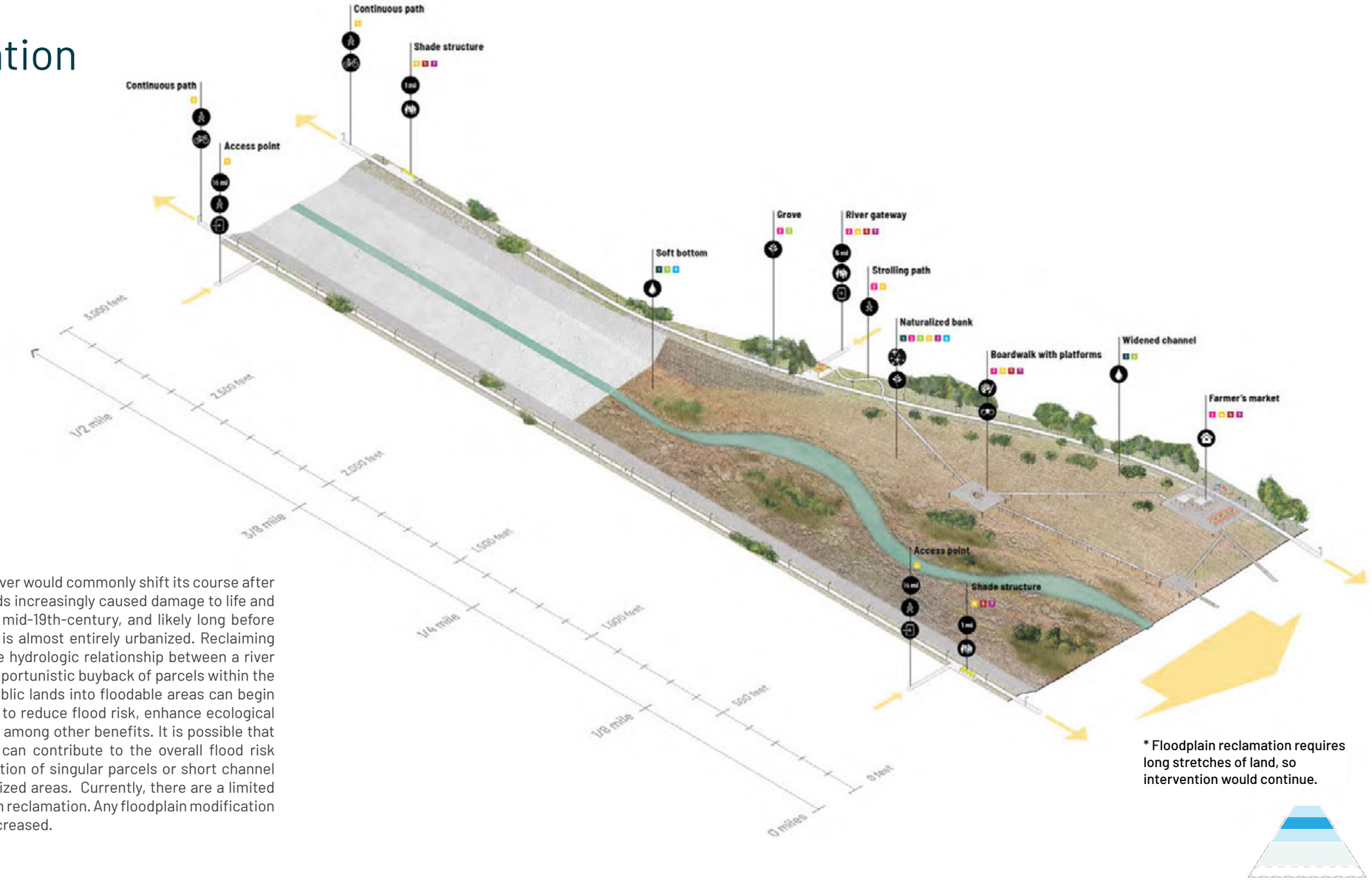
6 OFF CHANNEL LAND ASSETS

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS: CATEGORIES-TRAPEZOIDAL CHANNEL

Floodplain Reclamation

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



Historically, the LA River had a vast floodplain and the river would commonly shift its course after major floods. As the area's population grew, these floods increasingly caused damage to life and property, and people altered the river as early as the mid-19th-century, and likely long before that. Currently, the historic floodplain of the LA River is almost entirely urbanized. Reclaiming the floodplain will create space for the river where the hydrologic relationship between a river and its floodplain can be reconnected. Strategic and opportunistic buyback of parcels within the floodplain or transitioning adjacent right of ways or public lands into floodable areas can begin to allow for this reconnection, which has the potential to reduce flood risk, enhance ecological function, create park space, and improve water quality among other benefits. It is possible that floodplain reclamation, if completed at large scales, can contribute to the overall flood risk reduction system, but it should be noted that reclamation of singular parcels or short channel lengths has the potential to increase flood risk in localized areas. Currently, there are a limited number of opportunities along the LA River for floodplain reclamation. Any floodplain modification requires hydraulic analysis to ensure flood risk is not increased.

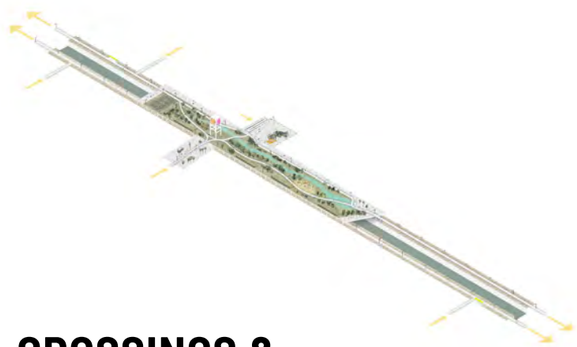
* Floodplain reclamation requires long stretches of land, so intervention would continue.

Source: OLIN, Gehry Partners, Geosyntec

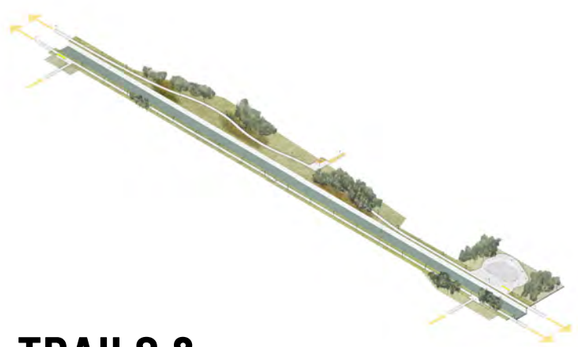
KIT OF PARTS: CATEGORIES-BOX CHANNEL



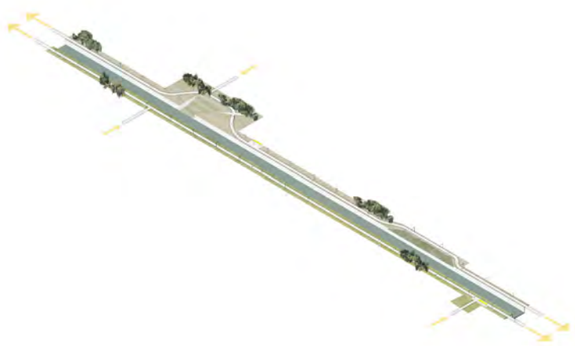
1 FLOODPLAIN RECLAMATION



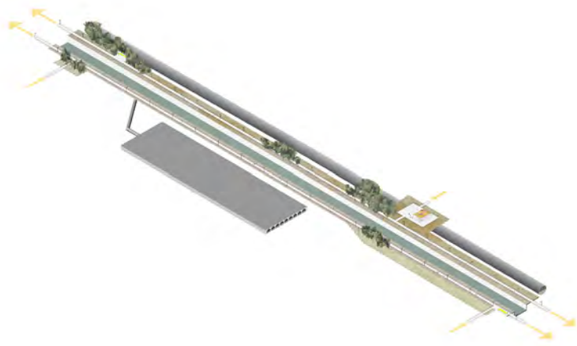
2 CROSSINGS & PLATFORMS



3 TRAILS & ACCESS GATEWAYS



4 CHANNEL MODIFICATIONS



5 DIVERSIONS



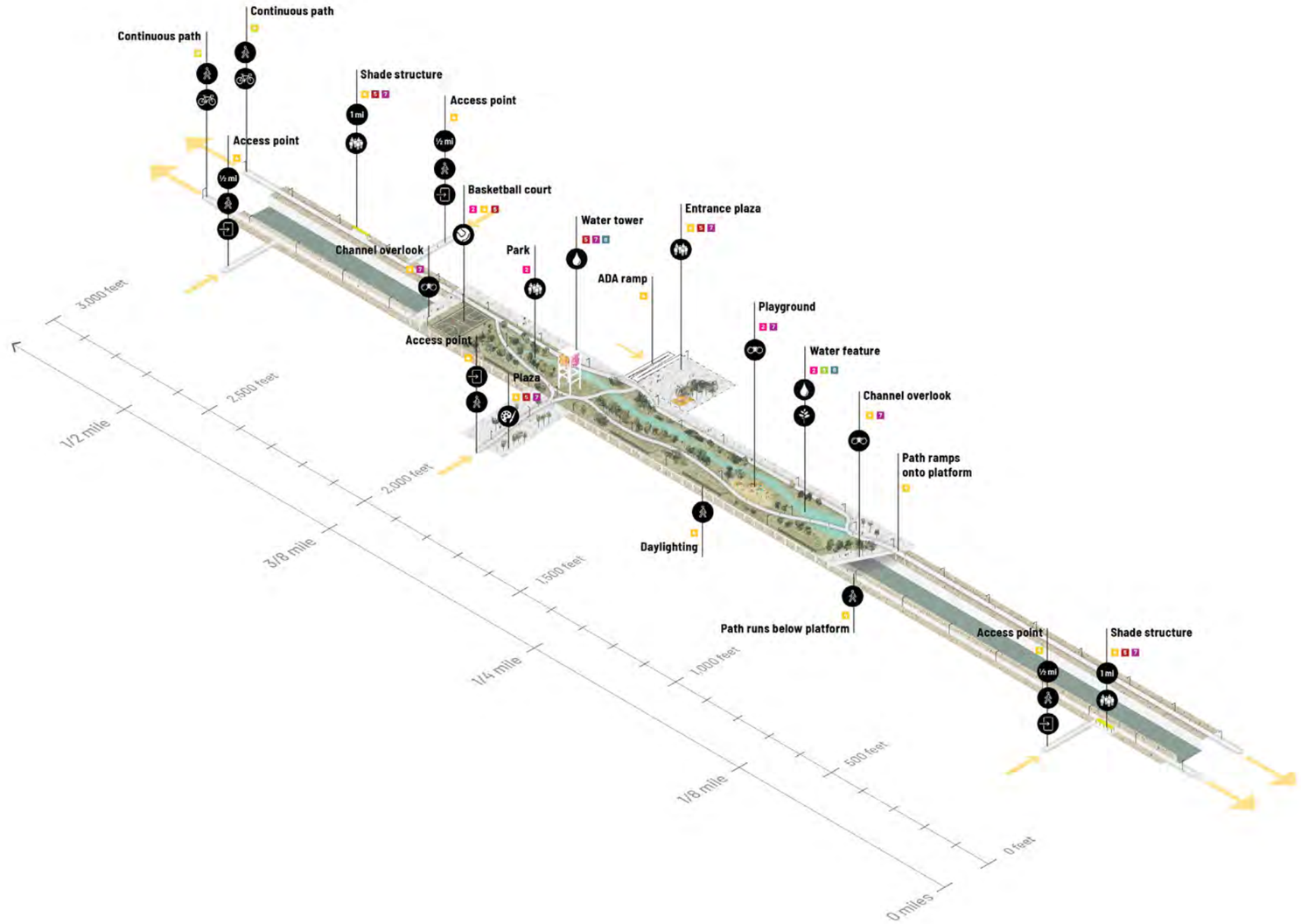
6 OFF CHANNEL LAND ASSETS

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS: CATEGORIES–BOX CHANNEL

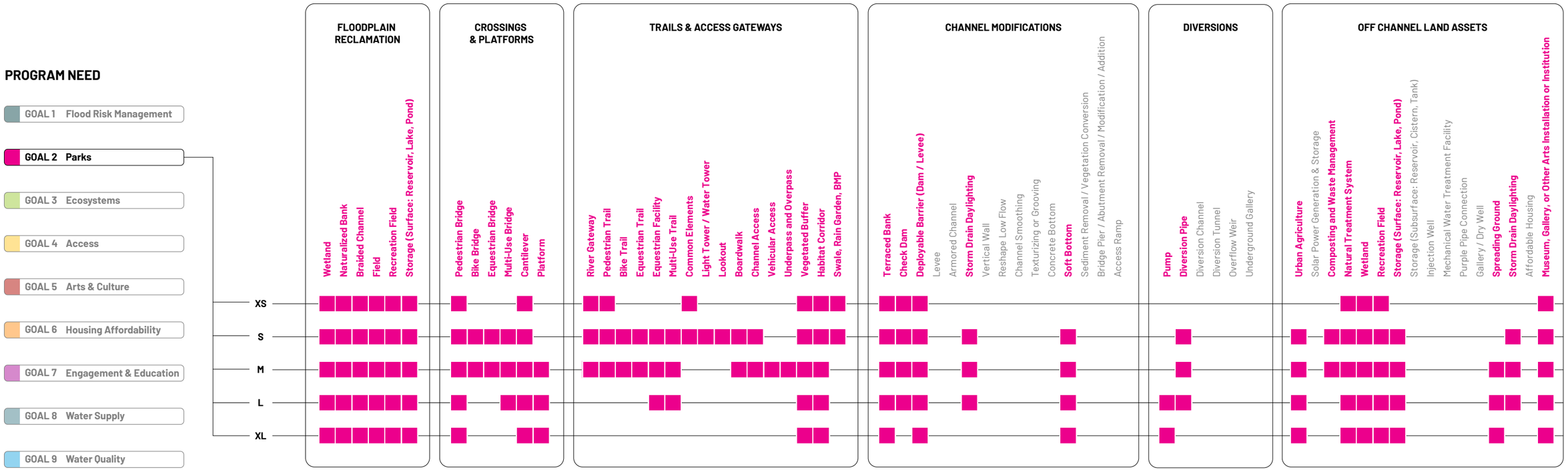
Crossings & Platforms

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK

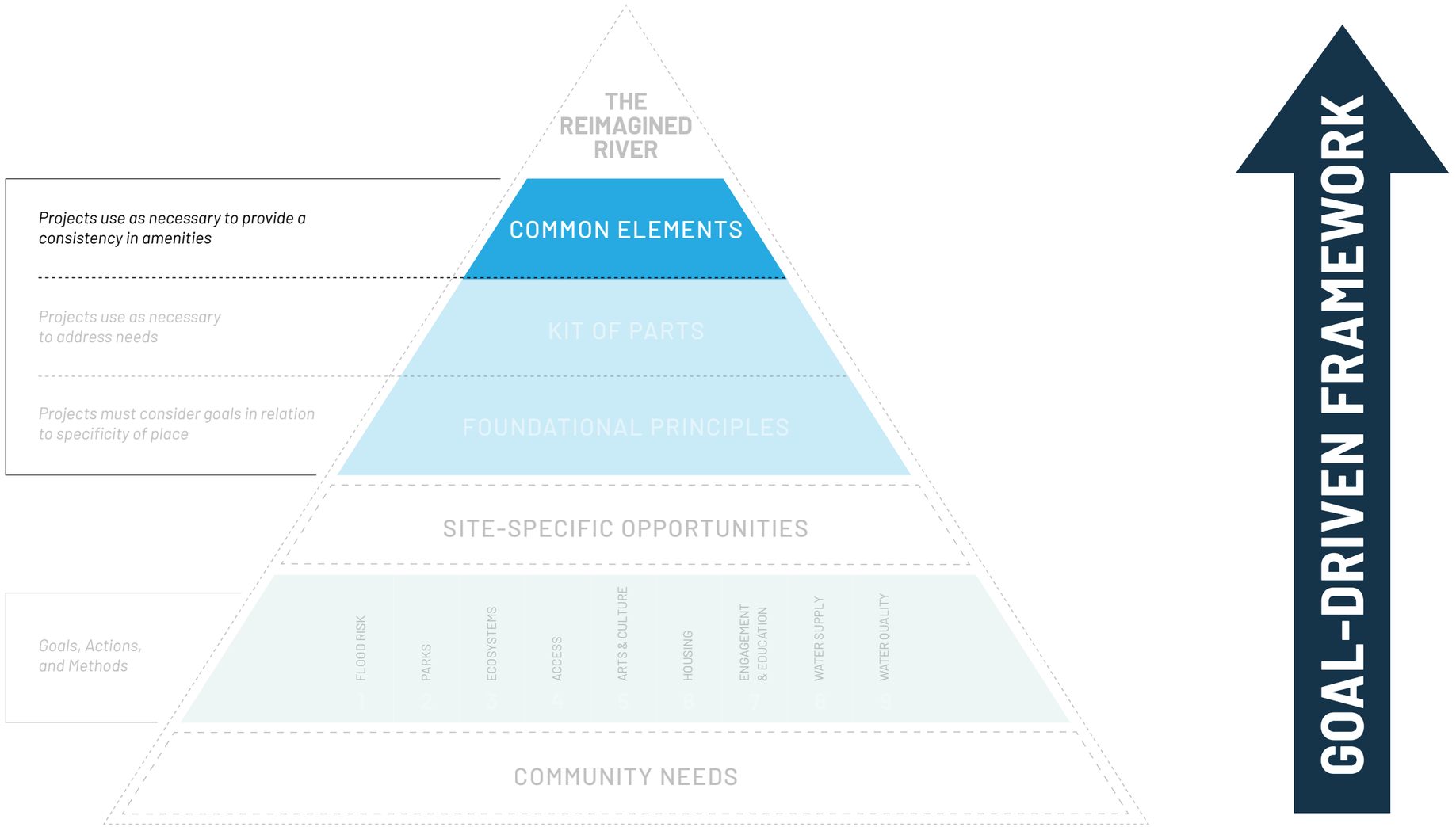


Source: OLIN, Gehry Partners, Geosyntec

COMMON ELEMENTS

Source: OLIN

PROJECTS SHOULD BUILD UPON THE GOALS USING THE KIT OF PARTS AND COMMON ELEMENTS



CURRENT COMMON ELEMENTS

Source: OLIN

CURRENT COMMON ELEMENTS



SEATING



GUARDRAILS AND TRASH RECEPTACLE

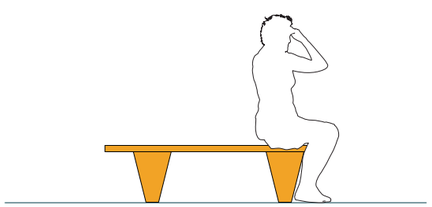


ENVIRONMENTAL GRAPHICS

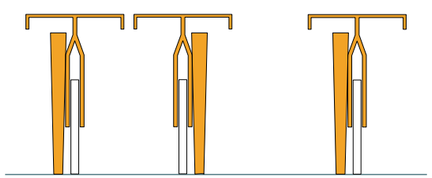
Source: OLIN

INVENTORY OF REPEATED COMMON ELEMENTS

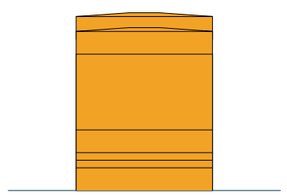
Developed under Design Guidelines



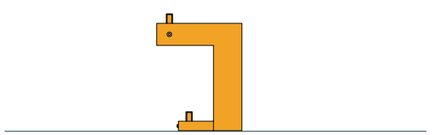
BENCHES



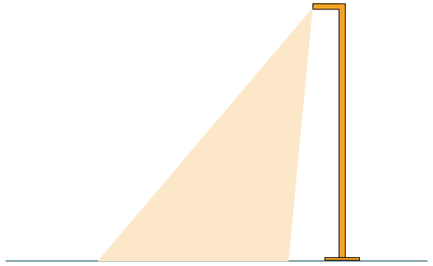
BIKE RACKS



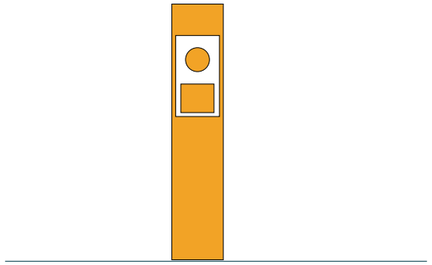
TRASH & RECYCLING



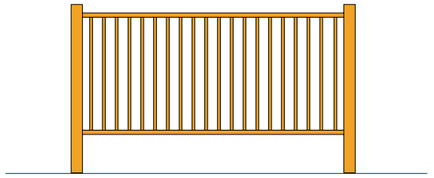
WATER FOUNTAINS



LIGHTING



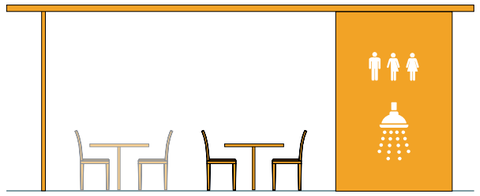
EMERGENCY CALL BOXES



GUARDRAILS



FENCES & GATES



PAVILIONS



HYGIENE FACILITIES



ART



ENVIRONMENTAL GRAPHICS

*Common elements are great opportunities to integrate art

Source: OLIN, Gehry Partners

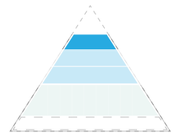
TYPES OF ELEMENTS

BESPOKE

- Pavilions
- Art Installations
- Interpretive Signage
- Custom Furnishings

CONSISTENT

- Benches
- Light Fixtures
- Wayfinding



FACILITIES AND AMENITIES

River Pavilions and Cadence

SHADE PAVILION
Tier I (every .4-.6 mi)

- SHADED SEATING
- RIVER EDUCATION
- WATER FOUNTAIN
- EMERGENCY CALL BOX
- TRASH & RECYCLING

REST PAVILION
Tier II (every .8-1.2 mi)

TIER I COMPONENTS, PLUS:

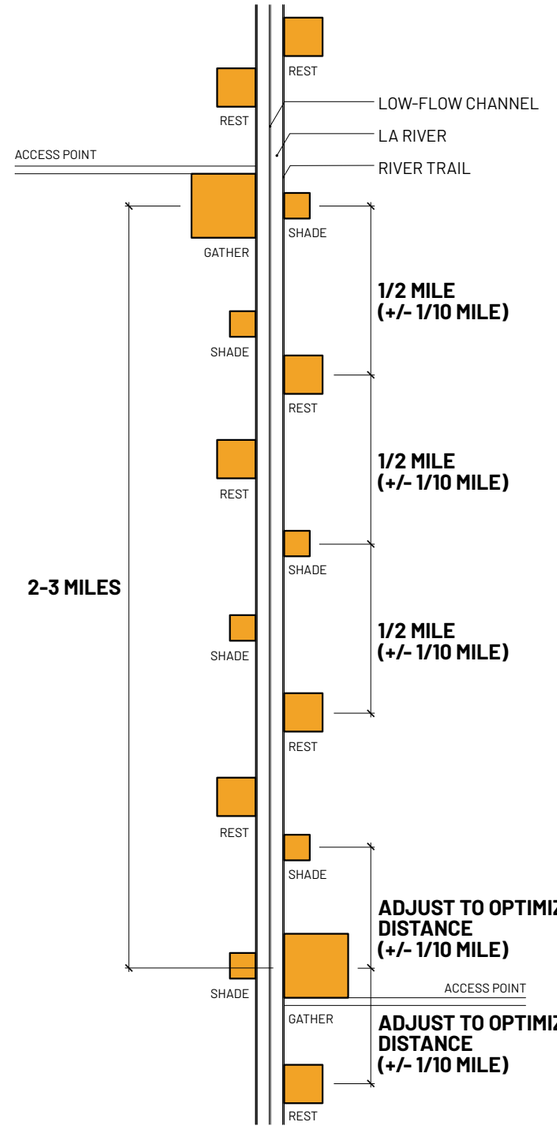
- BATHROOMS
- PICNIC AREA
- CHARGING STATION
- BICYCLE RACKS
- SNACK STATION
- RECREATION AREA OUTDOOR SHOWERS (OPTIONAL)

GATHERING PAVILION
Tier III (every 2-3 miles)

TIER I AND II COMPONENTS, PLUS ONE OR MORE OF THE FOLLOWING:

- BIKE RENTAL/REPAIR
- INDOOR LOCKER ROOM AND SHOWERS
- PUBLIC SAFETY STATION
- MULTI-PURPOSE COMMUNITY ROOM (OPTIONAL)
- COMMUNITY KITCHEN (OPTIONAL)
- SPORTS EQUIPMENT RENTAL (OPTIONAL)

TYPICAL CADENCE

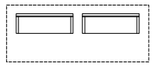


Source: Gehry Partners, OLIN

PAVILION COMPONENTS

Shade Pavilion (Tier I) = A
Rest Pavilion (Tier II) = A+B
Gathering Pavilion (Tier III) = A+B+C

A COMPONENTS



SHADED SEATING



RIVER EDUCATION

DRINKING FOUNTAIN

EMERGENCY CALL BOX



TRASH, RECYCLING, AND PET WASTE RECEPTACLES

B COMPONENTS

CHARGING STATION



BIKE RACK



SNACK STATION



PICNIC TABLE



OUTDOOR SHOWER (ONLY IN RECREATION AREAS)



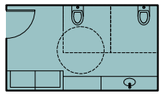
BARBECUE



SINGLE-OCCUPANCY RESTROOM



MOTHER'S ROOM

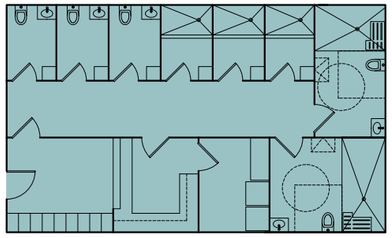


FAMILY RESTROOM

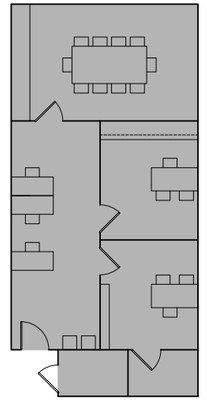
C COMPONENTS



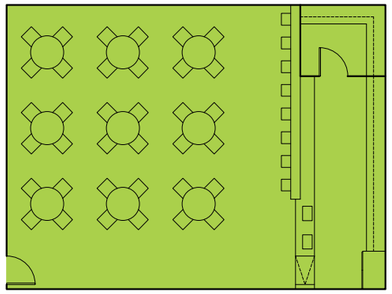
PUBLIC SAFETY STATION



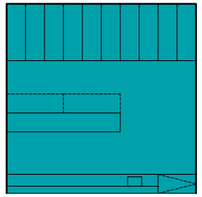
LOCKER ROOM



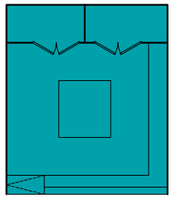
OFFICES



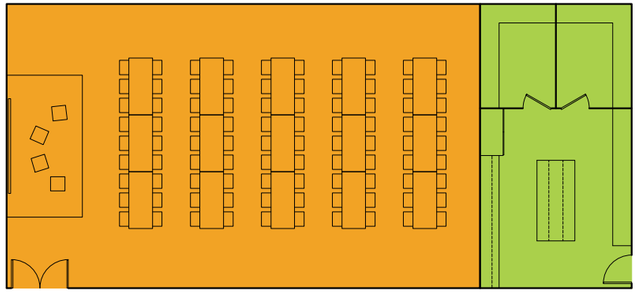
CAFE



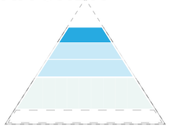
BIKE RENTAL AND REPAIR



SPORTS RENTAL

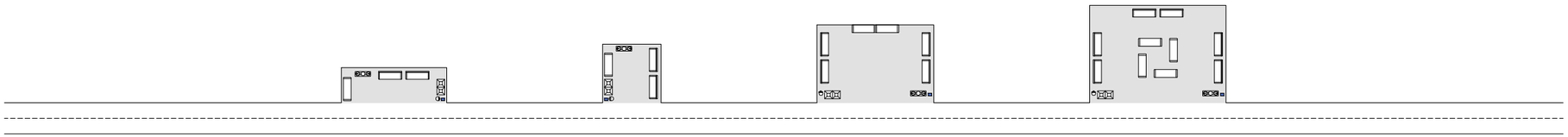


MULTI-PURPOSE ROOM / COMMUNITY KITCHEN

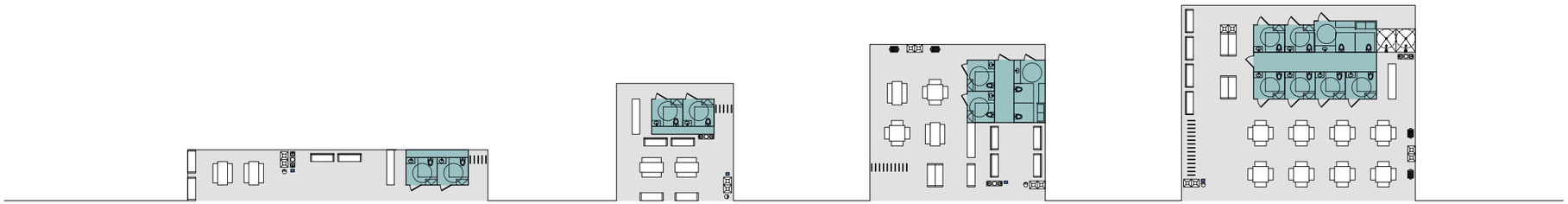


Source: Gehry Partners, OLIN

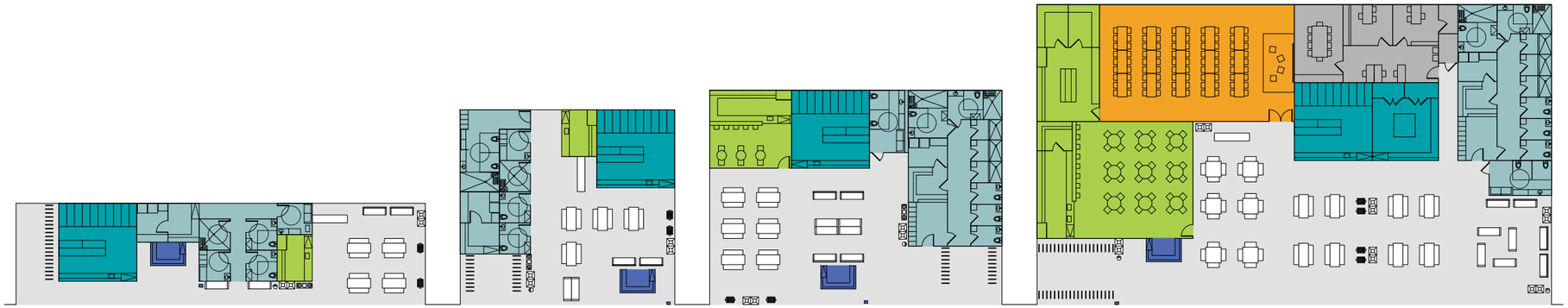
PAVILION CONFIGURATIONS



SHADE PAVILIONS (TIER I)



REST PAVILIONS (TIER II)



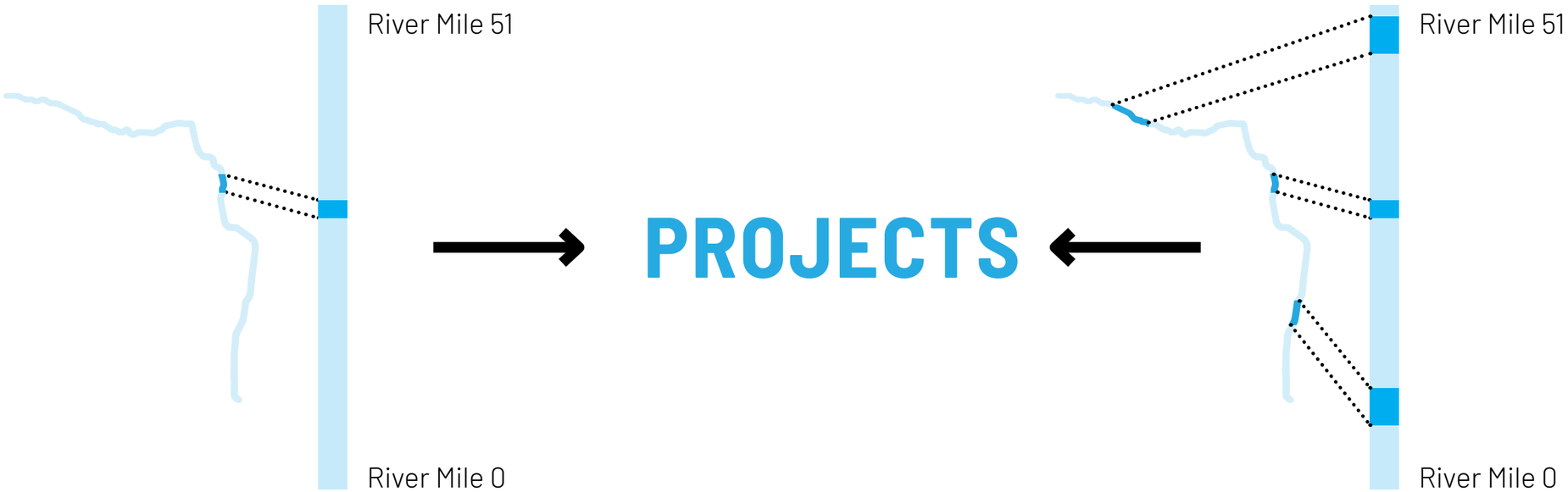
GATHERING PAVILIONS (TIER III)

Source: Gehry Partners, OLIN

APPLYING THE KIT OF PARTS

Source: OLIN

PROJECTS CAN BE SITE OR SYSTEM-BASED



SITE-BASED

SYSTEM-BASED

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

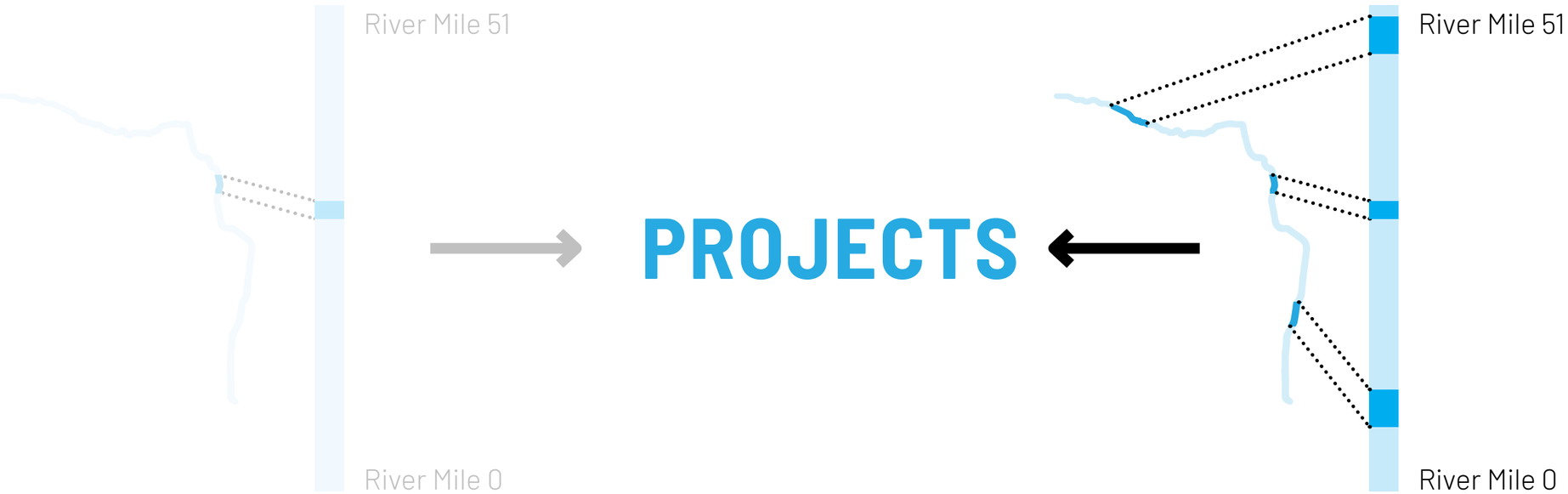
S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

SYSTEM-BASED PROJECTS

Source: OLIN

SYSTEM-BASED PROJECTS ARE COMPRISED OF MANY SITES WORKING TOGETHER TO ADDRESS NEEDS WITH RIVER-WIDE IMPLICATIONS



SITE-BASED

SYSTEM-BASED

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

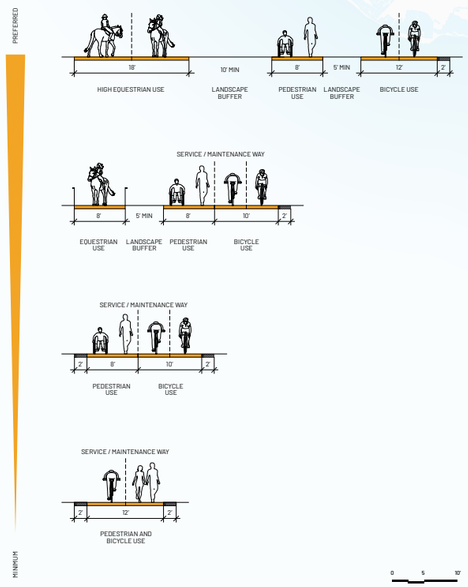
M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

SYSTEM: 51-MILE RIVER TRAIL

Continuous trail and access points





— Existing LA River Trail

— Planned or Proposed LA River Trail

Source: OLIN, based on City of Los Angeles, LA River Greenway, LA River Access and Points of Interest, 2018

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

SYSTEM: 1% FLOOD RISK REDUCTION AREAS[1]

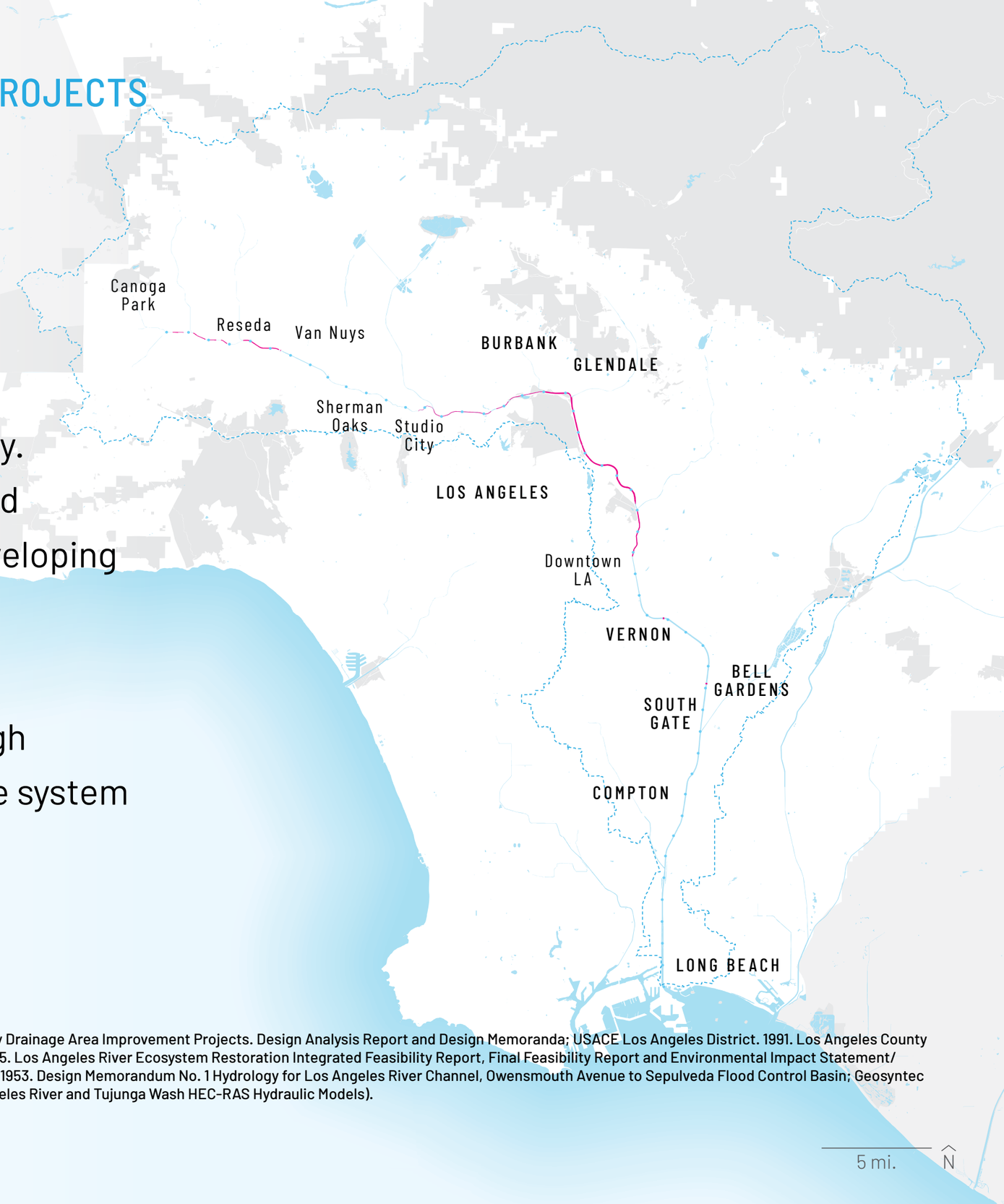
Short-Term Priorities:

1. Improve channel areas under 1% flood capacity.
2. Improve resiliency of critical infrastructure and facilities in the 1% and 0.2% floodplains by developing specific flood risk reduction strategies.

Long-Term Policies:

1. Improve resilience of the overall system through strategic modification of the flood conveyance system and floodplains.

Areas that do not meet 1% flood capacity needs[1]



Footnotes:
1. U.S. Army Corps of Engineers (USACE) Los Angeles District. 1996a, 1996b, 1997a, 1997b, and 1999. Los Angeles County Drainage Area Improvement Projects. Design Analysis Report and Design Memoranda; USACE Los Angeles District. 1991. Los Angeles County Drainage Area (LACDA): Review, Part I Hydrology Technical Report: Base Conditions; USACE: Los Angeles District. 2015. Los Angeles River Ecosystem Restoration Integrated Feasibility Report, Final Feasibility Report and Environmental Impact Statement/ Environmental Impact Report, Appendix E. Table 17: Original Design Discharge and Existing Channel Capacity; USACE. 1953. Design Memorandum No. 1 Hydrology for Los Angeles River Channel, Owensmouth Avenue to Sepulveda Flood Control Basin; Geosyntec analysis using HEC-RAS models (USACE Los Angeles District. 2005. Los Angeles County Drainage Area Upper Los Angeles River and Tujunga Wash HEC-RAS Hydraulic Models).

Source: Geosyntec, OLIN

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

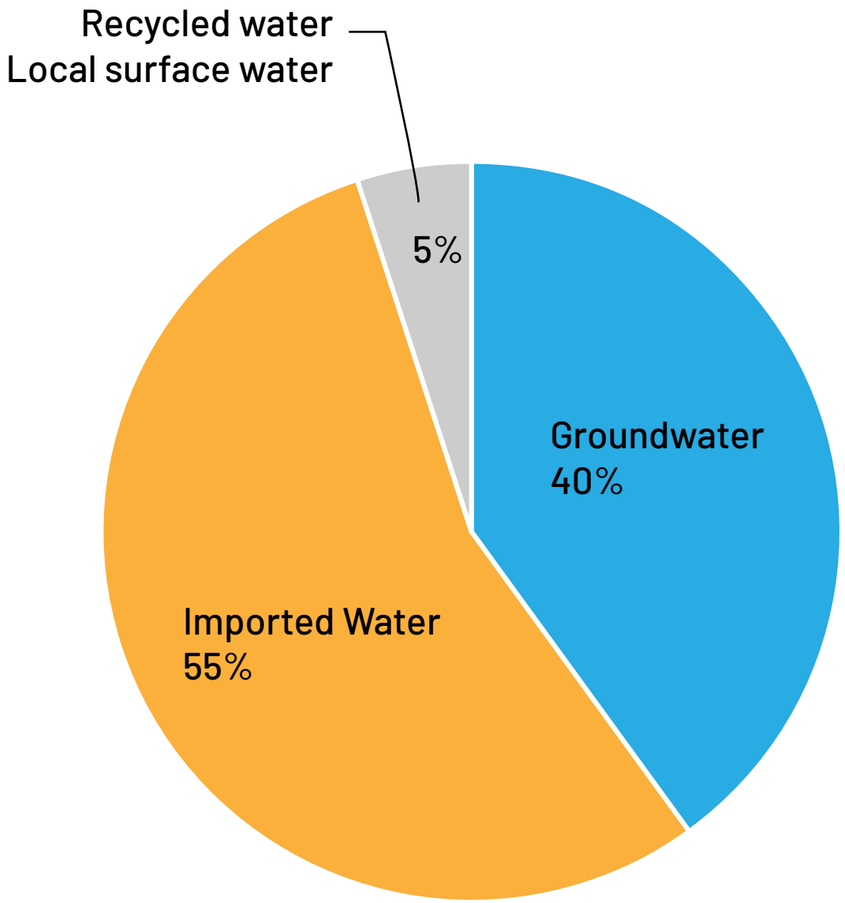
L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

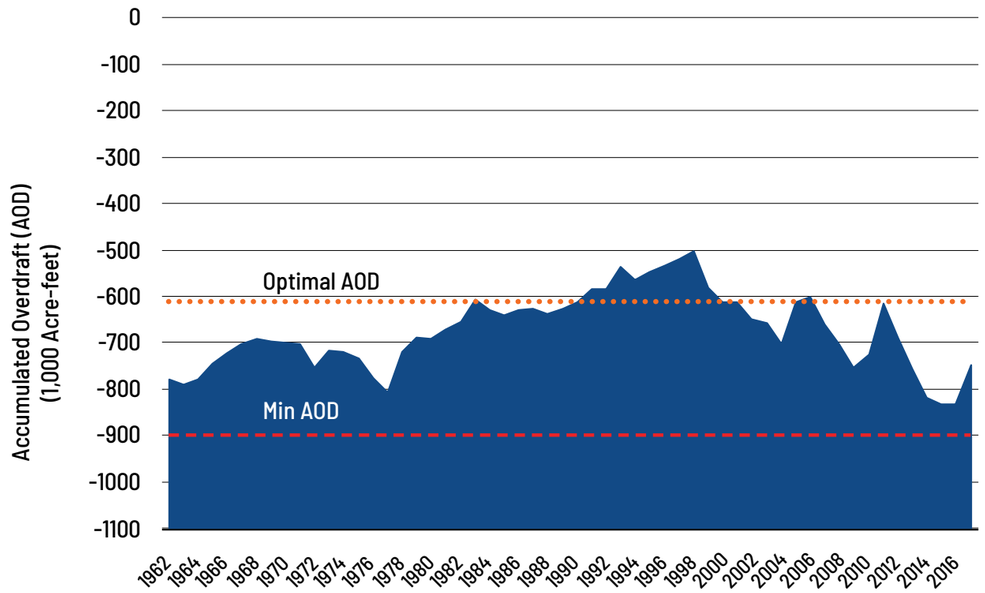
S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

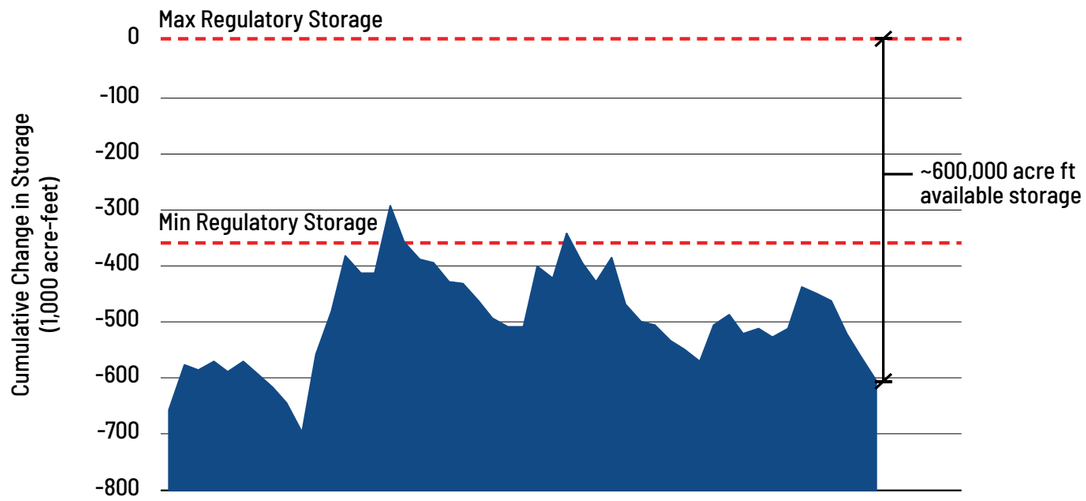
SYSTEM: REGIONAL GROUNDWATER RECHARGE



Supply portfolio of the greater Los Angeles Basin



Cumulative change in storage in the San Fernando Basin



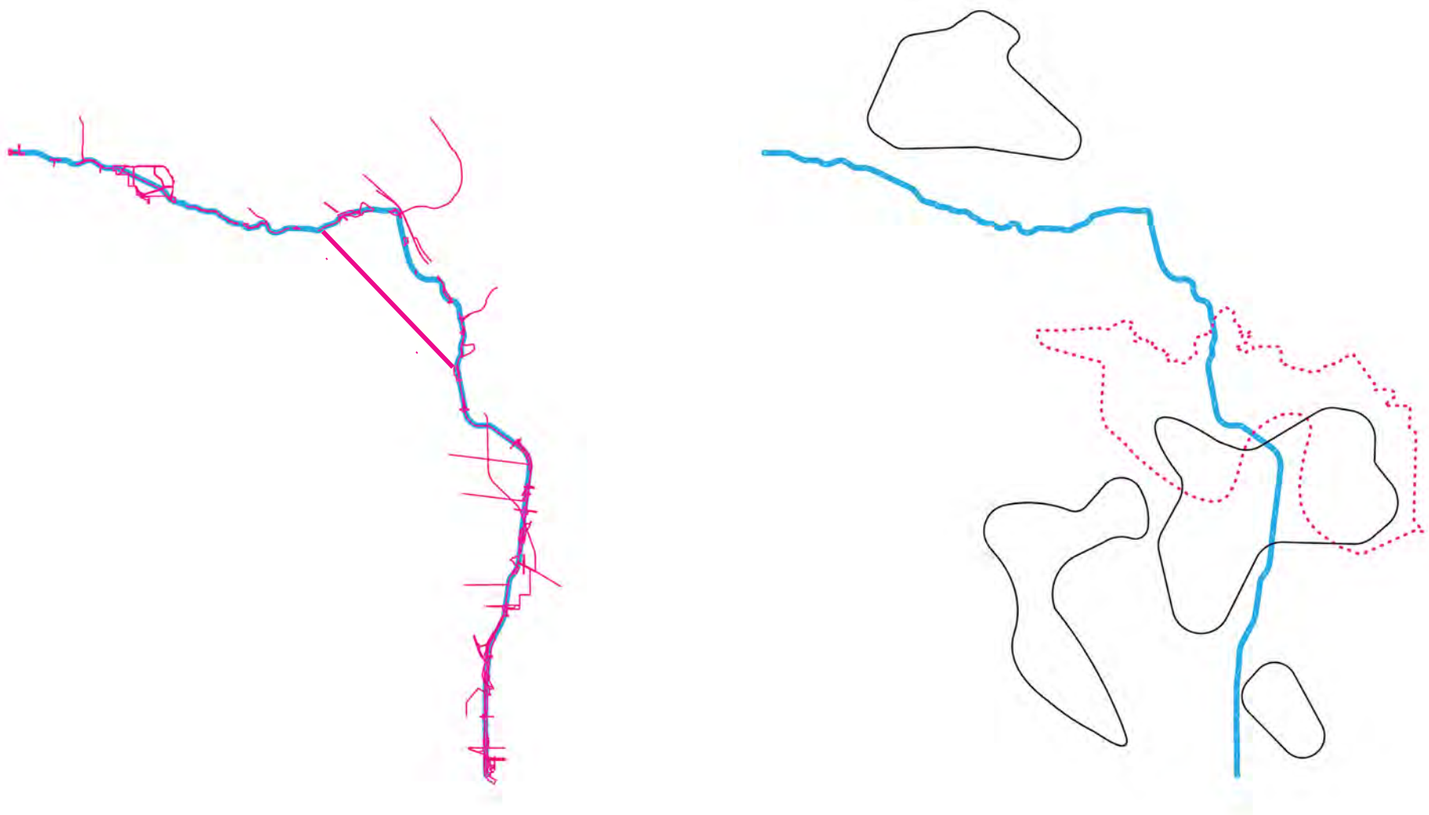
Accumulated Overdraft in the Central Basin and West Coast Basin

Source: ULARA Annual WatermasterReport, 2015-16 Water Year, December 2017; WRD Engineering and Survey Report, 2018

SYSTEM: REGIONAL GROUNDWATER RECHARGE

Projects along the river can help store water for groundwater recharge

- Capture and recharge flows in the upper watersheds
- Utilize parks and existing and proposed projects/infrastructure as storage
- Diversions from the channel for treatment and recharge can occur between River Miles (RM) 2-20
- Discharge treated brine back into channel for improved bird habitat and estuarine conditions below RM 7



Proposed and Planned projects
Recharge Opportunity Areas
Central Basin Forebay

Projects along the LA River capture and store water → Recharge Opportunity Areas

Source: Geosyntec, OLIN, Gehry Partners

SYSTEM: REGIONAL GROUNDWATER RECHARGE



- Proposed and Planned projects
- Recharge Opportunity Areas
- Central Basin Forebay
- Water Reclamation Plant
- San Fernando Basin
- Central Basin
- West Coast Basin

Source: Geosyntec, OLIN, based on Groundwater Basin Boundaries, California Department of Water Resources, 2015.

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

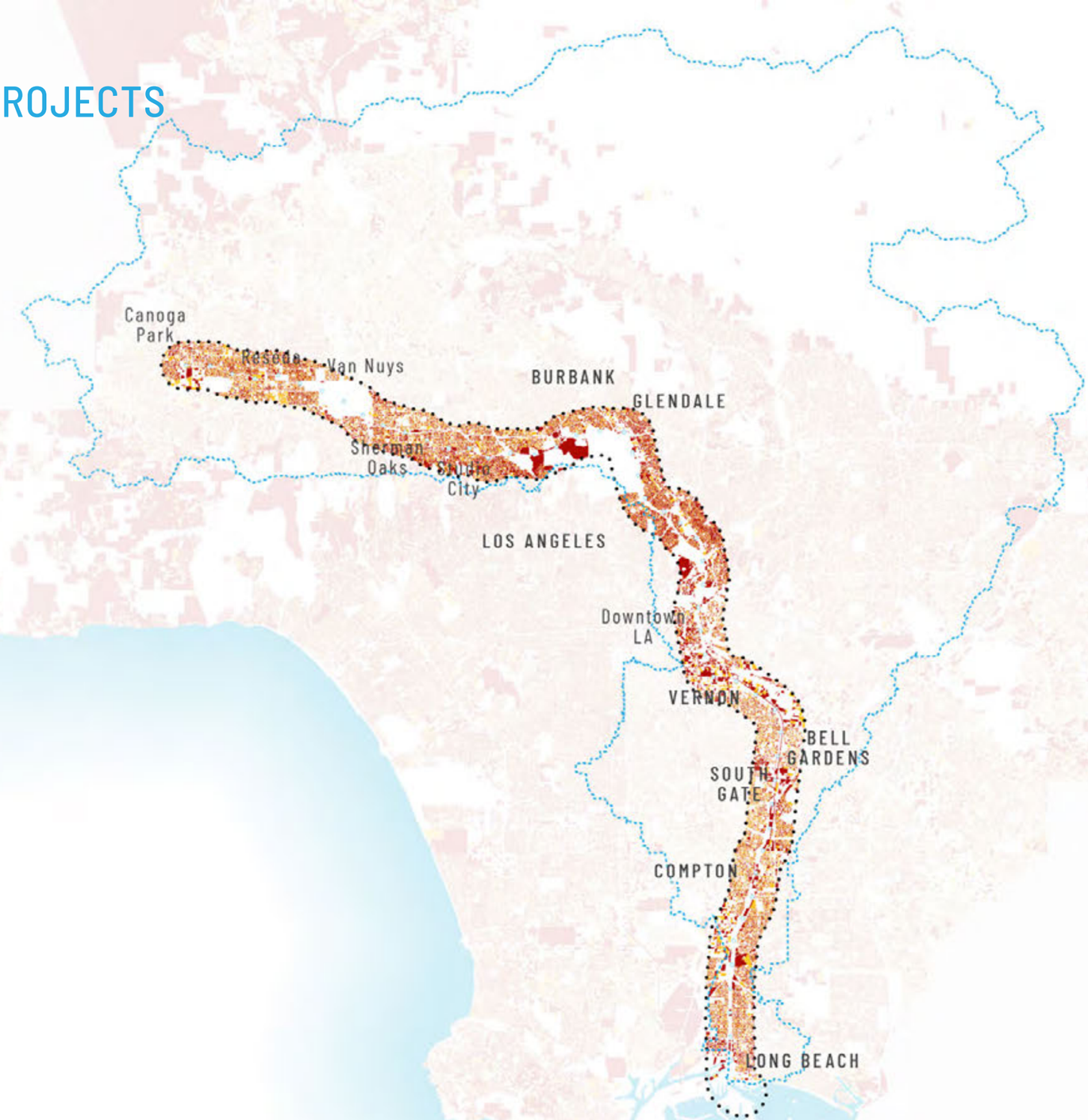
M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

SYSTEM: AFFORDABLE AND PERMANENT SUPPORTIVE HOUSING

**Identify opportunities for increasing affordable housing*



Source: OLIN, Gehry Partners

WITHIN 1 MILE OF THE LA RIVER, 38,100 HOUSEHOLDS ARE AT RISK

HOUSEHOLDS MAKING UNDER HALF THE AREA MEDIAN INCOME

Making under $35,000

→

38,100 AT-RISK HOUSEHOLDS

←

SEVERELY RENT-BURDENED HOUSEHOLDS

Spending more than 50% of income on rent

Source: U.S. Census Bureau 2012–2016 American Community Survey 5-Year Estimates

MEASURING DISPLACEMENT RISK

VULNERABLE TO DISPLACEMENT

Areas with a high share of vulnerable households

High Percentages of 3 of the Following:

- Low-Income Households
- Non-College-Educated Adults
- Renters
- Non-White Households

AT RISK OF DISPLACEMENT

Low income areas with proven risk factors

Vulnerable Plus 2 of the Following:

- Nearby Rail Station
- High % Pre-1950 Buildings
- High Employment Density
- Rents Rising Faster than County Average

ONGOING DISPLACEMENT

Low income areas that are changing quickly

- Low Income Area
- Growing Population
- Loss of Lower Income Population
- Rents Rising Faster than County Average

ADVANCED DISPLACEMENT

Not currently low income but getting whiter and more expensive

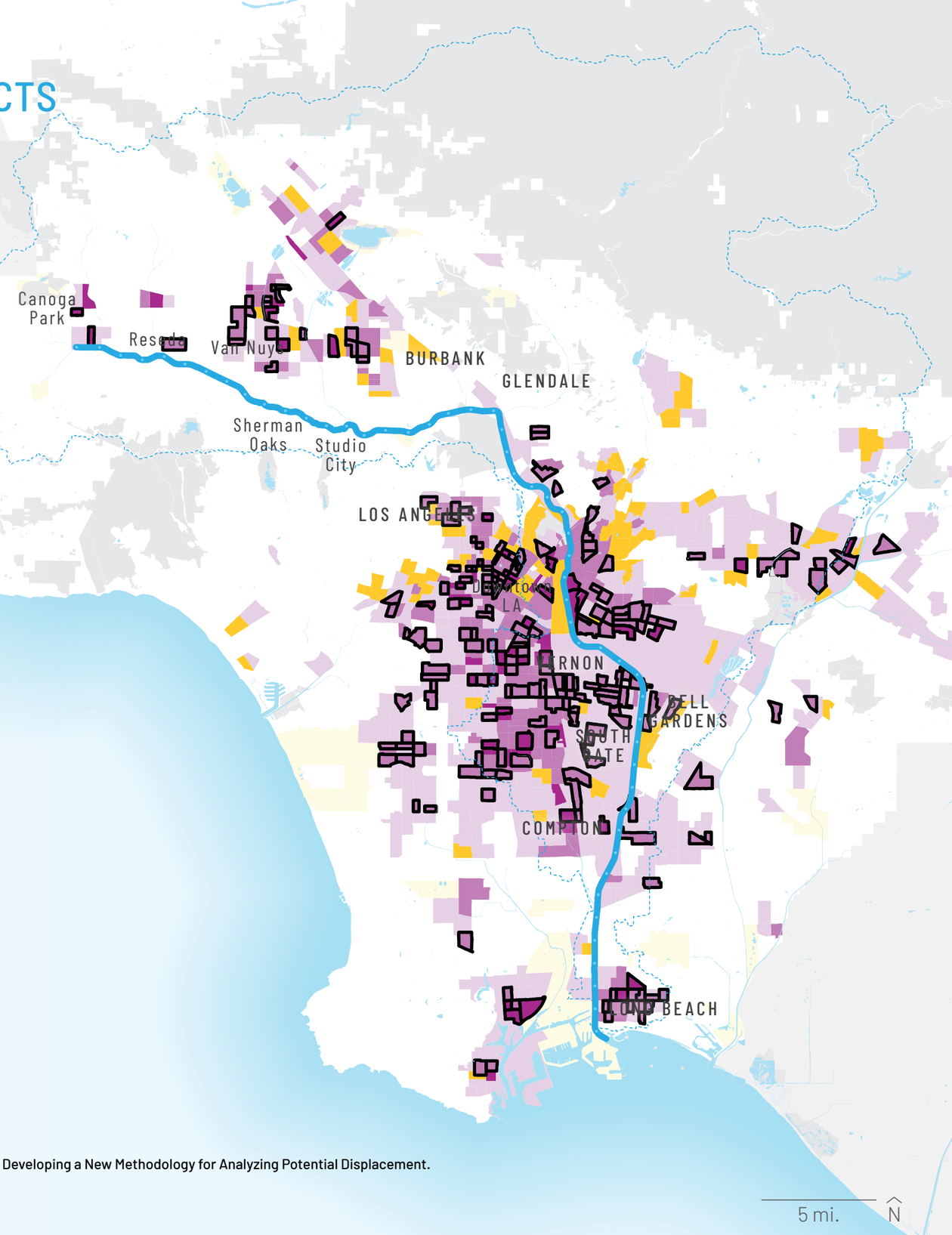
NOT a Low Income Area Plus Above Average Growth in:

- College-Educated Adults
- White Population
- Median Income
- Rents

HOW DO IMPROVEMENTS TO THE RIVER CHANGE NEED?

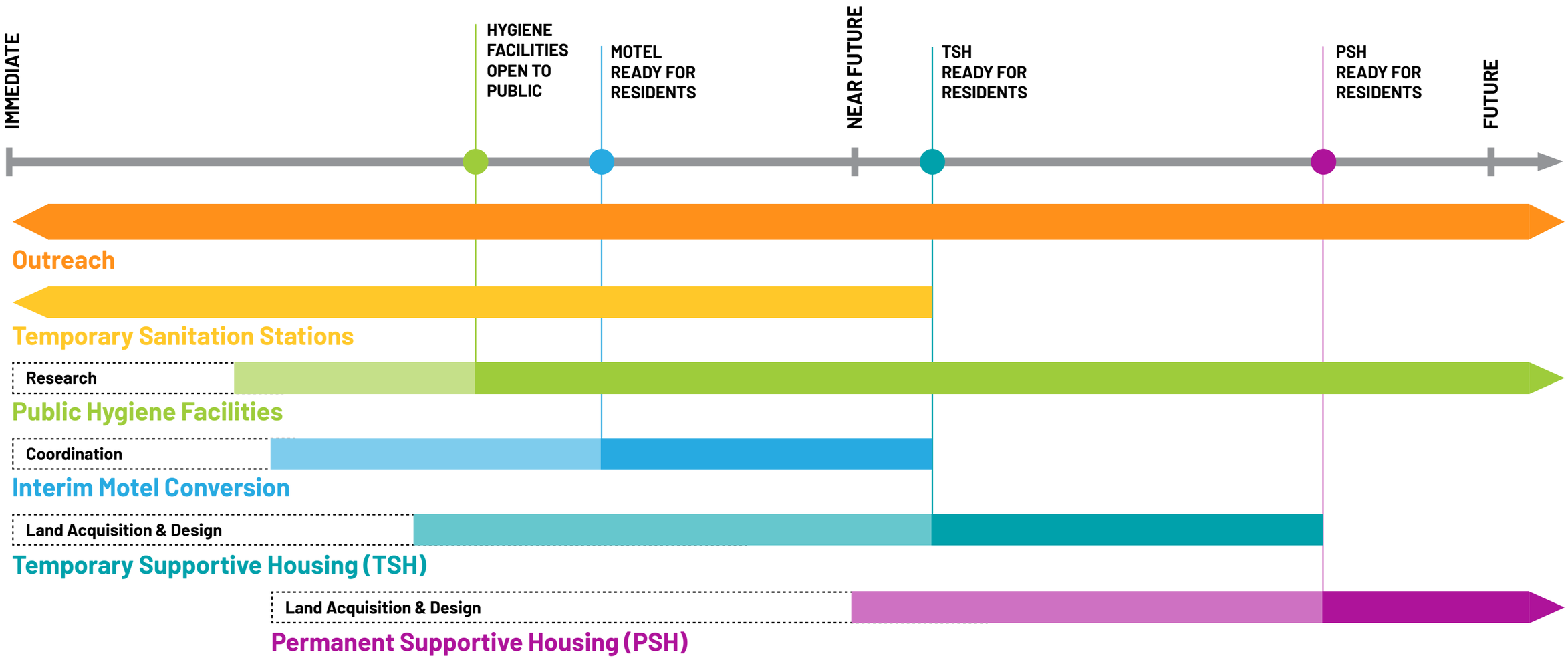
- Advanced Displacement
- Ongoing Displacement
- At Risk of Displacement
- Vulnerable to Displacement
- Not Vulnerable
- Tracts Where Rent Increases Would Change Risk Category
- No Data

Preliminary, Subject to Further Refinement



Map developed based on research by the Urban Displacement Project: Chapple, K., Loukaitou-Sideris, A., Waddell, P., Chatman, D., & Ong, P. (2017). Developing a New Methodology for Analyzing Potential Displacement.

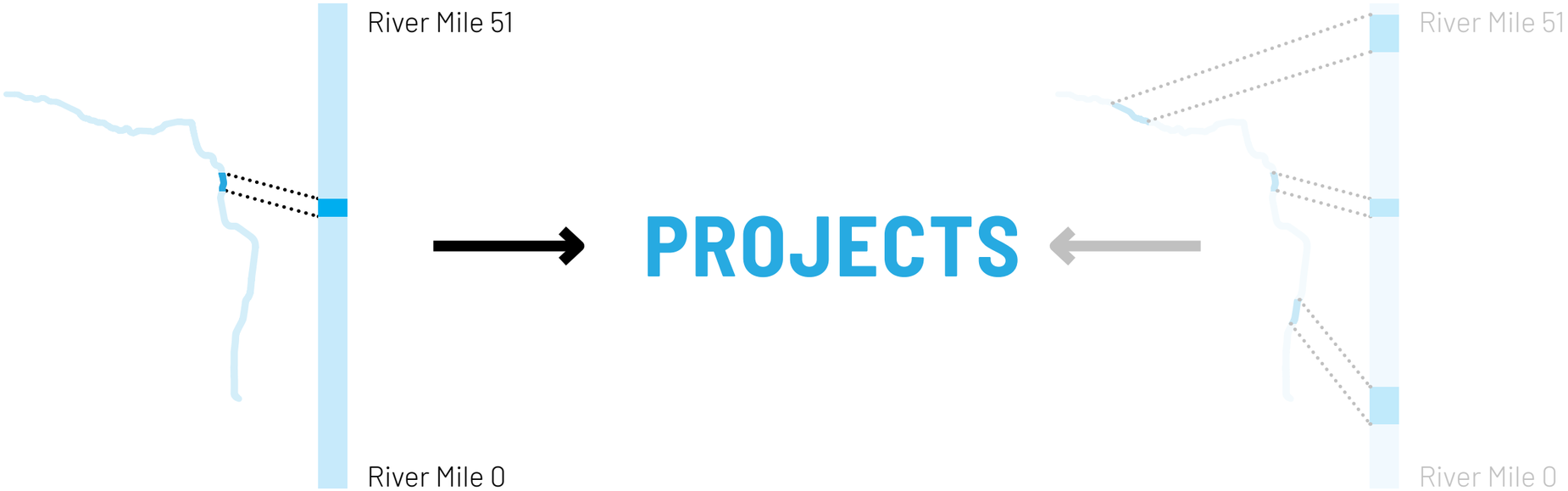
STEPS FOR HOMELESSNESS OUTREACH AND ESTABLISHMENT OF FACILITIES



SITE-BASED PROJECTS

Source: OLIN

SITE-BASED PROJECTS ARE GEOGRAPHICALLY SPECIFIC AND FOCUS ON NEEDS MOST IMMEDIATE TO THE PROJECT AREA



SITE-BASED

SYSTEM-BASED

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

XS, S PROJECTS: PAVILIONS

SHADE PAVILION (TIER I) : RM 14.7
REST PAVILION (TIER II) : RM 50.9
GATHERING PAVILION (TIER III) : RM 28.4

- XS, S Projects (Proposed)
- XS, S Projects (from Plans*)
- Potential Access Points to Upgrade
- Existing Access Points



Source: OLIN, Gehry Partners, Geosyntec

*Plans referenced include Lower Los Angeles River Revitalization Plan, Los Angeles River Revitalization Master Plan, and Metro LA River Path Project

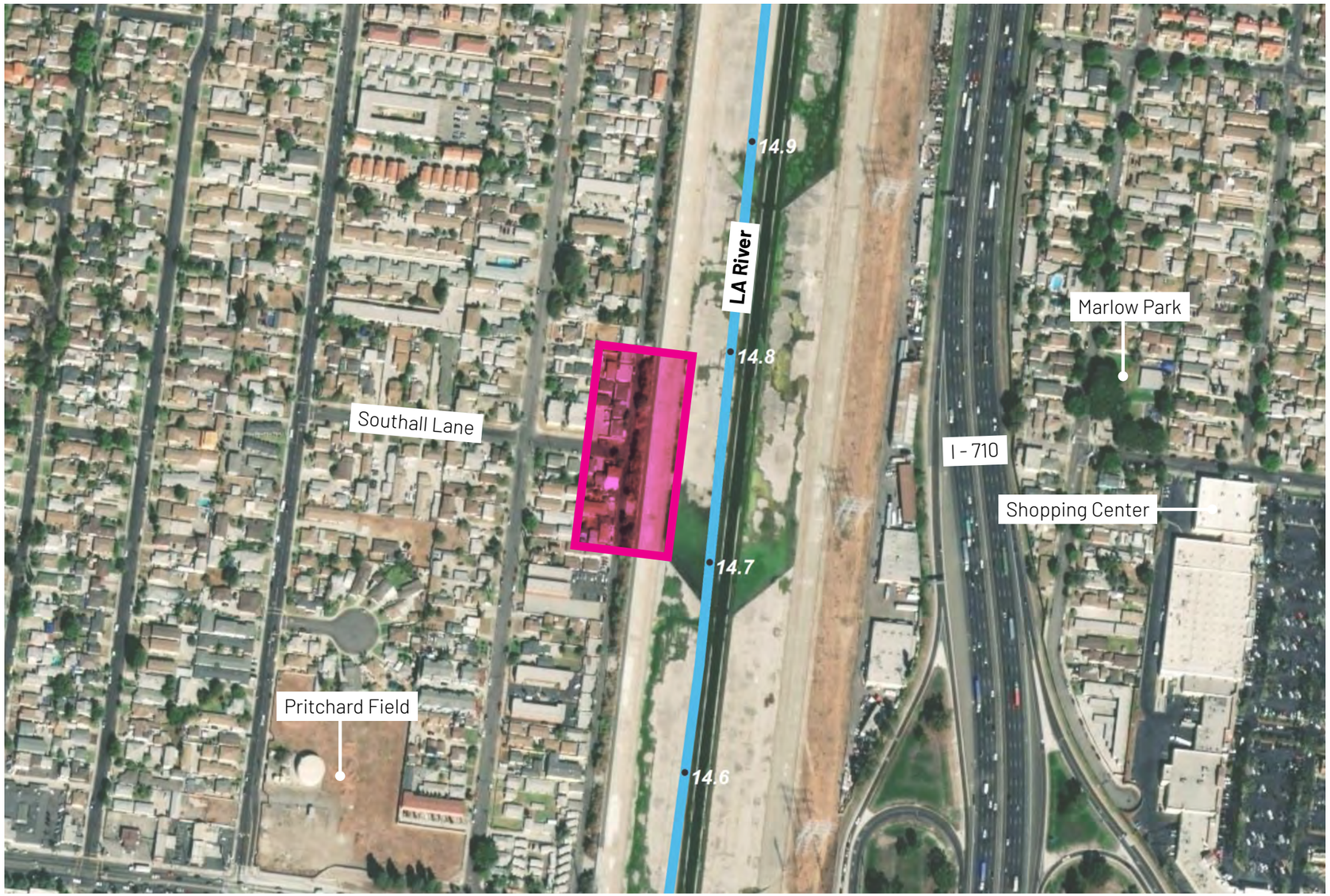
SHADE PAVILION (TIER I): RM 14.7

PROJECT DESCRIPTION:

A typical lower river condition with a bike path on top of the levee and a tight and sloped landside area between a frontage street and the bike path.

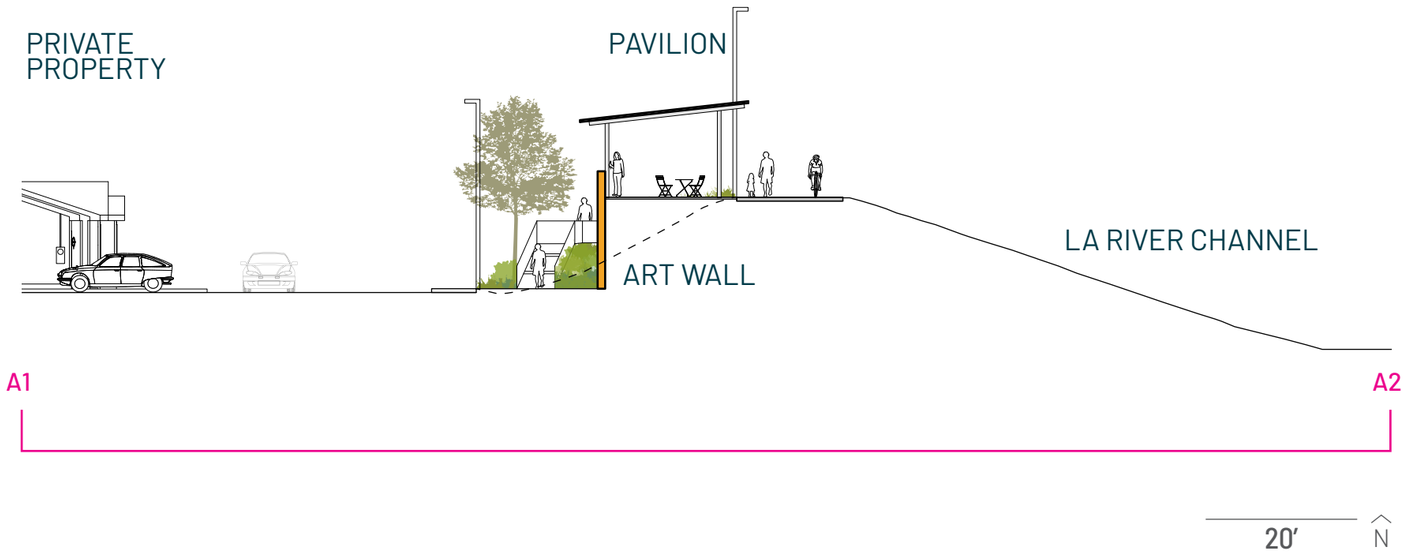
SHADE PAVILION (TYPICAL):

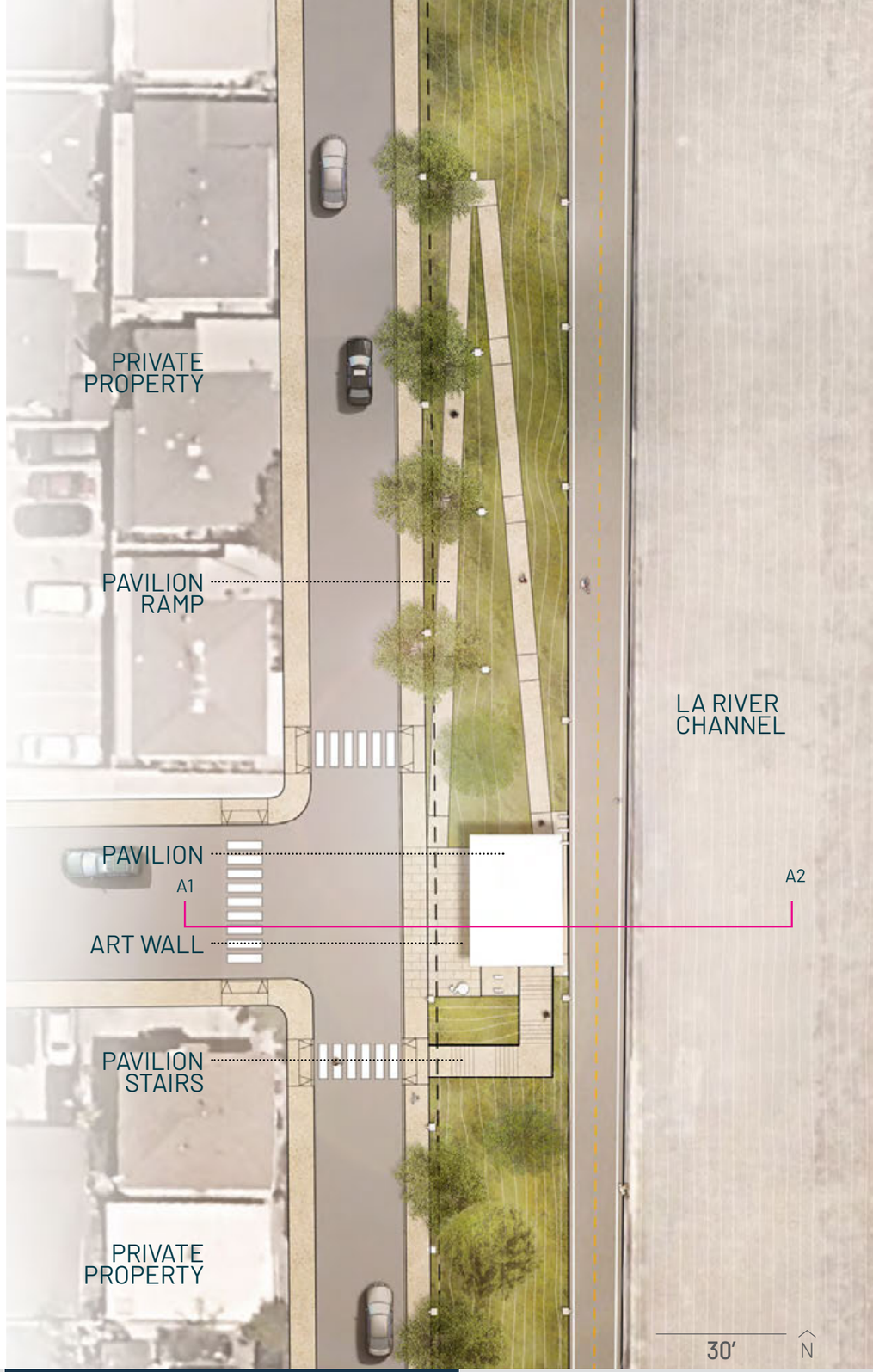
- Same grade as the bike path
- Where possible, centered on adjacent street-ends acting as signage, welcome, and art wall for the adjacent neighborhood
- Denotes an access point with parallel single switchback ramps and stairs added to get down to grade from the levee where needed



Source: OLIN

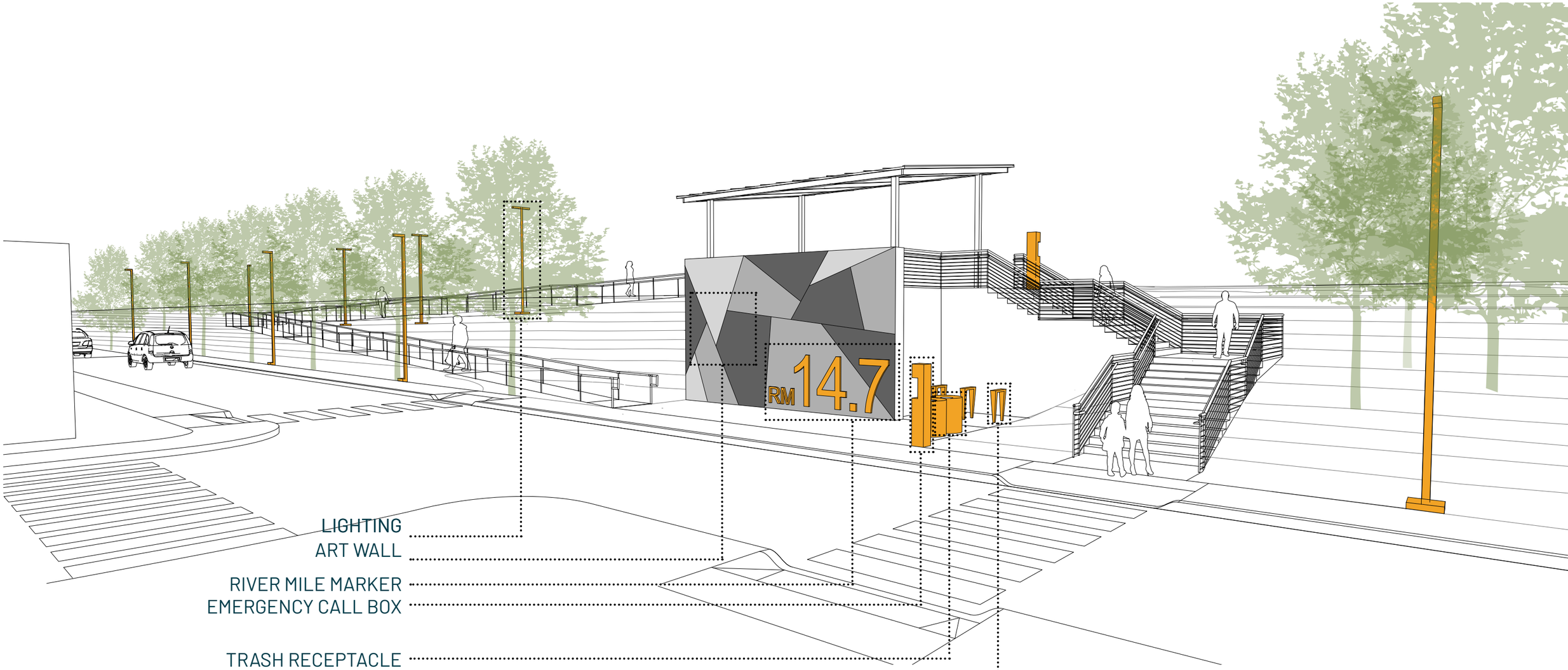
SHADE PAVILION (TIER I): RM 14.7





Source: OLIN

SHADE PAVILION (TIER I): RM 14.7



Source: OLIN

SHADE PAVILION (TIER I): RM 14.7



Source: OLIN

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

REST PAVILION (TIER II): RM 50.9

PROJECT DESCRIPTION:

A typical upper river condition in the San Fernando Valley where a street terminates at the river's edge, sending local stormwater flow from the street directly in the river without providing access the adjacent community.

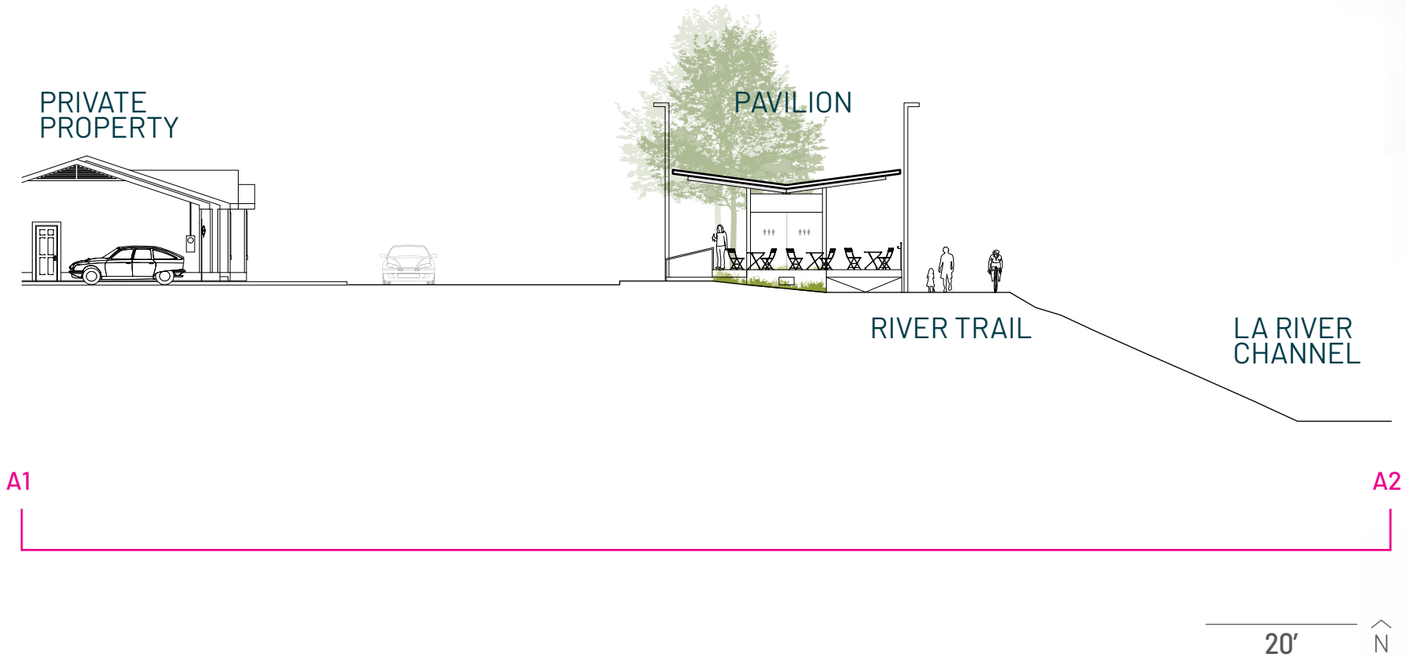
REST PAVILION (TYPICAL):

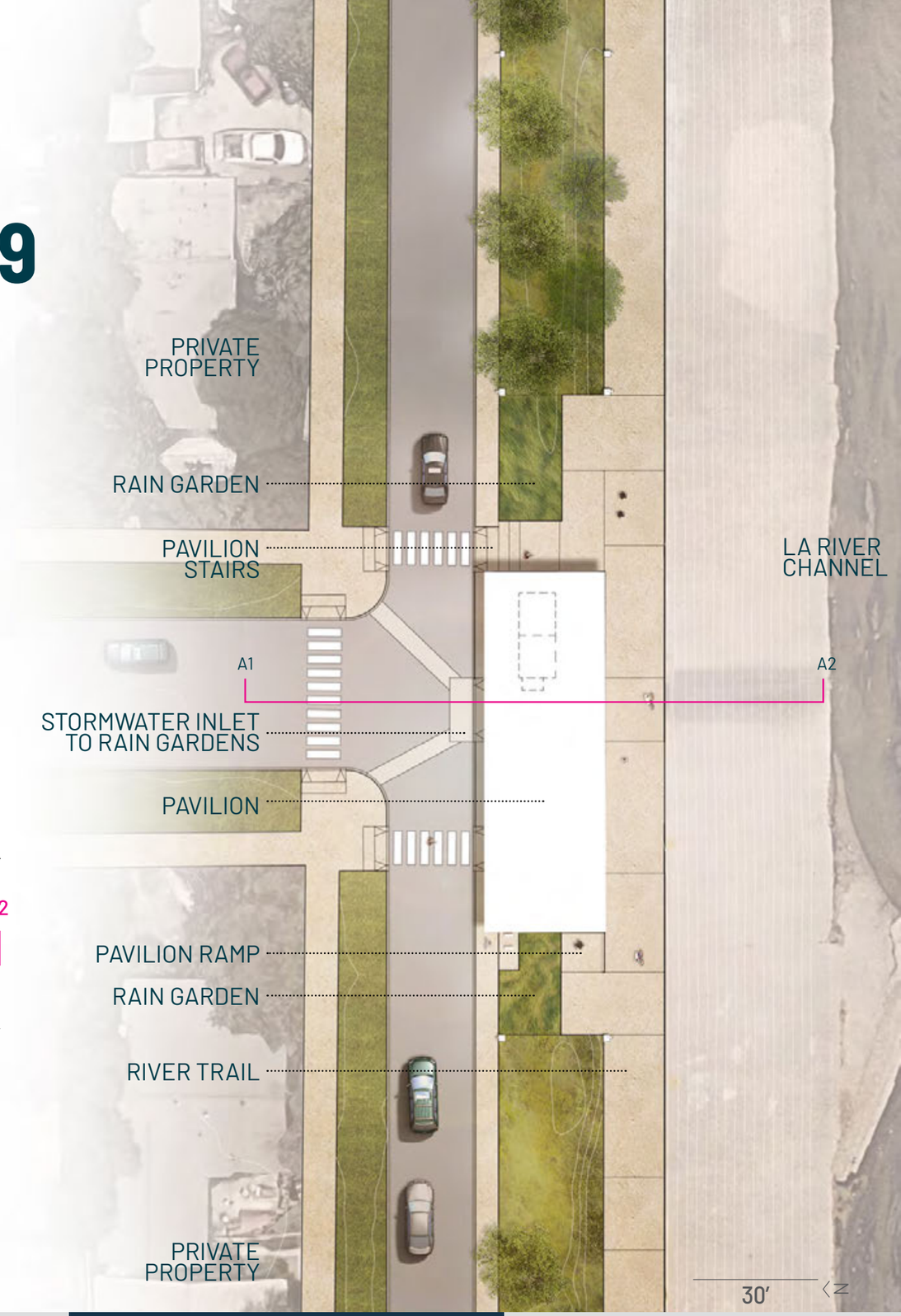
- Same grade as the bike path
- Where possible, centered on adjacent street-ends acting as signage, welcome, and art wall for the adjacent neighborhood
- Small grade separation provides a buffer between the bike path and the pavilion



Source: OLIN

REST PAVILION (TIER II): RM 50.9





Source: OLIN

REST PAVILION (TIER II): RM 50.9



Source: OLIN

REST PAVILION (TIER II): RM 50.9



Source: OLIN

GATHERING PAVILION (TIER III): RM 28.4

PROJECT DESCRIPTION:

A somewhat unique condition where the existing river trail bridges over a crossing road bridge with oversized piers. This site has the potential to add amenities along the river trail while improving connections to the adjacent community.

RIVER PAVILION A:

- Multiple pavilions around a central courtyard.
- Buildings shield bike path and courtyard space from adjacent highway on-ramp.

RIVER PAVILION B:

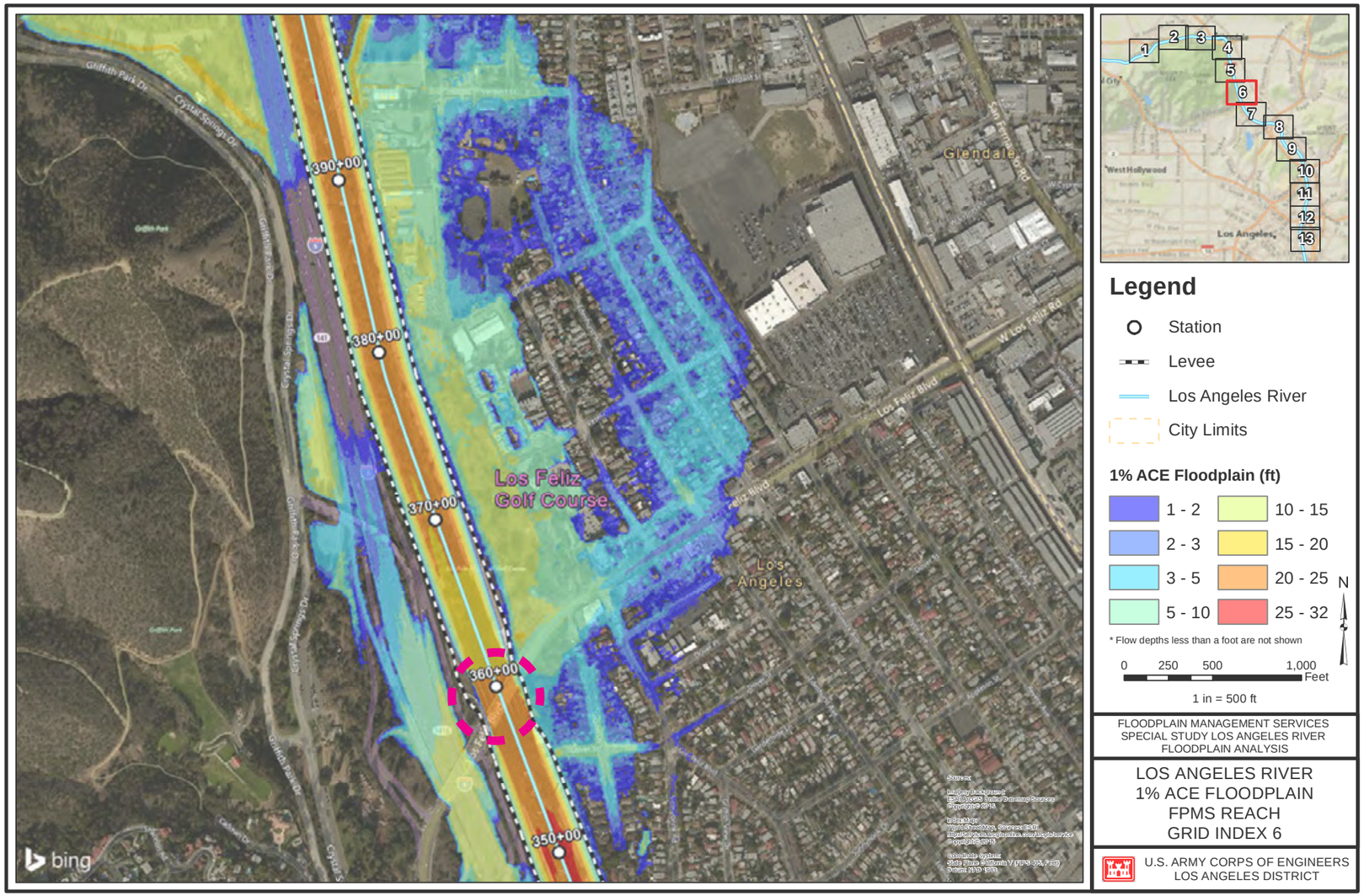
- Additional pavilion spans the bridge piers and the left river bank
- Creates a pedestrian river crossing adjacent to the busy Los Feliz Bridge



Source: OLIN

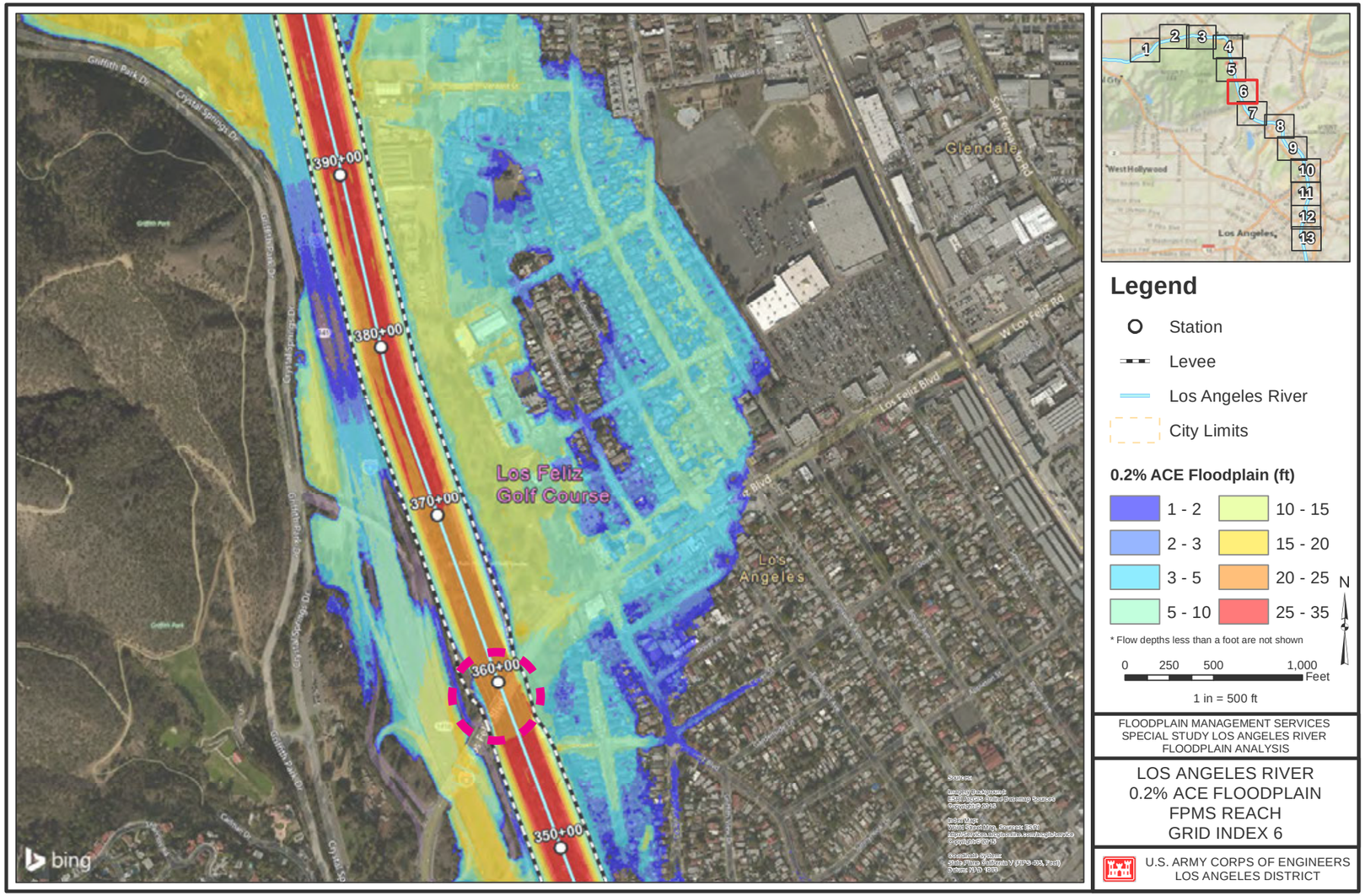
300'

USACE ARBOR STUDY 1% FLOOD MAP



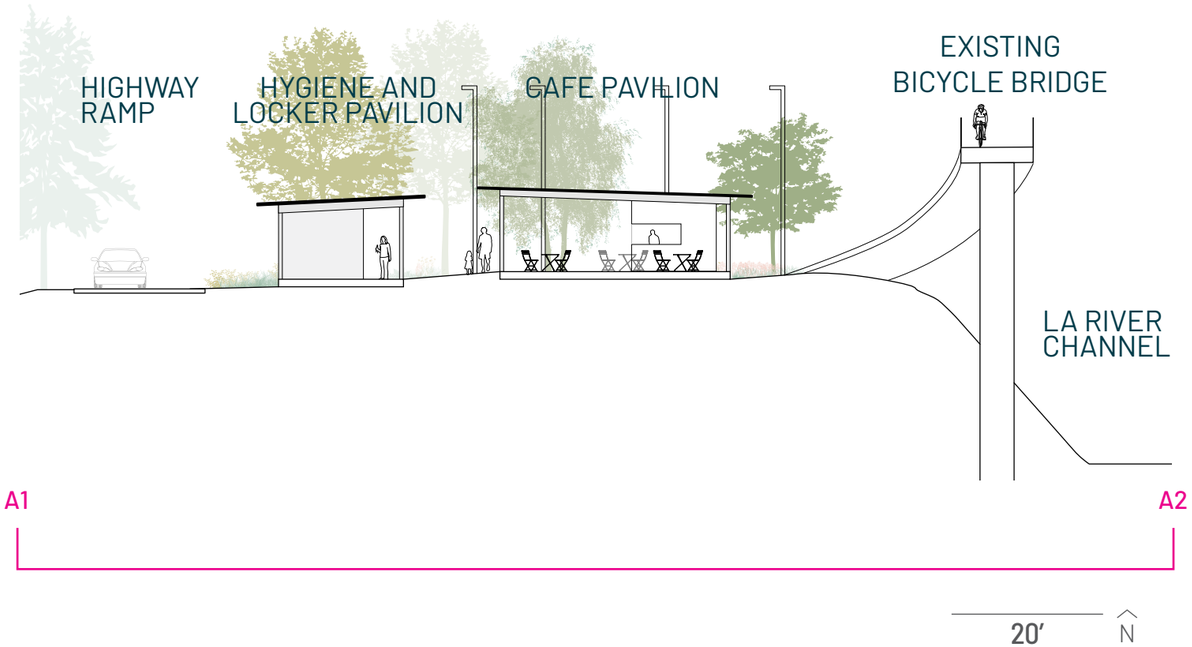
Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 18," October 2016

USACE ARBOR STUDY 0.2% FLOOD MAP



Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 18," October 2016

GATHERING PAVILION (TIER III-A): RM 28.4





Source: OLIN

GATHERING PAVILION (TIER III-A): RM 28.4



Source: OLIN

GATHERING PAVILION (TIER III-A): RM 28.4



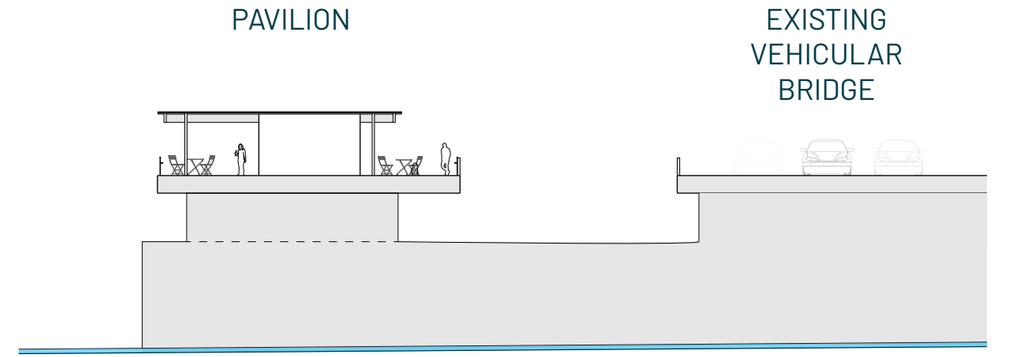
Source: OLIN

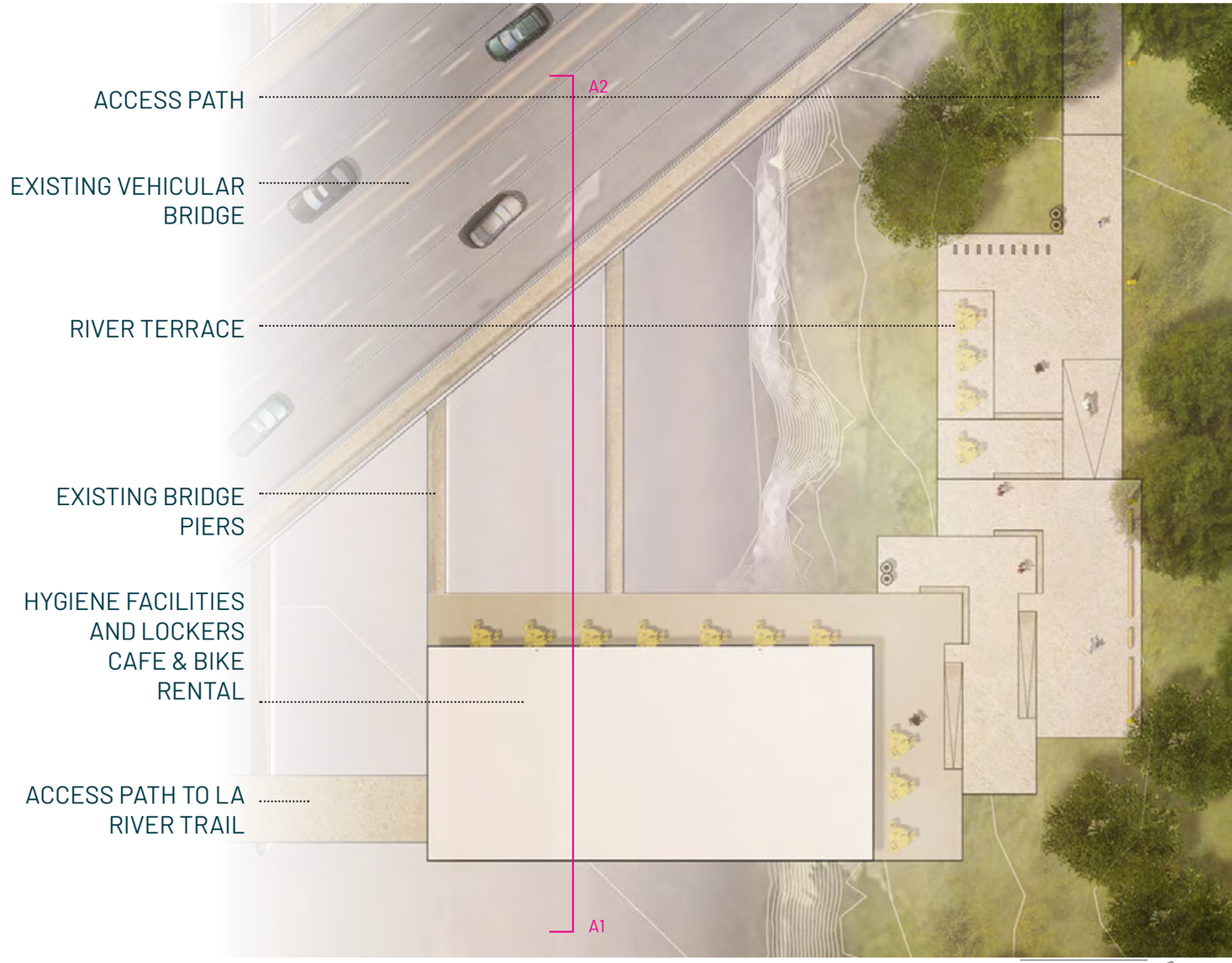
GATHERING PAVILION (TIER III-B): RM 28.4



Source: OLIN

GATHERING PAVILION (TIER III-B): RM 28.4





Source: OLIN

GATHERING PAVILION (TIER III-B): RM 28.4



Source: OLIN

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

L
- RM 8.1 Connectivity Corridor

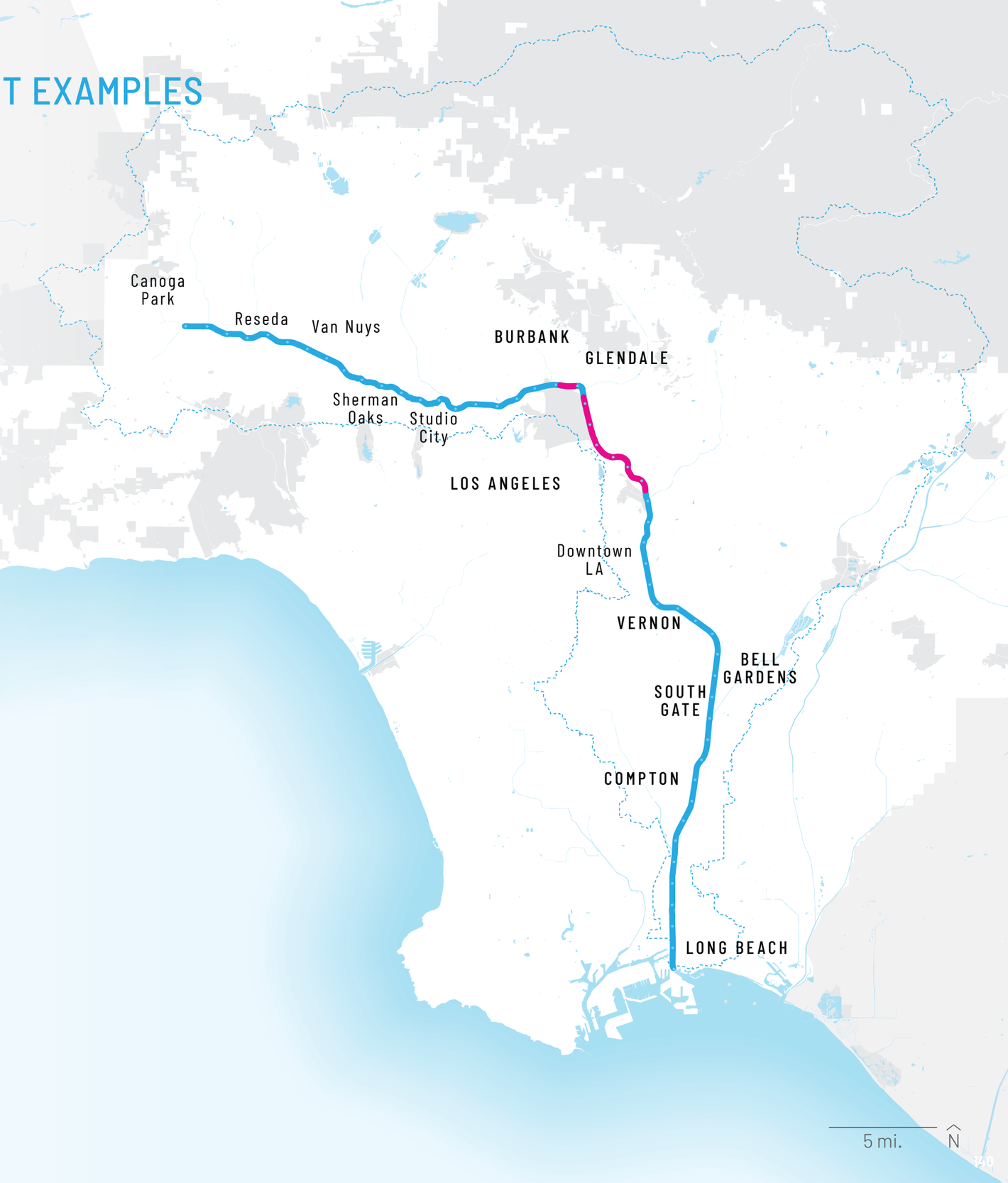
M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS

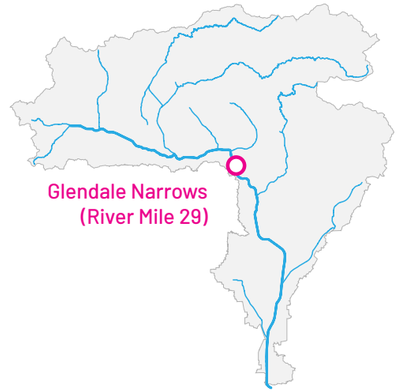
Replacement of woody and invasive vegetation with native grasses



— Area of Rehabilitation

Source: Geosyntec, OLIN

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS

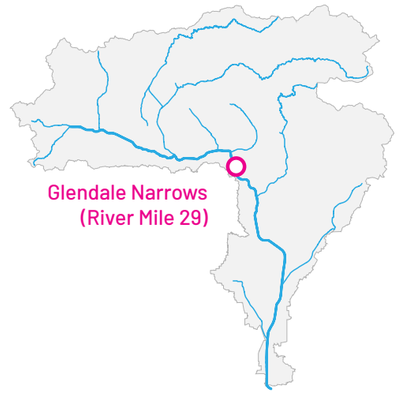


Existing Section: **34,700 cfs capacity**
n = 0.06 (Manning's Equation roughness)

Alternative Section: **78,000 cfs capacity**
n = 0.03 (Manning's Equation roughness)

Source: Geosyntec, OLIN

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS



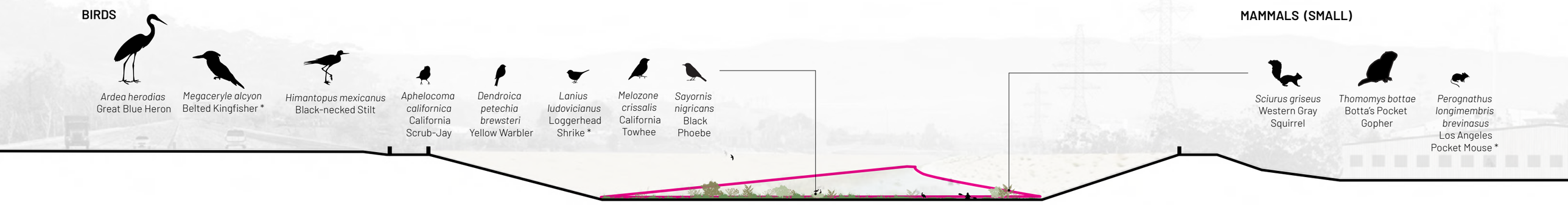
Existing Section: **34,700 cfs capacity**

n = 0.06 (Manning's Equation roughness)



Alternative Section: **78,000 cfs capacity**

n = 0.03 (Manning's Equation roughness)

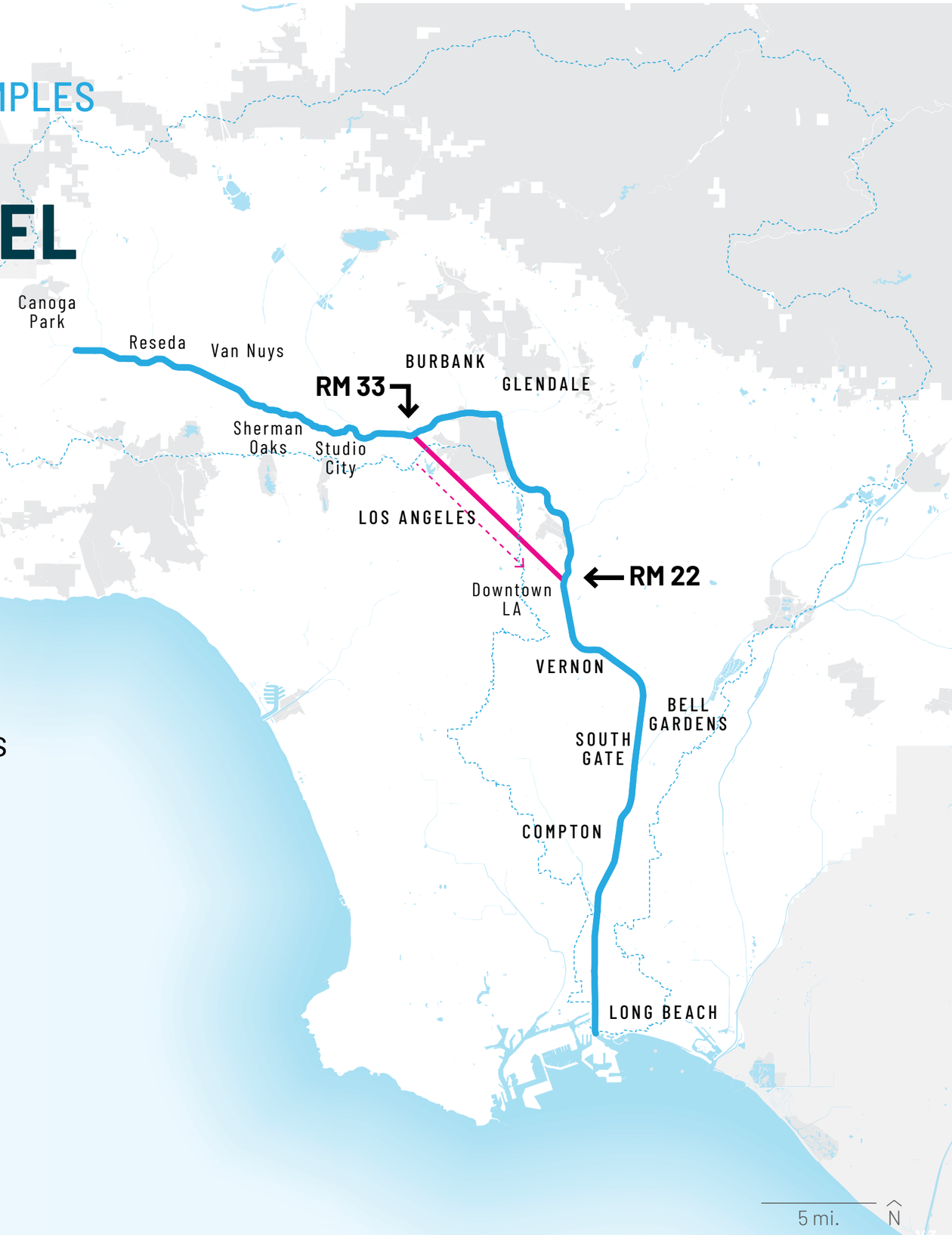


Source: Geosyntec, OLIN

XL PROJECT: BYPASS TUNNEL

A 40-foot diameter concrete bypass tunnel diverts water at RM 33 and returns it to the channel at RM 22.

- 9 miles long
- 0.6% slope
- Assume maximum capacity is half full
- 20,000 cfs capacity
- Adds conveyance capacity during major flood events
- Stores water during smaller rain events
- Hydraulic challenges
- $2.7 billion (scaled from Delta Tunnels estimate)



— Bypass Tunnel

Source: Geosyntec, OLIN

M, L, XL PROJECT EXAMPLES

RM 30.9: FERRARO FIELDS
RM 8.1: CONNECTIVITY CORRIDOR



Proposed Projects (LARMP)

Source: OLIN, Gehry Partners, Geosyntec

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

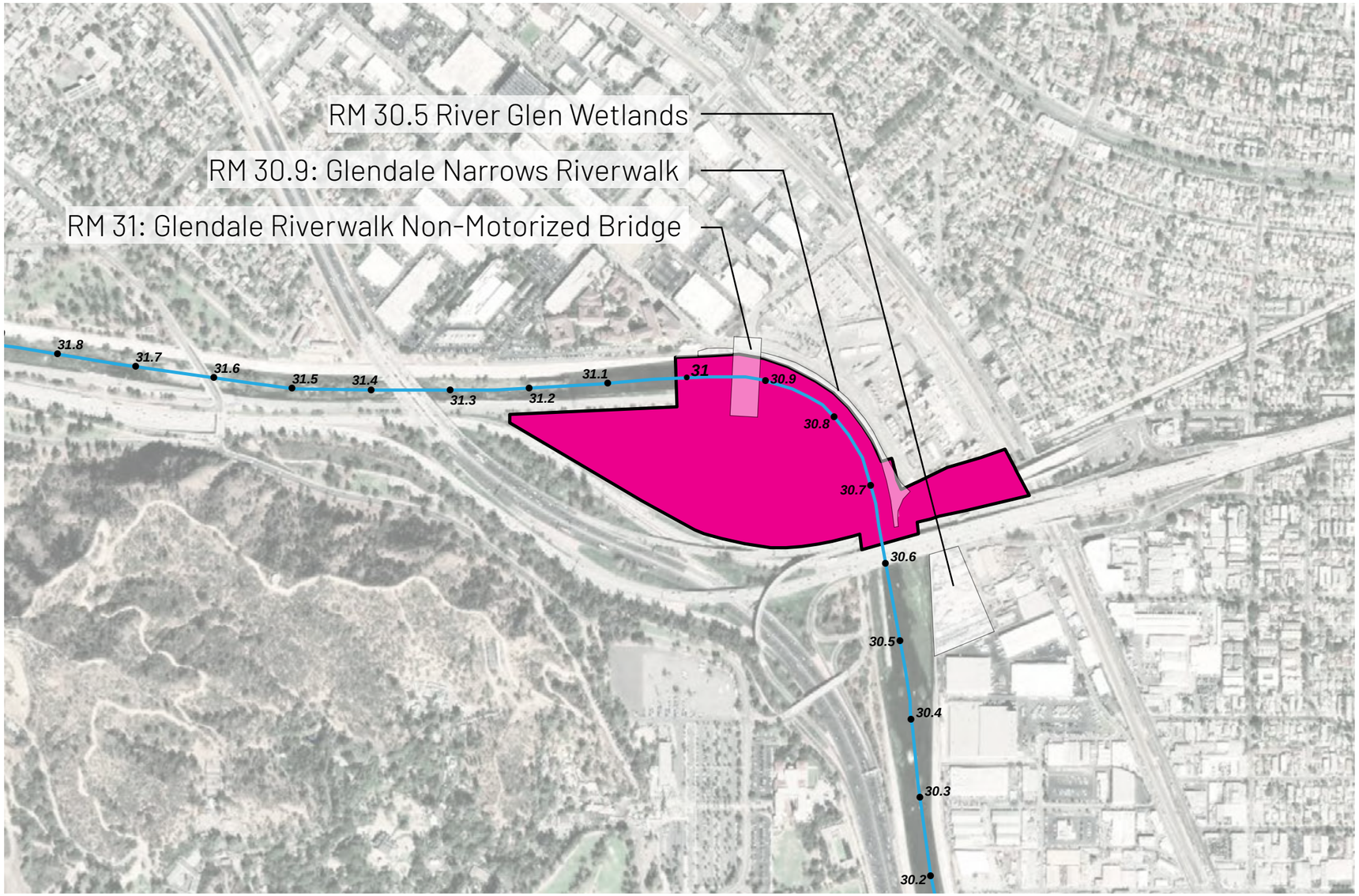
L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

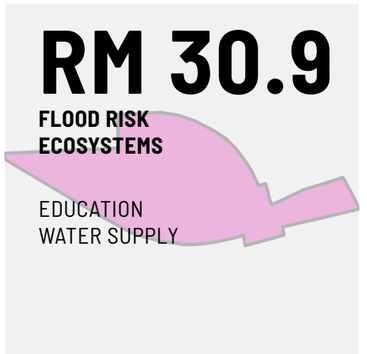
S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN, Gehry Partners, Geosyntec



PROJECT DESCRIPTION:

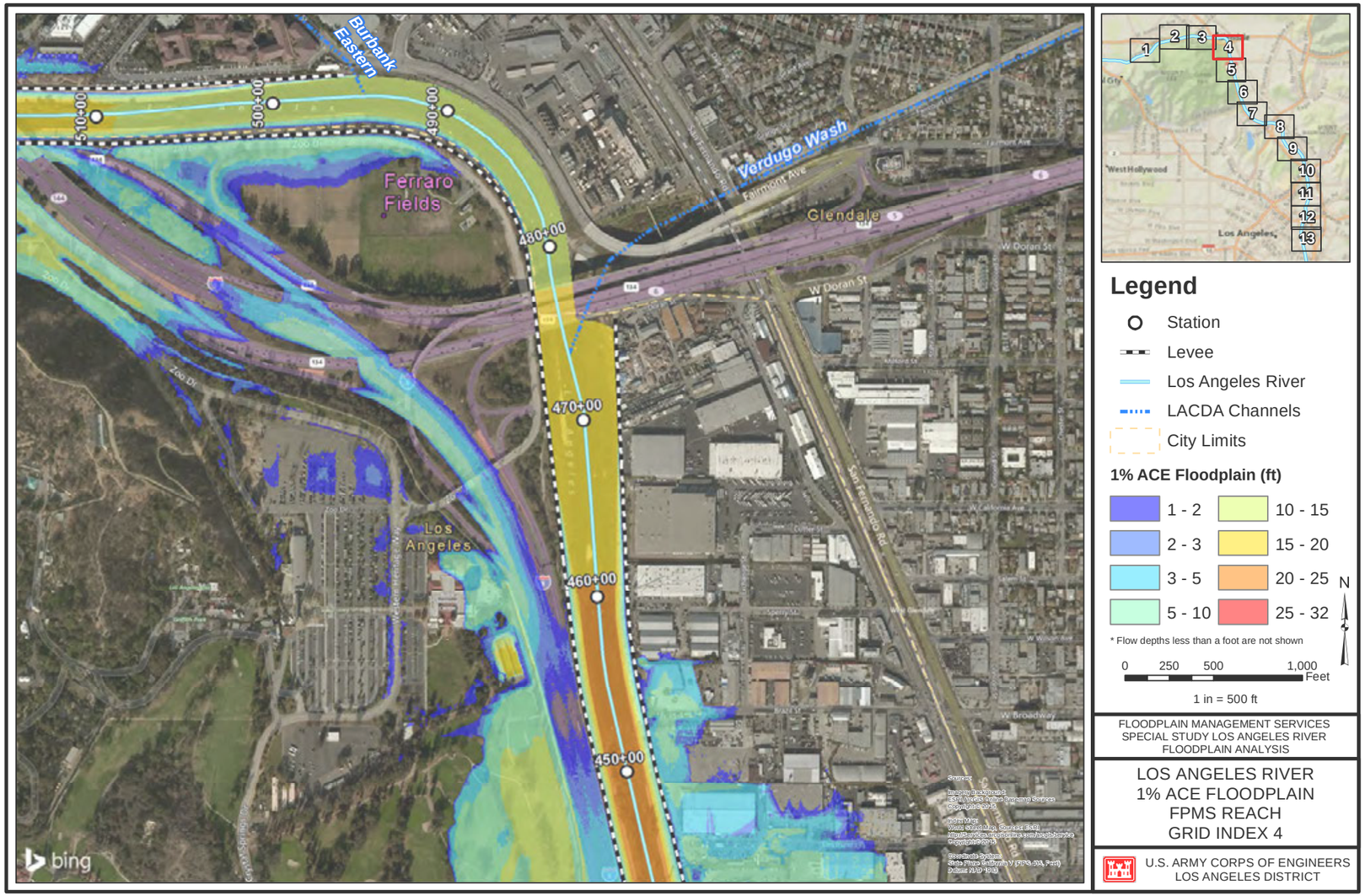
- Maintains existing recreation
- Directs flooding away from neighborhoods and critical infrastructure
- Adds habitat

Proposed Project Site

Planned Major Project

USACE ARBOR STUDY 1% FLOOD MAP

Floodplain Analysis



Legend

- Station
- Levee
- Los Angeles River
- LACDA Channels
- City Limits

1% ACE Floodplain (ft)

1 - 2	10 - 15
2 - 3	15 - 20
3 - 5	20 - 25
5 - 10	25 - 32

* Flow depths less than a foot are not shown

N

0 250 500 1,000 Feet

1 in = 500 ft

FLOODPLAIN MANAGEMENT SERVICES
SPECIAL STUDY LOS ANGELES RIVER
FLOODPLAIN ANALYSIS

LOS ANGELES RIVER
1% ACE FLOODPLAIN
FPMS REACH
GRID INDEX 4

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

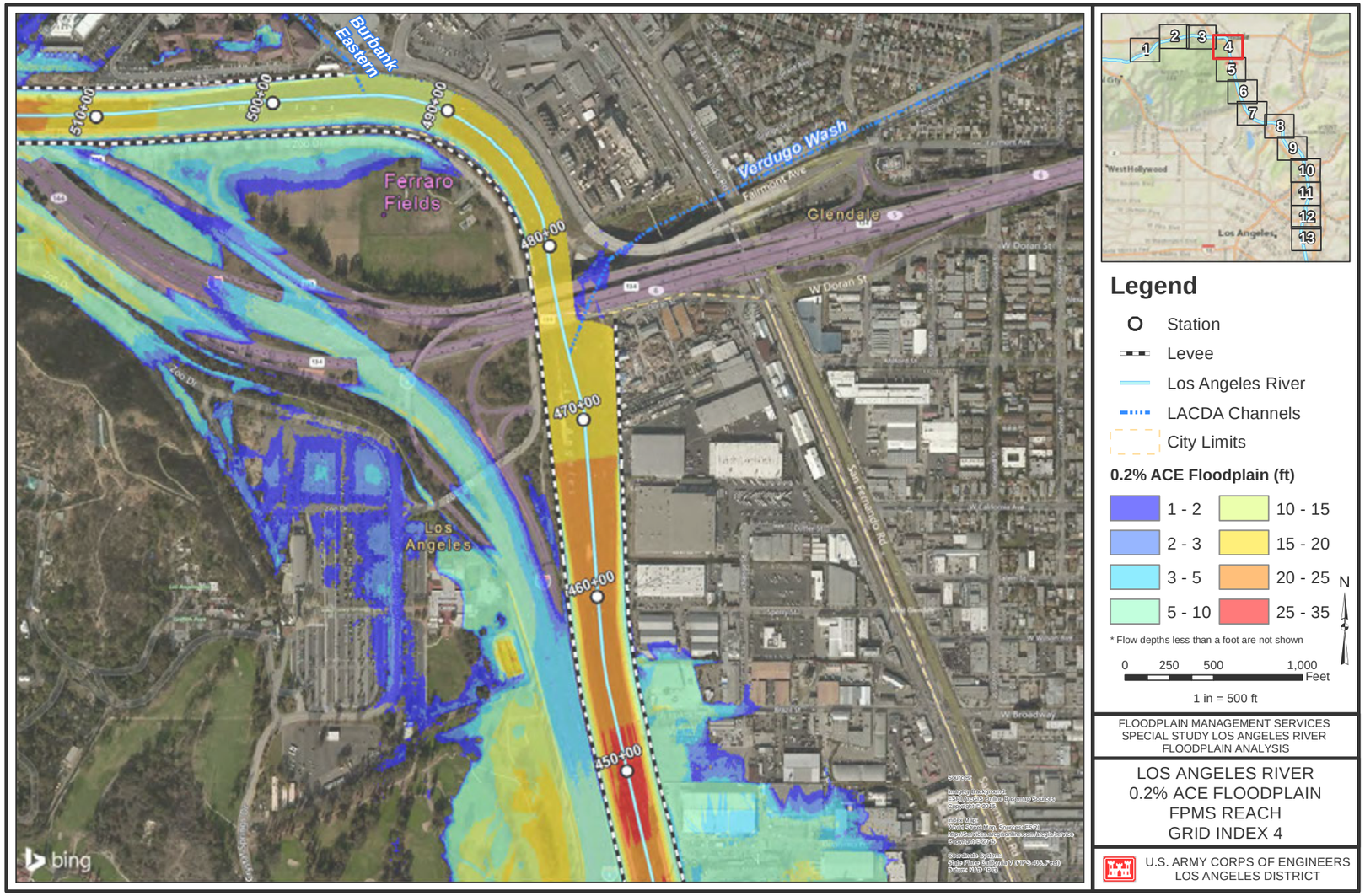
October 2016

Plate 16

Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 16", October 2016

USACE ARBOR STUDY 0.2% FLOOD MAP

Floodplain Analysis



October 2016

Plate 30

Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 16", October 2016

HYDROLOGY AND HYDRAULICS STUDIES TO REACH THE 1% EVENT CAPACITY

1. Refurbishment
2. Bypass Tunnel
3. Remaining Few Local Needs to Be Addressed

Source: Geosyntec, OLIN

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN, Geosyntec

RM 30.9: FERRARO FIELDS SIDE CHANNEL

Site Plan

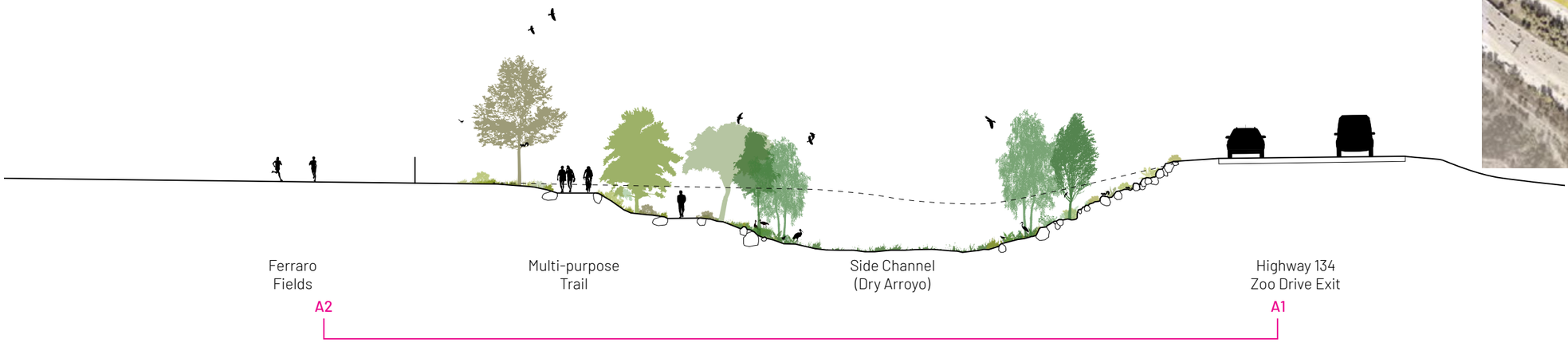


Source: OLIN

RM 30.9: FERRARO FIELDS SIDE CHANNEL

Typical Section at Side Channel





Typical Section at Side Channel with Gabion Embankment



Source: OLIN

20'
N

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN

PROJECT EXAMPLES

SYSTEM-BASED

XL
- LA River Trail
- 1% Flood Risk Reduction Areas
- Regional Groundwater Recharge
- Land Banking for Affordable and Permanent Supportive Housing

SITE-BASED

XL
- Channel Rehabilitation at the Narrows
- Bypass Tunnel

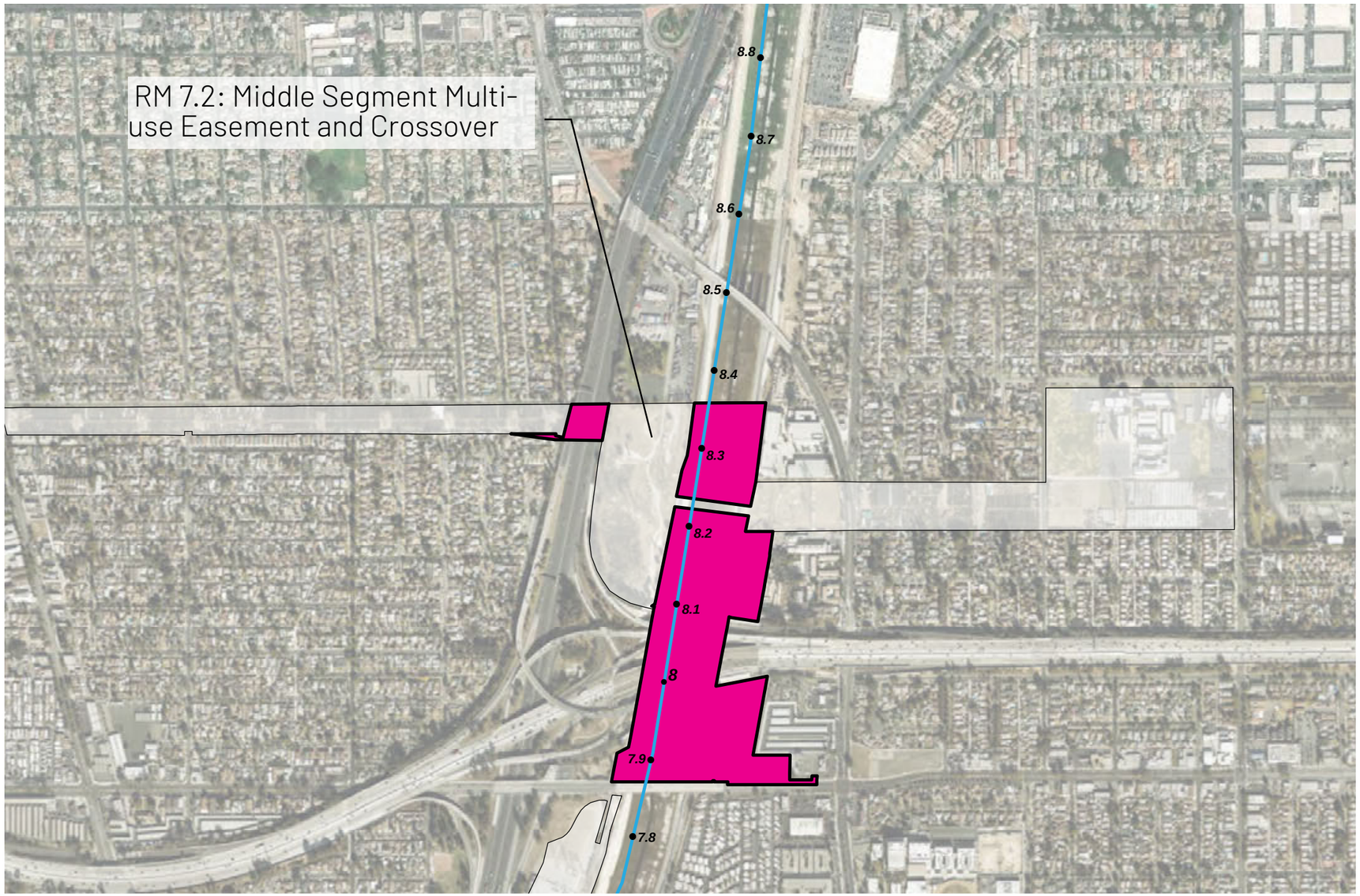
L
- RM 8.1 Connectivity Corridor

M
- Ferraro Fields Side Channel

S
- Gathering Pavilion (Tier III)
- Rest Pavilion (Tier II)

XS
- Shade Pavilion (Tier I)

RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN, Gehry Partners, Geosyntec

RM 8.1

ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY

FLOOD RISK
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

PROJECT DESCRIPTION:

Building on an adjacent planned major project which utilizes a large transmission line right-of-way that crosses the LA River, this site offers the potential to expand this connection across the river between with adjacent communities with a multi-benefit platform.

Proposed Project Site

Planned Major Project

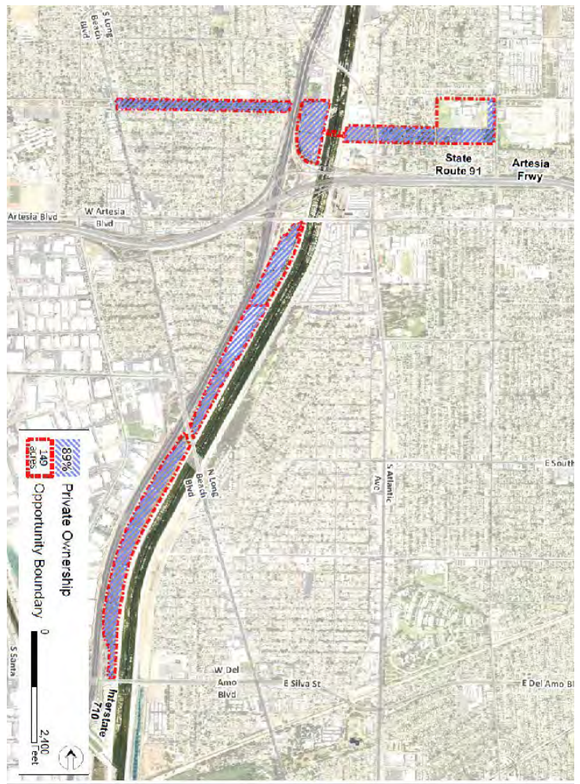
800'

PLANNED MAJOR PROJECT

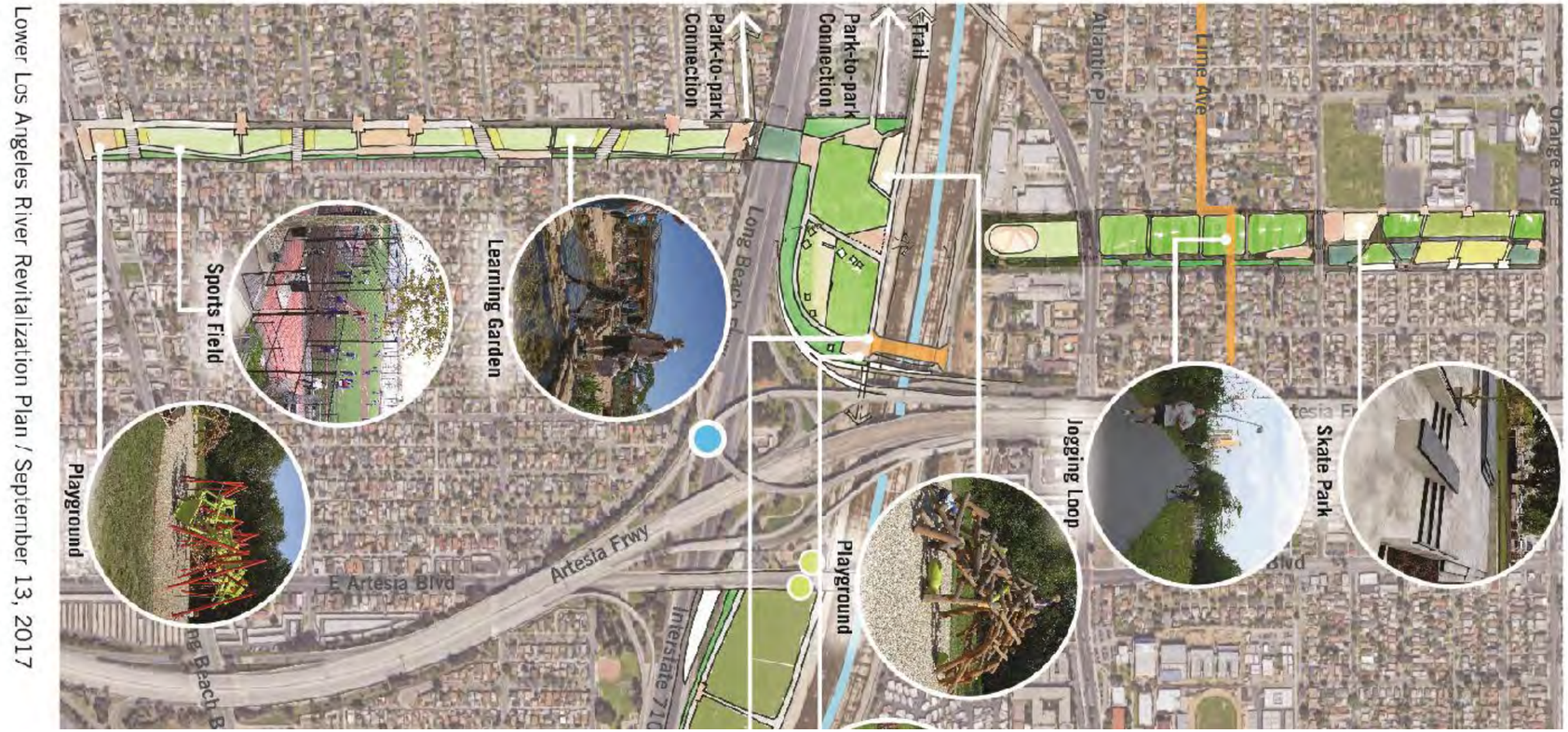
LOWER LA RIVER REVITALIZATION PLAN

MIDDLE SEGMENT CROSSOVER AND MULTI-USE EASEMENT PROJECT SUMMARY

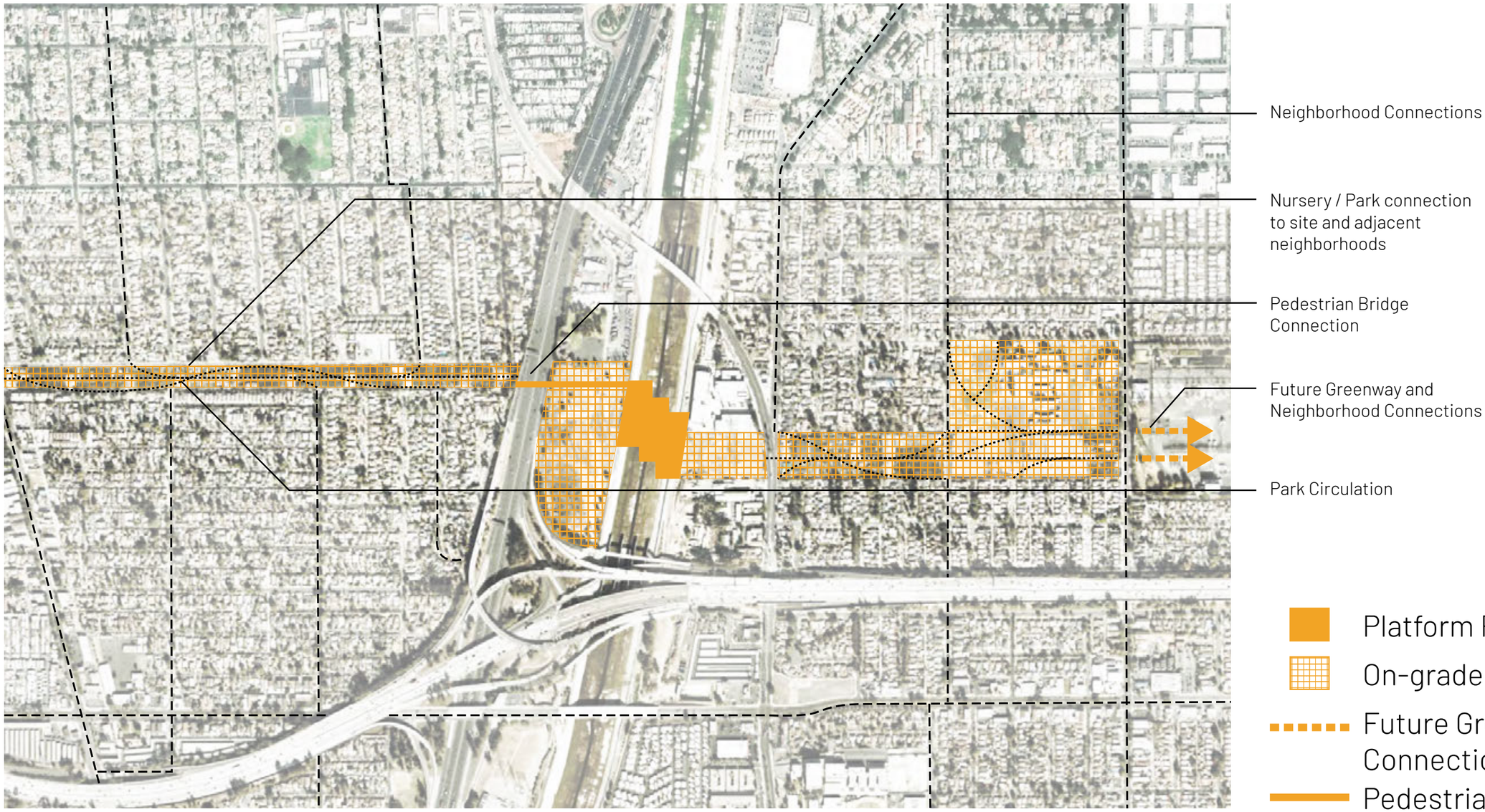
"The northern Crossover section of this project area provides a strong opportunity for a visual and physical east-west connection between the surrounding neighborhoods and the river..." (pg 777)



Source: Lower LA River Revitalization Plan - Volume 2, pages 1 & 3, 2017



RM 8.1: CONNECTIVITY CORRIDOR



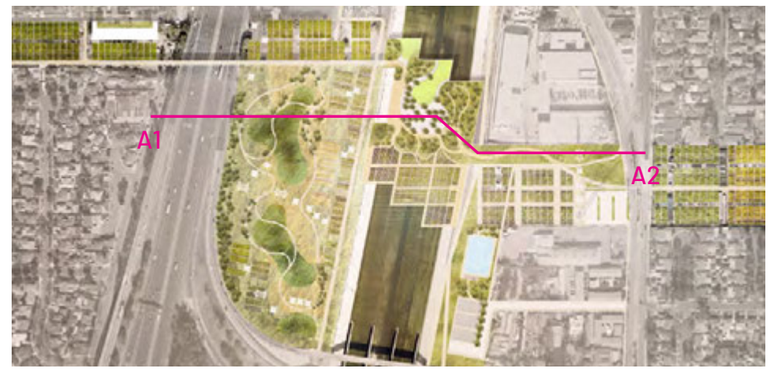
Source: OLIN

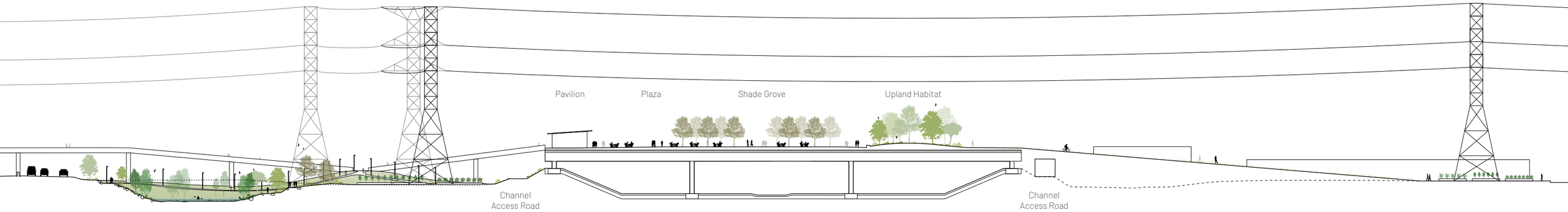
RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN

RM 8.1: CONNECTIVITY CORRIDOR





Wetland

Access Ramps (Beyond)
Nursery (Under Transmission Lines)

Platform at LA River Channel

Access Incline

Nursery Leases (Under
Transmission Lines)

A1 A2

Source: OLIN

40'

RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN

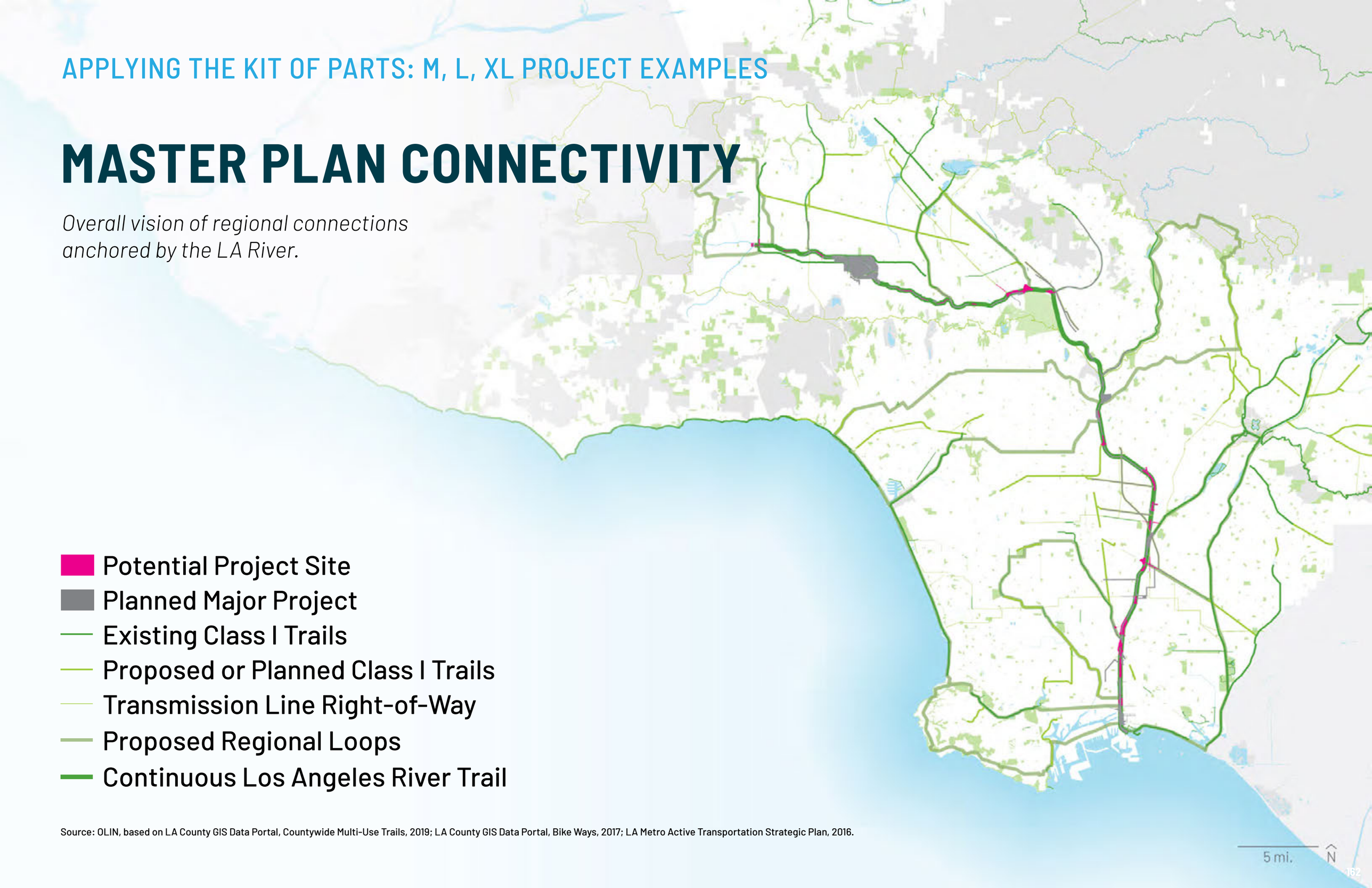
APPLYING THE KIT OF PARTS: M, L, XL PROJECT EXAMPLES



Source: OLIN

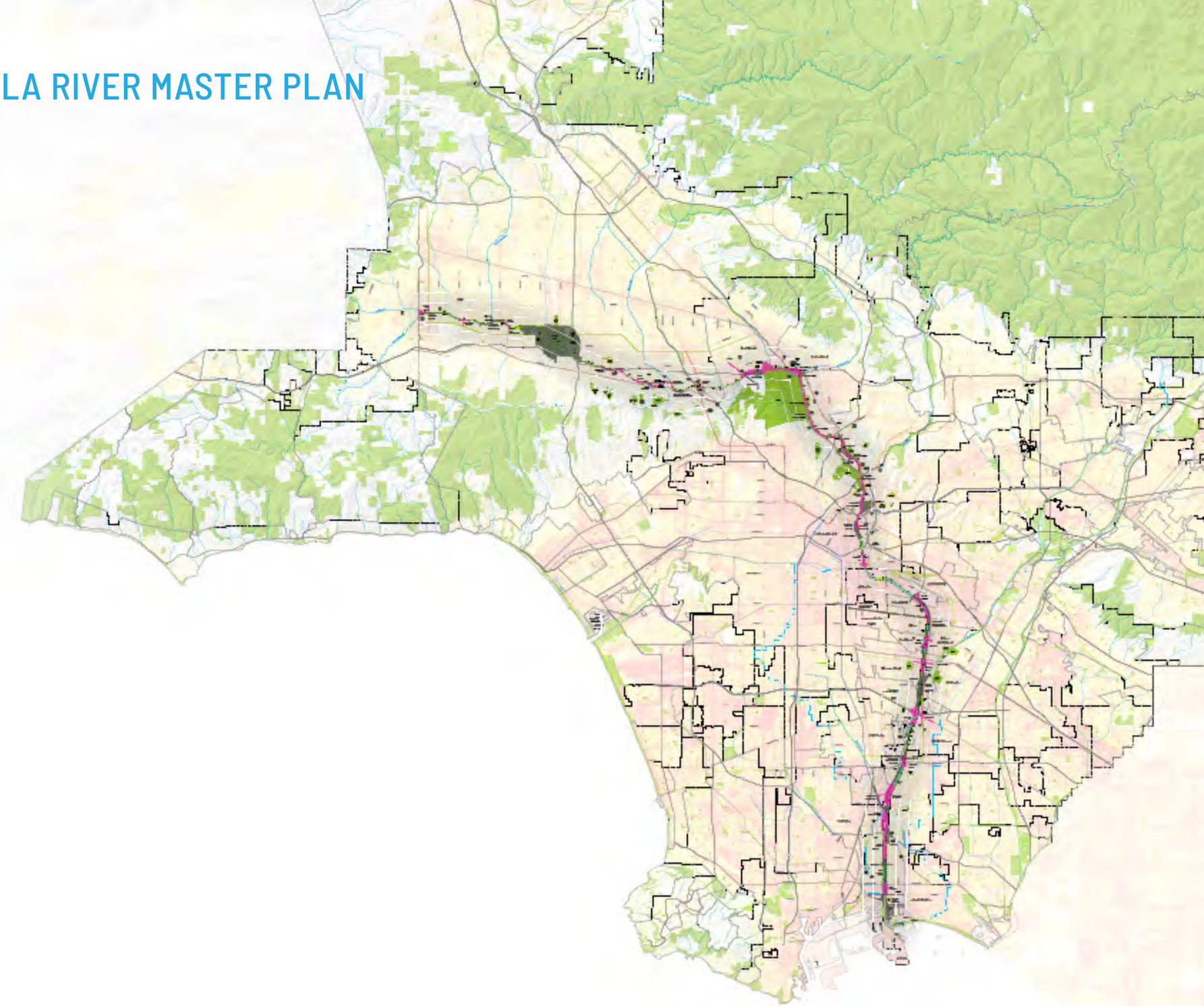
MASTER PLAN CONNECTIVITY

Overall vision of regional connections anchored by the LA River.



Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.

MASTER PLAN



Source: OLIN, Gehry Partners, Geosyntec

Q & A AND DISCUSSION

Source: OLIN

PUBLIC COMMENT

Source: OLIN

PUBLIC COMMENT OPTIONS

- **Verbal comments**
  - Speakers to be called in order of speaker cards submitted (optional)
  - Up to 15 minutes total for the Public Comment item
    - Total time per person will depend on number of speaker cards received
- **Comment cards**
- **Email comments to LARiver@dpw.lacounty.gov**

WRAP UP

Source: OLIN

Important Upcoming Dates:

- Community Meeting (Canoga Park) - October 15, 2019
- Community Meeting (North Long Beach) - October 16, 2019
- Community Meeting (Central Los Angeles) - October 17, 2019
- Steering Committee Meeting #8 - December 12, 2019

INPUT, QUESTIONS, IDEAS?
Contact Genevieve Osmeña at (626) 458-4322
or LARiver@dpw.lacounty.gov



LARiverMasterPlan.org

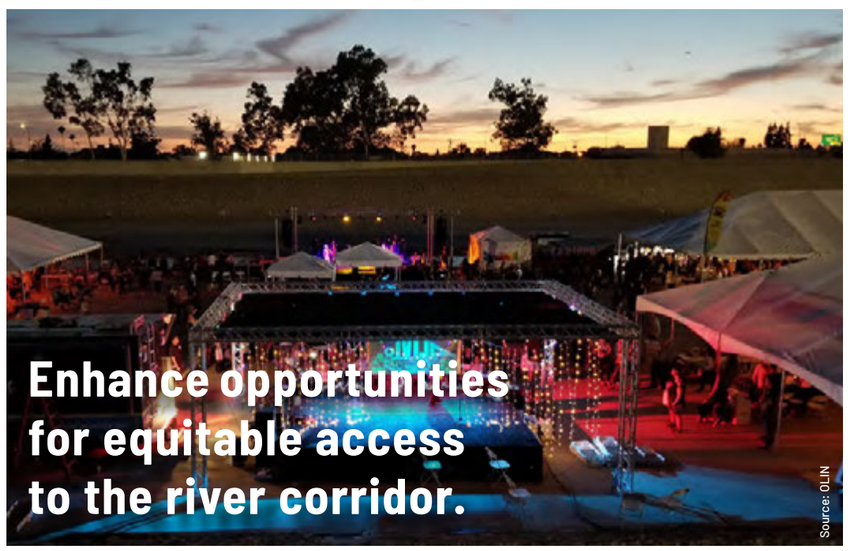
APPENDIX

GOAL INFORMED PROJECT DESIGN







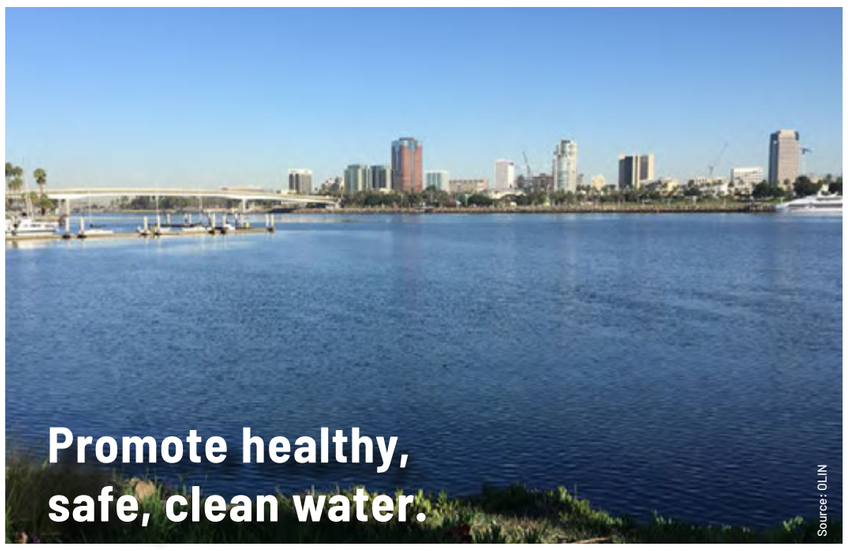




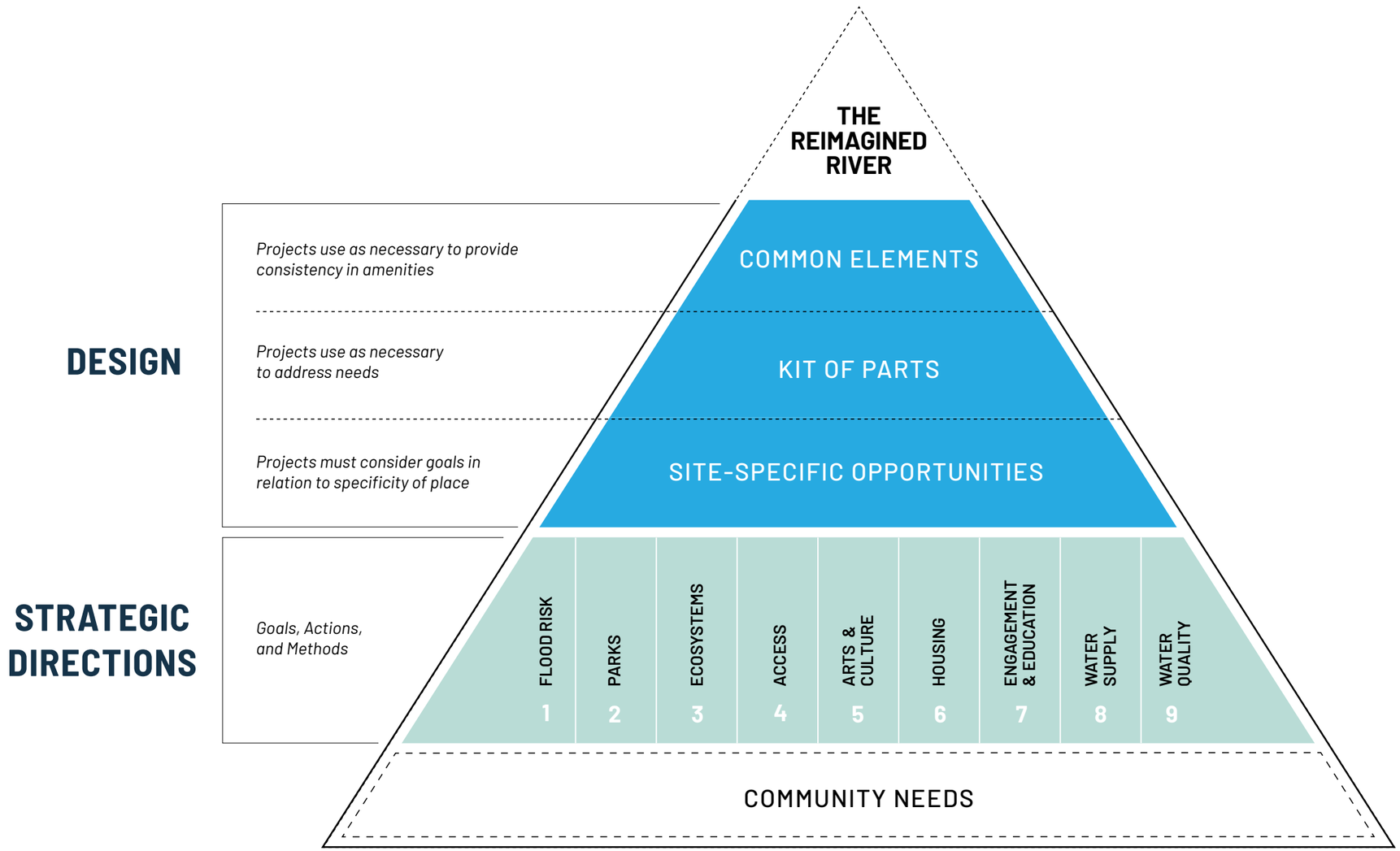








PROJECTS SHOULD BUILD UPON THE GOALS USING THE KIT OF PARTS AND COMMON ELEMENTS



ACTIONS

METHODS

REDUCE FLOOD RISK AND IMPROVE RESILIENCY.

ACTIONS

1.1. Maintain existing flood carrying capacity of all reaches of the LA River channel.

Levels of flood risk management vary along the 51-mile channel. Because development up to the channel's edges has nearly completely encroached upon the floodplain, it is critical to maintain the existing capacity and not reduce the flood carrying capacity of any reach of the river.

1.1.1. Review new projects within and along the LA River to ensure that flood risk is not increased.

1.1.2. Review new projects with in-channel components to ensure the flood carrying capacity of the river is not reduced.

1.2. Increase capacity of the river in high risk areas to provide flood risk reduction to at least the one-percent ("100-year") annual chance flood event.

One way to reduce flood risk in communities near the LA River is to increase the conveyance capacity of the river, so that it can safely pass larger storm flows to the Pacific Ocean.

1.2.1. Purchase or repurpose land along the channel and immediately adjacent areas to increase width and capacity of the river, and encourage acquisition of land within the floodplain to serve as a buffer for flooding.

1.2.2. Prioritize natural features and processes for flood risk reduction.

1.2.3. Deepen the channel or raise levees.

1.2.4. Build bypass channels and tunnels.

1.2.5. Remove invasive plants from the channel.

1.2.6. Manage sediment and invasive plants using best practices before they accumulate in the river channel.

1.2.7. Manage dry-weather flows to discourage the growth of invasive and non-native vegetation within the flood channel.

1.2.8. Retrofit infrastructure and other obstructions, such as bridges, to remove hydraulic constrictions.

1.3. Reduce peak flood flows into the river.

In addition to increasing capacity of the river, flood risk can also be improved by reducing the amount of water that enters the LA River. Upstream storage or detention facilities, such as dams, help to store runoff during large storm events and slowly release the water so as not to exceed the downstream channel capacity.

1.3.1. Evaluate regional scale upstream dams and detention basins.

1.3.2. Increase capacity of existing dams and detention basins.



Figure 100. Increasing capacity of existing basins will reduce peak flood flows into the river. Sources: OLIN, 2019

1.4. Include climate change research in the planning process for new projects along the river.

Current infrastructure in and along the LA River was designed based on historic climate data. However, a changing climate is likely to increase the frequency of extreme precipitation events that result in flows that exceed the channel's current capacity. New projects along the LA River must consider the long-term impacts of climate change and the need to incorporate resilient infrastructure to handle these extreme events.

1.4.1. Conduct inter-institutional study on climate change impacts in the LA Basin and how they impact hydrology and sea level rise.

1.4.2. Apply latest accepted climate change prediction models in flood risk reduction planning.



Figure 101. Remove invasive species fro mthe channel to contiue to increase capacity of the river in high-risk areas. Sources: U.S. Army Corps of Engineers. Los Angeles River Arundo Removal. 2004

HOW CAN THE LARMP HELP?

DO NO HARM

- **MAINTAIN EXISTING CHANNEL CAPACITY** (Actions 1.1, 1.6)
- **NEW PROJECTS SHOULD NOT REDUCE CAPACITY** (Actions 1.1, 1.6, 1.7)

IMPROVE CAPACITY

- **WHERE POSSIBLE, REDUCE FLOOD RISK BY INCREASING THE CHANNEL'S CONVEYANCE CAPACITY** (Actions 1.1, 1.6)

REDUCE PEAK FLOOD FLOWS

- **REDUCE WATER ENTERING THE LA RIVER CHANNEL THROUGH UP-STREAM STORAGE AND DETENTION** (Actions 1.2)

INCLUDE CLIMATE CHANGE RESEARCH

- **NEW PROJECTS SHOULD CONSIDER THE IMPACTS OF CLIMATE CHANGE TO CREATE A MORE RESILIENT INFRASTRUCTURE** (Actions 1.3)

ACTIONS

METHODS

SUPPORT HEALTHY CONNECTED ECOSYSTEMS.

ACTIONS

3.1. Increase ecosystem function along the river corridor.

Intact ecosystems perform multiple critical services beyond providing habitat for wildlife and adding to public enjoyment. They make air more breathable, water more drinkable, and climate more stable. They help mitigate the negative effects of urban development by filtering and absorbing stormwater, dampening noise pollution, and reducing greenhouse gases. Reports such as the Trust for Public Land's Conservation: An Investment that Pays (2009) have shown that all of these ecological services have economic value, which would be costly for LA County to replace.

3.1.1. Prioritize projects that include improvements to ecosystem function.

3.1.2. Collaborate to collect data on ecosystem function within the LA River watershed and along the LA River corridor.

3.1.3. Collaborate with scientific research teams to increase the knowledge available about wildlife along the LA River and create species profiles for different conditions along the river.

3.1.4. Continue to track the Regional Water Quality Control Board Environmental Flows study to determine habitat opportunities.

BASIN CONDITIONS

SOFT-BOTTOM BASIN



LANDSIDE ROW - RIPARIAN



CHANNEL CONDITIONS

CONCRETE CHANNEL



CONCRETE TERRACES



SOFT BOTTOM CHANNEL





PLATFORM CONDITIONS

PLATFORM - RIPARIAN



PLATFORM - UPLAND

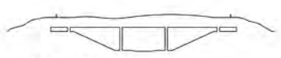
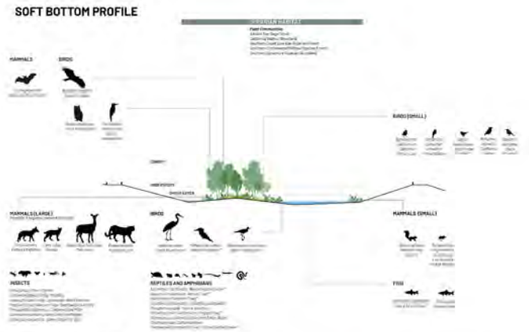
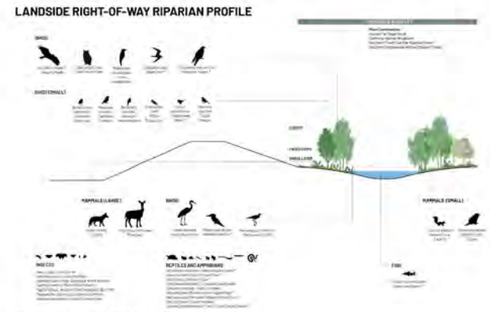


Figure 118. XXXX. Sources: XXXXXXXXXX





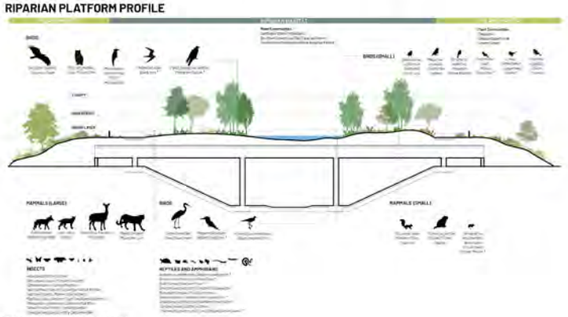


Figure 119. XXXX. Sources: XXXXXXXXXX

HOW CAN THE LARMP HELP?

DO NO HARM

- **MAINTAIN EXISTING CHANNEL CAPACITY** (Actions 1.1, 1.6)
- **NEW PROJECTS SHOULD NOT REDUCE CAPACITY** (Actions 1.1, 1.6, 1.7)

IMPROVE CAPACITY

- **WHERE POSSIBLE, REDUCE FLOOD RISK BY INCREASING THE CHANNEL'S CONVEYANCE CAPACITY** (Actions 1.1, 1.6)

REDUCE PEAK FLOOD FLOWS

- **REDUCE WATER ENTERING THE LA RIVER CHANNEL THROUGH UP-STREAM STORAGE AND DETENTION** (Actions 1.2)

INCLUDE CLIMATE CHANGE RESEARCH

- **NEW PROJECTS SHOULD CONSIDER THE IMPACTS OF CLIMATE CHANGE TO CREATE A MORE RESILIENT INFRASTRUCTURE** (Actions 1.3)

HOW CAN THE LARMP HELP?

RECOMMEND NEW STUDIES

- **DEVELOP METHODOLOGY FOR EVALUATING ECOSYSTEM FUNCTION ALONG THE LA RIVER** (Actions 3.1, 3.6)
- **FILL GAPS IN SCIENTIFIC RESEARCH ON WILDLIFE ALONG THE LA RIVER** (Actions 3.2, 3.6)

ESTABLISH BIODIVERSITY PROFILES

- **ADOPT NATIVE PLANT COMMUNITY SPECIES LISTS** (Actions 3.2)
- **CREATE PROFILES OF HABITAT AND SPECIES THAT ARE SUPPORTED IN THE VARIOUS SECTIONS OF THE LA RIVER** (Actions 3.1, 3.2)

UNDERSTANDING ECOSYSTEM FUNCTION

Functioning Ecosystem:

A dynamic complex of plant, animal, and microorganism communities and their non-living environment that exhibits biological and chemical activities characteristic for its type, regardless of whether the system visually looks like a natural system.

Ecosystem Function:

The biological, geochemical and physical processes that take place or occur within an ecosystem. These processes often benefit human needs directly or indirectly. For example: providing shade, carbon sequestration, or filtering pollutants.

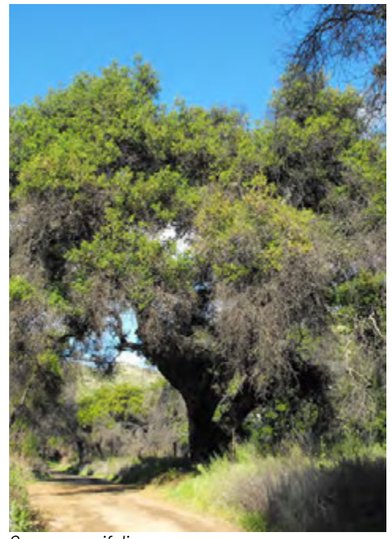
Source: Convention on Biological Diversity https://www.cbd.int/convention/articles/default.shtml?a=cbd-02; Issues in Ecology, Ecological Society of America https://www.esa.org/wp-content/uploads/2013/03/issue4.pdf

LARMP DESIGN GUIDELINES NATIVE PLANT LISTS

- ALLUVIAL FAN SAGE SCRUB
- CHAPARRAL
- COASTAL SAGE SCRUB
- COAST LIVE OAK WOODLAND
- CA WALNUT WOODLAND
- VALLEY OAK WOODLAND
- SYCAMORE RIPARIAN WOODLAND
- COAST LIVE OAK FOREST
- COTTONWOOD-WILLOW RIPARIAN FOREST
- DESERT SCRUB
- CLIMATE ADAPTED SHADE TREES



Platanus racemosa



Quercus agrifolia



Clematis ligusticifolia



Frangula californica ssp. californica



Mimulus aurantiacus



Salvia mellifera

LARMP DESIGN GUIDELINES NATIVE PLANT LISTS

PLANTING LIST KEY

APPLICATIONS

+
Enhances biodiversity, and provides habitat - especially for key indicator species for each community

^
Mature tree canopy, provides significant shade for pedestrians

*****
Tolerates heat

~
Tolerates flooding

!
Useful for soil/bank stabilization

o
Additional moderate to high levels of irrigation required if existing groundwater or riparian conditions are not available

SUN EXPOSURE

FS
Full sunlight

FS/PS
Full Sunlight to Partial Sunlight

PS
Part Shade

PS/FS
Part Shade to Full Shade

OCCURANCE IN NATURAL COMMUNITIES

Dominant
Visually dominant in the mature landscape; usually refers to trees or large shrubs.

Subdominant
Visually subdominant.

Frequent
Refers to the numerical proportion of the species in the landscape. Especially in the case of grasses and herbaceous species, this category may indicate much higher numbers of individual plants than the dominant category, but these species do not dominate the casual vista.

Occasional
Refers to plants that occur occasionally in the designated plant community.

BLOOM SEASON

W
Winter

SP
Spring

SU
Summer

F
Fall

SOUTHERN COTTONWOOD-WILLOW RIPARIAN FOREST

SPECIES		SITING + PERFORMANCE						DESCRIPTIVE FEATURES													
BOTANICAL NAME	COMMON NAME	FRAMES FOR BEST PERFORMANCE	CONSTRUCTED CONTEXTS	APPLICATIONS	SUN EXPOSURE	SETBACK FROM PAVEMENT (FEET)		PLANT FORM	WATER USE (WUCOLS IV)	MATURE HEIGHT (FEET)	MATURE WIDTH (FEET)	SHORTLIST PLANT	USACE NATIVE PLANT LIST	SEED LA TARGET LIST	OCCURANCE IN COMMUNITY	OFTEN AVAILABLE IN CA	POLLINATOR HABITAT	BLOOM COLOR	BLOOM SEASON			
																			W	SP	SU	F
SHRUBS																						
Baccharis salicifolia	Mulefat	1-5; 6-9 with irrigation	F, G	+ ^	All	3		S	H	4-8	6-10	X	X		Occasional	X	Bees, Butterflies	White/Pink/White	X	X	X	X
Pluchea sericea	Arrow weed	1-9	F, G	o	FS	3		S	M	6-8	6+	X			Occasional	X		Pink		X	X	
Rhus aromatica	Fragrant sumac	1-9	A, B, C	+	FS / PS	4		S-D	L	3-5	4-8		X		Frequent - Occasional		Birds	Yellow/Cream		X		

PLANT PALETTE SELECTION IS HEAVILY DEPENDENT ON THE EXISTING CONDITIONS OF CHANNELIZATION (ENTRENCHED OR LEVEED), NATIVE OR IMPORTED SOIL CONDITIONS, ACCESS TO WATER, SUN EXPOSURE AMOUNT OF SHADE, RIGHTS-OF-WAY WIDTH VARIATIONS AND ADJACENT LAND USES.

CONSTRUCTED CONTEXTS

A
Steep slopes, fast draining, thin soil profile

B
Steep slopes, fast draining, thin soil profile (North-facing)

C
Level slope or terrace, fast draining with drier soils

D
Planting bed and soils surrounded by paving. Drier soils, hotter than usual ambient temperatures

E
Level slope or terrace, fast draining with intermittently flooded soils

F
Low-lying alluvial or gravelly soils that are seasonally flooded

G
Low-lying alluvial soils or gravelly soils with regular access to water

PLANT FORM

T
Tree

D
Deciduous

S
Shrub

SC
Succulent

G
Grass

GC
Groundcover

P
Perennial

V
Vine

WATER USE

WUCOLS: Estimates water needs based on the latest prevailing legislation. These water use categories used to develop hydrozone plans and submitting permitting applications. See https://ucanr.edu/sites/WUCOLS/ for more information.

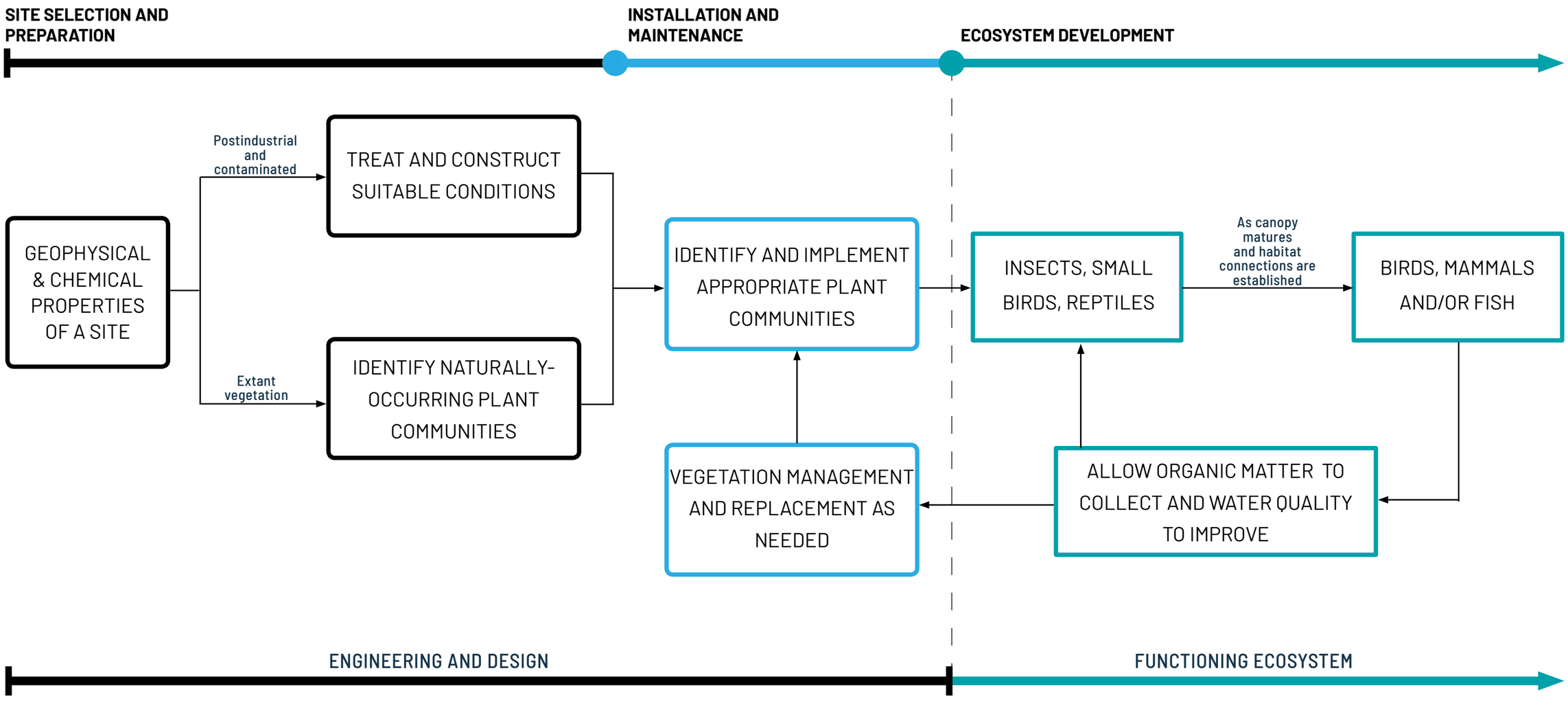
VL
Very low

L
Low

M
Medium

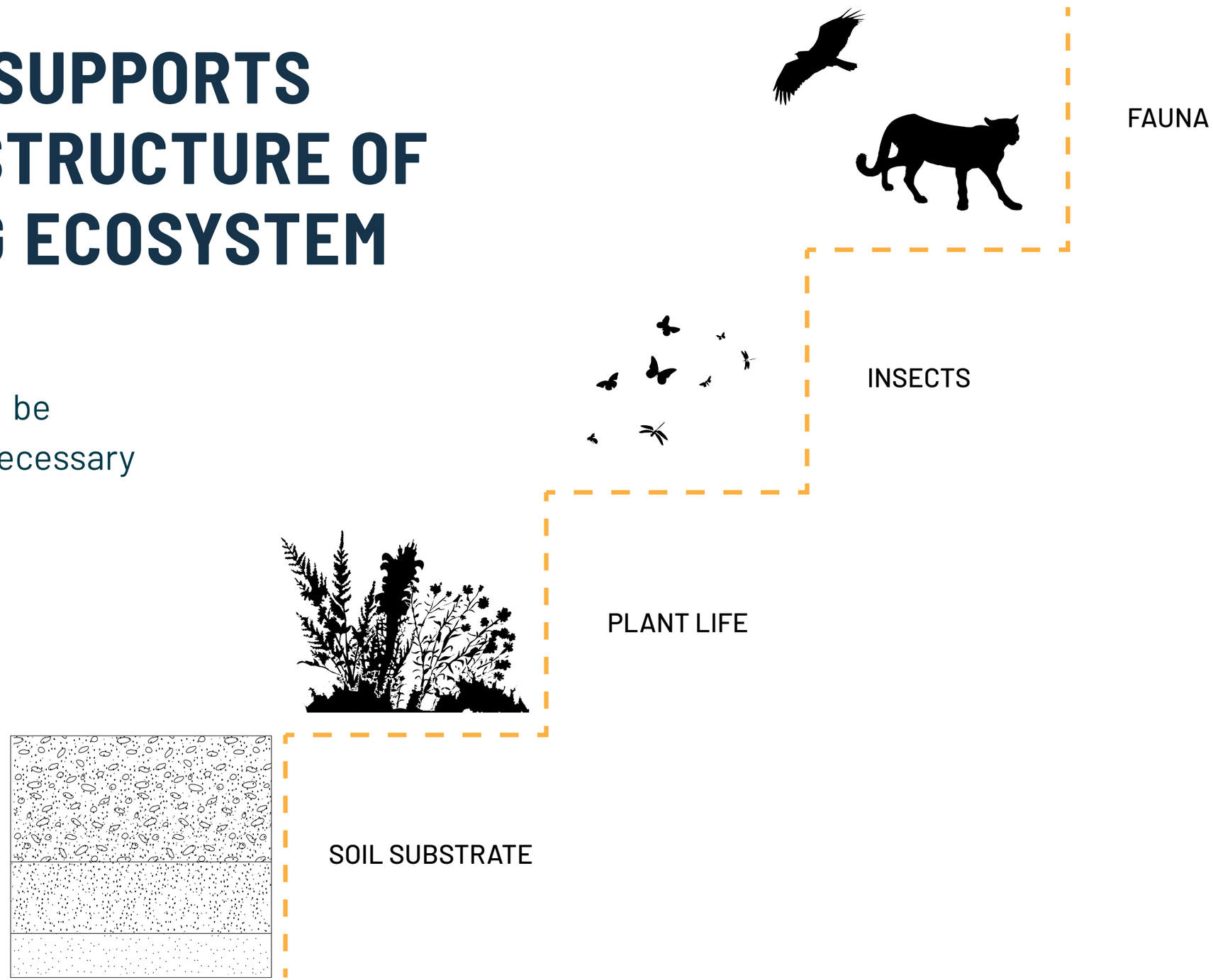
H
High

CREATING BIODIVERSITY PROFILES



HEALTHY SOIL SUPPORTS THE LIFE AND STRUCTURE OF A FUNCTIONING ECOSYSTEM

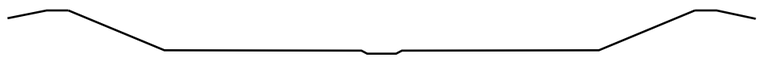
- Contaminated soils should be evaluated and treated as necessary



BIODIVERSITY PROFILES - INDEX

CHANNEL CONDITIONS

CONCRETE CHANNEL



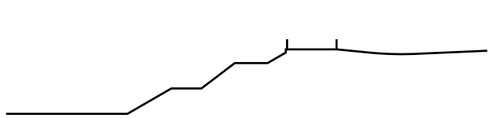
SOFT BOTTOM CHANNEL



CONCRETE TERRACES



RIPARIAN RAMP



LANDSIDE ROW - UPLAND

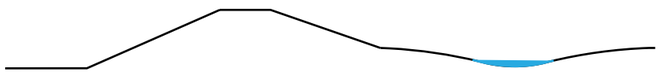


BASIN CONDITIONS

SOFT-BOTTOM BASIN

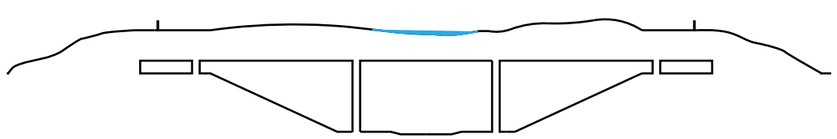


LANDSIDE ROW - RIPARIAN

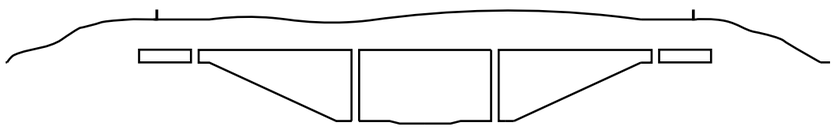


PLATFORM CONDITIONS

PLATFORM - RIPARIAN



PLATFORM - UPLAND



HEALTHY CONNECTED ECOSYSTEMS
CONCRETE CHANNEL BIODIVERSITY PROFILE

ALGAE MATS



BIRDS



Ardea herodias
Great Blue Heron



Himantopus mexicanus
Black-necked Stilt



Chlidonias niger
Black tern *



Sternula antillarum browni
California least tern *



Falco peregrinus anatum
Peregrine Falcon *

INSECTS

Anax junius; Green Darner

* Endangered or threatened species at state or federal level

0′ 20′ 40′ 80′

HEALTHY CONNECTED ECOSYSTEMS
SOFT-BOTTOM CHANNEL BIODIVERSITY PROFILE

RIPARIAN HABITAT

Plant Communities
Alluvial Fan Sage Scrub
California Walnut Woodland
Southern Coast Live Oak Riparian Forest
Southern Cottonwood-Willow Riparian Forest
Southern Sycamore Riparian Woodland

***NO SECTION ALONG THE LA RIVER WITH THIS CONDITION CURRENTLY MEETS FLOOD MANAGEMENT DESIGN CAPACITY.**

MAMMALS



Eumops perotis
Western Mastiff Bat *

BIRDS



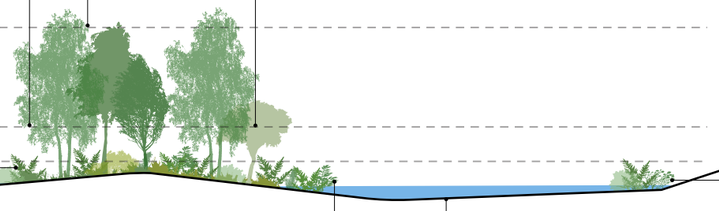
Accipiter cooperii
Cooper's Hawk



Bubo virginianus
Great Horned Owl



Melanerpes formicivorus
Acorn woodpecker



BIRDS (SMALL)



Aphelocoma californica
California Scrub-Jay



Dendroica petechia brewsteri
Yellow Warbler



Lanius ludovicianus
Loggerhead Shrike *



Melozone crissalis
California Towhee



Sayornis nigricans
Black Phoebe

MAMMALS (LARGE)
Possible if regional connections exist



Canis latrans
Coyote



Lynx rufus
Bobcat



Odocoileus hemionus
Mule deer



Puma concolor
Mountain Lion

BIRDS



Ardea herodias
Great Blue Heron



Megaceryle alcyon
Belted Kingfisher *



Himantopus mexicanus
Black-necked Stilt

MAMMALS (SMALL)



Sciurus griseus
Western Gray Squirrel



Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *



INSECTS

Anax junius; Green Darner
Ephemeroptera Family; Mayflies
Hydrophilidae Family; Scavenger Water Beetles
Papilio rutulus; Western Tiger Swallowtail Butterfly
Phryganidia californica; California Oak Moth
Schistocerca nitens; Gray Bird Grasshopper
Xylocopa varipuncta; Valley Carpenter Bee



REPTILES AND AMPHIBIANS

Actinemys marmorata; Western pond turtle *
Anaxyrus californicus; Arroyo Toad *
Bufo boreas; Western Toad *
Ensatina eschscholtzii; Ensatina Salamander
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *

FISH



Catostomus santaanae
Santa Ana Sucker *



Gila orcutti
Arroyo Chub *

* Endangered or threatened species at state or federal level

0′ 20′ 40′ 80′

HEALTHY CONNECTED ECOSYSTEMS
CONCRETE TERRACES BIODIVERSITY PROFILE

UPLAND HABITAT

Plant Communities
Chaparral (grasses and perennials only)
Coastal Sage Scrub (grasses and perennials only)
Desert Scrub (grasses and perennials only)

BIRDS



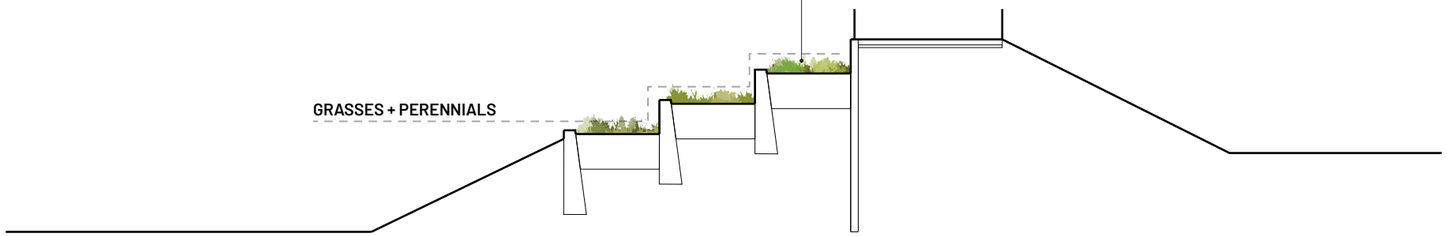
Ardea herodias
Great Blue Heron



Himantopus mexicanus
Black-necked Stilt



Falco peregrinus anatum
Peregrine Falcon *





INSECTS

Anax junius; Green Darner
Danaus plexippus; Monarch butterfly
Dasymutilla sackenii; Golden Velvet Ant
*Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly **
Leptotes marina; Marine Blue Butterfly
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle



REPTILES AND AMPHIBIANS

Phrynosoma blainvillii; Blainville's Horned Lizard *
Sceloporus occidentalis; Western fence lizard

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS
CHANNEL UPLAND-RIPARIAN RAMP BIODIVERSITY PROFILE

RIPARIAN HABITAT

Plant Communities
Southern Coast Live Oak Riparian Forest

UPLAND HABITAT

Plant Communities
California Walnut Woodland
Chaparral
Coast Live Oak Woodland
Coastal Sage Scrub

BIRDS (SMALL)



Aphelocoma californica
California Scrub-Jay

Dendroica petechia brewsteri
Yellow Warbler

Lanius ludovicianus
Loggerhead Shrike *

Psaltriparus minimus
Bushtit

Sayornis nigricans
Black Phoebe

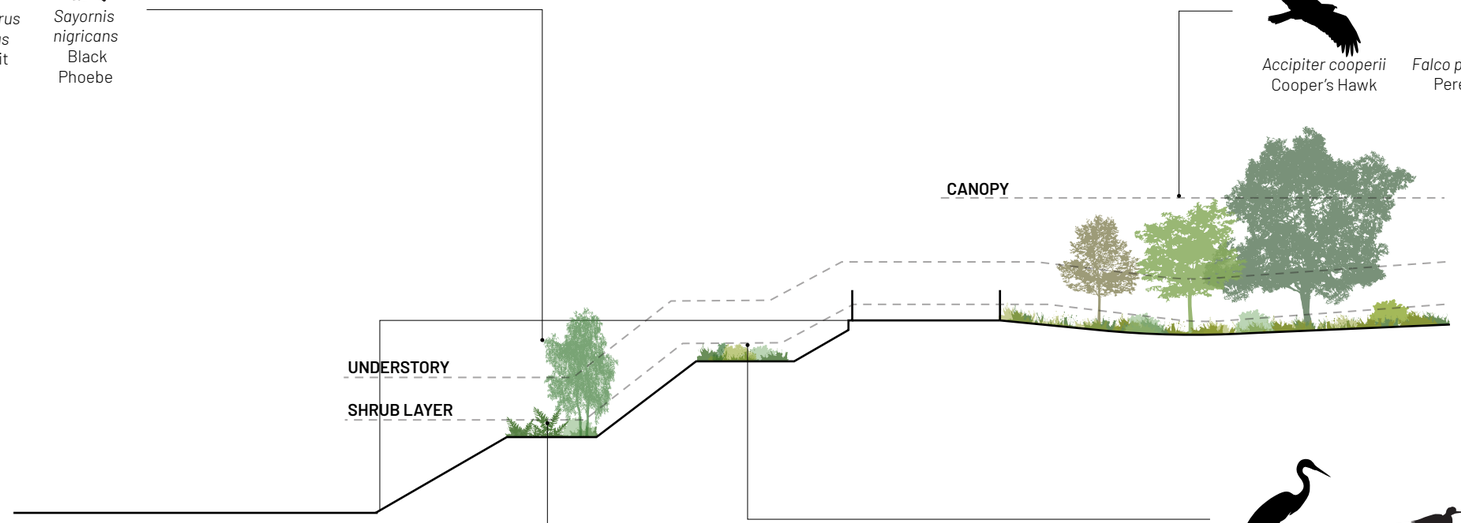
BIRDS



Accipiter cooperii
Cooper's Hawk

Falco peregrinus anatum
Peregrine Falcon *

Melanerpes formicivorus
Acorn woodpecker

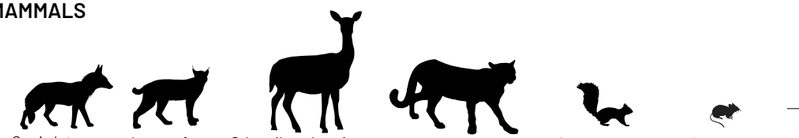




Ardea herodias
Great Blue Heron

Himantopus mexicanus
Black-necked Stilt

MAMMALS



Canis latrans
Coyote

Lynx rufus
Bobcat

Odocoileus hemionus
Mule deer

Puma concolor
Mountain Lion

Sciurus griseus
Western Gray Squirrel

Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *



INSECTS

Anax junius; Green Darner
Danaus plexippus; Monarch butterfly
*Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly **
Leptotes marina; Marine Blue Butterfly
Phryganidia californica; California Oak Moth
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee



REPTILES AND AMPHIBIANS

Bufo boreas; Western Toad *
Ensatina eschscholtzii; Ensatina Salamander
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS
UPLAND PLATFORM BIODIVERSITY PROFILE

UPLAND HABITAT

Plant Communities
Chaparral
Coast Live Oak Woodland
Coastal Sage Scrub
Desert Scrub
Valley Oak Woodland

BIRDS



Accipiter cooperii
Cooper's Hawk



Bubo virginianus
Great Horned Owl



Melanerpes formicivorus
Acorn woodpecker

BIRDS (SMALL)



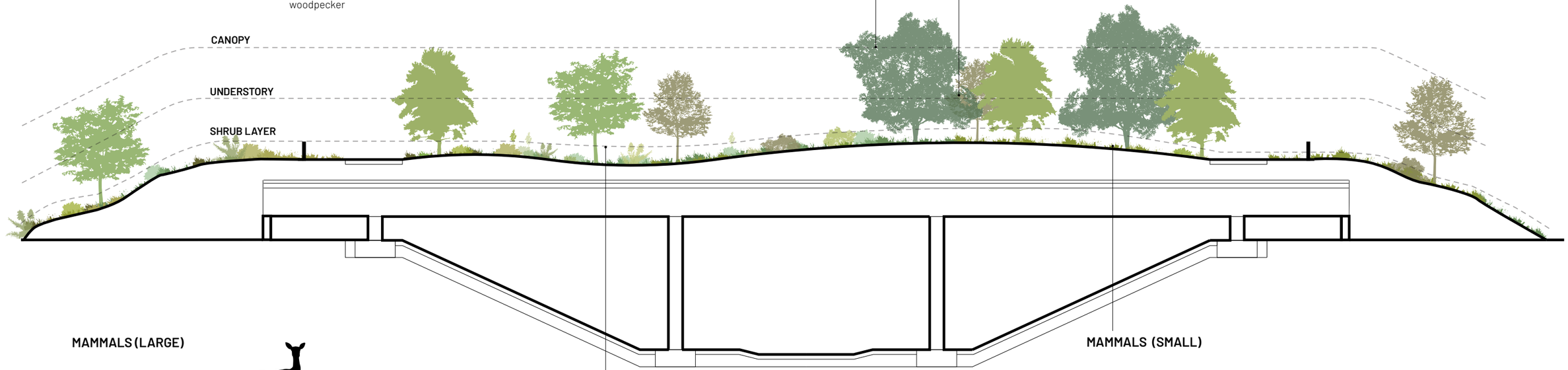
Aphelocoma californica
California Scrub-Jay



Melozone crissalis
California Towhee



Psaltriparus minimus
Bushtit



MAMMALS (LARGE)



Canis latrans
Coyote



Lynx rufus
Bobcat



Odocoileus hemionus
Mule deer



Puma concolor
Mountain Lion

MAMMALS (SMALL)



Sciurus griseus
Western Gray Squirrel



Otospermophilus beecheyi
California Ground Squirrel



Thomomys bottae
Botta's Pocket Gopher



Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *



INSECTS

Danaus plexippus; Monarch butterfly
Dasymutilla sackenii; Golden Velvet Ant
Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly *
Leptotes marina; Marine Blue Butterfly
Phryganidia californica; California Oak Moth
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee



REPTILES AND AMPHIBIANS

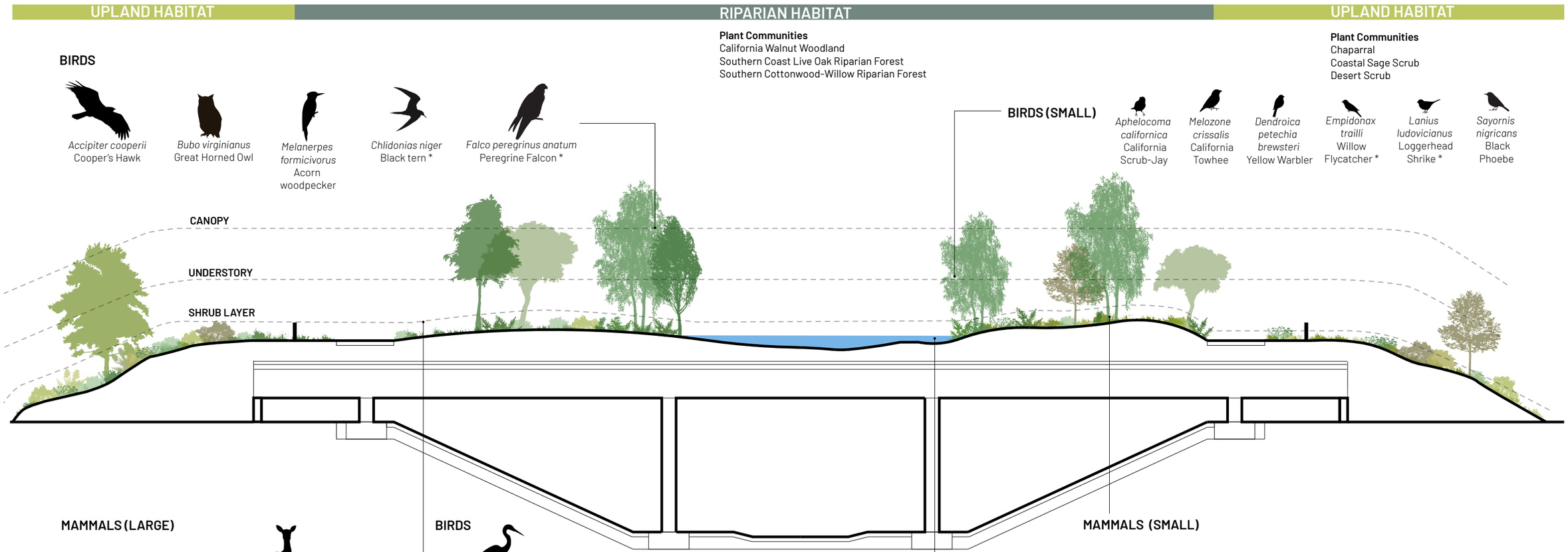
Ensatina eschscholtzii; Ensatina Salamander
Phrynosoma blainvillii; Blainville's Horned Lizard *
Sceloporus occidentalis; Western fence lizard

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS

RIPARIAN PLATFORM BIODIVERSITY PROFILE



INSECTS

Anax junius; Green Darner
Danaus plexippus; Monarch butterfly
Ephemeroptera Family; Mayflies
Hydrophilidae Family; Scavenger Water Beetles
Leptotes marina; Marine Blue Butterfly
Papilio rutulus; Western Tiger Swallowtail Butterfly
Phryganidia californica; California Oak Moth
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee

REPTILES AND AMPHIBIANS

Actinemys marmorata; Western pond turtle *
Anaxyrus californicus; Arroyo Toad *
Bufo boreas; Western Toad *
Ensatina eschscholtzii; Ensatina Salamander
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS
UPLAND LANDSIDE ROW BIODIVERSITY PROFILE

UPLAND HABITAT

Plant Communities
Chaparral
Coast Live Oak Woodland
Coastal Sage Scrub
Desert Scrub
Valley Oak Woodland

BIRDS

Accipiter cooperii
Cooper's Hawk

Bubo virginianus
Great Horned Owl

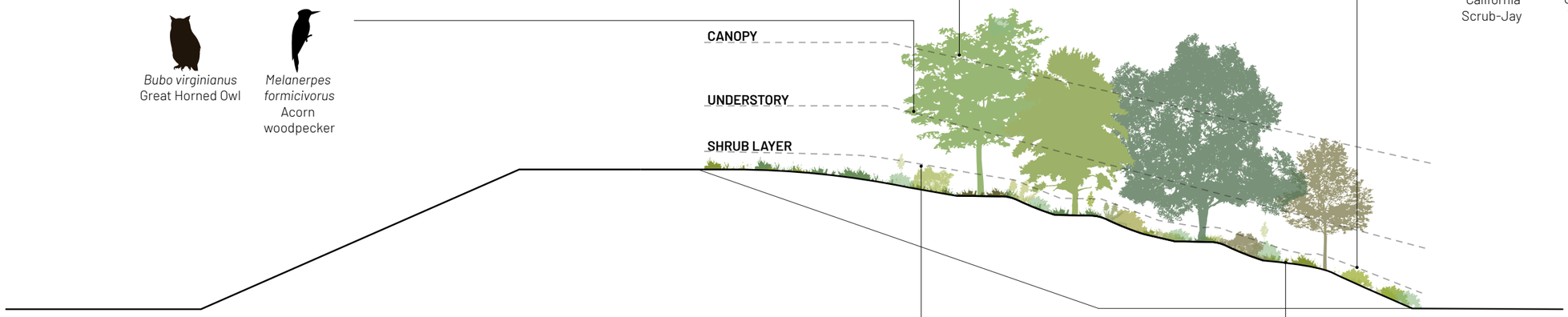
Melanerpes formicivorus
Acorn woodpecker

BIRDS (SMALL)

Aphelocoma californica
California Scrub-Jay

Melozone crissalis
California Towhee

Psaltriparus minimus
Bushtit



MAMMALS (LARGE)

Canis latrans
Coyote

Odocoileus hemionus
Mule deer

MAMMALS (SMALL)

Otospermophilus beecheyi
California Ground Squirrel

Thomomys bottae
Botta's Pocket Gopher

Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *

INSECTS

Danaus plexippus; Monarch butterfly
Dasymutilla sackenii; Golden Velvet Ant
*Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly **
Leptotes marina; Marine Blue Butterfly
Phryganidia californica; California Oak Moth
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee

REPTILES AND AMPHIBIANS

Ensatina eschscholtzii; Ensatina Salamander
Phrynosoma blainvillii; Blainville's Horned Lizard *
Sceloporus occidentalis; Western fence lizard

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS
UPLAND RIPARIAN ROW BIODIVERSITY PROFILE

BIRDS



Accipiter cooperii
Cooper's Hawk



Bubo virginianus
Great Horned Owl



Melanerpes formicivorus
Acorn woodpecker



Chlidonias niger
Black tern *



Falco peregrinus anatum
Peregrine Falcon *

BIRDS (SMALL)



Aphelocoma californica
California Scrub-Jay



Melozone crissalis
California Towhee



Dendroica petechia brewsteri
Yellow Warbler



Empidonax trailli
Willow Flycatcher *



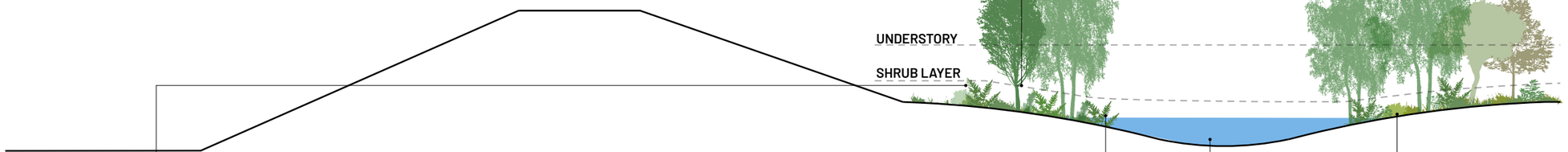
Lanius ludovicianus
Loggerhead Shrike *



Sayornis nigricans
Black Phoebe

RIPARIAN HABITAT

Plant Communities
Alluvial Fan Sage Scrub
California Walnut Woodland
Southern Coast Live Oak Riparian Forest
Southern Cottonwood-Willow Riparian Forest



MAMMALS (LARGE)



Canis latrans
Coyote



Odocoileus hemionus
Mule deer

BIRDS



Ardea herodias
Great Blue Heron



Megaceryle alcyon
Belted Kingfisher *



Himantopus mexicanus
Black-necked Stilt

MAMMALS (SMALL)



Sciurus griseus
Western Gray Squirrel



Thomomys bottae
Botta's Pocket Gopher



Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *



INSECTS

Anax junius; Green Darner
Ephemeroptera Family; Mayflies
Hydrophilidae Family; Scavenger Water Beetles
Leptotes marina; Marine Blue Butterfly
Papilio rutulus; Western Tiger Swallowtail Butterfly
Phryganidia californica; California Oak Moth
Xylocopa varipuncta; Valley Carpenter Bee



REPTILES AND AMPHIBIANS

Actinemys marmorata; Western pond turtle *
Anaxyrus californicus; Arroyo Toad *
Bufo boreas; Western Toad *
Ensatina eschscholtzii; Ensatina Salamander
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *

FISH



Catostomus santaanae
Santa Ana Sucker *

* Endangered or threatened species at state or federal level

0′ 5′ 10′ 20′

HEALTHY CONNECTED ECOSYSTEMS
SOFT-BOTTOM BASIN BIODIVERSITY PROFILE

UPLAND HABITAT

Plant Communities
California Walnut Woodland
Chaparral
Coastal Sage Scrub
Coast Live Oak Woodland
Desert Scrub
Valley Oak Woodland

RIPARIAN HABITAT

Plant Communities
Alluvial Fan Sage Scrub
Southern Coast Live Oak Riparian Forest
Southern Cottonwood-Willow Riparian Forest
Southern Sycamore Riparian Woodland

UPLAND HABITAT

MAMMALS

Eumops perotis
Western Mastiff Bat *

BIRDS

Accipiter cooperii
Cooper's Hawk

Chlidonias niger
Black tern *

Bubo virginianus
Great Horned Owl

Melanerpes formicivorus
Acorn woodpecker

BIRDS (SMALL)

Aphelocoma californica
California Scrub-Jay

Dendroica petechia brewsteri
Yellow Warbler

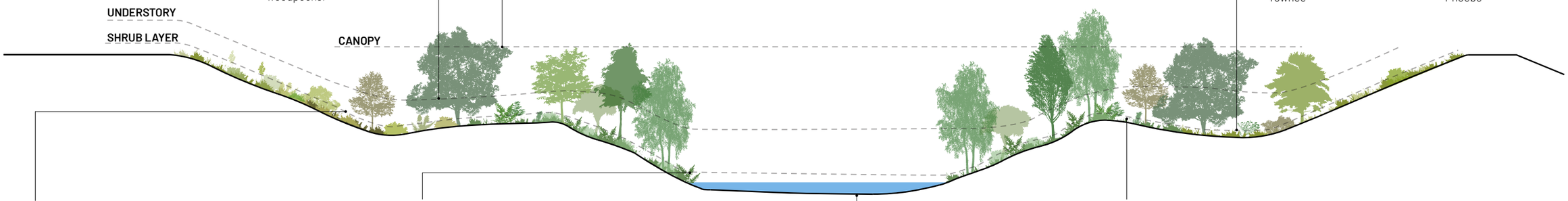
Empidonax traillii
Willow Flycatcher *

Lanius ludovicianus
Loggerhead Shrike *

Melozone crissalis
California Towhee

Psaltriparus minimus
Bushtit

Sayornis nigricans
Black Phoebe



MAMMALS (LARGE)

Canis latrans
Coyote

Lynx rufus
Bobcat

Odocoileus hemionus
Mule deer

Puma concolor
Mountain Lion

BIRDS

Ardea herodias
Great Blue Heron

Megaceryle alcyon
Belted Kingfisher *

MAMMALS (SMALL)

Sciurus griseus
Western Gray Squirrel

Otospermophilus beecheyi
California Ground Squirrel

Thomomys bottae
Botta's Pocket Gopher

Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *



INSECTS

Anax junius; Green Darner
Danaus plexippus; Monarch butterfly
Dasymutilla sackenii; Golden Velvet Ant
Ephemeroptera Family; Mayflies
*Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly **
Hydrophilidae Family; Scavenger Water Beetles
Leptotes marina; Marine Blue Butterfly
Papilio rutulus; Western Tiger Swallowtail Butterfly
Phryganidia californica; California Oak Moth
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee



REPTILES AND AMPHIBIANS

Actinemys marmorata; Western pond turtle *
Anaxyrus californicus; Arroyo Toad *
Bufo boreas; Western Toad *
Crotalus oreganus; Western rattlesnake
Ensatina eschscholtzii; Ensatina Salamander
Phrynosoma blainvillii; Blainville's Horned Lizard *
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *

FISH

Catostomus santaanae
Santa Ana Sucker *

Gila orcutti
Arroyo Chub *

* Endangered or threatened species at state or federal level

0′ 20′ 40′ 80′

BIODIVERSITY PROFILES - WILDLIFE OVERVIEW

BIRDS



Accipiter cooperii
Cooper's Hawk



Falco peregrinus anatum
Peregrine Falcon *



Bubo virginianus
Great Horned Owl



Melanerpes formicivorus
Acorn woodpecker



Aphelocoma californica
California Scrub-Jay



Dendroica petechia brewsteri
Yellow Warbler



Empidonax traillii
Willow Flycatcher *



Lanius ludovicianus
Loggerhead Shrike *



Melozone crissalis
California Towhee



Psaltriparus minimus
Bushtit



Sayornis nigricans
Black Phoebe



Ardea herodias
Great Blue Heron



Chlidonias niger
Black tern *



Megaceryle alcyon
Belted Kingfisher *



Himantopus mexicanus
Black-necked Stilt



Sternula antillarum browni
California least tern *

MAMMALS



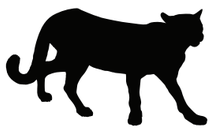
Canis latrans
Coyote



Lynx rufus
Bobcat



Odocoileus hemionus
Mule deer



Puma concolor
Mountain Lion



Eumops perotis
Western Mastiff Bat *



Sciurus griseus
Western Gray Squirrel



Otospermophilus beecheyi
California Ground Squirrel



Thomomys bottae
Botta's Pocket Gopher



Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *

FISH



Catostomus santaanae
Santa Ana Sucker *



Gila orcutti
Arroyo Chub *



REPTILES AND AMPHIBIANS

Actinemys marmorata; Western pond turtle *
Anaxyrus californicus; Arroyo Toad *
Bufo boreas; Western Toad *
Crotalus oreganus; Western rattlesnake
Ensatina eschscholtzii; Ensatina Salamander
Phrynosoma blainvillii; Blainville's Horned Lizard *
Pseudacris regilla; Pacific treefrog
Rana draytonii; California red-legged frog *
Sceloporus occidentalis; Western fence lizard
Taricha torosa; California Newt
Thamnophis hammondii; Two-Striped Garter Snake *



INSECTS

Anax junius; Green Darner
Danaus plexippus; Monarch butterfly
Dasymutilla sackenii; Golden Velvet Ant
Ephemeroptera Family; Mayflies
*Glaucopsyche lygdamus paloverdesensis; Palos Verdes Blue Butterfly **
Hydrophilidae Family; Scavenger Water Beetles
Leptotes marina; Marine Blue Butterfly
Papilio rutulus; Western Tiger Swallowtail Butterfly
Phryganidia californica; California Oak Moth
Pogonomyrmex californicus; California harvester ant
Schistocerca nitens; Gray Bird Grasshopper
Tenebrionidae Family; Darkling beetle
Xylocopa varipuncta; Valley Carpenter Bee

* Endangered or threatened species at state or federal level

ACTIONS

METHODS

ENHANCE OPPORTUNITIES FOR EQUITABLE ACCESS TO THE RIVER CORRIDOR.

ACTIONS

4.1. Create welcoming access points and gateways to the LA River and LA River Trail to optimize physical access along its length, on both sides.

Along parts of the river that currently have trails, only about a third of access points have signs, less than two thirds appear to be ADA accessible, less than half connect to bridges that allow access to both sides of the river, and one in ten are just user-created holes in fences. Together, these conditions obscure, limit, and impede access to the LA River Trail. All access points should be welcoming so that potential users are drawn to and feel welcome to use the river.

4.1.1. Make the river trail and gateways universally accessible and inclusive.

4.1.2. Prioritize access for areas with limited access or areas that need improvements to existing access points.

4.1.3. Prioritize access near major destinations, including schools, libraries, parks, transit stops, and job centers.

4.2. Increase safe transportation routes to the river.

Ensuring that there are clear, safe connections from neighborhoods to the LA River makes nearby neighbors more likely to use the river and, by extension, the broader LA County network of parks and trails that the river connects to. The ease and quality of these connections is important because impressions of traveling to and from the river can influence the entire river experience. Current research by scholars such as Dr. Richard Jackson of the University of California at Los Angeles and Dr. William Sullivan of the University of Illinois at Urbana-Champaign indicates a relationship between parks and health. , , Increasing overall acres of park land and access to parks can positively benefit communities by reducing rates of preventable diseases such as diabetes and obesity.

4.2.1. Coordinate with LA County transportation plans, including Vision Zero, the Bicycle Master Plan, and the Step by Step Pedestrian Plan.

4.2.2. Provide pedestrian and bicycle connections across the river every half-mile.

4.2.3. Require all new pedestrian or road bridges over the river to provide pedestrian and bicycle access to the river trail.

4.2.4. Provide continuous pathways between the river and nearby recreation spaces.

4.2.5. Encourage cities to adopt complete streets policies to better connect neighborhoods to the river.

4.2.6. Increase the extent of multi-use trails that connect to the river with separate paths for active transport, pedestrians, and equestrians.

4.2.7. Coordinate with transportation planning to enhance public transit to and along the river.

4.2.8. Coordinate with transportation planning to encourage transit lines that cross the river to have stops that provide access to the river trail.

4.2.9. Promote the use of public transportation to connect to the river trail.

4.2.10. Develop informational materials and signage that highlight the river as an alternative to other modes of transportation to major job centers and destinations.



Figure 129. Gateways should be welcoming and reflect the neighborhood they are located in.
Sources: LA Public Works, 2018.

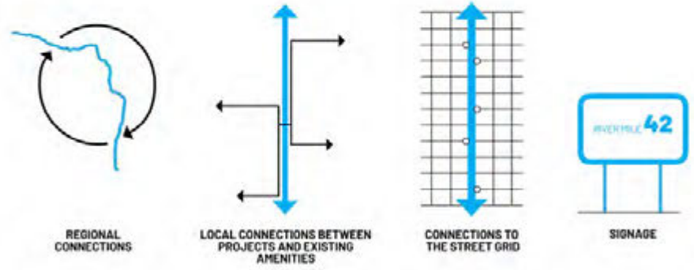


Figure 130. Highlighting regional connections, neighborhood connections, infrastructural connections, and wayfinding creates a more accessible and welcoming river trail.

HOW CAN THE LARMP HELP?

REGIONAL CONNECTIONS

- **INCREASE THE EXTENT OF MULTI-USE TRAILS THAT CONNECT TO THE RIVER** (Action 4.2)

LOCAL CONNECTIONS BETWEEN PROJECTS AND EXISTING AMENITIES

- **PRIORITIZE ACCESS NEAR MAJOR DESTINATIONS OR AREAS THAT NEED IMPROVEMENTS TO EXISTING ACCESS POINTS** (Action 4.1)

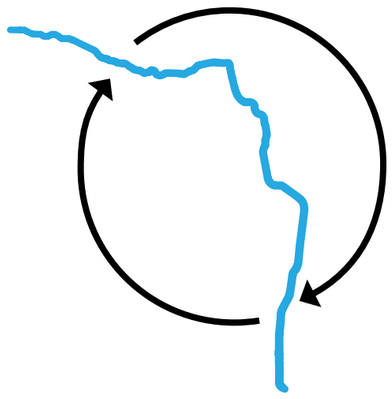
CONNECTIONS TO THE STREET GRID

- **ENCOURAGE THE DEVELOPMENT OF SAFE ROUTES TO THE RIVER** (Action 4.1)

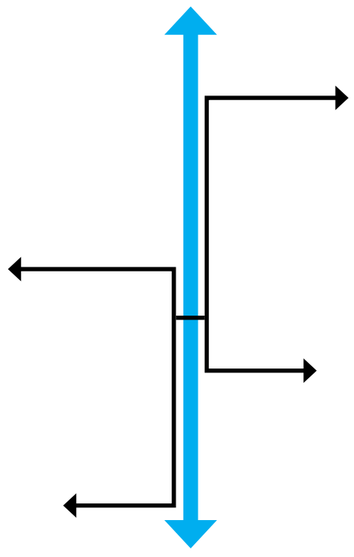
SIGNAGE

- **MAKE THE TRAIL AND GATEWAYS UNIVERSALLY ACCESSIBLE AND INCLUSIVE** (Action 4.1)
- **DEVELOP INFORMATIONAL MATERIALS AND SIGNAGE** (Action 4.2)

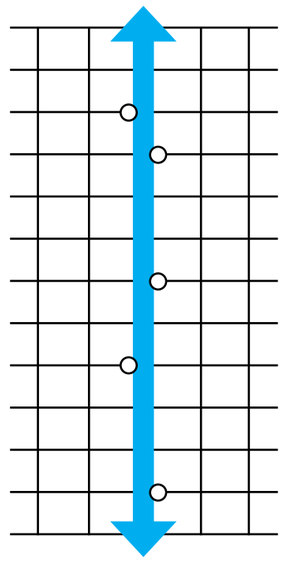
HOW CAN THE LARMP HELP?



REGIONAL CONNECTIONS
(Actions 4.2)



LOCAL CONNECTIONS BETWEEN PROJECTS AND EXISTING AMENITIES
(Actions 4.1)



CONNECTIONS TO THE STREET GRID
(Actions 4.1)

SIGNAGE
(Actions 4.1, 4.2)

EQUITABLE ACCESS

MAJOR REGIONAL TRAILS

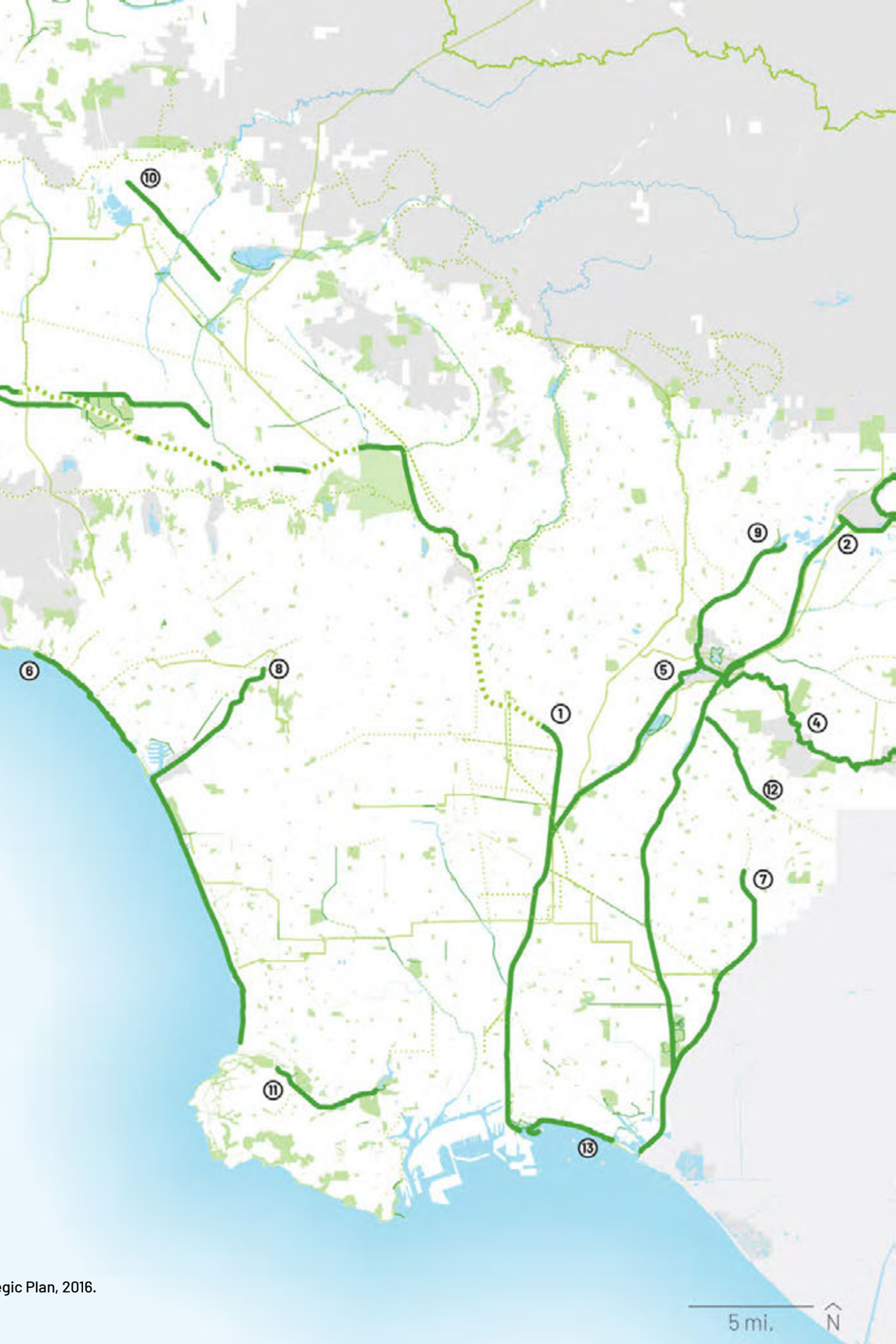
Existing and Planned Class I Bike Paths and/or Multi-Use Trails*

- Existing Regional Trails
- Existing Local Trails
- Planned Trails
- Transmission Line Right-of-Way

Major Existing Regional Trails

#	Name	Uses	Length
1	LA River Trail	Bike, Horseback Riding, Wheelchair Accessible, Walking	30 miles
2	San Gabriel River Trail	Hiking, Mountain Biking, Horseback Riding, Walking	37.8 miles
3	Orange Line	Bike, Inline Skating, Wheelchair Accessible, Walking	32.9 miles
4	Schabarum-Skyline Trail	Hiking, Mountain Biking, Horseback Riding	29.9 miles
5	Rio Hondo River Trail	Hiking, Mountain Biking, Horseback Riding, Walking	15.6 miles
6	The Strand (Marvin Braude Bike Trail)	Bike, Inline Skating, Wheelchair Accessible, Walking	11.5 miles
7	Coyote Creek Bikeway	Bike, Inline Skating, Wheelchair Accessible, Walking	9.5 miles
8	Ballona Creek Bike Path	Hiking, Mountain Biking, Walking	6.7 miles
9	Santa Anita Wash Trail	Hiking, Mountain Biking, Horseback Riding	6.5 miles
10	San Fernando Road Bike Path	Bike, Inline Skating, Wheelchair Accessible, Walking	5.7 miles
11	Palos Verdes Drive N	Bike, Walking	4.8 miles
12	Whittier Greenway	Bike, Inline Skating, Wheelchair Accessible, Walking	4.7 miles
13	Shoreline Beach	Bike, Inline Skating, Wheelchair Accessible, Walking	4.1 miles

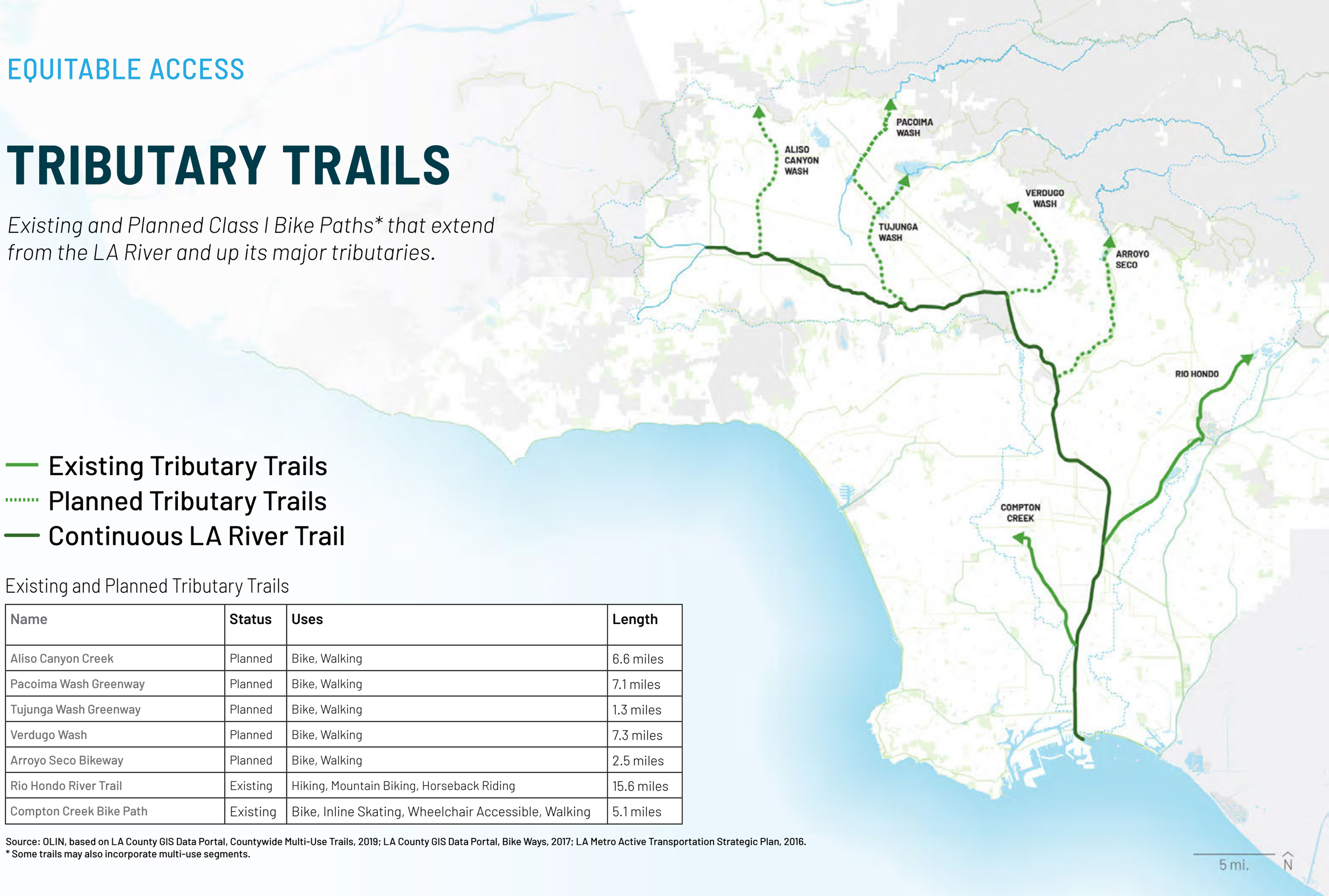
Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some Class I bike paths may also incorporate multi-use segments.



EQUITABLE ACCESS

TRIBUTARY TRAILS

Existing and Planned Class I Bike Paths that extend from the LA River and up its major tributaries.*



— Existing Tributary Trails

····· Planned Tributary Trails

— Continuous LA River Trail

Existing and Planned Tributary Trails

Name	Status	Uses	Length
Aliso Canyon Creek	Planned	Bike, Walking	6.6 miles
Pacoima Wash Greenway	Planned	Bike, Walking	7.1 miles
Tujunga Wash Greenway	Planned	Bike, Walking	1.3 miles
Verdugo Wash	Planned	Bike, Walking	7.3 miles
Arroyo Seco Bikeway	Planned	Bike, Walking	2.5 miles
Rio Hondo River Trail	Existing	Hiking, Mountain Biking, Horseback Riding	15.6 miles
Compton Creek Bike Path	Existing	Bike, Inline Skating, Wheelchair Accessible, Walking	5.1 miles

Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some trails may also incorporate multi-use segments.

EQUITABLE ACCESS

REGIONAL LOOPS

Building from existing and planned trails along the LA River and its tributaries, these conceptual loops connecting primarily of Class I and II bike paths to suggest how the river corridor could serve as the backbone to regional active transit and recreation networks.*



— Potential Connectivity Loops

····· Existing and Proposed Tributary Trails

#	Name	Length
1	Basin Loop	60 miles
2	Lost River Loop	45 miles
3	Palos Verdes Loop	36 miles
4	Highlands Loop	33 miles
5	Marina Loop	30 miles
6	Waterways Loop	30 miles
7	Rio Hondo Loop	28 miles
8	Reservoir Loop	24 miles
9	Valley Loop	22 miles

Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.
* Some trails may also incorporate multi-use segments.

REGIONAL LOOPS ANALYSIS

Detailed breakdown of existing and proposed trail types that comprise regional loops.

Existing Planned

- Multi-Use Trail
- Class I Bike Path
- Class II Bike Path
- Class III Bike Path
- Class IV Bike Path
- Hiking Trails
- Gaps

#	Name	Length
1	Basin Loop	60 miles
2	Lost River Loop	45 miles
3	Palos Verdes Loop	36 miles
4	Highlands Loop	33 miles
5	Marina Loop	30 miles
6	Waterways Loop	30 miles
7	Rio Hondo Loop	28 miles
8	Reservoir Loop	24 miles
9	Valley Loop	22 miles

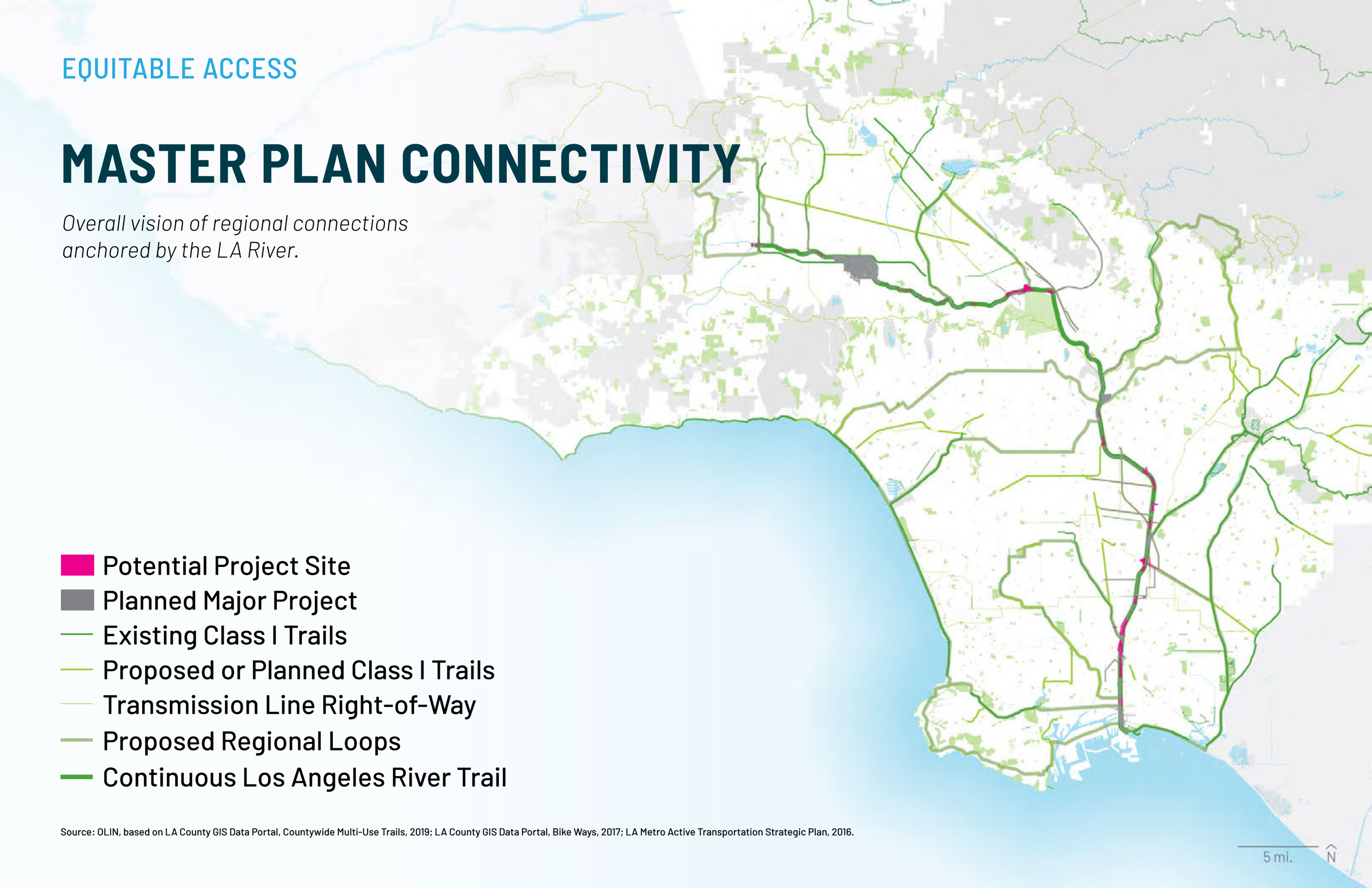


Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.

EQUITABLE ACCESS

MASTER PLAN CONNECTIVITY

Overall vision of regional connections anchored by the LA River.



Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.

EQUITABLE ACCESS

OVERALL PLAN

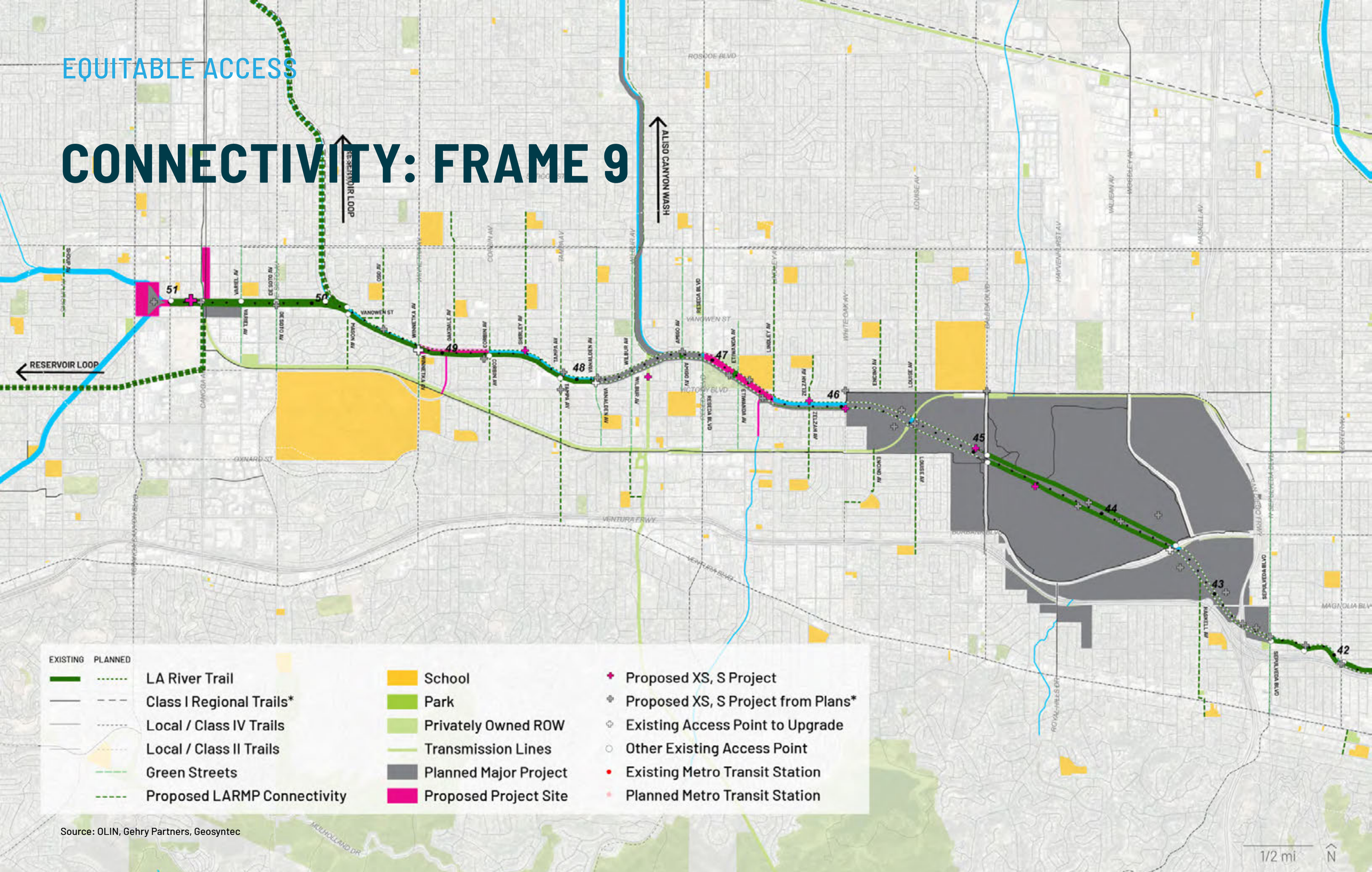
Overall vision of regional connections anchored by the LA River.



Source: OLIN, based on LA County GIS Data Portal, Countywide Multi-Use Trails, 2019; LA County GIS Data Portal, Bike Ways, 2017; LA Metro Active Transportation Strategic Plan, 2016.

EQUITABLE ACCESS

CONNECTIVITY: FRAME 9



Source: OLIN, Gehry Partners, Geosyntec

EQUITABLE ACCESS

CONNECTIVITY: FRAME 8

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity
- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site
- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

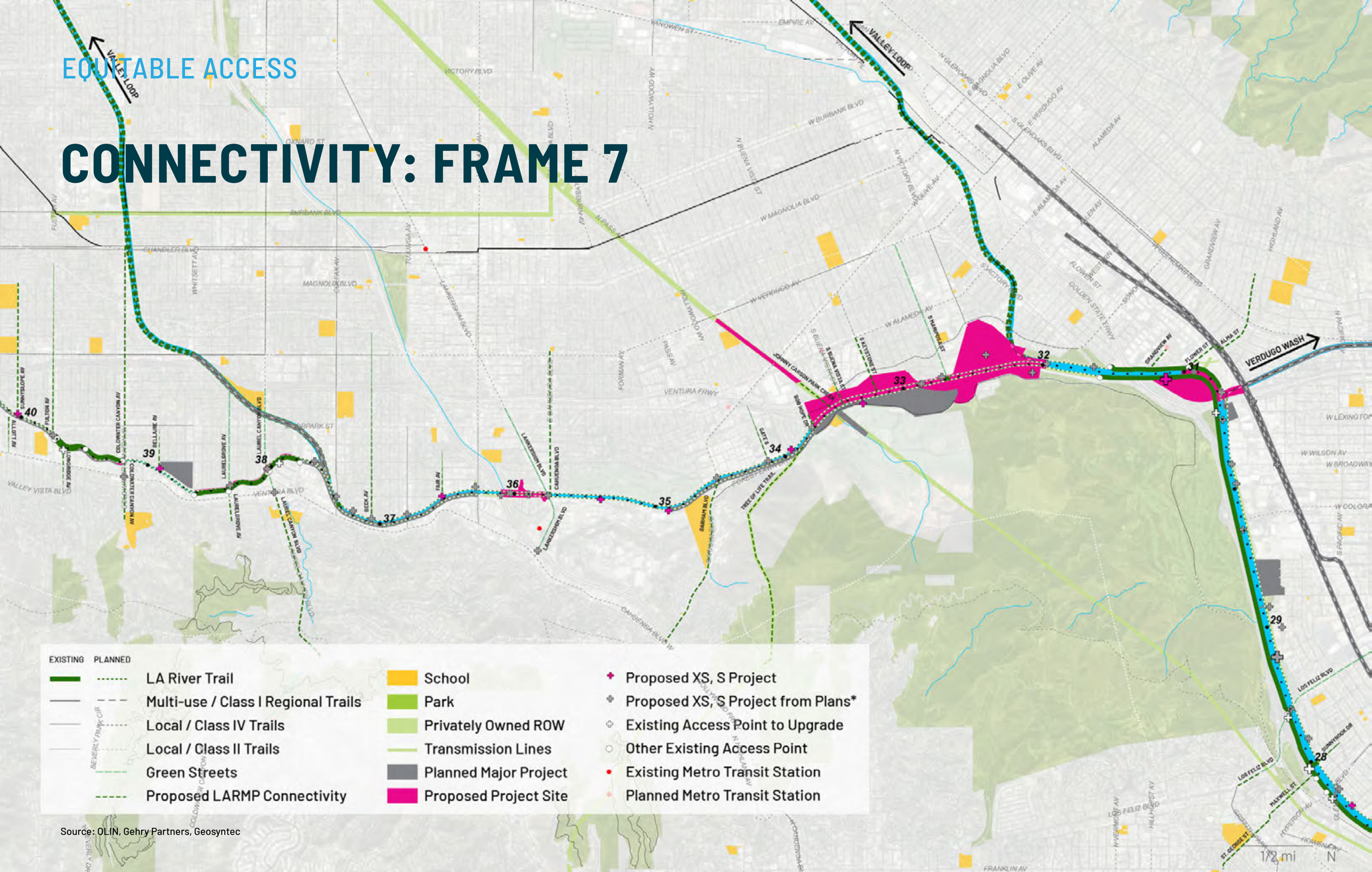
Source: OLIN, Gehry Partners, Geosyntec

1/2 mi

N

EQUITABLE ACCESS

CONNECTIVITY: FRAME 7



Source: OLIN, Gehry Partners, Geosyntec

EQUITABLE ACCESS

CONNECTIVITY: FRAME 6

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

1/2 mi

N

EQUITABLE ACCESS

CONNECTIVITY: FRAME 5

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

1/2 mi

N

EQUITABLE ACCESS

CONNECTIVITY: FRAME 4

LOST RIVER LOOP

BASIN LOOP

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

RIO HONDO LOOP

1/2 mi

N

EQUITABLE ACCESS

CONNECTIVITY: FRAME 3

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

CONNECTIVITY: FRAME 2

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

WATERWAYS LOOP

RIO HONDO LOOP

MARINA LOOP

E. ADAMS ST

E 63RD ST

PLYMOUTH ST

W 48TH ST

W WARDLOW RD

W 32ND ST

W SPRING ST

WATERWAYS LOOP

1/2 mi

N

EQUITABLE ACCESS

CONNECTIVITY: FRAME 1

EXISTING PLANNED

- LA River Trail
- Multi-use / Class I Regional Trails
- Local / Class IV Trails
- Local / Class II Trails
- Green Streets
- Proposed LARMP Connectivity

- School
- Park
- Privately Owned ROW
- Transmission Lines
- Planned Major Project
- Proposed Project Site

- Proposed XS, S Project
- Proposed XS, S Project from Plans*
- Existing Access Point to Upgrade
- Other Existing Access Point
- Existing Metro Transit Station
- Planned Metro Transit Station

Source: OLIN, Gehry Partners, Geosyntec

WATERWAYS LOOP

PALOS VERDES LOOP

MARINA LOOP

W WARDLOW RD

W SPRING ST

W WILLOW ST

W BURNETT ST

W HILL ST

W 20TH ST

PACIFIC COAST HWY

W 4TH ST

1/2 mi

ACTIONS

METHODS

EMBRACE AND ENHANCE OPPORTUNITIES FOR ARTS AND CULTURE.

ACTIONS

5.1. Develop a comprehensive 51-mile arts and culture corridor along the river.

The LA River corridor offers a unique opportunity to create the longest continuous corridor of arts and culture in LA County. Not only does this 51-mile corridor provide a place to reflect each unique community along its banks through arts and culture, it provides a place to bring these diverse communities together and celebrate their similarities and differences.

5.1.1. Site permanent civic art, temporary art installations, cultural amenities, and cultural facilities along the river where appropriate.

5.1.2. Encourage incubation of diverse talent through commissions for local as well as regional and national artists and cultural organizations.

5.1.3. Secure reliable funding for art and cultural projects along the river.

5.2. Identify and activate cultural assets along the LA River corridor.

A community's cultural assets contribute to its creativity, traditions, robustness, and vitality and can act as both resources and opportunities. Cultural assets can be material, ephemeral, and even spiritual. They include buildings, sites, and objects holding local and national cultural significance; people, places, events, and organizations recognized as cultural anchors within a specific community; and stories that are powerful enough to bind people together in a place over time. Making cultural assets visible and acknowledging them is a key element in sustaining livable communities.

5.2.1. Create a methodology for understanding existing cultural assets in collaboration with community members.

5.2.2. Work with community partners and creative strategists on cultural asset mapping activities in neighborhoods where there is limited existing data.

5.2.3. Continue asset mapping along the 51 miles of the LA River cCorridor after pilot project completion.

5.2.4. Conduct community training in the tools and strategies for documenting cultural assets through methods including interviews, photography, mapping, and video.

5.2.5. Share ongoing asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing County resource.

5.3. Integrate artists, cultural organizations, and community members in planning processes and project development along the river.

The most effective way to integrate more local arts and culture into the LA River corridor is to have meaningful, ongoing engagement with those who are already deeply embedded in the arts and culture communities. Their voices should help create and shape, rather than react to, new opportunities along the river.

5.3.1. Create a framework for arts and cultural asset mapping to identify preliminary resources and opportunities along the 51 miles of the LA River.

5.3.2. Share, monitor, and cultivate the asset mapping on the LA County Department of Arts and Culture website, and help reaffirm and build the LA River community as a vital and growing county resource.

5.3.3. Use both quantitative and qualitative data in planning arts and cultural activities along the river.



Figure 133. Le Ballet Dembaya. Sources: Shabaka Johnson.



Figure 134. The City Project: Great Wall of Los Angeles Resotration
Sources: https://bit.ly/2YuewCx, 2011.

HOW CAN THE LARMP HELP?

RECOMMEND NEW STUDIES

- **FILL GAPS IN CULTURAL ASSET MAPPING** (Actions 5.2)

ESTABLISH GUIDING PRINCIPLES

- **CULTIVATE A UNIFIED APPROACH TO ART FOR THE LA RIVER** (Actions 5.1, 5.3, 5.4)

ENCOURAGE STREAMLINED PERMITTING

- **CREATE A FASTER PERMIT PROCESS FOR PERMANENT AND TEMPORARY ART ALONG AND IN THE LA RIVER** (Actions 5.5)

ARTS & CULTURE

ART ALONG THE LA RIVER SHOULD BE BOTH PERMANENT AND EPHEMERAL

Faces of Elysian Valley by Greenmeme



Source: Greenmeme, http://www.greenmeme.com/RIVERSIDE-ROUNDABOUT, 2017

Le Ballet Dembaya Performance



Source: Shabaka Johnson, Le Ballet Dembaya

FLEXIBILITY

AS INFRASTRUCTURE CHANGES AND ADAPT, OPPORTUNITIES FOR ART EVOLVE TOO



Source: IX Art Park, https://owonderful.files.wordpress.com/2014/05/img_1355.jpg

INTEGRATION

ART CAN BE CREATED IN EVERY ASPECT OF A PROJECT (ECOLOGY, WATER, FURNISHINGS)



Example of land art temporarily integrated into a site before park construction.

Source: Lauren Bon - Not a Cornfield; //www.flickr.com/photos/notacornfield/, Accessed 05/08/18

EQUITY

ARTS AND CULTURE SHOULD BE BY AND FOR ALL



Source: "building: a simulacrum of power" by Rafa Esparza, 2014. The Bowtie Project, https://clockshop.org/project/bowtie/, Accessed 06/11/19

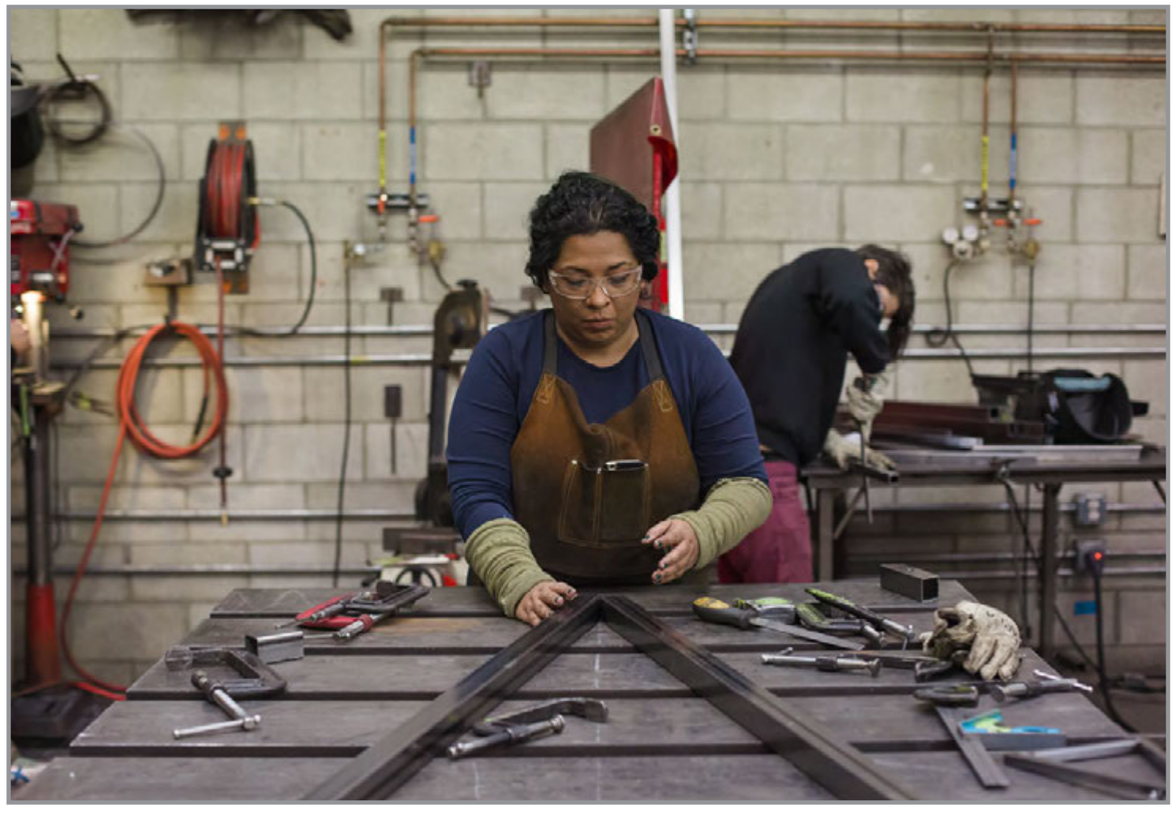


Source: KCET Departures, Leo Limon 11, 2010

ARTS & CULTURE

INCUBATION

ART PROGRAMS AND ARTIST RESIDENCIES SUPPORT LOCAL TALENT AND YOUTH



Source: "Tzolk'in" by Beatriz Cortez, 2018, The Bowtie Project, https://clockshop.org/project/bowtie/, Accessed 06/11/19



Source: LACMA art camp, 2016, https://unframed.lacma.org/2016/12/05/creative-winter-break, Accessed 06/12/2019.

ENGAGEMENT

ARTS AND CULTURE SHOULD ENGAGE WITH LOCAL ARTISTS, CITIES, AND OTHER ENTITIES



Source: SELA Arts Festival 2018; OLIN

SPECIFICITY OF PLACE

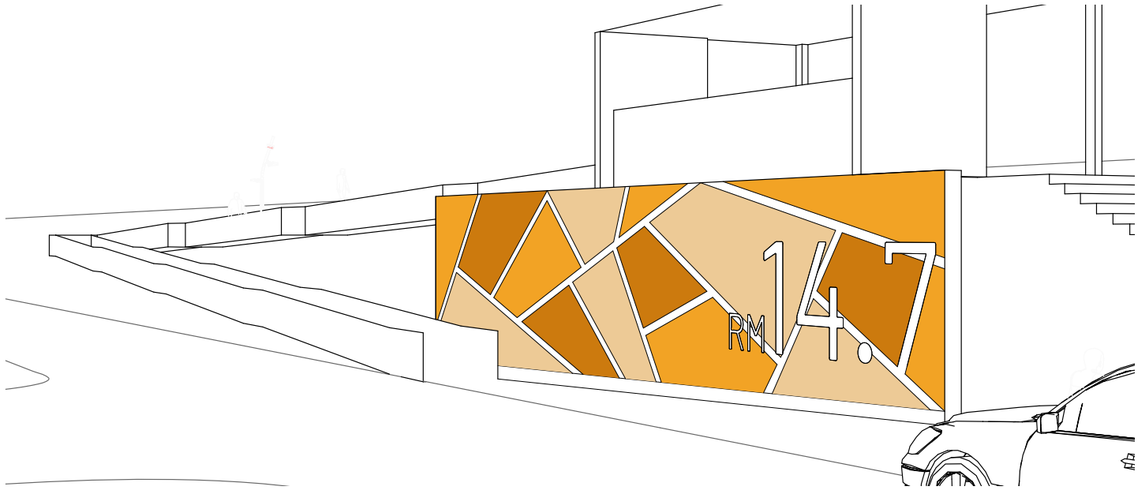
LA RIVER ART SHOULD REFLECT ITS SITE, HISTORY, AND CULTURE



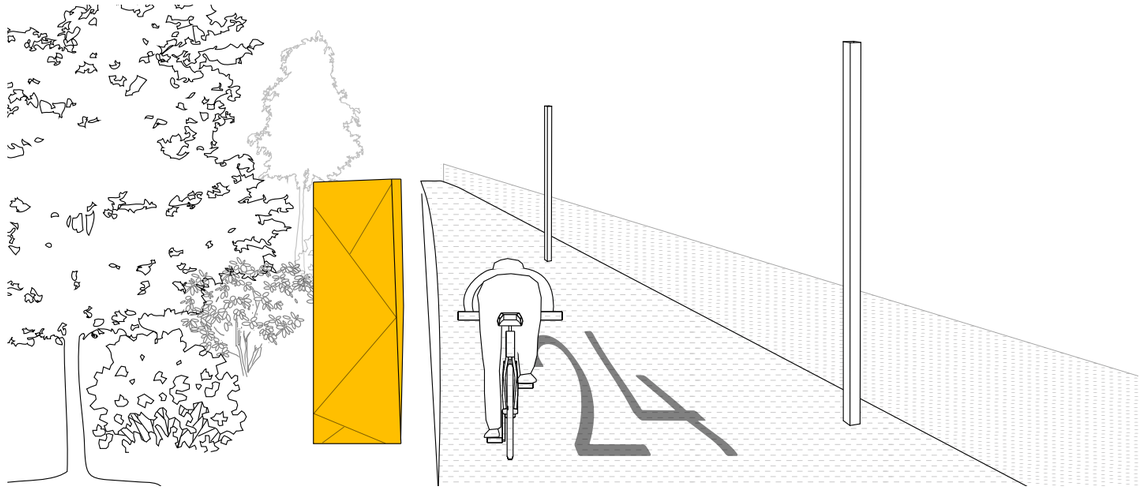
Source: OLIN

ARTS & CULTURE

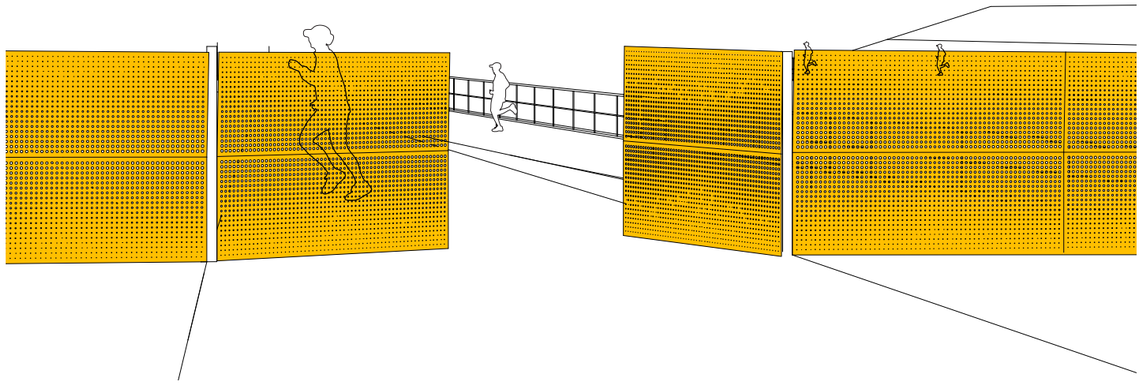
EXAMPLES OF PERMANENT LA RIVER ART



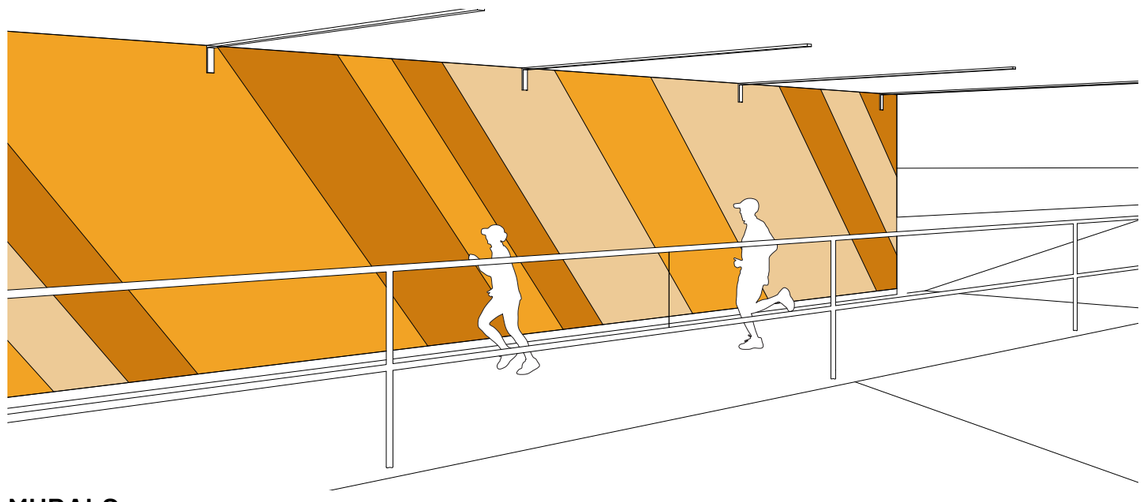
WAY-FINDING + COMMUNICATION



SCULPTURE + FREESTANDING ELEMENTS

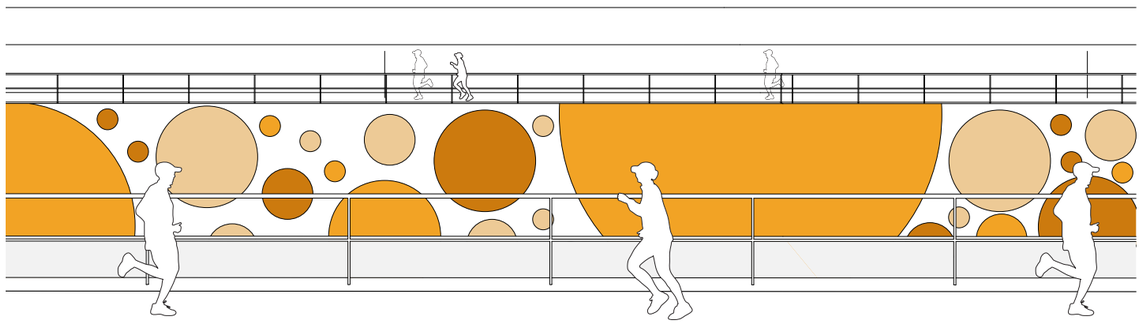


GATEWAYS + SITE DESIGN

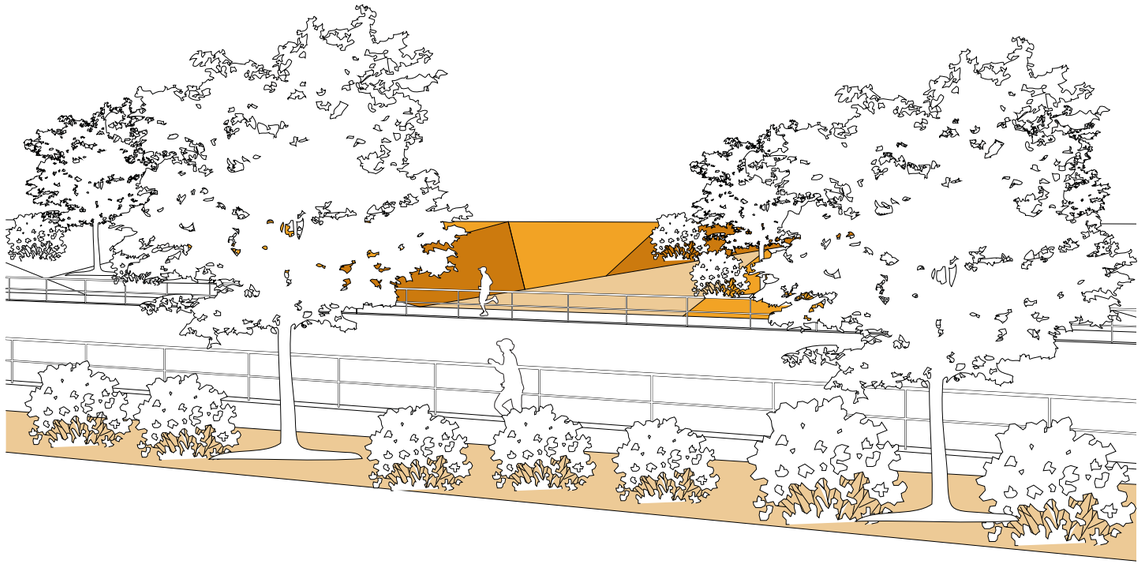


MURALS

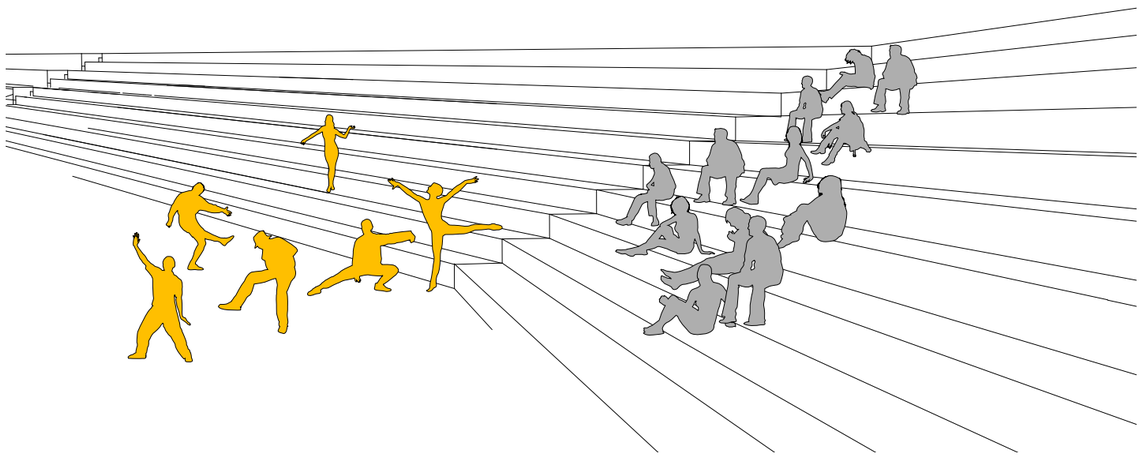
EXAMPLES OF EPHEMERAL LA RIVER ART



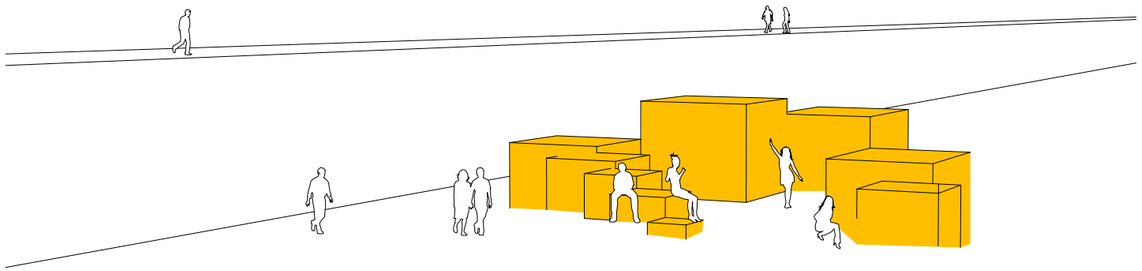
MEDIA ART + PROJECTIONS



TEMPORARY LAND ART INSTALLATIONS



PERFORMING ARTS



PORTABLE SCULPTURES OR PAINTINGS

ACTIONS

METHODS

PROMOTE HEALTHY, SAFE, CLEAN WATER.

9.4. Increase public awareness of river water quality and watershed health.

There is a common misperception that the water in the LA River is unclean. While all rivers are subject to sporadic events where water quality dips below normal, the majority of water in the river during dry weather comes from the three water reclamation plants that treat it to a very high standard of quality. This water is clean enough for people to kayak in the soft-bottom parts of the river. In areas where polluted runoff discharges into the LA River, water in these areas can become polluted. Education can help improve public awareness of safe and unsafe conditions and teach communities how to improve the quality of their runoff.

9.4.1. **Develop a website to coordinate information, provide consistency in water quality reporting, and assist in educating other agencies, cities, and the general public on river issues such as water quality.**

9.4.2. **Post consistent and inclusive signage and communication about water quality on bridges, access points, and along the river.**

9.5. Improve water quality facility operations and maintenance.

Water quality projects, like all other infrastructure, require proper operations and maintenance to help maximize long-term viability of the projects. Insufficient funding and maintenance procedures can decrease the effectiveness in delivering proper water quality benefits, as well as shorten the lifespan of the infrastructure.

9.5.1. **Expand coordination between responsible water quality agencies to streamline O&M, facility management, funding, and permitting.**

9.5.2. **Review and update operations and maintenance protocols and best practices.**

9.5.3. **Implement new technologies such as real-time monitoring, reporting, and controls.**



Figure 159. Increasing the public's awareness to river health will improve water quality. Source:OLIN. 2019.

HOW CAN THE LARMP HELP?

PRESCRIBE PROJECT ATTRIBUTES

- **INCORPORATE LID TECHNIQUES ACROSS PROJECTS**
  (Actions 9.1, 9.2, 9.3)
- **PRIORITIZE REGIONAL WATER QUALITY IMPROVEMENTS TO PROJECTS IN AREAS OF GREATEST NEED**
  (Actions 9.3)

REINFORCE REGIONAL POLICIES

- **DEVELOP DESIGN GUIDELINES THAT REFLECT REGIONAL REQUIREMENTS**
  (Actions 9.3, 9.5)
- **ENCOURAGE IMPLEMENTATION OF EXISTING WATERSHED MANAGEMENT PLANS**
  (Actions 9.2, 9.3)

WATER QUALITY IMPROVEMENTS SHOULD BE CONSISTENTLY IMPLEMENTED WITHIN THE LA RIVER WATERSHED AND ALONG THE CHANNEL ITSELF

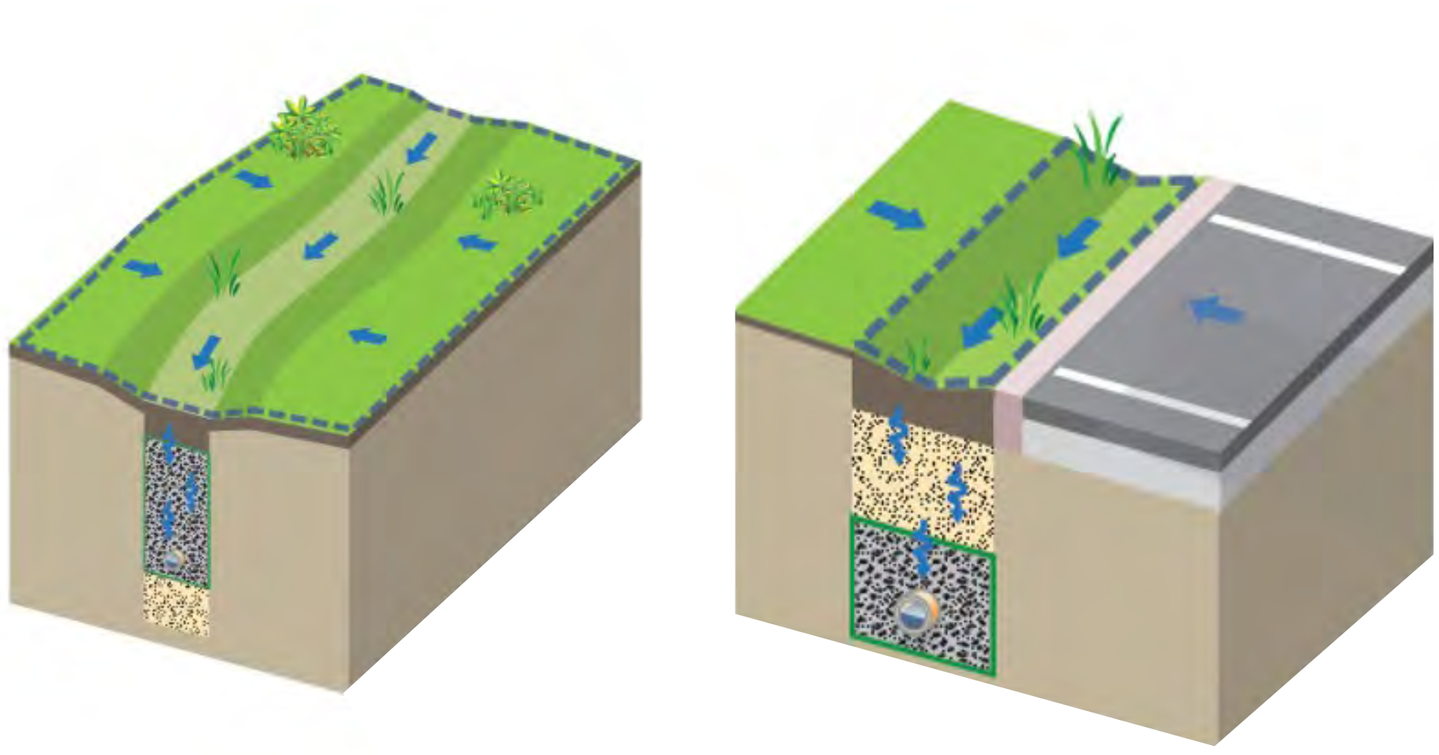
- Projects themselves will meet water quality requirements.
- Approved watershed plans to improve regional requirements need support in some locations more than others.
- Local or state government can assist with funding, such as Measure W



Source: Flickr User Los Angeles District, LA River, 2013

LOCAL WATER SUPPLY

INCLUDE LOW IMPACT DEVELOPMENT (LID) ELEMENTS IN ALL PROJECTS



Source: Geosyntec

REGIONAL WATER QUALITY

INCLUDE ABOVE AND UNDERGROUND RETENTION AND CISTERNS



Source: Geosyntec

NATURE-BASED SOLUTIONS

EXPAND ON EXAMPLES LIKE THE DOMINGUEZ GAP WETLANDS



Source: OLIN

WISE WATER RESOURCE MANAGEMENT

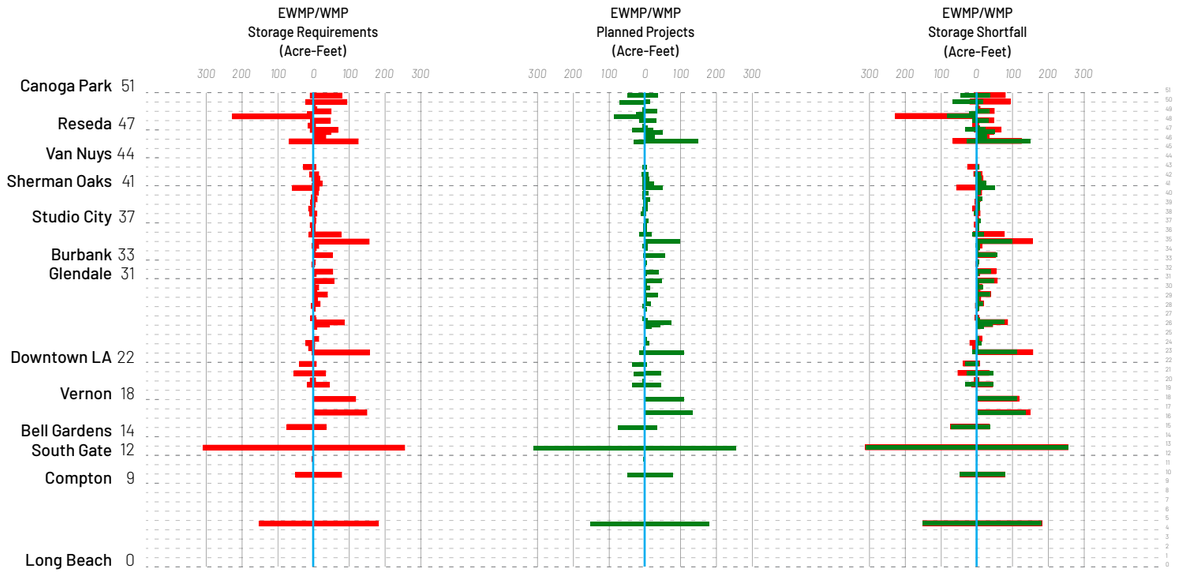
USE TREATED WATER BENEFICIALLY



Source: The Metropolitan Water District of Southern California, Water Recycling, http://www.mwdh2o.com/PDF_In_The_Community/3.4.3_Water_Recycling_Just_Doing.pdf

PROJECTS CAN CONTRIBUTE TO EWMP/WMP TARGETS

EWMP/WMP TARGET RULER



Source: ULAR EWMP (2016), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/upper_losangeles/20160127/UpperLARiver_mainbody_revEWMP_Jan2016.pdf, LAR UR2 WMP (2015), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/upper_reach2/Upper_LA_River_R2_FinalWMP.pdf, LLAR WMP (2017), https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_angeles/lower_losangeles/LLARWMP2017updated.pdf



Source:https://www.flickr.com/photos/healthebay/7153361501/in/album-72157629989023189/

SITE SELECTION REVIEW

Source: Joe Mabel, 2001. Wikipedia. https://commons.wikimedia.org/wiki/File:Los_Angeles_River_aerial_01.jpg

SITE SELECTION REVIEW

MASTER PLAN RULER



Impact

Proposed Project Sites

Planned Major Projects

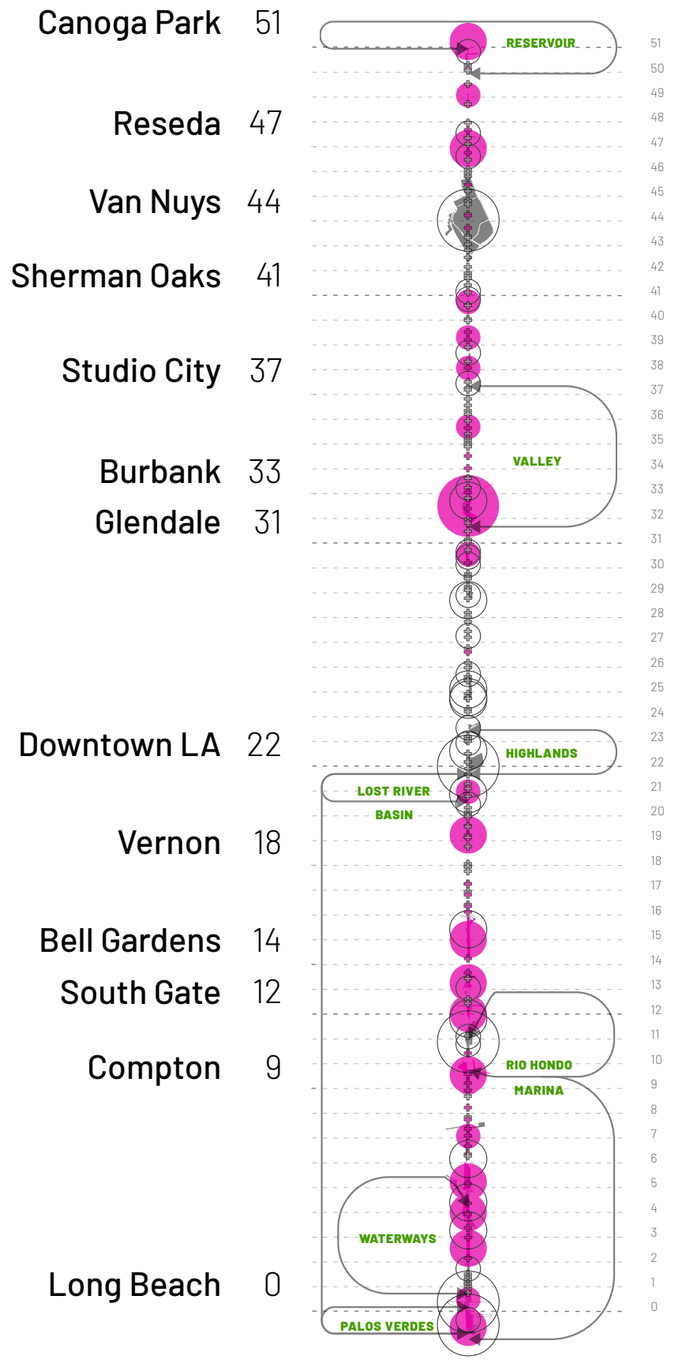
Planned Major Projects (Linear)

XS, S Proposed Projects

XS, S Proposed Projects from Plans*

NAME Proposed Regional Connectivity Loops

Source: OLIN, Gehry Partners, Geosyntec
*Plans referenced include Lower Los Angeles River Revitalization Plan, Los Angeles River Revitalization Master Plan, and Metro LA River Path Project



OVERLAYS

River Improvement Overlay Zone (LARRMP)

The Los Angeles River Improvement Overlay (RIO) was developed out of the LA River Revitalization Master Plan. It is a 32-mile zoning overlay that establishes an area in which new projects must comply with certain design standards related to three categories: watershed, urban design, and mobility. The RIO is intended to help the city coordinate land use development along the river, enhance the unique qualities of the river, and better serve adjacent communities within the city's boundaries.

Habitat Restoration Zones (ARBOR Study)

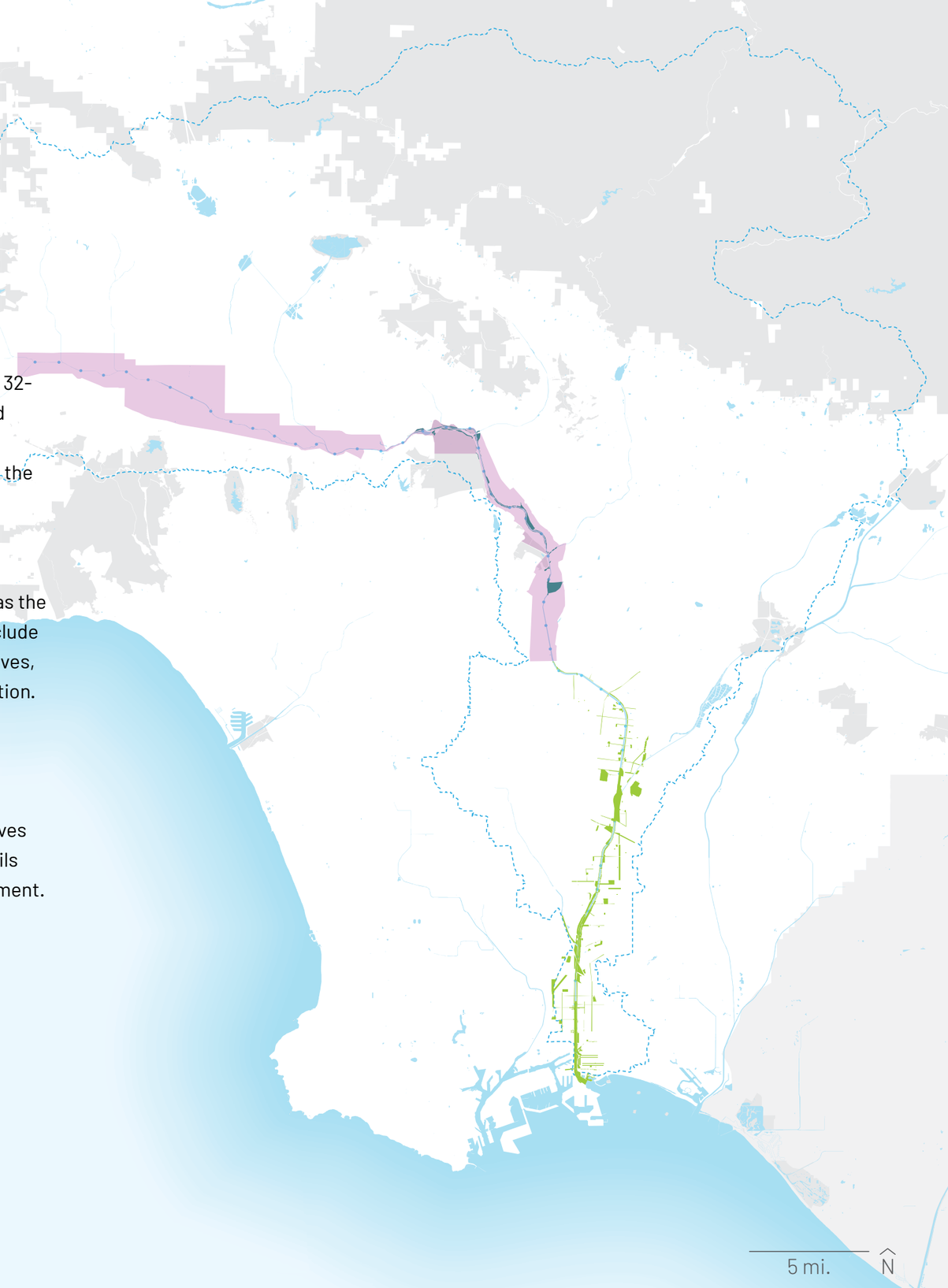
The Los Angeles River Ecosystem Restoration Integrated Feasibility Report and its Recommended Plan (also known as the ARBOR Study) present potential alternatives for environmental restoration of 11 mile of the Los Angeles River that include the soft-bottomed Glendale Narrows. The study analyzes the environmental impacts of implementing those alternatives, reviews the process for selecting the best alternative, and concludes with recommendations for project implementation.

Opportunity Zones (LLARRP)

Opportunity zones are comprised of publicly-owned open spaces and other areas with revitalization potential, as determined through the Lower LA River Revitalization Plan. Each opportunity zone is associated with a set of objectives based on existing conditions and context, as well as strategies for achieving those objectives. The LLARRP also details the "opportunity potential" of each zone to address various focus areas of the overall plan, such as water and environment.

RIO Zone (LARRMP)
Habitat Restoration Zones (ARBOR Study)
Opportunity Zones (LLARRP)

Source: OLIN, Geosyntec, based on Lower LA River Revitalization Plan (2017) ARBOR Study (2015), and LA River Revitalization Master Plan (2007).



SITE SELECTION REVIEW

M, L, XL SITE-BASED PROJECTS

22 PROPOSED PROJECT SITES
54 PLANNED MAJOR PROJECTS

Proposed Project Sites
Planned Major Projects



Sources: OLIN, Gehry Partners, Geosyntec

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: LARRMP

RM 51.1

River Origin Park



Frame 9

Los Angeles

M / 6.7 acres

Land Ownership:
97% Public (Non-County), 1% Privately Owned, 1% County Owned, 1% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 27

State Senate: 27

State Assembly: 3

Planned Major Project: LARRMP

RM 50.6

Canoga Park River Park



Frame 9

Los Angeles

M / 16.5 acres

Land Ownership:
40% Privately Owned, 22% County Owned, 21% Unclassified, 17% Public (Non-County)

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

Planned Major Project: City of LA Bureau of Engineering

RM 47.8

LA River Valley Bikeways and Greenway



Frame 9, 8, 7

Los Angeles, Burbank

XL / 12.98 miles

Land Ownership:
38% County, 37% Public (Non-County), 16% Private, 9% Unclassified

Congressional District: 28, 30

Supervisor District: 3, 5

Council District: 2, 3, 4, 5, 6

State Senate: 18, 25, 26, 27

State Assembly: 43, 45, 46

Planned Major Project: LA City Mobility Plan

RM 47.5

Aliso Canyon Creek



Frame 49

Los Angeles

M / 2.2 miles

Land Ownership:
73% Public (Non-County), 13% Private, 8% Unclassified, 6% County

Congressional District: 30

Supervisor District: 3

Council District: 3, 12

State Senate: 27

State Assembly: 45

Planned Major Project: LARRMP

RM 47.4

Aliso Creek Confluence Park / Reseda River Loop



Frame 9

Los Angeles

M / 26.9 acres

Land Ownership:
66% County Owned, 21% Privately Owned, 13% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: LARRMP, MRCA

RM 46.5

Caballero Creek Confluence Park



Frame 9

Los Angeles

M / 1.5 acres

Land Ownership:
80% Public (Non-County), 20% County Owned

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

Planned Major Project: LARRMP

RM 44

Sepulveda Basin



Frame 9

Los Angeles

XL / 1884.2 acres

Land Ownership:
100% Public (Non-County)

Congressional District: 30

Supervisor District: 3

Council District: 6

State Senate: 27

State Assembly: 45

Planned Major Project: LARRMP

RM 41.2

Hazeltine River Edge Park



Frame 8

Los Angeles

M / 3.5 acres

Land Ownership:
51% Unclassified, 43% County Owned, 6% Privately Owned

Congressional District: 30

Supervisor District: 3

Council District: 4

State Senate: 18

State Assembly: 46

Planned Major Project: LARRMP

RM 40.9

Hazeltine Avenue



Frame 8

Los Angeles

M / 1.1 acres

Land Ownership:
91% Unclassified, 9% County Owned

Congressional District: 30

Supervisor District: 3

Council District: 4

State Senate: 18

State Assembly: 46

Planned Major Project: Save LA River Open Space

RM 38.8

LA River Natural Park



Frame 8

Los Angeles

M / 17.2 acres

Land Ownership:
94% Privately Owned, 6% Public (Non-County)

Congressional District: 30

Supervisor District: 3

Council District: 2

State Senate: 18

State Assembly: 46

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: LARRMP

RM 37.6

Tujunga Wash Confluence Park



Frame 7

Los Angeles

M / 1.4 acres

Land Ownership:
100% Privately Owned

Congressional District: 30

Supervisor District: 3

Council District: 2

State Senate: 18

State Assembly: 46

Planned Major Project: LA City Mobility Plan

RM 37.5

Tujunga Wash Path



Frame 7, 8

Bell, Maywood, Huntington Park, Vernon

M / 1.3 miles

Land Ownership:
50% County, 29% Private, 21% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 2, 4

State Senate: 18

State Assembly: 46

Planned Major Project: FoLAR, NE Trees, MRCA

RM 33.5

Sennett Creek



Frame 7

Los Angeles

M / 16.7 acres

Land Ownership:
54% Public (Non-County), 31% Private, 15% Unclassified

Congressional District: 28

Supervisor District: 3

Council District: 4

State Senate: 25

State Assembly: 43

Planned Major Project: LARRMP, ARBOR Study

RM 33

Headworks Park



Frame 7

Los Angeles

L / 52.8 acres

Land Ownership:
83% Public (Non-County), 17% Unclassified

Congressional District: 28

Supervisor District: 3

Council District: 4

State Senate: 25

State Assembly: 43

Planned Major Project: LARRMP

RM 31

Glendale Riverwalk Non-Motorized Bridge



Frame 6

Los Angeles

M / 2.2 acres

Land Ownership:
82% Public (Non-County), 13% Unclassified, 5% County Owned

Congressional District: 28

Supervisor District: 3

Council District: 4

State Senate: 25

State Assembly: 43

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: City of Glendale

RM 30.8

Glendale Narrows Riverwalk



Frame 6

Los Angeles

M / 2.1 acres

Land Ownership:
59% Public (Non-County), 38% County, 2% Private, 1% Unclassified

Congressional District: 28

Supervisor District: 3,5

Council District: 4

State Senate: 25

State Assembly: 43

Planned Major Project: Glendale Bike Plan

RM 30.7

San Fernando Railroad



Frame 6

Los Angeles, Glendale

M / 4.5 miles

Land Ownership:
69% Private, 27% County, 4% Unclassified

Congressional District: 28

Supervisor District: 5

Council District: 13

State Senate: 25

State Assembly: 43

Planned Major Project: Burbank Bicycle Master Plan

RM 30.65

San Fernando Path



Frame 6

Los Angeles, Glendale, Burbank

L / 5.5 miles

Land Ownership:
100% Unclassified

Congressional District: 28

Supervisor District: 3, 5

Council District: 13

State Senate: 25

State Assembly: 43

Planned Major Project: Glendale Bike Plan

RM 30.6

Verdugo Wash



Frame 6

Glendale

L / 7.3 miles

Land Ownership:
41% County, 28% Private, 24% Public (Non-County), 7% Unclassified

Congressional District: 28

Supervisor District: 5

Council District: n/a

State Senate: 25

State Assembly: 43

Planned Major Project: LARRMP, ARBOR Study

RM 30.5

River Glen Wetlands



Frame 6

Los Angeles

M / 4.6 acres

Land Ownership:
91% Privately Owned, 9% Unclassified

Congressional District: 28

Supervisor District: 3

Council District: 13

State Senate: 25

State Assembly: 43

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: City of LA

RM 29.3

Central Service Yard



Frame 6

Los Angeles

M / 26.1 acres

Land Ownership:
100% Public (Non-County)

Congressional District: 28

Supervisor District: 3

Council District: 13

State Senate: 25

State Assembly: 43

Planned Major Project: City of LA Bureau of Engineering

RM 29.1

North Atwater Crossing



Frame 6

Los Angeles

L / 0.7 acres

Land Ownership:
100% Public (Non-County)

Congressional District: 28

Supervisor District: 3

Council District: 4, 13

State Senate: 25

State Assembly: 43

Planned Major Project: City of LA Bureau of Engineering

RM 27.7

Red Car Bridge



Frame 6

Los Angeles

M / 0.9 acres

Land Ownership:
77% County Owned, 15% Unclassified, 8% Public (Non-County)

Congressional District: 28

Supervisor District: 3

Council District: 4, 13

State Senate: 25

State Assembly: 51

Planned Major Project: ARBOR Study, State Parks, The Nature Conservancy

RM 26.2

G1 Bowtie



Frame 6

Los Angeles

M / 20.4 acres

Land Ownership:
93% Public (Non-County), 7% Privately Owned

Congressional District: 28

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Planned Major Project: LARRMP, ARBOR Study

RM 25.6

G2 Taylor Yard



Frame 6

Los Angeles

L / 41.6 acres

Land Ownership:
100% Privately Owned

Congressional District: 28

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: LARRMP

RM 25.3

Dorris Place Sanitation Yard



Frame 6

Los Angeles

L / 7.5 acres

Land Ownership:
87% Public (Non-County), 12% Privately Owned, 1% Unclassified

Congressional District: 28

Supervisor District: 1

Council District: 13

State Senate: 24

State Assembly: 51

Planned Major Project: LARRMP

RM 25.2

Taylor Yard Non-Motorized Bridge



Frame 6

Los Angeles

L / 0.9 acres

Land Ownership:
78% Public (Non-County), 22% Privately Owned

Congressional District: 28

Supervisor District: 1

Council District: 13

State Senate: 24

State Assembly: 51

Planned Major Project: Metro

RM 24.5

Metro Path



Frame 4, 5

Los Angeles, Vernon

L / 7.9 miles

Land Ownership:
47% Public (Non-County), 36% County, 13% Private

Congressional District: 34, 40

Supervisor District: 1

Council District: 1, 14

State Senate: 24, 33

State Assembly: 51, 53

Planned Major Project: LARRMP, ARBOR Study, MRCA

RM 24.1

Arroyo Seco Confluence



Frame 5

Los Angeles

M / 22.3 acres

Land Ownership:
37% Public (Non-County), 54% Unclassified, 7% Private, 2% County

Congressional District: 34

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Planned Major Project: Arroyo Seco Foundation

RM 24

Arroyo Seco Greenway



Frame 45

Los Angeles

M / 2.5 miles

Land Ownership:
73% Public (Non-County), 25% Unclassified, 1% County

Congressional District: 34

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: Lauren Bon and the Metabolic Studio

RM 23.5

Bending the River Back into the City



Frame 5

Los Angeles

M / 21.7 acres

Land Ownership:
41% Public (Non-County), 27% Private, 21% County, 11% Unclassified

Congressional District: 34

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Planned Major Project: ARBOR Study

RM 23.2

Main Street Terrace



Frame 5

Los Angeles

L / 1.5 acres

Land Ownership:
100% Public (Non-County)

Congressional District: 34

Supervisor District: 1

Council District: 1

State Senate: 24

State Assembly: 51

Planned Major Project: LARRMP, ARBOR Study

RM 22.6

Piggyback Yard



Frame 5

Los Angeles

XL / 162.4 acres

Land Ownership:
97% Private, 2% Unclassified, 1% County

Congressional District: 34

Supervisor District: 1

Council District: 14

State Senate: 24

State Assembly: 51

Planned Major Project: LARRMP

RM 21.5

First Street to Sixth Street River Loop



Frame 5

Los Angeles

L / 63.5 acres

Land Ownership:
58% County, 25% Private, 8% Public (Non-County), 9% Unclassified

Congressional District: 34

Supervisor District: 1

Council District: 14

State Senate: 24

State Assembly: 53

Planned Major Project: City of LA

RM 21.1

6th Street Viaduct



Frame 5

Los Angeles

M / 6.5 acres

Land Ownership:
37% Unclassified, 29% Private, 28% Public (Non-County), 6% County

Congressional District: 35

Supervisor District: 1

Council District: 14

State Senate: 24

State Assembly: 53

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: Gateway Cities Strategic Transportation Plan

RM 18.2

West Santa Ana Branch Bikeway



Frame 3, 4

Bell, Huntington Park, Downey, Cudahy, South Gate, Paramount, Vernon, Maywood

L / 9.8 miles

Land Ownership:
78% Public (Non-County), 14% County, 5% Unclassified, 3% Private

Congressional District: 40, 44

Supervisor District: 1, 4

Council District: n/a

State Senate: 32, 33

State Assembly: 53, 58, 63

Source: OLIN, Geosyntec, Gehry Partners

Planned Major Project: LLARRP

RM 16.2

Upper Segment Multi-use Easement and Atlantic Blvd Area



Frame 4

Vernon, Bell

L / 61.4 acres

Land Ownership:
66% Public (Non-County), 14% Private, 14% Unclassified, 6% County

Congressional District: 40

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 53, 63

Planned Major Project: Metro ATSP

RM 15.3

Active Transportation Rail to River Corridor: Randolph Street



Frame 4

Bell, Maywood, Huntington Park, Vernon

M / 3.9 miles

Land Ownership:
54% Privately, 44% Unclassified, 2% Public (Non-County)

Congressional District: 40

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 53, 59, 63

Planned Major Project: LLARRP

RM 13.9

Cudahy River Park



Frame 3

Cudahy

M / 32 acres

Land Ownership:
51% Public (Non-County), 29% Privately, 18% Unclassified, 2% County

Congressional District: 40

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

Planned Major Project: South Bay Master Bike Plan, City of South Gate - One Step Closer to the LA River

RM 13.5

U.P.R.R. Spur Line



Frame 3

South Gate, Cudahy

M / 3 miles

Land Ownership:
97% Private, 3% Unclassified

Congressional District: 40, 44

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 59, 63

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: TPL, City of South Gate, LLARRP, RMC

RM 12.7

South Gate Orchard



Frame 3

South Gate

L / 27.8 acres

Land Ownership:
56% Public (Non-County), 29% Private, 10% County, 5% Unclassified

Congressional District: 44

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

Planned Major Project: City of South Gate - One Step Closer to the LA River

RM 12

Parque Dos Rios



Frame 3

South Gate

M / 6.9 acres

Land Ownership:
100% Private

Congressional District: 44

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

Planned Major Project: Metro

RM 11.9

I-710 Corridor Bike Path Project: Western LA River Levee Bike Path



Frame 2

Long Beach, Lynwood, Compton, Paramount

XL / 11.6 miles

Land Ownership:
68% County, 18% Private, 9% Unclassified, 5% Public (Non-County)

Congressional District: 40, 44, 47

Supervisor District: 2, 4

Council District: n/a

State Senate: 33, 35

State Assembly: 63, 64, 70

Planned Major Project: LLARRP, LACDPW

RM 11.8

Rio Hondo Confluence



Frame 3

South Gate

XL / 164.6 acres

Land Ownership:
38% Private, 33% Public (Non-County), 16% County, 13% Unclassified

Congressional District: 44

Supervisor District: 1, 2

Council District: n/a

State Senate: 33

State Assembly: 63

Planned Major Project: LLARRP, RMA

RM 11.7

SELA Cultural Center



Frame 3

South Gate

M / 10 acres

Land Ownership:
98% County, 2% Unclassified

Congressional District: 44

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: Metro

RM 10.4

I-710 Corridor Bike Path Project: Terminal Island to Rio Hondo



Frame 1, 2, 3

Long Beach, Paramount, Compton, South Gate

L / 5.9 miles

Land Ownership:
60% Unclassified, 27% Private, 10% Public (Non-County), 3% County

Congressional District: 40, 44, 47

Supervisor District: 1, 2, 4

Council District: n/a

State Senate: 33, 35

State Assembly: 63, 64, 70

Planned Major Project: Metro

RM 9.4

I-710 Corridor Bike Path Project: Compton Blvd



Frame 3

Compton, Paramount

M / 2.2 miles

Land Ownership:
100% Unclassified

Congressional District: 40, 44

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 63, 64

Planned Major Project: LLARRP

RM 7.2

Middle Segment Multi-use Easement and Crossover



Frame 2

Long Beach, Unincorporated

L / 148.1 acres

Land Ownership:
80% Private, 10% Public (Non-County), 6% County, 4% Unclassified

Congressional District: 44

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 63, 64

Planned Major Project: LLARRP

RM 5.5

Compton Creek Confluence Area



Frame 2

Long Beach

L / 87.9 acres

Land Ownership:
52% County, 44% Private, 4% Unclassified

Congressional District: 44, 47

Supervisor District: 2, 4

Council District: n/a

State Senate: 33, 35

State Assembly: 64

Planned Major Project: Long Beach Riverlink, LLARRP

RM 4.4

Wrigley Heights River Park



Frame 2

Long Beach

L / 63.7 acres

Land Ownership:
60% Private, 25% County, 10% Unclassified, 5% Public (Non-County)

Congressional District: 44, 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 70

Source: OLIN, Geosyntec, Gehry Partners

PLANNED MAJOR PROJECTS: M, L, XL

Planned Major Project: LLARRP

RM 2.9

Willow Street



Frame 1

Long Beach

M / 11.8 acres

Land Ownership:
98% Unclassified, 1% Public (Non-County), 1% Private

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 70

Planned Major Project: LLARRP

RM 1.6

South of Willow Street



Frame 1

Long Beach

XL / 258.7 acres

Land Ownership:
62% County, 26% Unclassified, 12% Private

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 70

Planned Major Project: City of Long Beach

RM 0.9

Long Beach Municipal Urban Stormwater Treatment



Frame 1

Long Beach

M / 8.2 acres

Land Ownership:
68% Public (Non-County), 12% County, 11% Private, 9% Unclassified

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 70

Planned Major Project: I-710 Corridor Improvement Project

RM 0.7

Shoemaker Bridge Replacement



Frame 1

Long Beach

XL / 179.9 acres

Land Ownership:
54% Unclassified, 26% Public (Non-County), 11% County, 9% Private

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 70

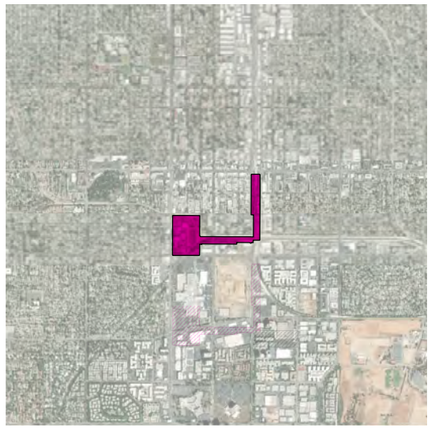
Source: OLIN, Geosyntec, Gehry Partners

POTENTIAL PROJECT SITES: M, L, XL

LARMP Proposed Project

RM 51

Canoga High School



Frame 9

Los Angeles

L / 44.4 acres

Land Ownership:
56% Public (Non-County), 41% County, 3% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

LARMP Proposed Project

RM 48.9

Pierce College Connector



Frame 9

Los Angeles

M / 13.9 acres

Land Ownership:
86% County, 10% Public (Non-County), 4% Private

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

LARMP Proposed Project

RM 46.8

Reseda Expansion



Frame 9

Los Angeles

L / 19 acres

Land Ownership:
87% County, 13% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 3

State Senate: 27

State Assembly: 45

LARMP Proposed Project

RM 40.8

Van Nuys Blvd



Frame 8

Los Angeles

M / 19.6 acres

Land Ownership:
57% County, 41% Unclassified, 2% Private

Congressional District: 30

Supervisor District: 3

Council District: 4

State Senate: 10

State Assembly: 46

LARMP Proposed Project

RM 39.4

West of Coldwater



Frame 8

Los Angeles

M / 7.6 acres

Land Ownership:
94% County, 6% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 2

State Senate: 10

State Assembly: 46

Source: OLIN, Geosyntec, Gehry Partners

POTENTIAL PROJECT SITES: M, L, XL

LARMP Proposed Project

RM 38.2

Upstream from Tujunga Confluence



Frame 8

Los Angeles

M / 15.7 acres

Land Ownership:
81% County, 19% Unclassified

Congressional District: 30

Supervisor District: 3

Council District: 2

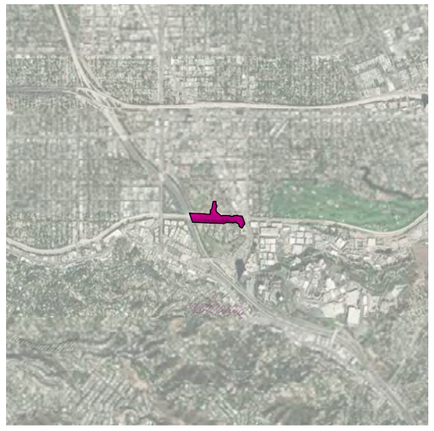
State Senate: 10

State Assembly: 46

LARMP Proposed Project

RM 35.9

101 Freeway Crossing



Frame 7

Los Angeles

M / 11.5 acres

Land Ownership:
60% County, 22% Unclassified, 18% Private

Congressional District: 30

Supervisor District: 3

Council District: 2

State Senate: 10

State Assembly: 46

LARMP Proposed Project

RM 32.8

Headworks Connector



Frame 7

Los Angeles

XL / 225.7 acres

Land Ownership:
68% Public (Non-County), 30% Unclassified, 1% Private, 1% County

Congressional District: 28, 30

Supervisor District: 3, 5

Council District: 4

State Senate: 25

State Assembly: 43

LARMP Proposed Project

RM 30.9

Ferraro Fields



Frame 6

Los Angeles

L / 52.2 acres

Land Ownership:
77% Public (Non-County), 14% Unclassified, 9% County

Congressional District: 28

Supervisor District: 3, 5

Council District: 4

State Senate: 25

State Assembly: 43

LARMP Proposed Project

RM 21.6

Downtown Train Yard



Frame 5

Los Angeles

M / 15.1 acres

Land Ownership:
80% Public (Non-County), 20% County

Congressional District: 34

Supervisor District: 1

Council District: 14

State Senate: 24

State Assembly: 53

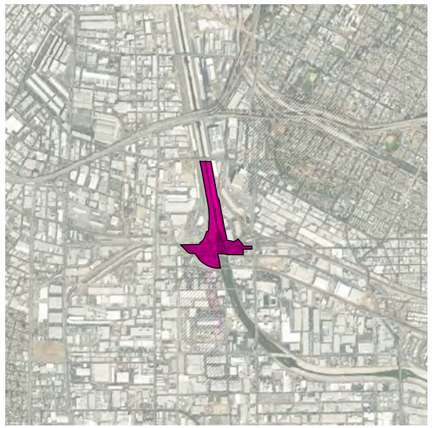
Sources: OLIN, Gehry Partners, Geosyntec

POTENTIAL PROJECT SITES: M, L, XL

LARMP Proposed Project

RM 19.9

East Washington Blvd



Frame 5

Los Angeles

L / 45.6 acres

Land Ownership:
63% Public (Non-County), 20% Private, 12% Unclassified, 5% County

Congressional District: 34

Supervisor District: 1

Council District: 14

State Senate: 24

State Assembly: 53

LARMP Proposed Project

RM 15.8

Maywood Park Bend



Frame 4

Maywood

L / 126.7 acres

Land Ownership:
72% County, 11% Public (Non-County), 9% Private, 8% Unclassified

Congressional District: 40

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 53, 63

LARMP Proposed Project

RM 14.1

Clara Street



Frame 3

Cudahy

L / 54.7 acres

Land Ownership:
60% County, 23% Public (Non-County), 10% Unclassified, 7% Private

Congressional District: 40

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

LARMP Proposed Project

RM 12.9

Firestone Blvd



Frame 3

South Gate

L / 56 acres

Land Ownership:
52% County, 26% Public (Non-County), 16% County, 6% Unclassified

Congressional District: 44

Supervisor District: 1

Council District: n/a

State Senate: 33

State Assembly: 63

LARMP Proposed Project

RM 10.5

Highway 105



Frame 3

Paramount

L / 105.9 acres

Land Ownership:
54% Unclassified, 20% Private, 16% Public (Non-County), 10% County

Congressional District: 40, 44

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 63

Sources: OLIN, Gehry Partners, Geosyntec

POTENTIAL PROJECT SITES: M, L, XL

LARMP Proposed Project

RM 10.2

E Rosecrans Ave



Frame 3

Paramount

M / 34.4 acres

Land Ownership:
42% Private, 38% County, 20% Unclassified

Congressional District: 40

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 63

LARMP Proposed Project

RM 8.1

Connectivity Corridor



Frame 2

Long Beach

M / 39.7 acres

Land Ownership:
58% County, 33% Private, 5% Public (Non-County), 4% Unclassified

Congressional District: 44

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 63, 64

LARMP Proposed Project

RM 6.3

Sutter Bend at Del Amo Blvd



Frame 2

Long Beach

L / 141 acres

Land Ownership:
64% County, 30% Unclassified, 4% Private, 2% Public (Non-County)

Congressional District: 44

Supervisor District: 2, 4

Council District: n/a

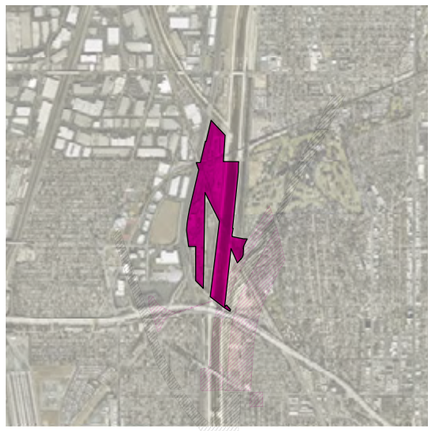
State Senate: 33, 35

State Assembly: 64

LARMP Proposed Project

RM 5.1

W 47th St / Rancho Los Cerritos



Frame 2

Long Beach

L / 117.8 acres

Land Ownership:
62% County, 35% Private, 2% Unclassified, 1% Public (Non-County)

Congressional District: 44, 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 70

LARMP Proposed Project

RM 3.7

W 28th St to 405 Freeway



Frame 1

Long Beach

L / 97.4 acres

Land Ownership:
97% County, 3% Unclassified

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33, 35

State Assembly: 70

Sources: OLIN, Gehry Partners, Geosyntec

POTENTIAL PROJECT SITES: M, L, XL

LARMP Proposed Project

RM 1.7

Middle Long Beach



Frame 1

Long Beach

M / 39.9 acres

Land Ownership:
40% Private, 28% County, 22% Unclassified, 10% Public (Non-County)

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 70

LARMP Proposed Project

RM 0.6

Cesar Chavez Park Connector



Frame 1

Long Beach

L / 81.4 acres

Land Ownership:
64% County, 20% Public (Non-County), 12% Private, 4% Unclassified

Congressional District: 47

Supervisor District: 4

Council District: n/a

State Senate: 33

State Assembly: 71

Sources: OLIN, Gehry Partners, Geosyntec

SITES AND NEEDS

RM 51.1
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION

RM 51
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 50.6
FLOOD RISK
PARKS
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 48.9
FLOOD RISK
WATER SUPPLY
PARKS
ECOSYSTEMS
ARTS & CULTURE
EDUCATION

RM 47.8
FLOOD RISK
ECOSYSTEMS
ACCESS
WATER SUPPLY
EDUCATION

RM 47.5
PARKS
ARTS & CULTURE
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 47.4
FLOOD RISK
ACCESS
ARTS & CULTURE
WATER SUPPLY
PARKS, ECOSYSTEMS
EDUCATION
WATER QUALITY

RM 46.8
FLOOD RISK
ACCESS
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE
EDUCATION
WATER QUALITY

RM 46.5
FLOOD RISK
ACCESS
WATER SUPPLY
ECOSYSTEMS
ARTS & CULTURE

RM 44
ECOSYSTEMS
WATER SUPPLY

RM 41.2
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 40.9
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 40.8
ACCESS
EDUCATION
WATER SUPPLY
ECOSYSTEMS

RM 39.4
WATER SUPPLY
ECOSYSTEMS
EDUCATION
WATER QUALITY

RM 38.8
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 38.2
FLOOD RISK
WATER SUPPLY
ECOSYSTEMS
ACCESS
EDUCATION
WATER QUALITY

RM 37.6
FLOOD RISK
WATER SUPPLY
WATER QUALITY
ECOSYSTEMS
EDUCATION

RM 37.5
ECOSYSTEMS
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 35.9
ACCESS
FLOOD RISK
EDUCATION
WATER SUPPLY
ECOSYSTEMS
WATER QUALITY

RM 33.5
ECOSYSTEMS
ACCESS
EDUCATION
WATER SUPPLY

RM 33
FLOOD RISK
ECOSYSTEMS
ACCESS
EDUCATION
WATER SUPPLY

RM 32.8
FLOOD RISK
ACCESS
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 31
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 30.9
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.8
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.7
PARKS
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 30.65
FLOOD RISK
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 30.6
ECOSYSTEMS
WATER QUALITY
ARTS & CULTURE
EDUCATION
WATER SUPPLY

RM 30.5
ECOSYSTEMS
WATER QUALITY
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 29.3
FLOOD RISK
ACCESS
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 29.1
FLOOD RISK
ACCESS
ECOSYSTEMS
WATER SUPPLY

RM 27.7
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY

RM 26.2
ECOSYSTEMS
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER SUPPLY

RM 25.6
ECOSYSTEMS
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER SUPPLY

RM 25.3
FLOOD RISK
AFFORDABLE HOUSING
ECOSYSTEMS
EDUCATION
WATER SUPPLY

RM 25.2
FLOOD RISK
ECOSYSTEMS
AFFORDABLE HOUSING
PARKS
WATER SUPPLY

RM 24.5
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
FLOOD RISK
PARKS
ECOSYSTEMS

RM 24.1
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 24
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING

RM 23.5
FLOOD RISK
ACCESS
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 23.2
FLOOD RISK
ACCESS
WATER SUPPLY
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING

RM 22.6
FLOOD RISK
PARKS
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 21.6
ACCESS
AFFORDABLE HOUSING
WATER SUPPLY
PARKS
ECOSYSTEMS

RM 21.5
AFFORDABLE HOUSING
ACCESS
PARKS
ECOSYSTEMS
WATER SUPPLY
WATER QUALITY

RM 21.1
ACCESS
AFFORDABLE HOUSING
PARKS
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY

RM 19.9
ACCESS
AFFORDABLE HOUSING
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER QUALITY

RM 18.2
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY

RM 16.2
ECOSYSTEMS
WATER QUALITY
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING

RM 15.8
ECOSYSTEMS
ARTS & CULTURE
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 15.3
PARKS
WATER QUALITY
ARTS & CULTURE
AFFORDABLE HOUSING

RM 14.1
ARTS & CULTURE
WATER QUALITY
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION

RM 13.9
ARTS & CULTURE
FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

RM 13.5
ARTS & CULTURE
WATER SUPPLY
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 12.9
WATER SUPPLY
ECOSYSTEMS
AFFORDABLE HOUSING
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE

RM 12.7
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY
FLOOD RISK, PARKS
ARTS & CULTURE

RM 12
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY
WATER QUALITY
FLOOD RISK, PARKS
AFFORDABLE HOUSING

RM 11.9
ECOSYSTEMS
PARKS
ACCESS
ARTS & CULTORE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 11.8
ECOSYSTEMS
AFFORDABLE HOUSING
WATER QUALITY
FLOOD RISK
PARKS
ARTS & CULTURE

RM 11.7
ECOSYSTEMS
WATER QUALITY
FLOOD RISK
ARTS & CULTURE

RM 10.5
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 10.4
FLOOD RISK
PARKS
ECOSYSTEMS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 10.2
ECOSYSTEMS
ARTS & CULTURE
WATER SUPPLY
FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER QUALITY

RM 9.4
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

RM 8.1
ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY
FLOOD RISK
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

RM 7.2
ECOSYSTEMS
FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 6.3
ECOSYSTEMS
FLOOD RISK
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

RM 5.5
ECOSYSTEMS
WATER SUPPLY
FLOOD RISK, PARKS
ARTS & CULTURE
EDUCATION
WATER QUALITY

RM 5.1
ECOSYSTEMS
WATER SUPPLY
FLOOD RISK
WATER QUALITY

RM 4.4
ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY

RM 3.7
ECOSYSTEMS
WATER SUPPLY
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION

RM 2.9
ECOSYSTEMS
FLOOD RISK
PARKS
ARTS & CULTURE
WATER SUPPLY
WATER QUALITY

RM 1.7
FLOOD RISK
ARTS & CULTURE
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 1.6
FLOOD RISK
ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY

RM 0.9
FLOOD RISK
PARKS
ARTS & CULTURE
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

RM 0.7
FLOOD RISK
AFFORDABLE HOUSING
ARTS & CULTURE
WATER SUPPLY

RM 0.6
AFFORDABLE HOUSING
FLOOD RISK
ECOSYSTEMS
WATER SUPPLY

Potential Project Site
Planned Major Project

VERY HIGH NEED
HIGH NEED
NEED

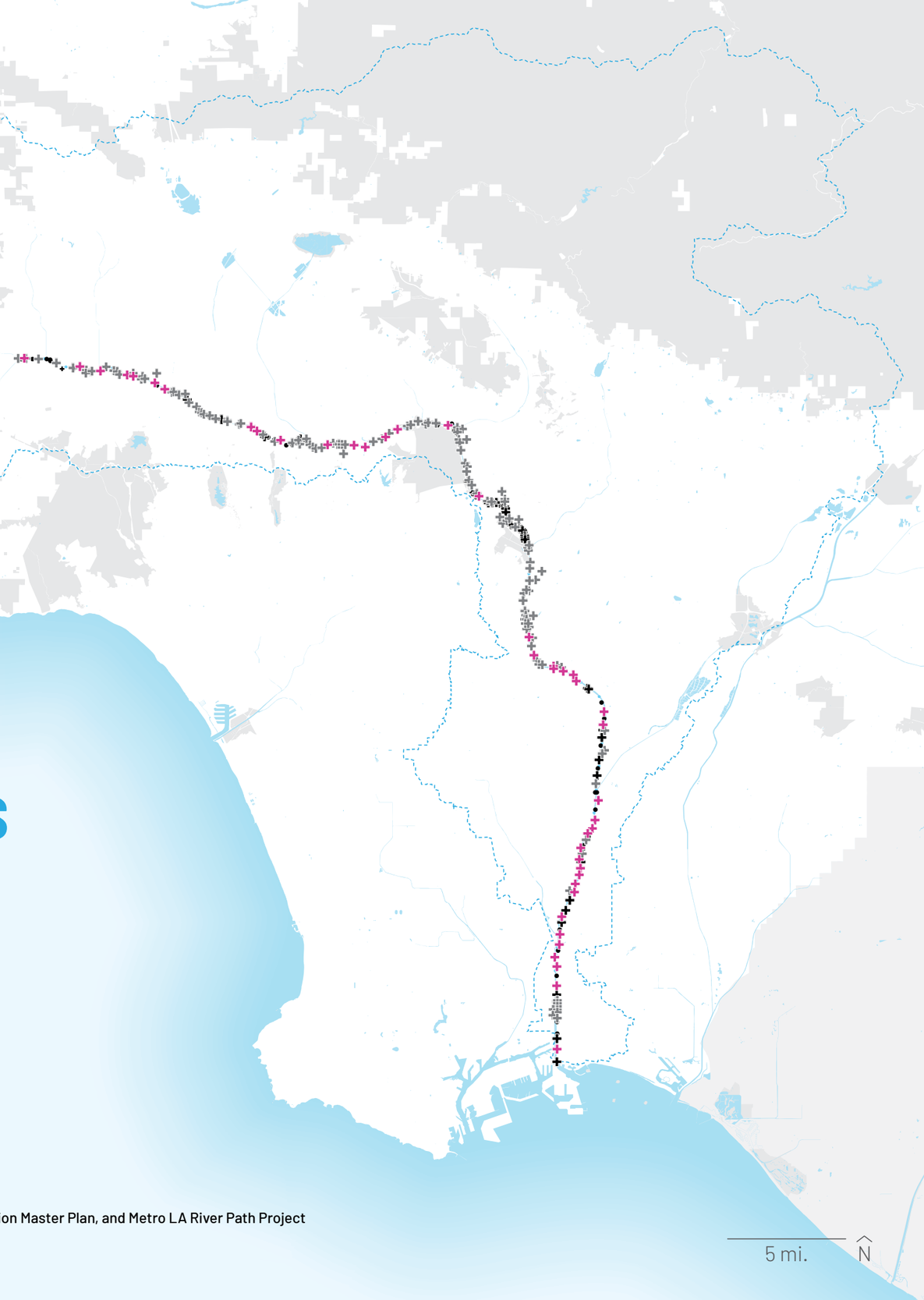
Sources: OLIN, Gehry Partners, Geosyntec

SITE SELECTION REVIEW

XS, S PROJECTS

43 NEWLY PROPOSED PROJECTS
123 ADDITIONAL PROJECTS FROM PLANS
42 IMPROVED ACCESS POINTS

- XS, S Proposed Projects
- XS, S Projects from Plans*
- Potential Access Points to Upgrade
- Existing Access Points



Source: OLIN, Gehry Partners, Geosyntec

*Plans referenced include Lower Los Angeles River Revitalization Plan, Los Angeles River Revitalization Master Plan, and Metro LA River Path Project

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
51	Project 2: Canoga Park High School Outdoor Classroom	Canoga Park High School	x				Conceptual
50.85	Bassett St & Alabama Ave	Bassett St & Alabama Ave				x	n/a
50.78	Project 5: Canoga Park Regional Gateway	Bassett St & Canoga Ave	x				Conceptual
50.24	De Soto Ave South	De Soto Ave South	x				TBD
49.44	Project 18: Acquisition of Property between Oso Avenue and Vanowen Street	Archwood St & Oso Ave	x				Conceptual
48.7	Project 22: Acquisition of Property between Corbin Avenue and the River	Corbin Ave, north of Hamlin St	x				Conceptual
48.41	Shirley Ave & Kittridge St	Shirley Ave & Kittridge St				x	n/a
48.1	Project 24: Acquisition of Property at Tampa Avenue and the River	Tampa Ave, north of LA River	x				Conceptual
48.09	Project 23: Tampa Avenue and Victory Boulevard Enhanced Intersection	Victory Blvd & Tampa Ave	x				Conceptual
47.85	Vanalden Avenue Pocket Park	Vanalden Ave, north of LA River	x				TBD
47.5	Aliso Connector	Aliso Connector				x	n/a
47.22	Project 32: Amigo Avenue Pocket Park	Amigo Ave, north of LA River	x				TBD
46.84	Project 37: Reseda Park River Park Buffer	Etiwanda Ave at Reseda High School	x				Conceptual
46.7	Project 40: Reseda High School Outdoor Classroom	Etiwanda Ave at Reseda High School	x				Conceptual
46.56	Project 43: Caballero Creek Non-Motorized Bridge	Caballero Creek Confluence	x				In Design
46.22	Zelzah Ave & Duncan St	Zelzah Ave & Duncan St				x	n/a
45.97	Project 44: White Oak Avenue and Victory Boulevard Enhanced Intersection	Victory Blvd & White Oak Ave	x				Conceptual
45.97	White Oak Ave & LA River	White Oak Ave & LA River				x	n/a
45.59	Project 46: Encino Velodrome Wetlands Park	West of Sepulveda Basin	x				TBD
45.58	LA River Veteran Tribute Park	South of Victory Blvd, north of Sepulveda Basin	x				Complete or in Design / Planning
45.45	Project 48: Orange Line Bridge Non-Motorized Bridge	Southern Railroad and LA River, north of Sepulveda Basin	x				TBD
45.05	Project 51: Sepulveda Basin Regional Gateway	Victory Blvd & Balboa Blvd	x				TBD
44.99	West of Balboa Blvd	West of Balboa Blvd				x	n/a
44.5	Balboa & Encino Golf Course	Balboa & Encino Golf Course				x	n/a
44.17	Sepulveda Basin Boating	South of Woodley Lakes Golf Course	x				Complete or in Design / Planning

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
44.11	Project 53: Sepulveda Basin River Park Buffer	Balboa & Encino Golf Course	x				TBD
43.85	Project 57: Sepulveda Basin Non-Motorized Bridge	West of Burbank Blvd, south of Woodley Ave	x				TBD
43.61	Project 54: Sepulveda Basin Wetlands	West of Burbank Blvd, south of Woodley Ave	x				TBD
43.32	Project 56: Hjelte to Dam Wetlands Park	Encino Creek Confluence	x				TBD
42.94	Project 58: Sepulveda Spillway Park	North of San Diego Fwy & Ventura Fwy Intersection	x				TBD
42.7	Project 59: 405 Underpass	San Diego Fwy & LA River	x				TBD
42.6	Project 63: Castle Family Park	Otsego St & Sepulveda Blvd	x				TBD
42.49	Project 61: Sepulveda Boulevard River Bridge	Valley Heart Dr & Sepulveda Blvd	x				TBD
42.22	Noble Ave	Noble Ave	x				TBD
41.92	Project 64: Kester Avenue under 101 Freeway Portal	Valley Heart Dr & Kester Ave	x				Conceptual
41.41	Van Nuys Boulevard River Bridge	Riverside Dr & Van Nuys Blvd	x				TBD
41.4	Van Nuys Boulevard under 101 Freeway Portal	Riverside Dr & Van Nuys Blvd	x				Conceptual
40.86	Project 74: 101 Underpass	Ventura Fwy & Hazeltine Ave	x				TBD
40.8	Fashion Square River Park	NE of Ventura Fwy & Hazeltine Ave	x				Conceptual
40.34	Valleyheart Dr & Woodman Ave	Valleyheart Dr & Woodman Ave				x	n/a
40.03	Valleyheart Dr & Sunnyslope Ave	Valleyheart Dr & Sunnyslope Ave				x	n/a
39.74	Project 77: Moorpark Street Local Gateway	Bloomfield St & Fulton Ave	x				Conceptual
39.17	Project 80: Ventura Boulevard and Coldwater Canyon Boulevard Enhanced Intersection	Ventura Blvd & Coldwater Canyon Ave	x				Conceptual
38.91	Bellaire Ave & Valleyheart Dr	Bellaire Ave & Valleyheart Dr				x	n/a
38.35	Project 83: Laurelgrove Avenue Pocket Park	Valleyheart Dr & Laurelgrove Ave	x				Conceptual
38.1	Project 92: Ventura Boulevard and Laurel Canyon Boulevard Enhanced Intersection	Ventura Blvd & Laurel Canyon Blvd	x				Conceptual
38.03	Project 86: Laurel Canyon Boulevard River Bridge	Laurel Canyon Blvd & LA River	x				Conceptual
37.67	Project 93: CBS Studios Underpass	Tujunga Wash Confluence at Studio City	x				TBD
37.38	Colfax Ave North	Colfax Ave North	Recommended underpass				TBD
37.2	Project 91: Colfax Avenue Outdoor Classroom	Kelsey St	x				Conceptual

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
37.06	Project 99: Beck Avenue Local Gateway	Beck Ave	Recommended underpass				Conceptual
36.79	Tujunga Ave North	Tujunga Ave North	Recommended bridge crossing requiring minor improvement				TBD
36.51	Dilling St & Fair Avenue	Dilling St & Fair Avenue				x	n/a
36.27	Vineland Ave North	Vineland Ave North	x				TBD
36.09	Project 100: 101 Freeway Underpass at Weddington Park	Hollywood Fwy & LA River	x				Conceptual
36.02	Project 101: Weddington Park Expansion with Non-Motorized Bridge	Tujunga Wash Confluence near South Weddington Park	x				Conceptual
35.9	Project 102: Weddington Park Regional Gateway	Brookview Dr & Caratwright Ave	x				Conceptual
35.82	Lankershim Boulevard and Cahuenga Boulevard Enhanced Intersection	Hollywood Fwy & Lankershim Blvd	x				Conceptual
35.76	Project 107: Lankershim Boulevard River Bridge	Lankershim Blvd & LA River	x				Conceptual
35.39	Universal Studios West	Universal Studios West				x	n/a
34.9	Universal Studios	Universal Studios				x	n/a
34.5	Olive Ave North	Olive Ave North	Recommended underpass				TBD
34.12	Warner Brothers Studio	Warner Brothers Studio	Recommended underpass				TBD
33.94	Valleyheart Dr	Valleyheart Dr				x	n/a
33.71	Project 111: Bob Hope Drive Non-Motorized Bridge	Bob Hope Dr	x				Conceptual
33.29	Forest Lawn Cemetery	Forest Lawn Cemetery				x	n/a
32.86	Project 119: 134 Freeway Underpass / Overpass at Spreading Grounds	Ventura Fwy W & LA River	x				Conceptual
32.71	Project 121: South Mariposa Street Pocket Park	Valleyheart Dr & Mariposa St	x				Conceptual
32.38	Burbank Equestrian Center	Los Angeles Equestrian Center at Griffith Park	x				TBD
32.06	Project 118: Griffith Park River Park Buffer	Between Ventura Fwy & Zoo Dr	x				Conceptual
31.97	Project 117: Burbank Western Channel Non-Motorized Bridge	Burbank Western Channel Confluence	x				Conceptual
31.64	Riverside Dr North	Riverside Dr North	x				TBD

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
31.12	Ferraro Fields	Ferraro Fields				x	n/a
30.68	Project 133: River Glen Opportunity Area Outdoor Classroom	Verdugo Wash Confluence, north of Ventura Fwy	x				Conceptual
30.56	Project 127: Doran Street and San Fernando Road Enhanced Intersection	Ventura Fwy & San Fernando Rd	x				Conceptual
30.49	Project 131: River Glen Non-Motorized Bridge	Verdugo Wash Confluence	x				Conceptual
30.17	Project 137: Brazil Street Paseo	Brazil Street	x				Conceptual
30.06	Project 135: Brazil Street and San Fernando Road Enhanced Intersection	Brazil St & San Fernando Rd	x				Conceptual
30.03	Electronics Street Paseo	Electronics Pl	x				Conceptual
29.71	Project 142: Colorado Boulevard Non-Motorized Park	SE of Colorado St Fwy & Golden State Fwy Intersection	x				Conceptual
29.13	Project 145: North Atwater Park (River Vista Expansion)	West of North Atwater Park	x				Open to Public
28.96	Equestrian Center	Rigali Ave	x				TBD
28.77	Rigali Ave	Rigali Ave	Proposed Los Feliz Equetrian / Non-Motorized Bridge				TBD
28.39	Project 149: Los Feliz Boulevard River Bridge	Los Feliz Blvd & LA River	x				Conceptual
28.15	Project 150: Legion Lane Park	Legion Ln	x				Conceptual
27.71	Red Car Park	Ferncroft Rd & Glendale Blvd	x				Open to Public
27.56	Ferncroft Rd & Tyburn St	Ferncroft Rd & Tyburn St				x	n/a
27.13	Project 153: Silver Lake Boulevard Pocket Park	Silver Lake Blvd	x				Conceptual
26.94	Project 156: Fletcher Drive River Bridge	Fletcher Dr & LA River	x				Conceptual
26.58	Project 154: Fletcher Avenue and San Fernando Road Enhanced Intersection	Fletcher Dr & San Fernando Rd	x				Conceptual
26.45	Project 160: Edward Avenue Paseo	San Fernando Rd & Media Center Dr	x				Conceptual
26.42	Project 163: Media Center Drive Paseo	Media Center Dr	x				Conceptual
25.89	Project 168: Newell Street under 5 Freeway Portal	Newell St under Golden State Fwy	x				Conceptual
25.74	Project 172: Riverside Park	Between Landa St and Riverside Dr	x				Conceptual
25.72	Project 169: Blimp Street Paseo	Blimp St & Blake Ave	x				Conceptual
25.71	Project 167: Taylor Yard Outdoor Classroom	Perlita Ave, east of LA River	x				Complete or in Design / Planning

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
25.29	Project 174: Dorris Place Pocket Park	Dorris Pl & Crystal St	x				TBD
25.18	Project 178: San Fernando Road and Elm Street Enhanced Intersection	Elm St & San Fernando Rd	x				Conceptual
24.19	Project 183: Confluence Park	Figueroa St & San Fernando Rd	x				Open to Public
24.11	Project 182: Railroad Bridge Underpass/Overpass	Figueroa St & Santa Fe Railway	x				Conceptual
24	Project 186: Elysian Park Non-Motorized Bridge	Arroyo Seco Confluence	x				Conceptual
23.5	Project 194: Cornfields Non-Motorized Bridge	North of Spring St & LA River	x				TBD
23.23	Main St West	Main St West	Recommended underpass				TBD
23.22	Project 205: North Main Street under 5 Freeway Portal	Main St & Golden State Fwy	x				Conceptual
22.9	Project 209: Mission Yard River Park	North of Mission Rd	x				Complete or in Design / Planning
22.68	Project 208: Mission Yard River Loop	Lamar St	x				Complete or in Design / Planning
22.33	Project 210: East Side Soccer Fields Complex	Mission Rd & Cesar E Chavez Ave	x				Conceptual
22.31	Union Station	Cesar E. Chavez Ave & Keller St			x		Conceptual
22.11	Project 212: Commercial Street Pocket Park	Commercial St & Santa Fe Railroad	x				Conceptual
21.8	Project 215: First Street River Bridge	1st St & LA River	x				Conceptual
21.35	Project 218: Fourth Street River Bridge	4th St & LA River	x				Conceptual
21.17	Project 226: Downtown / Industrial Non-Motorized Bridge	North of 6th St & LA River	x				Conceptual
21.06	Project 228: Hollenbeck Park / Inex Street Paseo	6th St & Clarence St	x				Conceptual
20.85	7th Street East	7th Street & Mission Road			x		Conceptual
20.85	7th Street / Jesse St. Park	7th Street & LA River / Santa Fe Railway			x		Conceptual
20.64	Project 232: Seventh Street River Park	Mission Rd	x				Conceptual
20.59	Project 235: Bay Street and Sacramento Street Pocket Park	Sacramento St & Santa Fe Railroad	x				Conceptual
20.24	Olympic Blvd & Santa Fe Railway	Olympic Blvd & Santa Fe Railway				x	n/a
20.16	Project 236: Rio Vista Blufftop Park	Olympic Blvd & Rio Vista Ave	x				Conceptual
19.84	Project 239: Crown River Gateway and Ecological Park	West of Perrino Pl at LA River	x				Conceptual

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
19.43	26th St West of Soto St	26th St West of Soto St				x	n/a
19.17	Soto St	Soto St		102 - Soto Street, opportunity to improve river crossing			TBD
18.99	Bandini Blvd West	Bandini Blvd West		103 - Bandini Boulevard, opportunity to improve crossing			TBD
18.85	Bandini Blvd, northeast of LA River	Bandini Blvd, northeast of LA River		103 - Bandini Boulevard, opportunity to improve crossing			TBD
18.34	Bandini Islands	Bandini Islands				x	n/a
18.33	Vernon Ave & Union Pacific Railroad	Vernon Ave & Union Pacific Railroad				x	n/a
18.18	Downey Rd North	Downey Rd North		104 - Downey Road, opportunity to improve crossing			TBD
18.01	Bandini Blvd, north of LA River	Bandini Blvd, north of LA River		121 - Bandini WQ / Riverside Park			TBD
17.88	Charter St & Santa Fe Railway	Charter St & Santa Fe Railway				x	n/a
17.42	Bandini Blvd, west of Atlantic Interchange	Bandini Blvd, west of Atlantic Interchange				x	n/a
17.19	District Blvd & Gifford Avenue	District Blvd & Gifford Avenue				x	n/a
15.32	Casitas Ave & Randolph St	Casitas Ave & Randolph St				x	n/a
14.75	Southall Lane & River Dr	Southall Lane & River Dr				x	n/a
14.52	Florence Ave, east of Long Beach Fwy	Florence Ave, east of Long Beach Fwy		Gateway			TBD
13.69	Fostoria St & Jaboneria Rd	Fostoria St & Jaboneria Rd		67 - Shull Park, separated from river by 710, potential for environmental remediation			TBD

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
13.53	Long Beach Fwy & Southern Pacific Railroad	Long Beach Fwy & Southern Pacific Railroad		145 - Greenway opportunity along Southern Pacific Transportation Railway			TBD
13.53	Jaboneria Rd & Southern Pacific Railroad	Jaboneria Rd & Southern Pacific Railroad	Trail access point	x			TBD
12.23	Blumont Rd	Blumont Rd		Multi-use bridge with emergency access			TBD
11.54	Gardendale St at Hollydale Park	Gardendale St at Hollydale Park				x	n/a
10.7	Cloverlawn Dr	Cloverlawn Dr				x	n/a
10.35	De Bie Dr & Orane Ave	De Bie Dr & Orane Ave				x	n/a
10.05	Whitehall Way & LA River	Whitehall Way & LA River				x	n/a
9.82	San Juan St at Ralph C. Dills Park	San Juan St at Ralph C. Dills Park		64 - Compton Golf Course and Park, extend green area to school, add multi-use trail with access pts			TBD
9.38	Somerset Blvd at Long Beach Fwy	Somerset Blvd at Long Beach Fwy				x	n/a
9.15	Dominguez High School	Dominguez High School		64 - Extend green area to include school, provide multi-use trail with access points at each street			TBD
8.89	Alondra Blvd & Long Beach Fwy	Alondra Blvd & Long Beach Fwy				x	n/a
8.53	71st St, west of Atlantic Pl	71st St, west of Atlantic Pl				x	n/a
8.25	68th St & Atlantic Ave	68th St & Atlantic Ave				x	n/a
7.83	Artesia Blvd at Long Beach Fwy	Artesia Blvd at Long Beach Fwy				x	n/a
7.51	63rd St & De Forest Ave	63rd St & De Forest Ave				x	n/a

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
7.44	Adams St & White Ave, at Coolidge Park	Adams St & White Ave, at Coolidge Park		22 - Gateway, Coolidge Park accessible only from neighborhood, walled toward freeway side			TBD
6.33	Market St	Market St				x	n/a
5.55	48th St & Virginia Vista Ct	48th St & Virginia Vista Ct				x	n/a
5.12	Virginia Vista Ct	Virginia Vista Ct				x	n/a
4.57	NAME TBD	NAME TBD				x	n/a
4.18	Baker St	Baker St				x	n/a
3.36	Spring St & De Forest Ave	Spring St & De Forest Ave				x	n/a
2.72	25th St & De Forest Ave	25th St & De Forest Ave		Multi-use path access point, low flow channel crossing			TBD
2.59	Burnett St & De Forest Ave	Burnett St & De Forest Ave		Multi-use path access - vol 1 p. 99			TBD
2.5	23rd St & De Forest Ave	23rd St & De Forest Ave		Multi-use path access - vol 1 p. 99			TBD
2.36	Hill St West	Hill St West		88 - Multi-use bridge to provide pedestrian / bike access over river and freeways			TBD
2.34	Hill St East	Hill St East		88 - Multi-use bridge to provide pedestrian / bike access over river and freeways			TBD
2.23	21st St & De Forest Ave	21st St & De Forest Ave		Multi-use path access - vol 1 p. 99			TBD

Source: OLIN, Geosyntec, Gehry Partners

XS, S PROJECTS INDEX

RM	Name	Approx. Location	Los Angeles River Revitalization Master Plan	Lower LA River Revitalization Plan	Metro LA River Path Project	LA River Master Plan Update	Status
2.12	20th St & Long Beach Fwy	20th St & Long Beach Fwy		Multi-use path access - vol 1 p. 99			TBD
1.98	19th St & De Forest Ave	19th St & De Forest Ave		Multi-use path access - vol 1 p. 99			TBD
0.67	5th St & Long Beach Fwy	5th St & Long Beach Fwy				x	n/a

Source: OLIN, Geosyntec, Gehry Partners

Supervisorial District 5

SITE SELECTION REVIEW

PROJECTS: FRAME 9

RM 51

ECOSYSTEMS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

Canoga High School

River Origin Park

Canoga Park River Park

RM 48.9

FLOOD RISK

WATER SUPPLY

PARKS
ECOSYSTEMS
ARTS & CULTURE
EDUCATION

Pierce College Connector

Aliso Canyon Creek

Aliso Creek Confluence Park / Reseda River Loop

LA River Valley Bikeways and Greenways

RM 46.8

FLOOD RISK
ACCESS

WATER SUPPLY

ECOSYSTEMS
ARTS & CULTURE
EDUCATION
WATER QUALITY

Reseda Expansion

Caballero Creek Confluence Park

Sepulveda Basin

FRAME 9

FRAME 8

50 49 47 44 42

Supervisorial District 3

Los Angeles

Calabasas

Santa Monica Mountains North Area (LAC)

ROSCOE BLVD · MASON AV · CANOGA AV · OXNARD ST · TOPANGA CANYON BLVD · WILBUR AV · WHITE OAK AV · RESEDA BLVD · VICTORY BLVD · VENTURA FRWY · VENTURA BLVD · BURBANK BLVD · LOUISE AV · HAYVENHURST AV · BALBOA BLVD · ROYAL HILLS DR · VALJEAN AV · WOODLEY AV · SHERMAN WY · HASKELL AV · SAN DIEGO FRWY · N SEPULVEDA BLVD · KESTER AV · MAGNOLIA BLVD · MULHOLLAND HWY · MULHOLLAND DR

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

VERY HIGH NEED

HIGH NEED

NEED

Source: OLIN, Geosyntec

1/4 mi

N

SITE SELECTION REVIEW

PROJECTS: FRAME 8

LA River Valley Bikeways and Greenways

Basin

44

42

40

38

37

Hazeltine River Edge Park

Hazeltine Avenue

Van Nuys Blvd

RM 40.8

ACCESS

EDUCATION
WATER SUPPLY

ECOSYSTEMS

West of Coldwater

RM 39.4

WATER SUPPLY

ECOSYSTEMS
EDUCATION
WATER SUPPLY

Tujunga Wash Path

LA River Natural Park

Tujunga Wash Confluence Park

Upstream from Tujunga Confluence

RM 38.2

FLOOD RISK

WATER SUPPLY

ECOSYSTEMS
ACCESS
EDUCATION
WATER QUALITY

101 Freeway Crossing

FRAME 9

FRAME 8

FRAME 8

FRAME 7

Supervisorial District 3

Supervisorial District 5

Burbank

Universal City (LAC)

Franklin Canyon (LAC)

Beverly Hills

Los Angeles

VANOWEN ST
VICTORY BLVD
OXNARD ST
BURBANK BLVD
CHANDLER BLVD
MAGNOLIA BLVD
VENTURA BLVD
VALLEY VISTA BLVD
RIVERSIDE DR
MOORPARK ST
CAMARILLO ST
CAMARILLO PL
W BURBANK BLVD
N PASS AV
CAHUENGA BLVD W

VANNUYS BLVD
KESTER AV
HAZELTINE AV
WOODMAN AV
FULTON AV
WHITSETT AV
VINELAND AV
LANKERSHIM BLVD
TUJUNGA AV
CAHUENGA BLVD
LANKERSHIM BLVD
HOLLYWOOD WAY
HOLLYWOOD FWY
E CAHUENGA BLVD
FORMAN AV
PASS AV
COLDWATER CANYON BLVD
LAUREL CANYON BLVD
N SEPULVEDA BLVD
S SEPULVEDA BLVD
SAN DIEGO FWY
BALBOA BLVD
LOUISE AV
ROYAL HILLS DR
BEVERLY GLEN BLVD
N BEVERLY GLEN BLVD
BENEDICT CANYON DR
BEVERLY PARK CIR
COLDWATER CANYON DR

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

VERY HIGH NEED

HIGH NEED

NEED

Source: OLIN, Gehry Partners, Geosyntec

1/4 mi

N

SITE SELECTION REVIEW

PROJECTS: FRAME 7

FRAME 8
FRAME 7
FRAME 7
FRAME 6

Tujunga Wash Path

RM 32.8

FLOOD RISK
ACCESS

ECOSYSTEMS
EDUCATION
WATER SUPPLY

Headworks Connector

San Fernando Path

San Fernando Railroad

Glendale Riverwalk Non-Motorized Bridge

Glendale Narrows Riverwalk

Verdugo Wash

Ferraro Fields Side Channel

River Glen Wetlands

Headworks Park

Sennett Creek

40

West of Coldwater

LA River Natural Park

38

Tujunga Wash Confluence Park

Los Angeles

Upstream from Tujunga Confluence

37

Colfax Avenue to Tujunga Boulevard, Ventura Boulevard to the River

101 Freeway Crossing

35

LA River Valley Bikeways and Greenways

RM 35.9

ACCESS

FLOOD RISK
EDUCATION
WATER SUPPLY

ECOSYSTEMS
WATER QUALITY

Universal City (LAC)

Burbank

Glendale

North Atwater Crossing

VERY HIGH NEED

HIGH NEED

NEED

Red Car Bridge

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

Franklin Canyon (LAC)

Beverly Hills

1/4 mi

N

Supervisorial District 1

PROJECTS: FRAME 6

SITE SELECTION REVIEW

Headworks Connector

Glendale Riverwalk Non-Motorized Bridge

Glendale Narrows Riverwalk

Verdugo Wash

Ferraro Fields Side Channel

River Glen Wetlands

Headworks Park

Sennett Creek

LA River Valley Bikeways and Greenways

RM 30.9

FLOOD RISK
ECOSYSTEMS

EDUCATION
WATER SUPPLY

Central Service Yard

San Fernando Path

North Atwater Crossing

Red Car Bridge

G1 Bowtie

G2 Taylor Yard

Taylor Yard Non-Motorized Bridge

Dorris Place Sanitation Yard

Arroyo Seco Confluence Park

Arroyo Seco Greenway

San Fernando Railroad

Burbank

Glendale

Pasadena

Universal City (LAC)

West Hollywood

Los Angeles

Supervisorial District 5

Supervisorial District 3

Supervisorial District 2

Supervisorial District 1

31

28

26

25

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

VERY HIGH NEED

HIGH NEED

NEED

FRAME 6

FRAME 5

1/4 mi

N

Supervisorial District 3

SITE SELECTION REVIEW

PROJECTS: FRAME 5

Bridge

Dorris Place Sanitation Yard

25

FRAME 6

Arroyo Seco Greenway

FRAME 5

Supervisorial District 5

Arroyo Seco Confluence Park

Bending the River Back into the City

Los Angeles

Alhambra

Main Street Terrace

23

Piggyback Yard

Metro Path

22

First Street to Sixth Street River Loop

Downtown Train Yard

RM 21.6

ACCESS

AFFORDABLE HOUSING
WATER SUPPLY

PARKS
ECOSYSTEMS

6th Street Viaduct

Monterey Park

East Los Angeles (LAC)

20

East Washington Blvd

RM 19.9

ACCESS
AFFORDABLE HOUSING

PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER QUALITY

FRAME 5

FRAME 4

West Santa Ana Branch Bikeway

VERY HIGH NEED

HIGH NEED

NEED

Vernon

19

Bandini Islands (LAC)

Commerce

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

1/4 mi

N

SITE SELECTION REVIEW

PROJECTS: FRAME 4

East Washington Blvd

20

In-Channel Downtown LA River Bike Path

19

Supervisorial District 1

FRAME 5

FRAME 4

Bandini Islands (LAC)

17

Upper Segment Multi-use Easement and Atlantic Blvd Area

West Santa Ana Branch Bikeway

Active Transportation Rail to River Corridor (Randolph Street)

16

RM 15.8

ECOSYSTEMS
ARTS & CULTURE

PARKS
AFFORDABLE HOUSING
WATER QUALITY

Maywood Park Bend

15

Cudahy River Park

14

Clara Street

13

Supervisorial District 2

Supervisorial District 4

FRAME 4

FRAME 5

VERY HIGH NEED

HIGH NEED

NEED

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

1/4 mi

N

SITE SELECTION REVIEW

PROJECTS: FRAME 3

Clara Street

RM 14.1

ARTS & CULTURE
WATER QUALITY

FLOOD RISK
PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
EDUCATION

Firestone Blvd

RM 12.9

WATER SUPPLY

ECOSYSTEMS
AFFORDABLE HOUSING
WATER QUALITY

FLOOD RISK
PARKS
ARTS & CULTURE

E Rosecrans Ave.

RM 10.2

ECOSYSTEMS

ARTS & CULTURE
WATER SUPPLY

FLOOD RISK
PARKS
AFFORDABLE HOUSING
WATER QUALITY

Highway 105

RM 10.5

FLOOD RISK
PARKS
ACCESS
ARTS & CULTURE
AFFORDABLE HOUSING
WATER SUPPLY
WATER QUALITY

VERY HIGH NEED

HIGH NEED

NEED

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

Cudahy River Park
South Gate Orchard
Rio Hondo Confluence
Parque Dos Rios
SELA Cultural Center
Western LA River Levee Bike Path
Compton Boulevard Bike Path
Terminal Island to Rio Hondo Bike Path
West Santa Ana Branch Bikeway
Middle Segment Multi-use Easement and Crossover
U.P.R.R. Spur Line

Florence - Firestone (LAC)
Walnut Park (LAC)
Huntington Park
Bell
Cudahy
Bell Gardens
FRAME 4
FRAME 3
Pico Rivera
Supervisorial District 1
South Gate
Los Angeles
Willowbrook (LAC)
Downey
Santa Fe Springs
W Rancho Dominguez - Victoria (LAC)
Lynwood
Lynwood Island (LAC)
Supervisorial District 2
Supervisorial District 4
Norwalk
East Rancho Dominguez (LAC)
Compton
Paramount
Bellflower
Carson
FRAME 3
FRAME 2
Cerritos

1/4 mi N

SITE SELECTION REVIEW

PROJECTS: FRAME 2

Connectivity Corridor

RM 8.1

ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY

FLOOD RISK
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

Sutter Bend at Del Amo Blvd

RM 6.3

ECOSYSTEMS

FLOOD RISK
PARKS
ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION
WATER SUPPLY
WATER QUALITY

W 47th St / Rancho Los Cerritos

RM 5.1

ECOSYSTEMS
WATER SUPPLY

FLOOD RISK
WATER QUALITY

W 28th St to 405 Fwy

Western LA River Levee Bike Path

Terminal Island to Rio Hondo Bike Path

Middle Segment Multi-use Easement and Crossover

Compton Creek Confluence Area

Wrigley Heights River Park

FRAME 1
FRAME 2
FRAME 3

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

VERY HIGH NEED
HIGH NEED
NEED

Source: OLIN, Gehry Partners, Geosyntec

1/4 mi
N

SITE SELECTION REVIEW

PROJECTS: FRAME 1

W 47th St / Rancho Los Cerritos

Terminal Island to Rio Hondo Bike Path

Wrigley Heights River Park

FRAME 2

FRAME 1

RM 3.7

ECOSYSTEMS

WATER SUPPLY

ARTS & CULTURE
AFFORDABLE HOUSING
EDUCATION

W 28th St to 405 Fwy

Willow Street

Western LA River Levee Bike Path

South of Willow Street

RM 1.7

FLOOD RISK
ARTS & CULTURE

PARKS
ECOSYSTEMS
AFFORDABLE HOUSING
WATER SUPPLY

Middle Long Beach

Long Beach Municipal Urban Stormwater Treatment

RM 0.6

AFFORDABLE HOUSING

FLOOD RISK

ECOSYSTEMS

Cesar Chavez Park Connector

Shoemaker Bridge Replacement

Supervisorial District 2

Supervisorial District 4

Carson

West Carson (LAC)

Los Angeles

Lakewood

Signal Hill

Long Beach

- M, L, XL Potential Project Sites
- M, L, XL Planned Major Projects
- M, L, XL Planned Major Linear Projects
- XS and S Potential Projects
- XS and S Planned Projects
- Existing Access Points to Improve
- Existing Access Points
- RIO Zones (LARRMP)
- Habitat Restoration Zones (ARBOR Study)
- Opportunity Zones (LLARRP)
- Frames
- Supervisorial District Boundaries
- Municipal Boundaries
- River Mile Marker (0.1 mi)

Source: OLIN, Gehry Partners, Geosyntec

VERY HIGH NEED

HIGH NEED

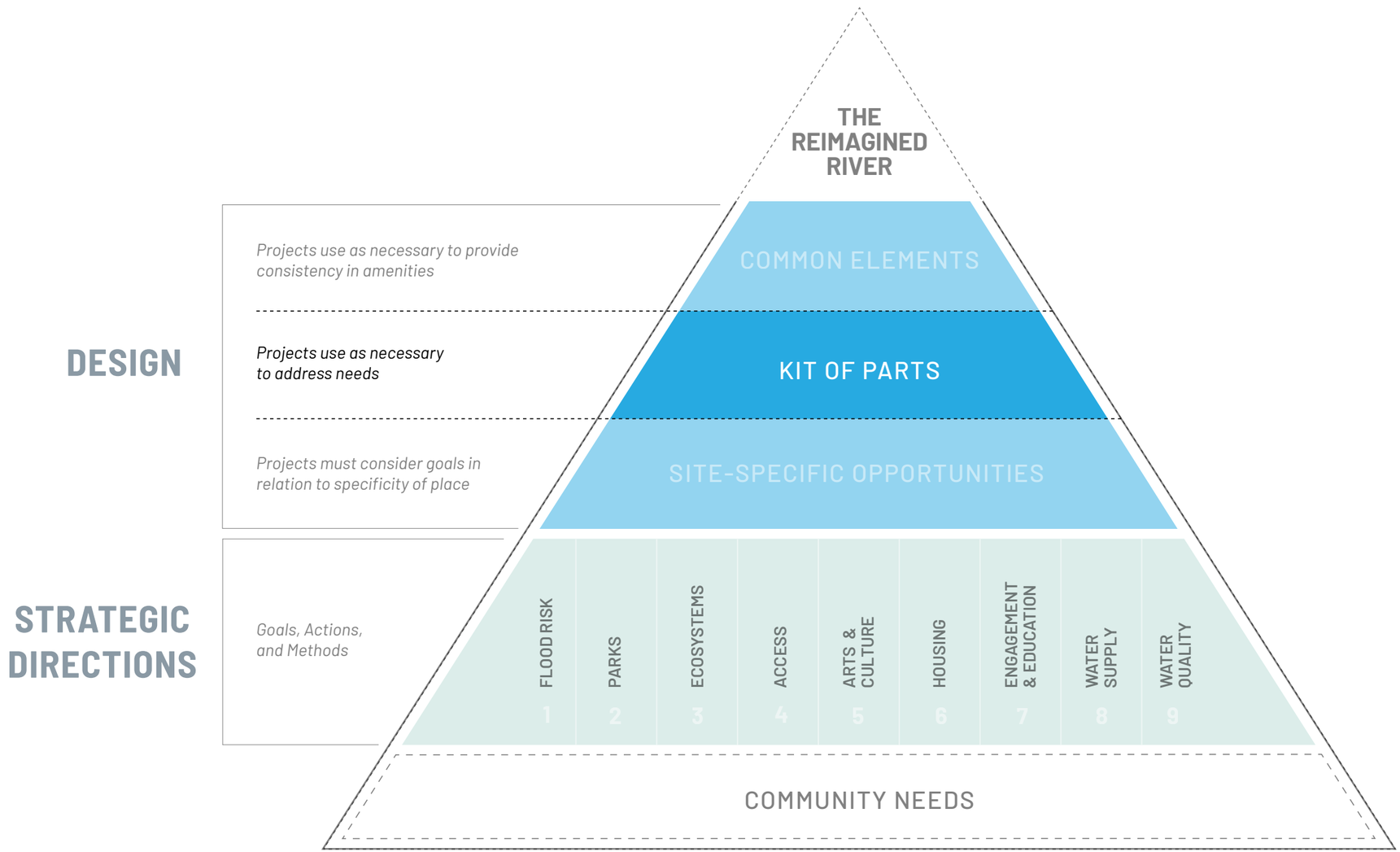
NEED

1/4 mi

N

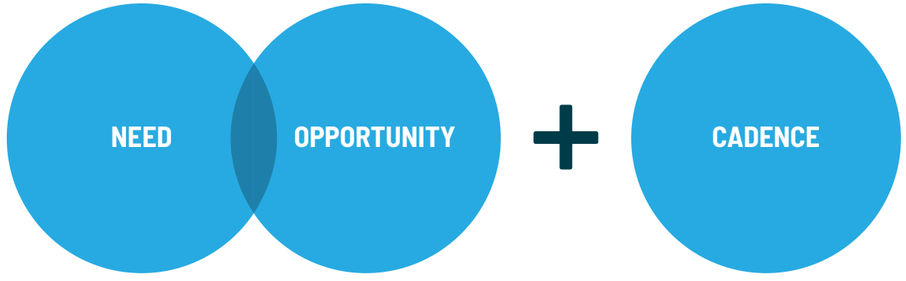
KIT OF PARTS

PROJECTS SHOULD BUILD UPON THE GOALS USING THE KIT OF PARTS AND COMMON ELEMENTS



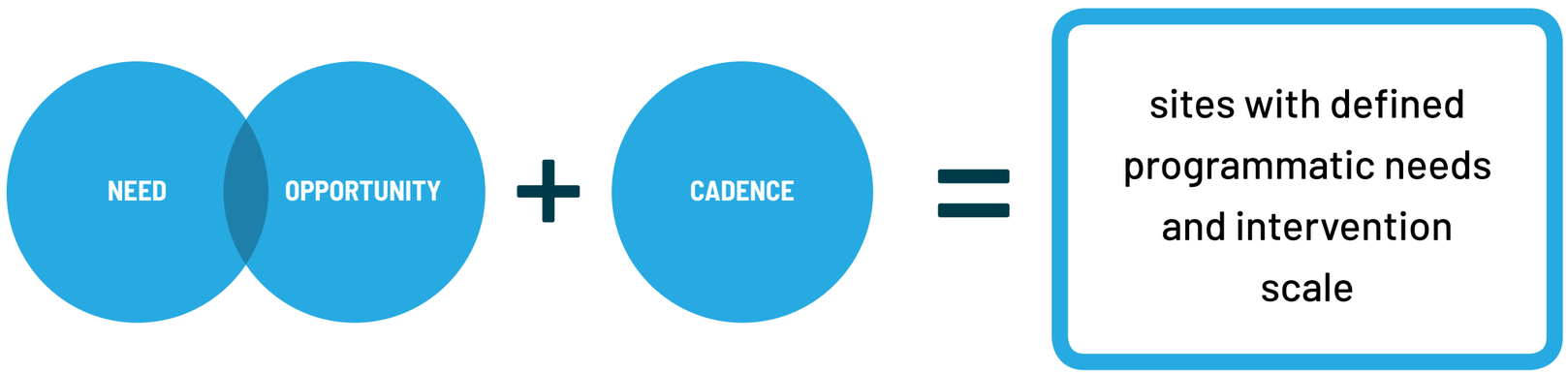
KIT OF PARTS

GOAL-DRIVEN DESIGN FRAMEWORK



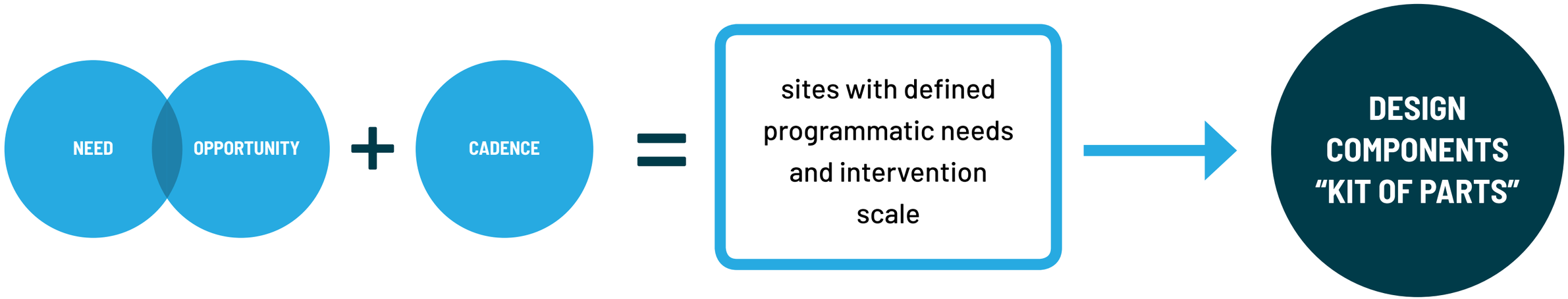
KIT OF PARTS

GOAL-DRIVEN DESIGN FRAMEWORK



KIT OF PARTS

GOAL-DRIVEN DESIGN FRAMEWORK



KIT OF PARTS: CATEGORIES

1 FLOODPLAIN RECLAMATION

2 CROSSINGS & PLATFORMS

3 TRAILS, ACCESS GATEWAYS, AND PAVILIONS

4 CHANNEL MODIFICATIONS

5 DIVERSIONS

6 OFF CHANNEL LAND ASSETS

KIT OF PARTS: CATEGORIES & COMPONENTS

1 FLOODPLAIN RECLAMATION

- Wetland
- Naturalized Bank
- Braided Channel
- Field
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)

2 CROSSINGS & PLATFORMS

- Pedestrian Bridge
- Bike Bridge
- Equestrian Bridge
- Multi-use Bridge
- Cantilever
- Platform

3 TRAILS & ACCESS GATEWAYS

- River Gateway
- Pedestrian Trail
- Bike Trail
- Equestrian Trail
- Equestrian Facility
- Multi-use Trail
- Common Elements
- Light Tower / Water Tower
- Lookout
- Boardwalk
- Channel Access
- Vehicular Access
- Underpass and Overpass
- Vegetated Buffer
- Habitat Corridor
- Swale, Rain Garden, BMP

4 CHANNEL MODIFICATIONS

- Terraced Bank
- Check Dam
- Deployable Barrier (Dam / Levee)
- Levee
- Armored Channel
- Storm Drain Daylighting
- Vertical Wall
- Reshape Low Flow
- Channel Smoothing
- Texturizing or Grooving
- Concrete Bottom
- Soft Bottom
- Sediment Removal / Vegetation Conversion
- Bridge Pier / Abutment Removal / Modification / Addition
- Access Ramp

5 DIVERSIONS

- Pump
- Diversion Pipe
- Diversion Channel
- Diversion Tunnel
- Overflow Weir
- Underground Gallery

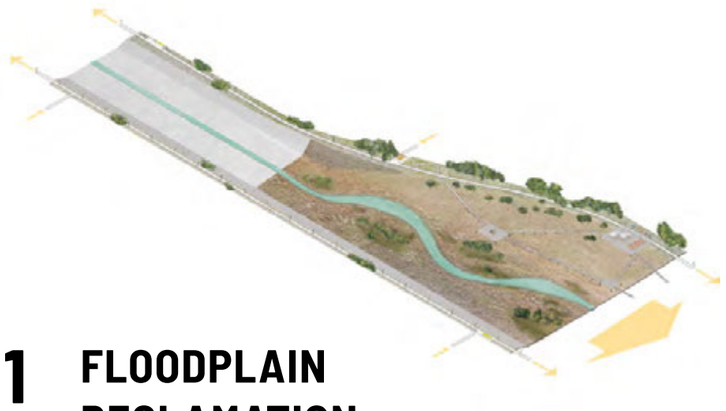
6 OFF CHANNEL LAND ASSETS

- Urban Agriculture (Orchard, Farm, Nursery, Community Garden)
- Solar Power Generation & Storage
- Composting and Waste Management
- Natural Treatment System
- Wetland
- Recreation Field
- Storage (Surface: Reservoir, Lake, Pond)
- Storage (Subsurface: Reservoir, Cistern, Tank)
- Injection Well
- Mechanical Water Treatment Facility
- Purple Pipe Connection
- Gallery / Dry Well
- Spreading Ground
- Storm Drain Daylighting
- Affordable Housing
- Museum, Gallery, or Other Arts Installation or Institution

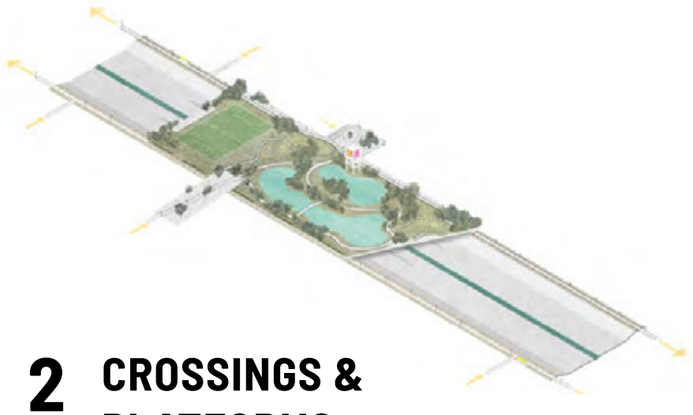
KIT OF PARTS: EXAMPLE

NEED	OPPORTUNITY	CADENCE (SCALE)	DESIGN COMPONENT
Flood risk reduction + Water quality + Habitat	Landside RM 11.5 Right bank (Vacant parcel, Publicly owned)	15 acres	Wetland

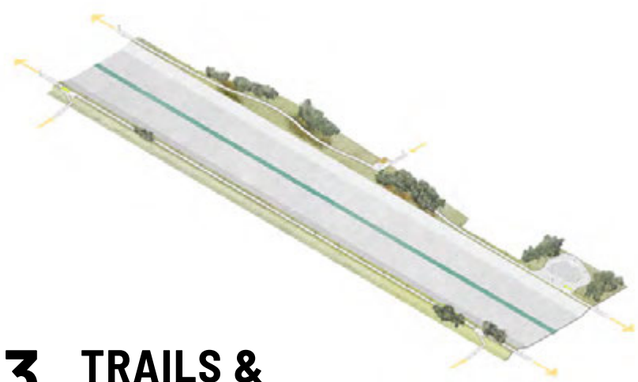
KIT OF PARTS: TRAPEZOIDAL CHANNEL



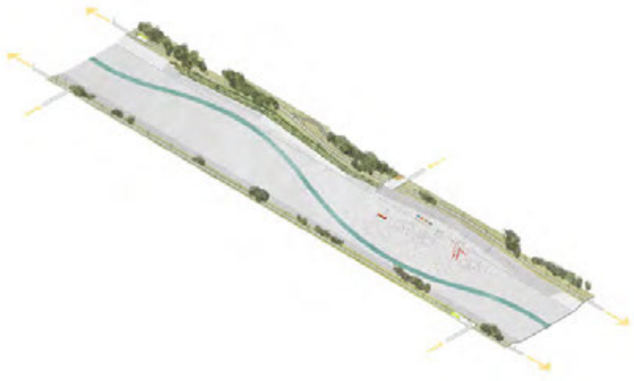
1 FLOODPLAIN RECLAMATION



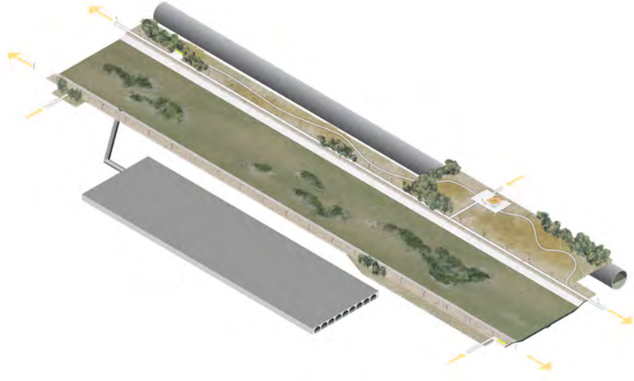
2 CROSSINGS & PLATFORMS



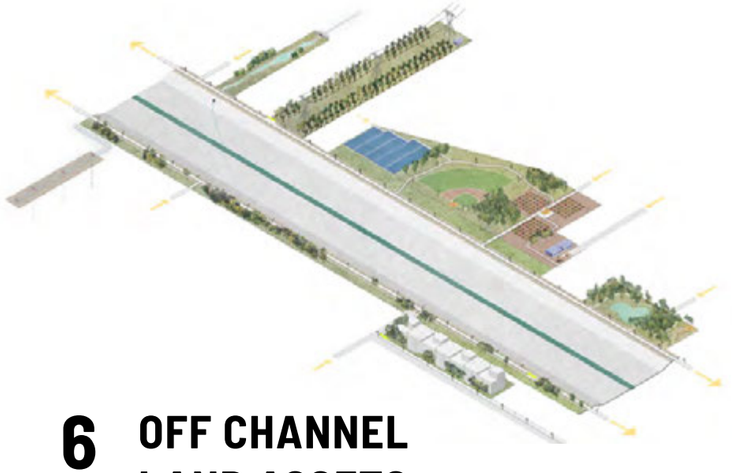
3 TRAILS & ACCESS GATEWAYS



4 CHANNEL MODIFICATIONS



5 DIVERSIONS



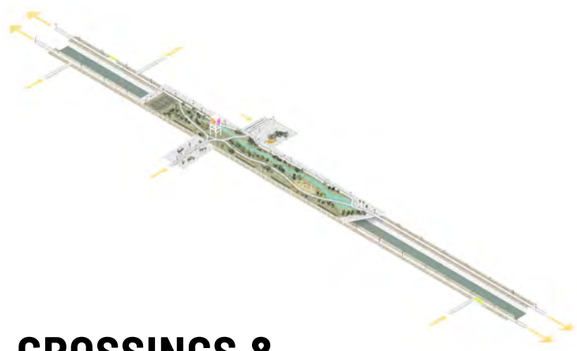
6 OFF CHANNEL LAND ASSETS

Source: OLIN, Gehry Partners, Geosyntec

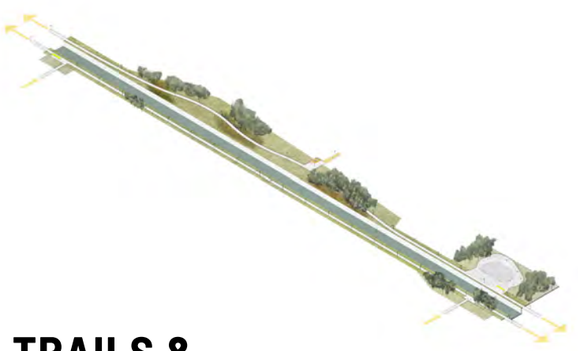
KIT OF PARTS: BOX CHANNEL



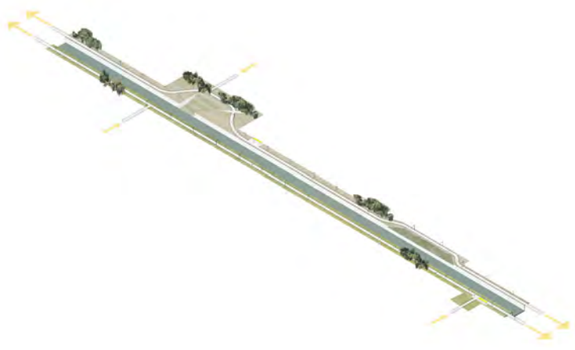
1 FLOODPLAIN RECLAMATION



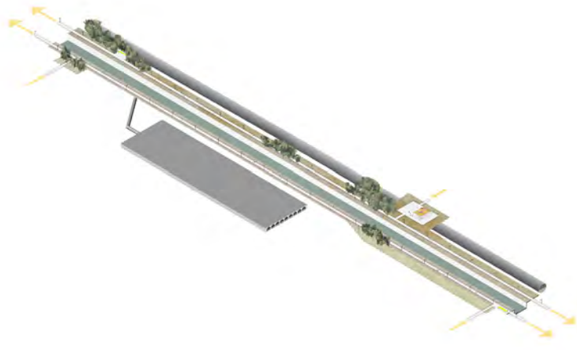
2 CROSSINGS & PLATFORMS



3 TRAILS & ACCESS GATEWAYS



4 CHANNEL MODIFICATIONS



5 DIVERSIONS



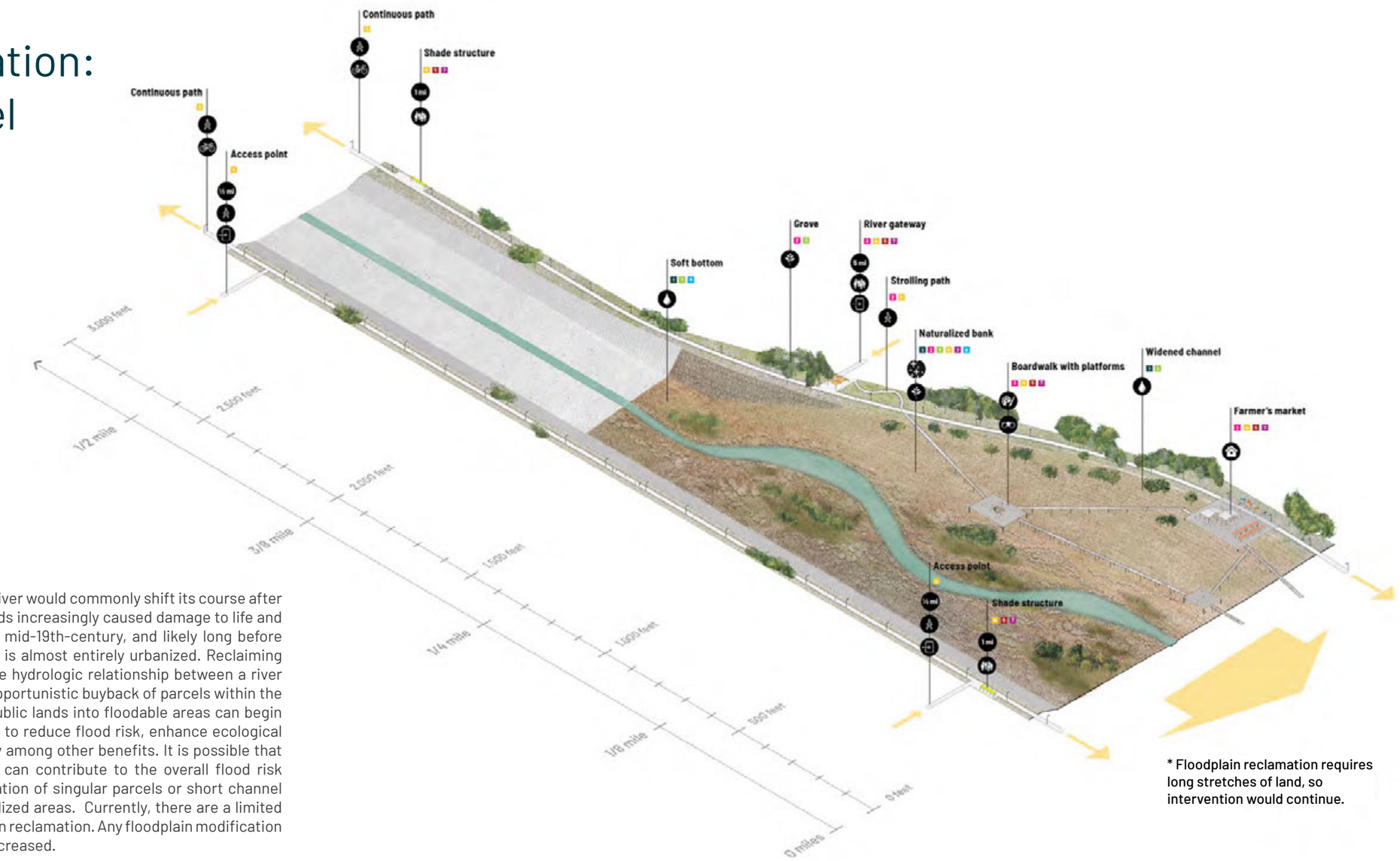
6 OFF CHANNEL LAND ASSETS

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Floodplain Reclamation: Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



* Floodplain reclamation requires long stretches of land, so intervention would continue.

Historically, the LA River had a vast floodplain and the river would commonly shift its course after major floods. As the area's population grew, these floods increasingly caused damage to life and property, and people altered the river as early as the mid-19th-century, and likely long before that. Currently, the historic floodplain of the LA River is almost entirely urbanized. Reclaiming the floodplain will create space for the river where the hydrologic relationship between a river and its floodplain can be reconnected. Strategic and opportunistic buyback of parcels within the floodplain or transitioning adjacent right of ways or public lands into floodable areas can begin to allow for this reconnection, which has the potential to reduce flood risk, enhance ecological function, create park space, and improve water quality among other benefits. It is possible that floodplain reclamation, if completed at large scales, can contribute to the overall flood risk reduction system, but it should be noted that reclamation of singular parcels or short channel lengths has the potential to increase flood risk in localized areas. Currently, there are a limited number of opportunities along the LA River for floodplain reclamation. Any floodplain modification requires hydraulic analysis to ensure flood risk is not increased.

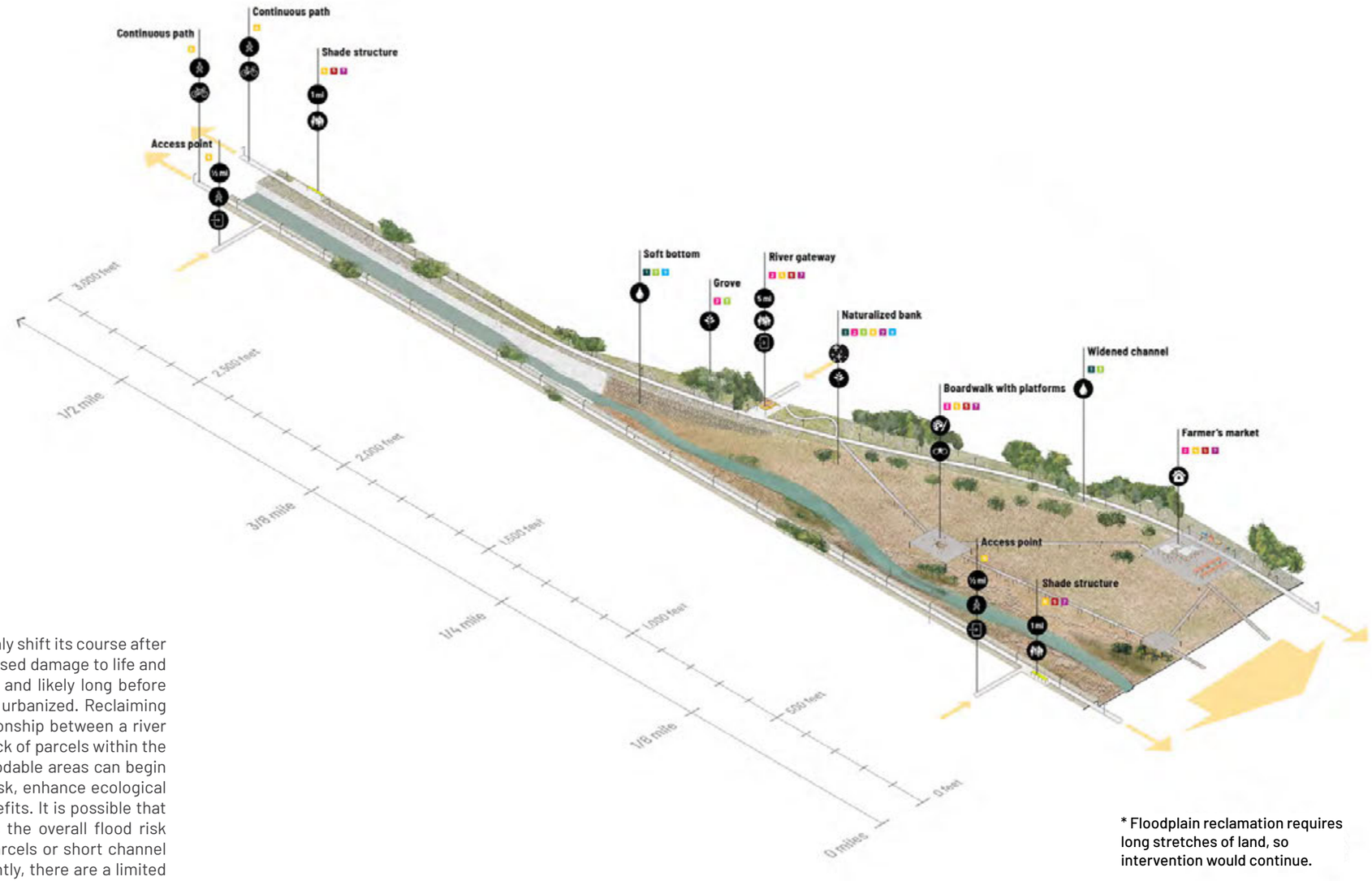
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Floodplain Reclamation: Box Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY

Historically, the LA River had a vast floodplain and the river would commonly shift its course after major floods. As the area's population grew, these floods increasingly caused damage to life and property, and people altered the river as early as the mid-19th-century, and likely long before that. Currently, the historic floodplain of the LA River is almost entirely urbanized. Reclaiming the floodplain will create space for the river where the hydrologic relationship between a river and its floodplain can be reconnected. Strategic and opportunistic buyback of parcels within the floodplain or transitioning adjacent right of ways or public lands into floodable areas can begin to allow for this reconnection, which has the potential to reduce flood risk, enhance ecological function, create park space, and improve water quality among other benefits. It is possible that floodplain reclamation, if completed at large scales, can contribute to the overall flood risk reduction system, but it should be noted that reclamation of singular parcels or short channel lengths has the potential to increase flood risk in localized areas. Currently, there are a limited number of opportunities along the LA River for floodplain reclamation. Any floodplain modification requires hydraulic analysis to ensure flood risk is not increased.



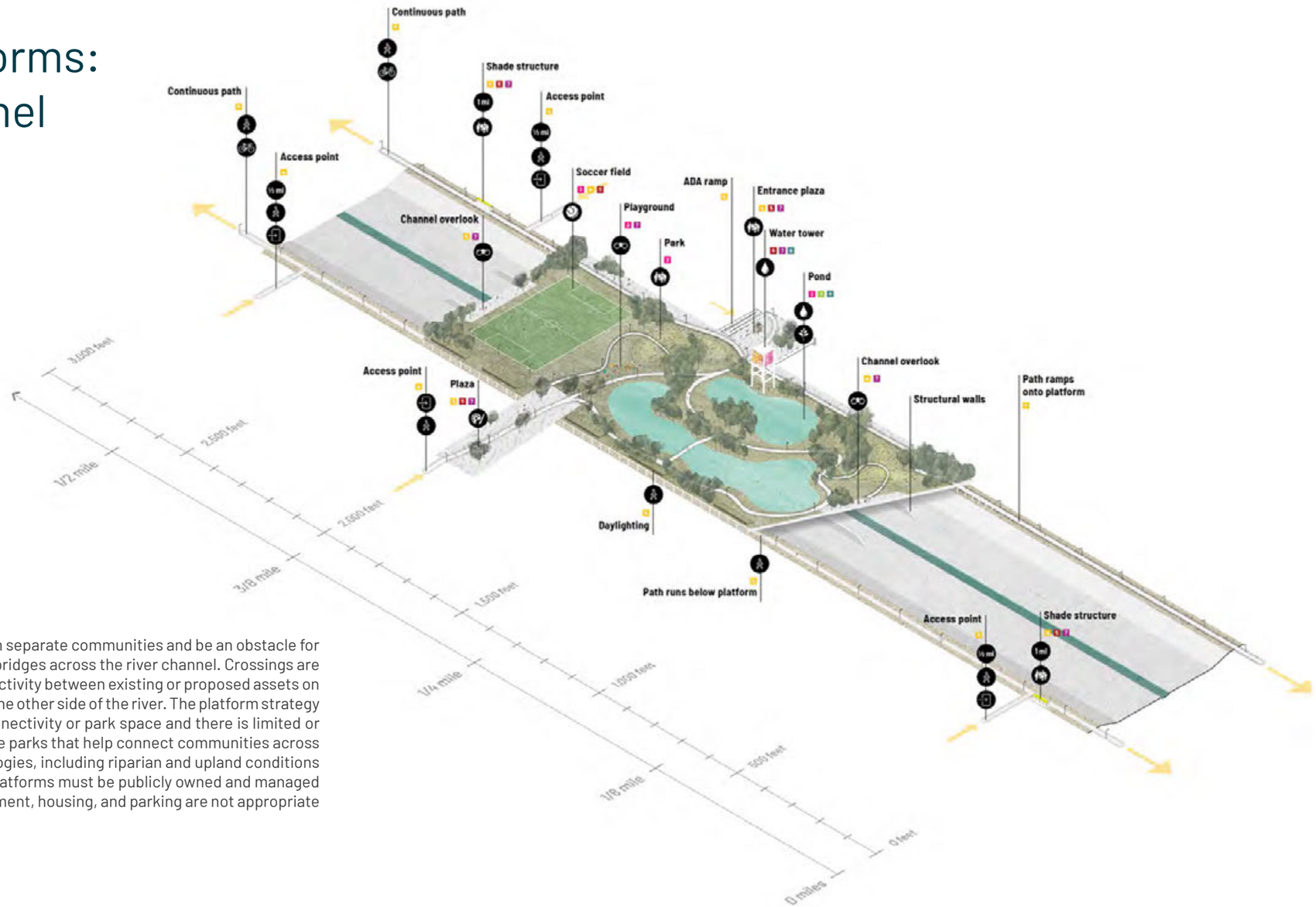
* Floodplain reclamation requires long stretches of land, so intervention would continue.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Crossings & Platforms: Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



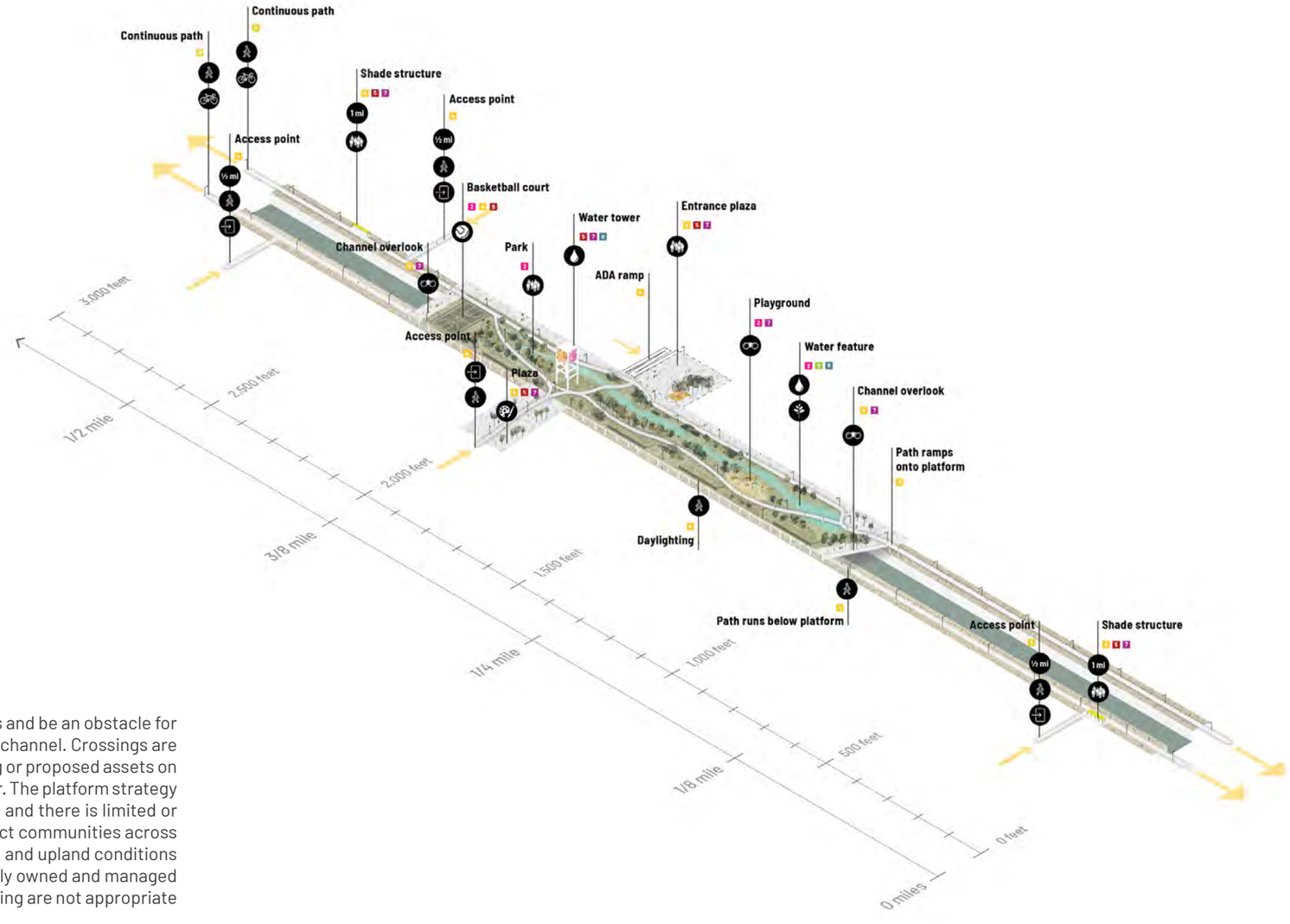
Given its width and length, the LA River channel can separate communities and be an obstacle for connectivity. Crossings and platforms create land bridges across the river channel. Crossings are most effective where there is a high need for connectivity between existing or proposed assets on one side of the river and communities or assets on the other side of the river. The platform strategy is most effective when there is a high need for connectivity or park space and there is limited or nonexistent landside right-of-way. Platforms can be parks that help connect communities across the river, but can also host a range of habitat typologies, including riparian and upland conditions and allow for wildlife migration. All crossings and platforms must be publicly owned and managed as publicly accessible open space. Private development, housing, and parking are not appropriate uses for platform areas.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Crossings & Platforms: Box Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



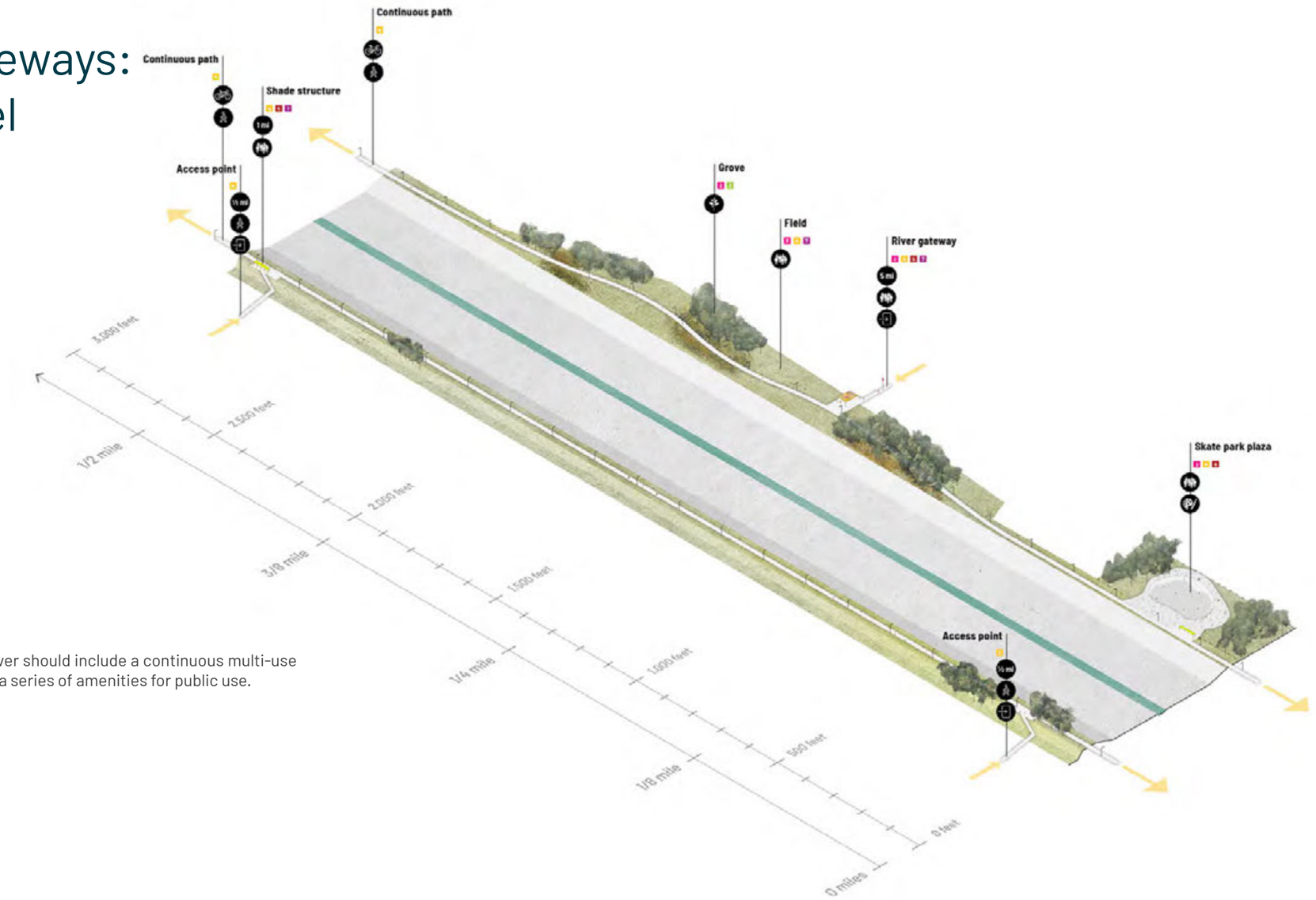
Given its width and length, the LA River channel can separate communities and be an obstacle for connectivity. Crossings and platforms create land bridges across the river channel. Crossings are most effective where there is a high need for connectivity between existing or proposed assets on one side of the river and communities or assets on the other side of the river. The platform strategy is most effective when there is a high need for connectivity or park space and there is limited or nonexistent landside right-of-way. Platforms can be parks that help connect communities across the river, but can also host a range of habitat typologies, including riparian and upland conditions and allow for wildlife migration. All crossings and platforms must be publicly owned and managed as publicly accessible open space. Private development, housing, and parking are not appropriate uses for platform areas.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Trails & Access Gateways: Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



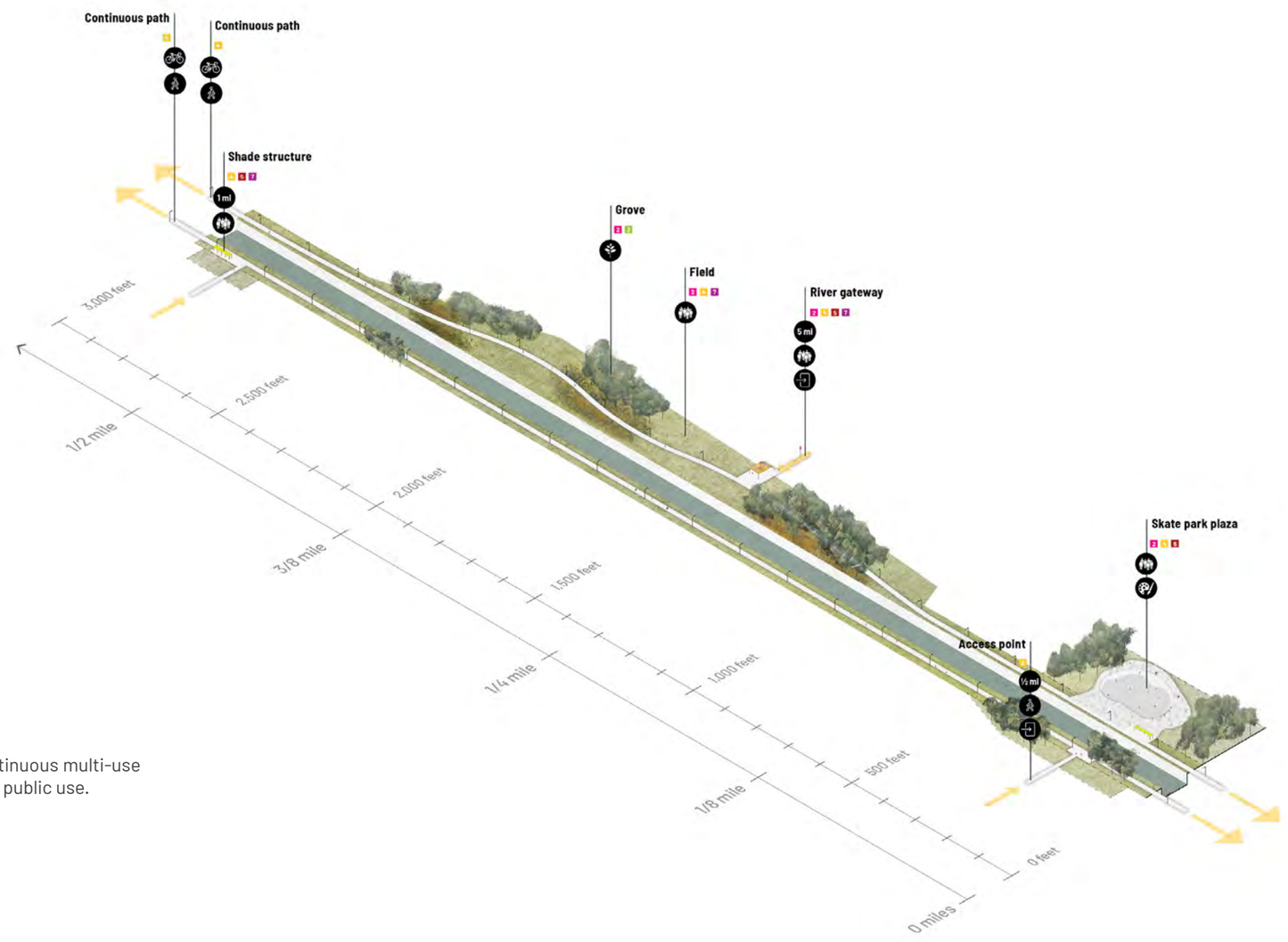
The most basic condition along any frame of the LA River should include a continuous multi-use trail, easy to find and welcoming access gateways, and a series of amenities for public use.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Trails & Access Gateways: Box Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



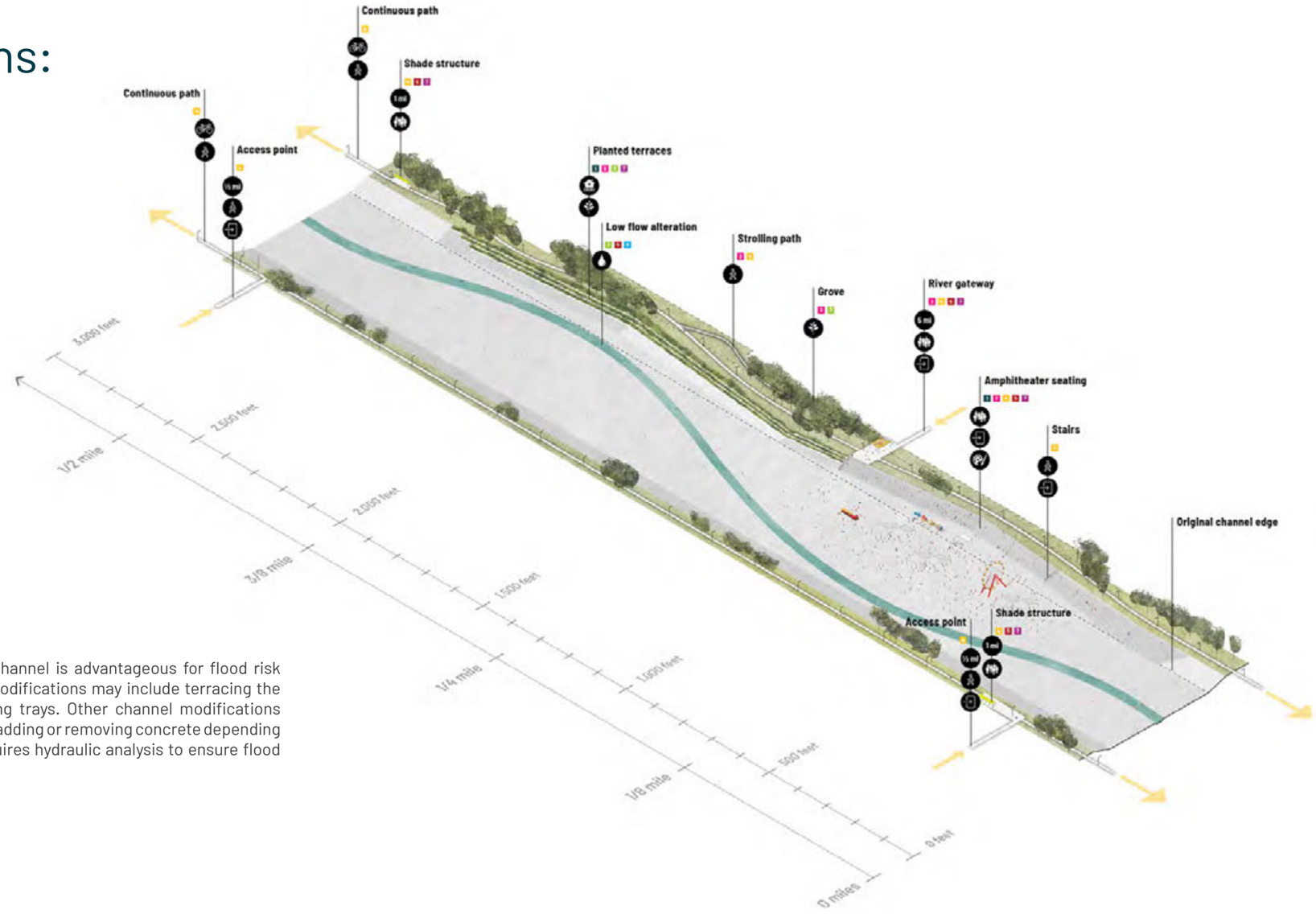
The most basic condition along any frame of the LA River should include a continuous multi-use trail, easy to find and welcoming access gateways, and a series of amenities for public use.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Channel Modifications: Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



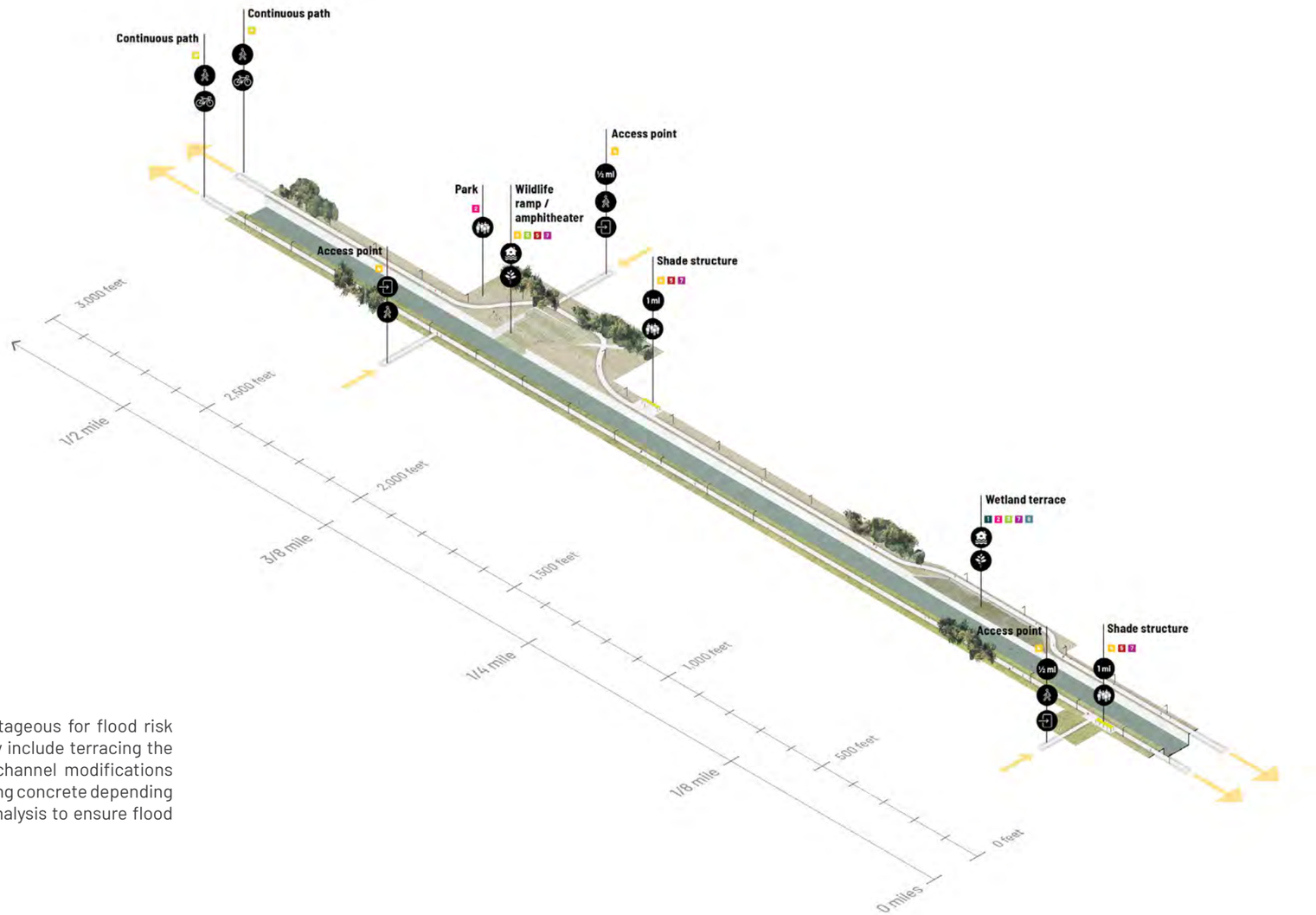
In some areas of the LA River, modifying the existing channel is advantageous for flood risk reduction, access, and/or ecological function. Channel modifications may include terracing the banks to provide stairs, amphitheaters, or small planting trays. Other channel modifications include changing the material of the channel, for example, adding or removing concrete depending on capacity requirements. Any channel modification requires hydraulic analysis to ensure flood risk is not increased.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Channel Modifications: Box Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



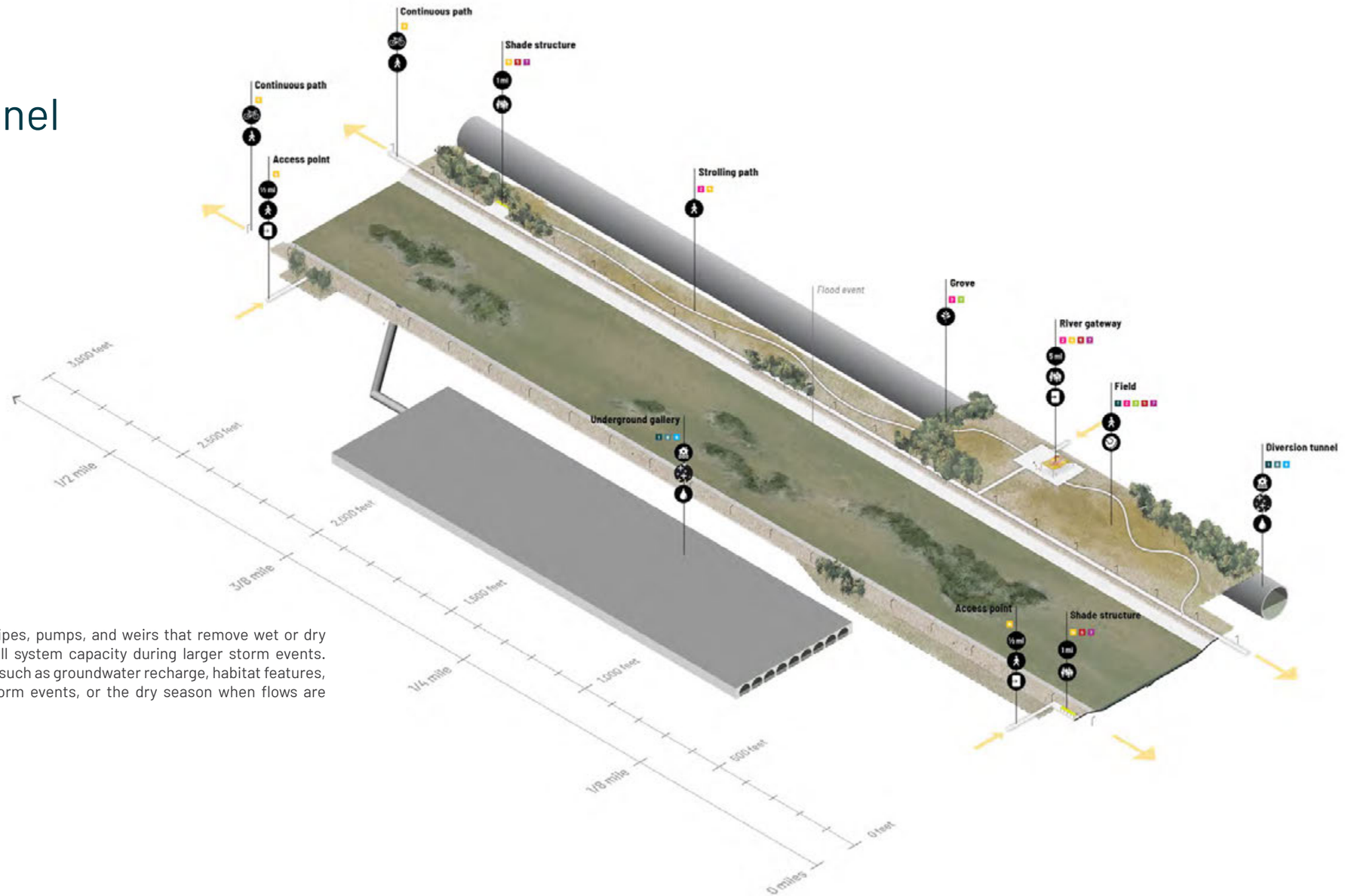
In some areas of the LA River, modifying the existing channel is advantageous for flood risk reduction, access, and/or ecological function. Channel modifications may include terracing the banks to provide stairs, amphitheaters, or small planting trays. Other channel modifications include changing the material of the channel, for example, adding or removing concrete depending on capacity requirements. Any channel modification requires hydraulic analysis to ensure flood risk is not increased.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Diversions:
Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



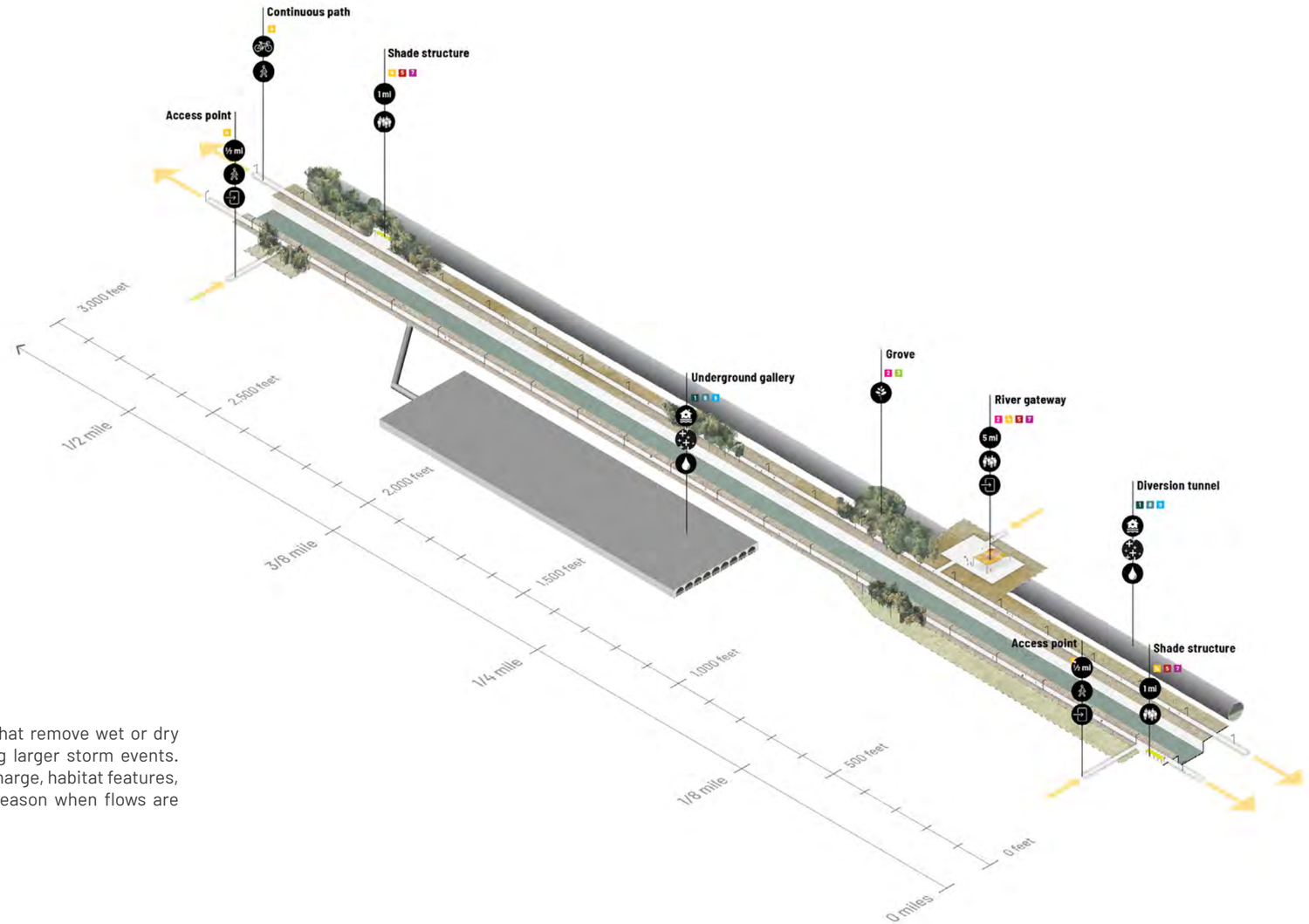
Diversions include elements such as tunnels, pipes, pumps, and weirs that remove wet or dry weather flows from the river to increase overall system capacity during larger storm events. Diversions can also provide treatment and reuse such as groundwater recharge, habitat features, or recreational opportunities during smaller storm events, or the dry season when flows are reduced.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Diversions:
Box Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



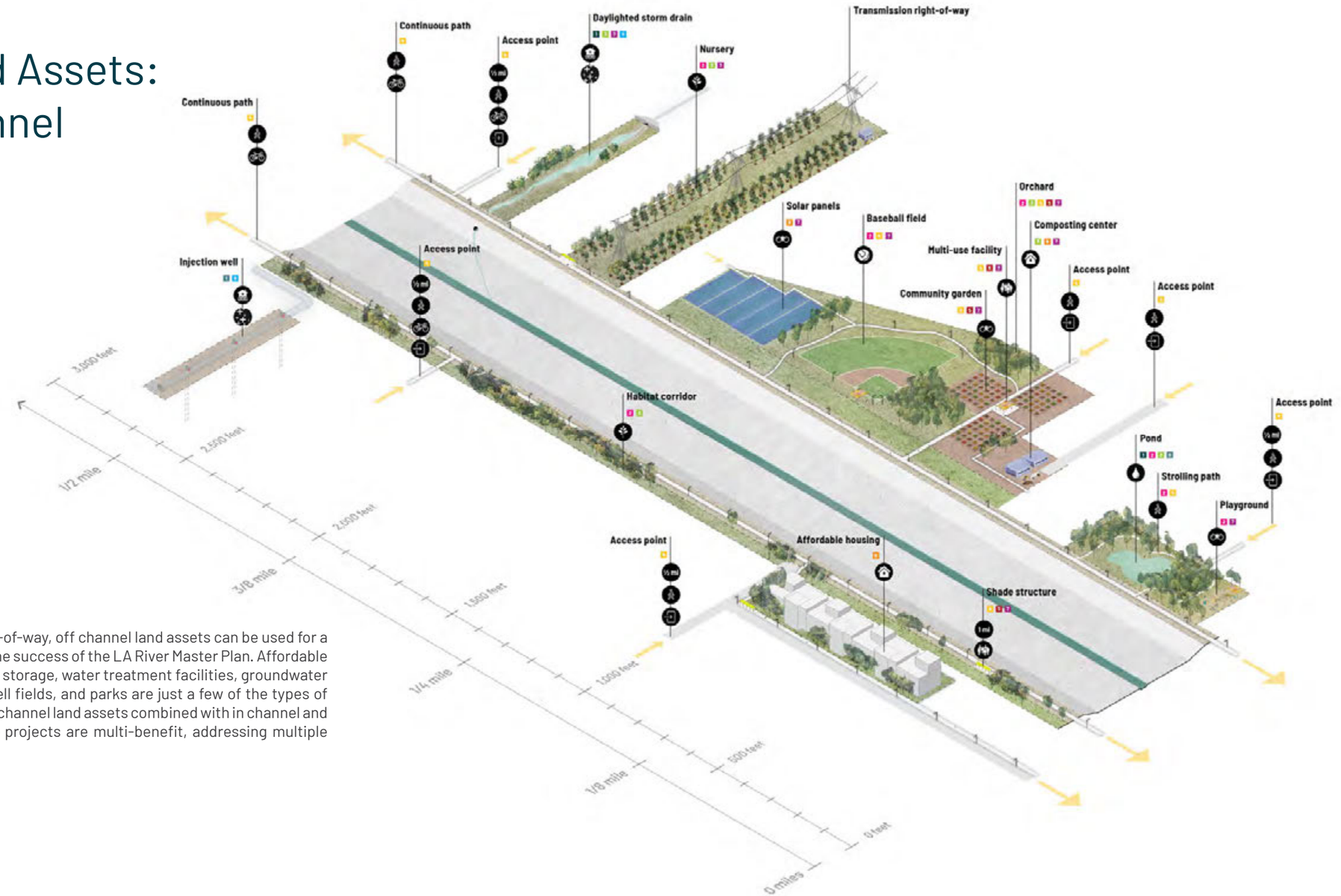
Diversions include elements such as tunnels, pipes, pumps, and weirs that remove wet or dry weather flows from the river to increase overall system capacity during larger storm events. Diversions can also provide treatment and reuse such as groundwater recharge, habitat features, or recreational opportunities during smaller storm events, or the dry season when flows are reduced.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Off Channel Land Assets: Trapezoidal Channel

- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



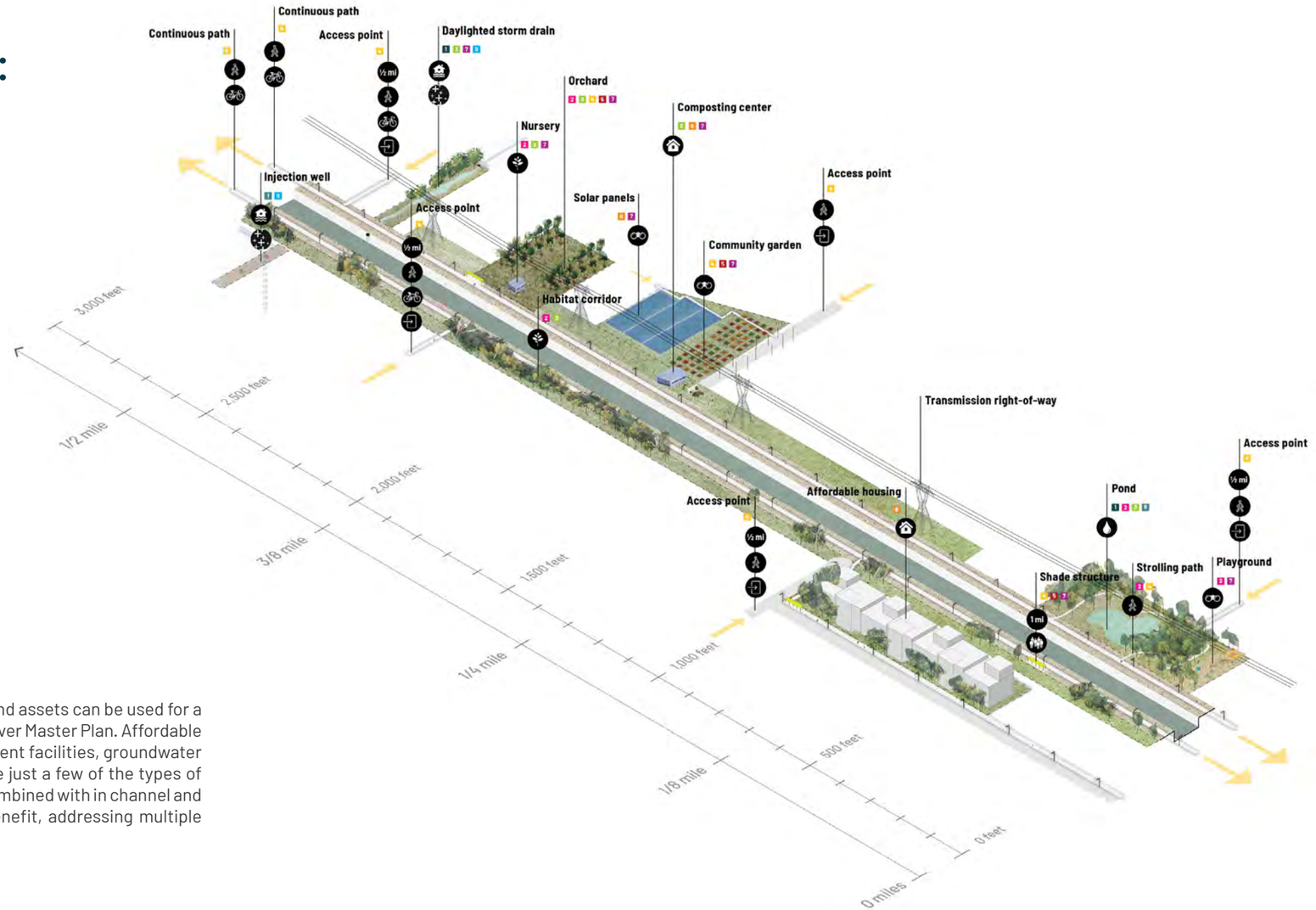
In addition to elements within the LA River right-of-way, off channel land assets can be used for a series of projects that are essential to support the success of the LA River Master Plan. Affordable housing, cultural centers, plant nurseries, water storage, water treatment facilities, groundwater recharge spreading grounds and/or injection well fields, and parks are just a few of the types of elements that can exist within this category. Off channel land assets combined with in channel and right-of-way improvements can further ensure projects are multi-benefit, addressing multiple needs.

Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS

Off Channel Land Assets: Box Channel

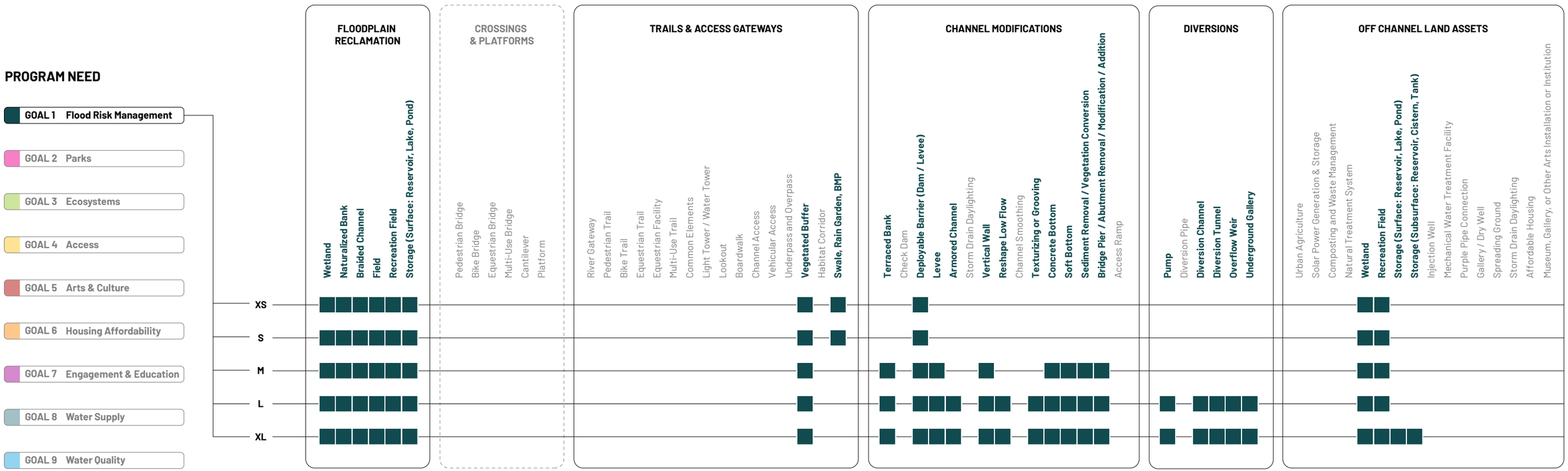
- FLOOD RISK REDUCTION
- PARKS
- ECOSYSTEMS
- ACCESS
- ARTS & CULTURE
- HOUSING AFFORDABILITY
- EDUCATION
- WATER SUPPLY
- WATER QUALITY



In addition to elements within the LA River right-of-way, off channel land assets can be used for a series of projects that are essential to support the success of the LA River Master Plan. Affordable housing, cultural centers, plant nurseries, water storage, water treatment facilities, groundwater recharge spreading grounds and/or injection well fields, and parks are just a few of the types of elements that can exist within this category. Off channel land assets combined with in channel and right-of-way improvements can further ensure projects are multi-benefit, addressing multiple needs.

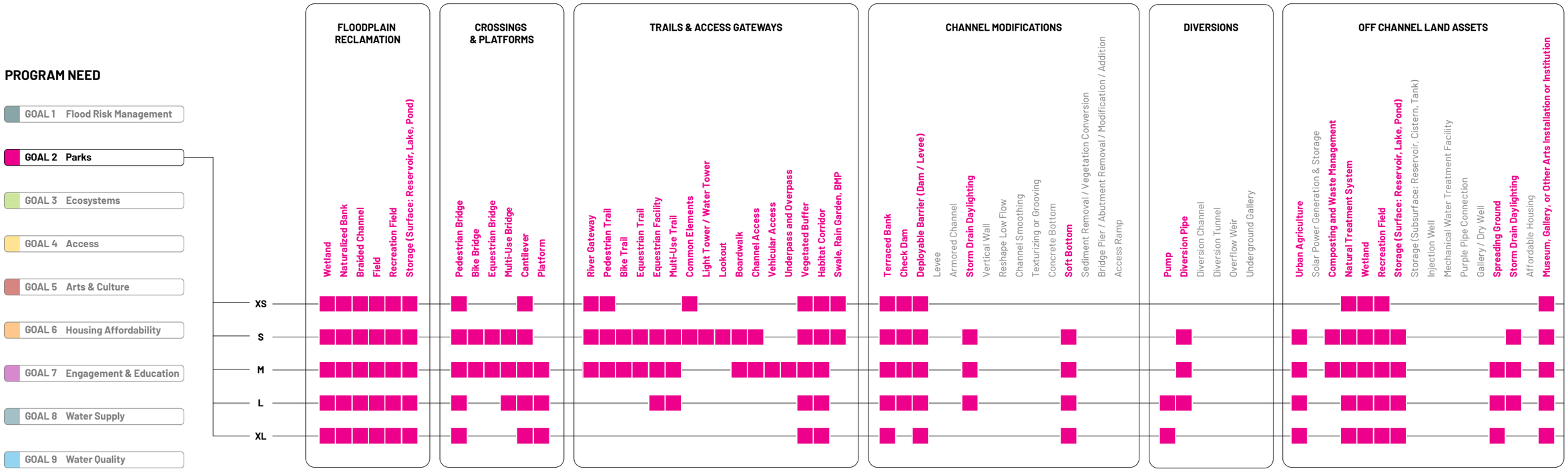
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



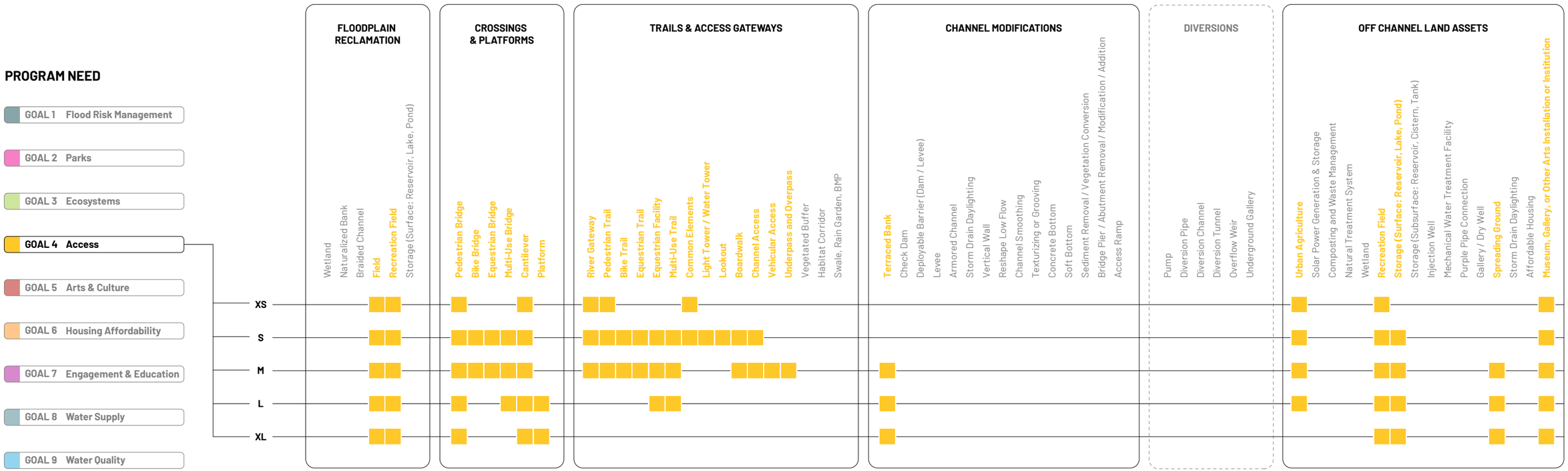
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



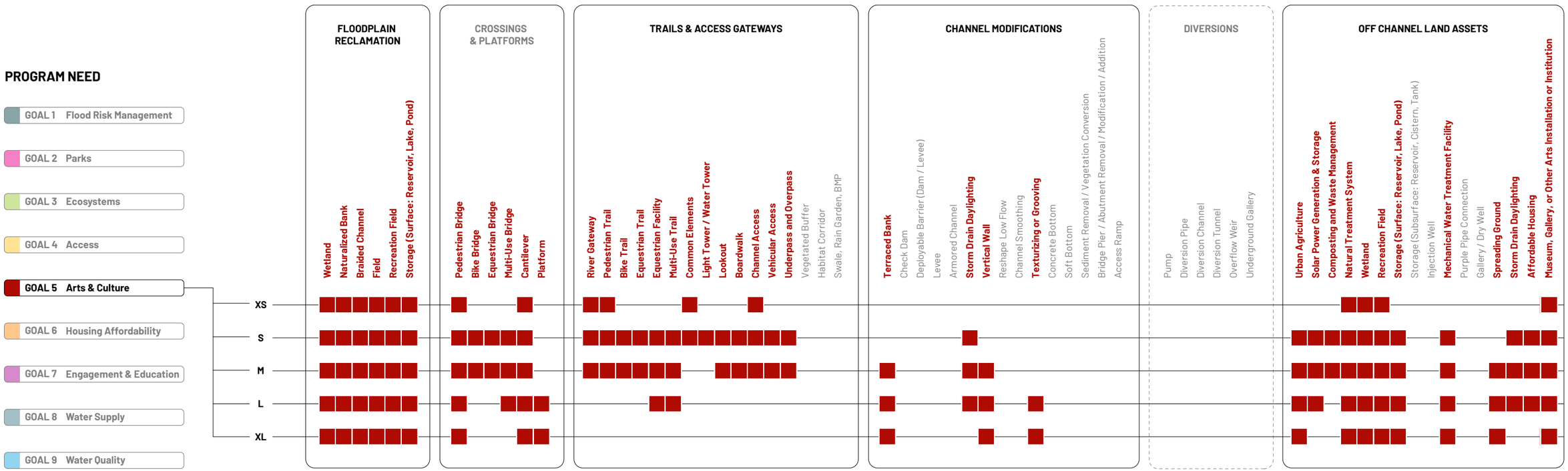
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



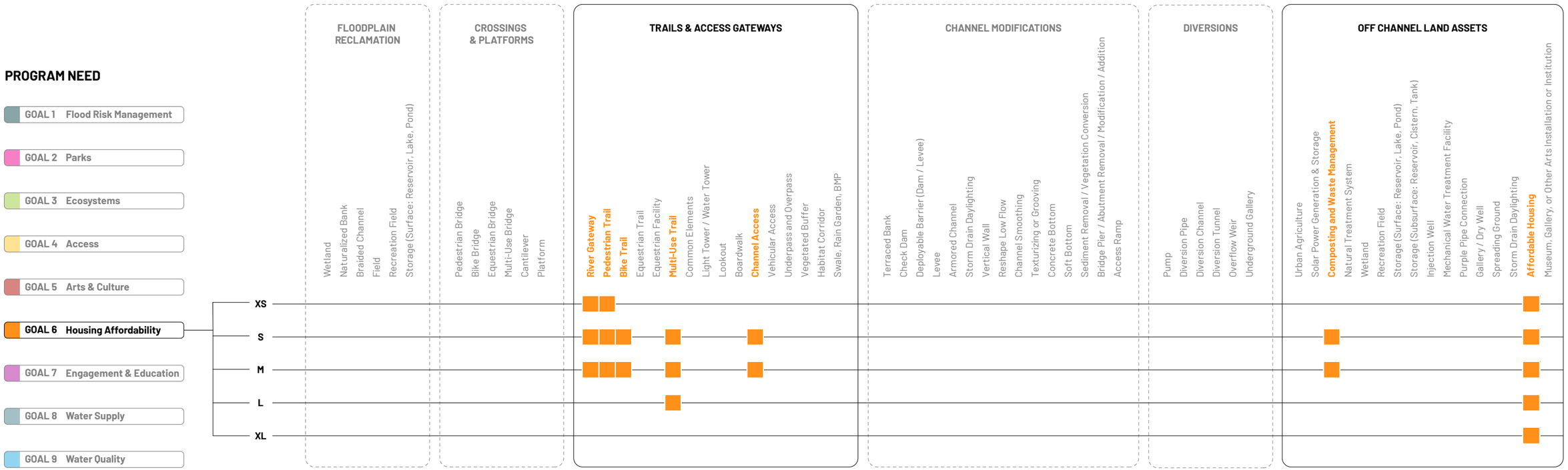
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



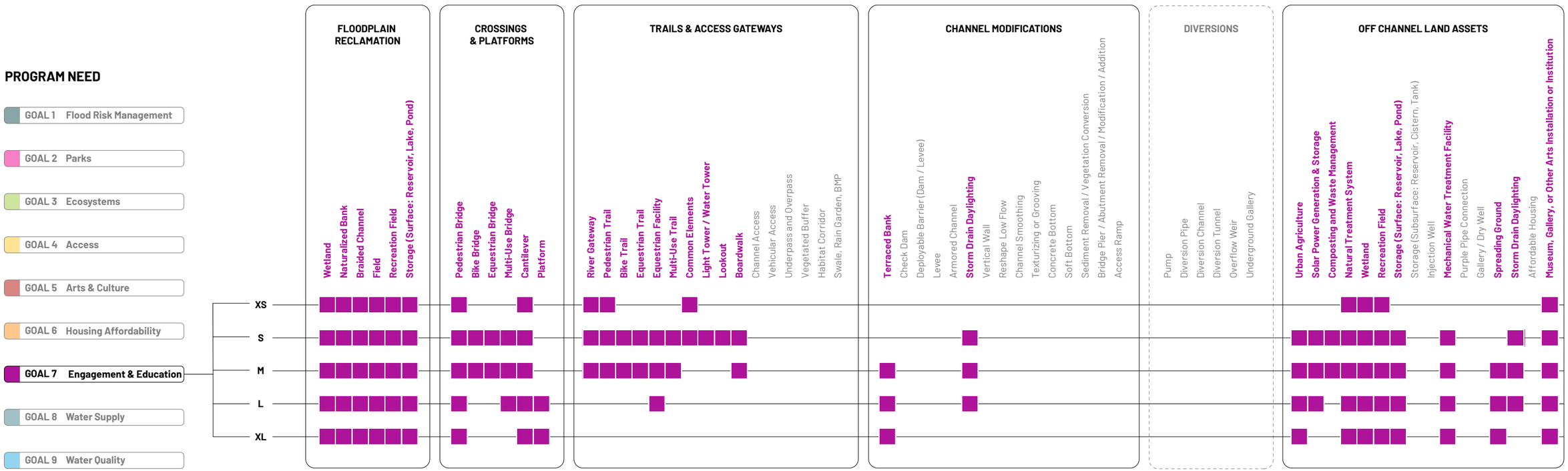
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



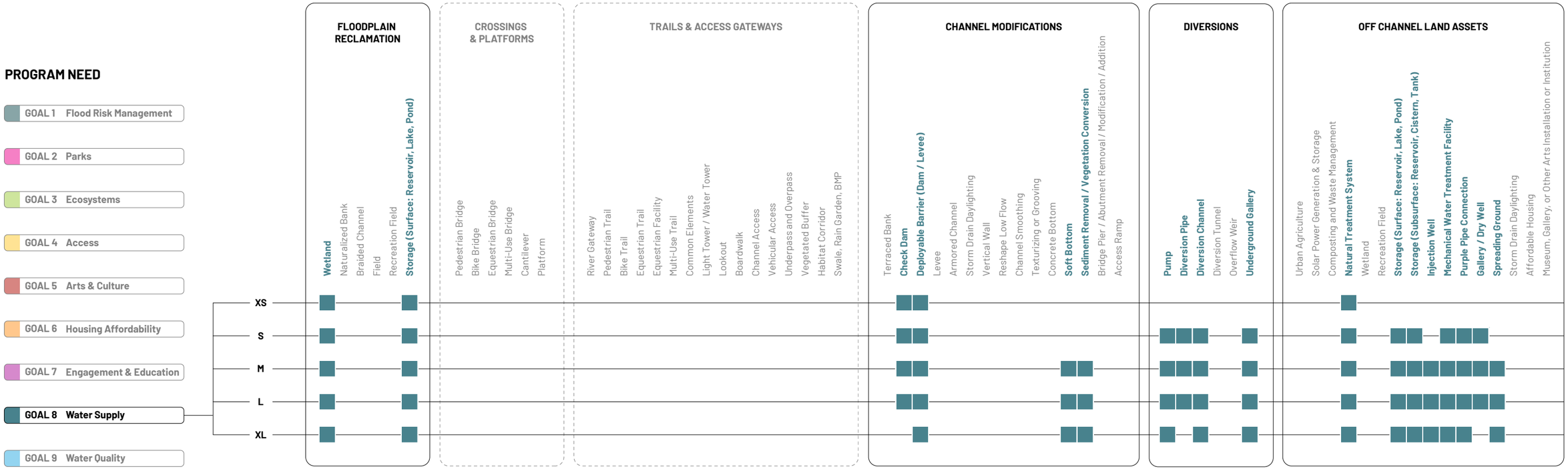
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



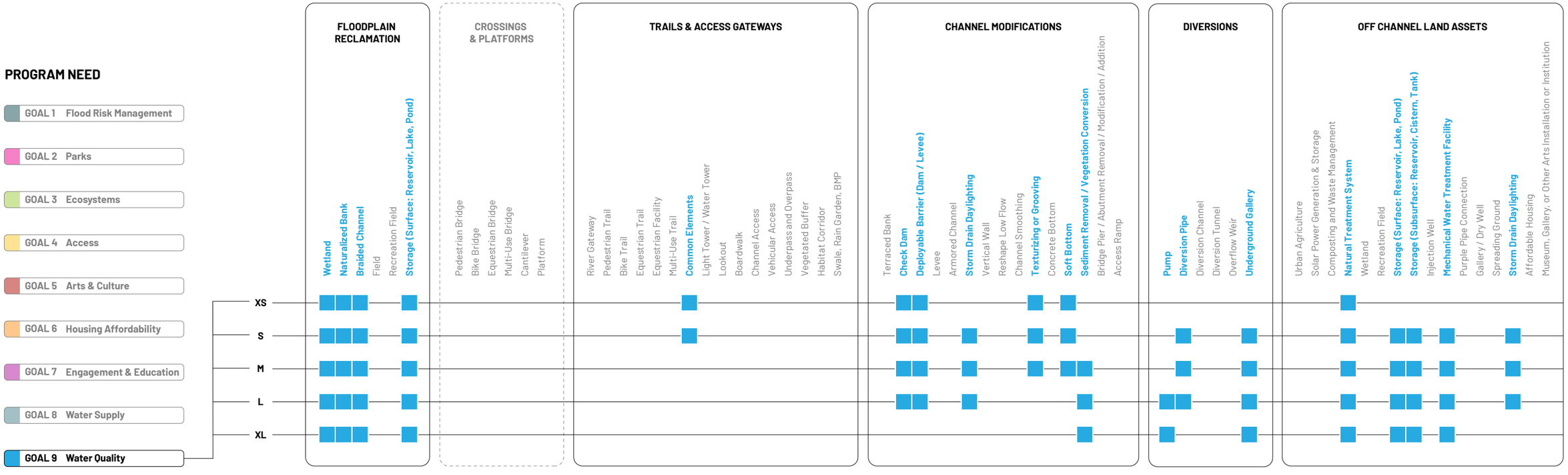
Source: OLIN, Gehry Partners, Geosyntec

KIT OF PARTS FRAMEWORK



Source: OLIN, Gehry Partners, Geosyntec

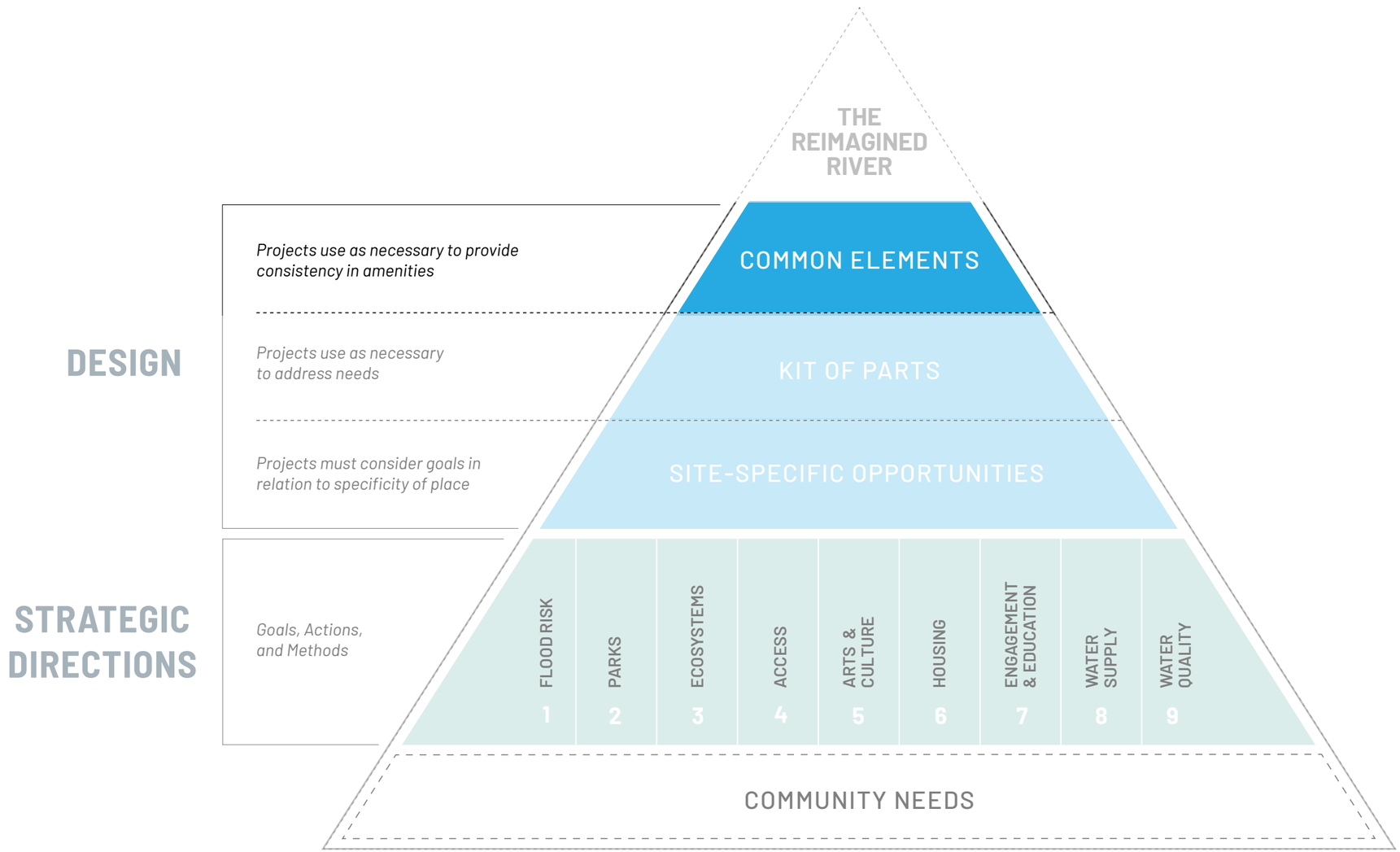
KIT OF PARTS FRAMEWORK



Source: OLIN, Gehry Partners, Geosyntec

COMMON ELEMENTS

PROJECTS SHOULD BUILD UPON THE GOALS USING THE KIT OF PARTS AND COMMON ELEMENTS



CURRENT COMMON ELEMENTS

Source: OLIN

CURRENT COMMON ELEMENTS



SEATING



GUARDRAILS AND TRASH RECEPTACLE

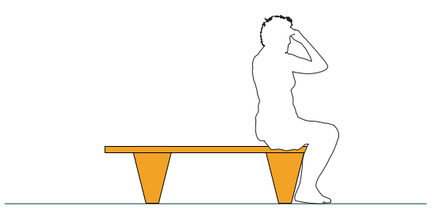


ENVIRONMENTAL GRAPHICS

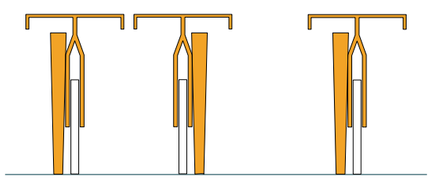
Source: OLIN

INVENTORY OF REPEATED COMMON ELEMENTS

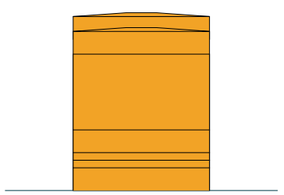
Developed under Design Guidelines



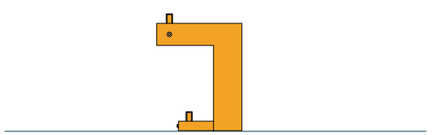
BENCHES



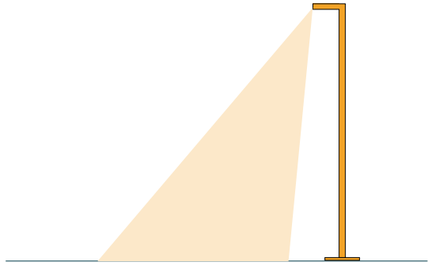
BIKE RACKS



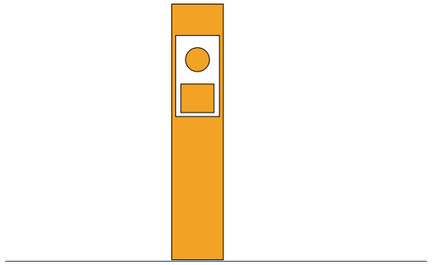
TRASH & RECYCLING



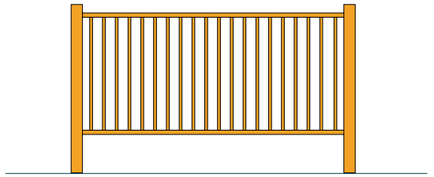
WATER FOUNTAINS



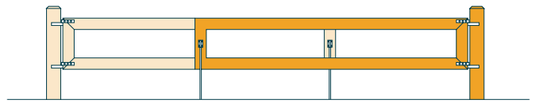
LIGHTING



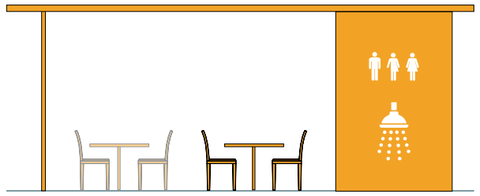
EMERGENCY CALL BOXES



GUARDRAILS



FENCES & GATES



PAVILIONS



HYGIENE FACILITIES



ART



ENVIRONMENTAL GRAPHICS

Source: OLIN, Gehry Partners

TYPES OF ELEMENTS

BESPOKE

- **Pavilions**
- **Art Installations**
- **Interpretive Signage**
- **Custom Furnishings**

CONSISTENT

- **Benches**
- **Light Fixtures**
- **Wayfinding**

FACILITIES AND AMENITIES

River Pavilions and Cadence

SHADE PAVILION
Tier I (every .4-.6 mi)

- SHADED SEATING
- RIVER EDUCATION
- WATER FOUNTAIN
- EMERGENCY CALL BOX
- TRASH & RECYCLING

REST PAVILION
Tier II (every .8-1.2 mi)

TIER I COMPONENTS, PLUS:

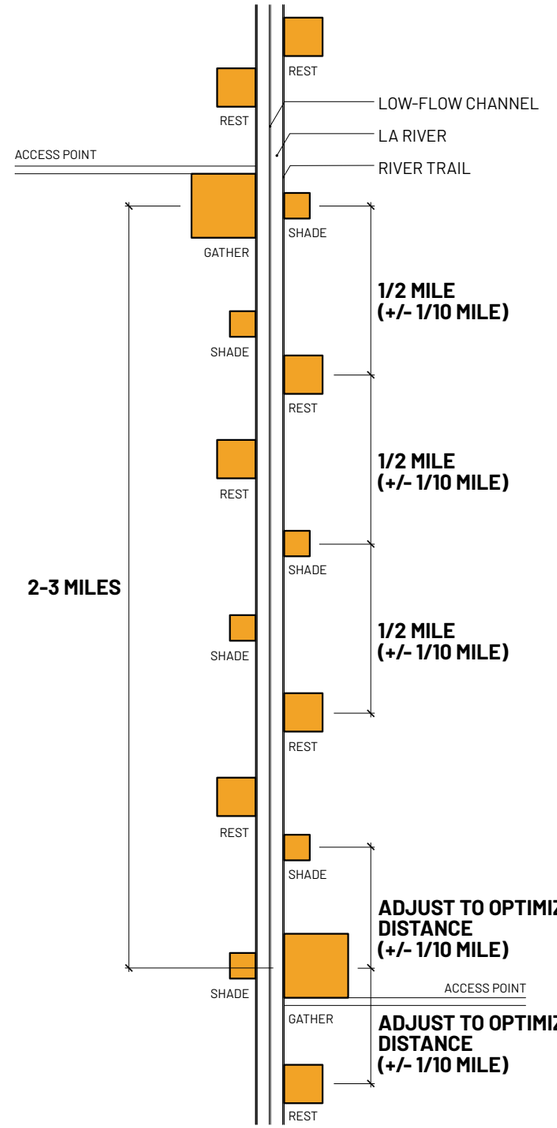
- BATHROOMS
- PICNIC AREA
- CHARGING STATION
- BICYCLE RACKS
- SNACK STATION
- RECREATION AREA OUTDOOR SHOWERS (OPTIONAL)

GATHERING PAVILION
Tier III (every 2-3 miles)

TIER I AND II COMPONENTS, PLUS ONE OR MORE OF THE FOLLOWING:

- BIKE RENTAL/REPAIR
- INDOOR LOCKER ROOM AND SHOWERS
- PUBLIC SAFETY STATION
- MULTI-PURPOSE COMMUNITY ROOM (OPTIONAL)
- COMMUNITY KITCHEN (OPTIONAL)
- SPORTS EQUIPMENT RENTAL (OPTIONAL)

TYPICAL CADENCE

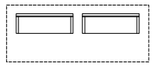


Source: Gehry Partners, OLIN

PAVILION COMPONENTS

Shade Pavilion (Tier I) = A
Rest Pavilion (Tier II) = A+B
Gathering Pavilion (Tier III) = A+B+C

A COMPONENTS



SHADED SEATING



RIVER EDUCATION



DRINKING FOUNTAIN

EMERGENCY CALL BOX



TRASH, RECYCLING, AND PET WASTE RECEPTACLES

B COMPONENTS

CHARGING STATION



BIKE RACK



SNACK STATION



PICNIC TABLE



OUTDOOR SHOWER
(ONLY IN RECREATION AREAS)



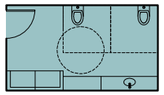
BARBECUE



SINGLE-OCCUPANCY RESTROOM



MOTHER'S ROOM

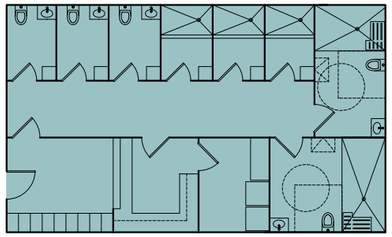


FAMILY RESTROOM

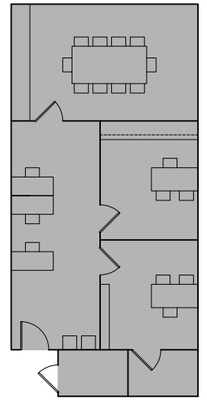
C COMPONENTS



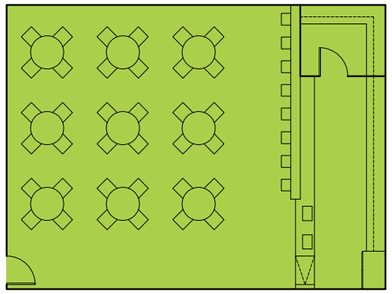
PUBLIC SAFETY STATION



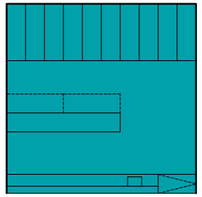
LOCKER ROOM



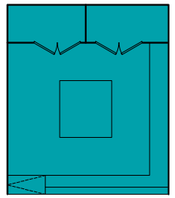
OFFICES



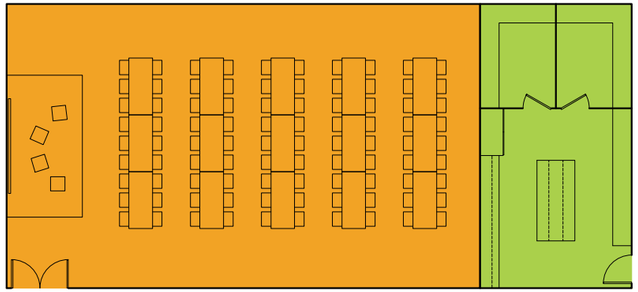
CAFE



BIKE RENTAL
AND REPAIR



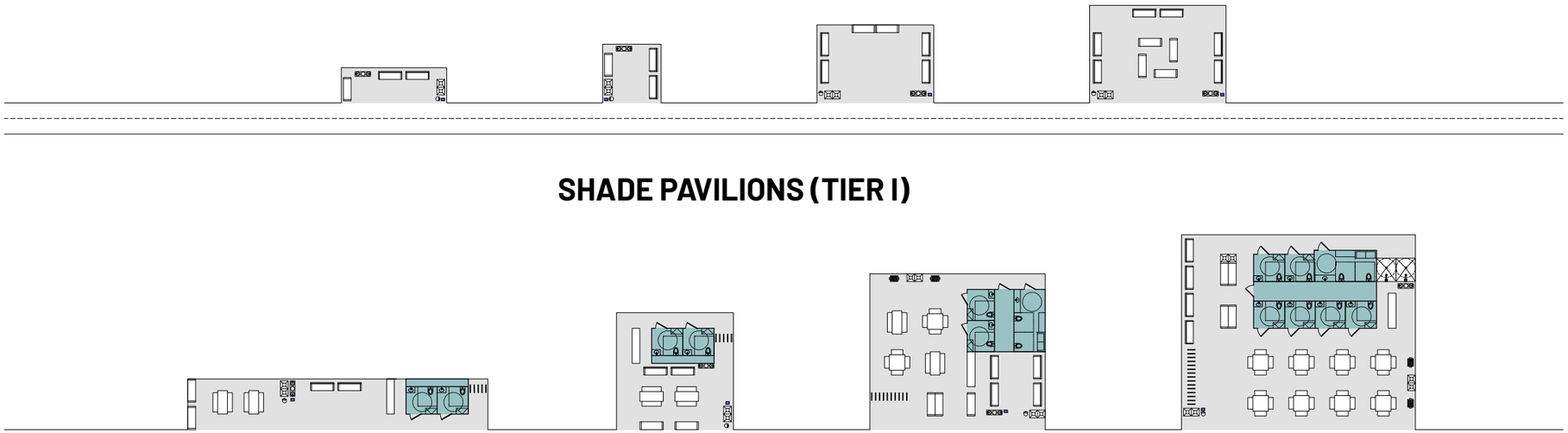
SPORTS RENTAL



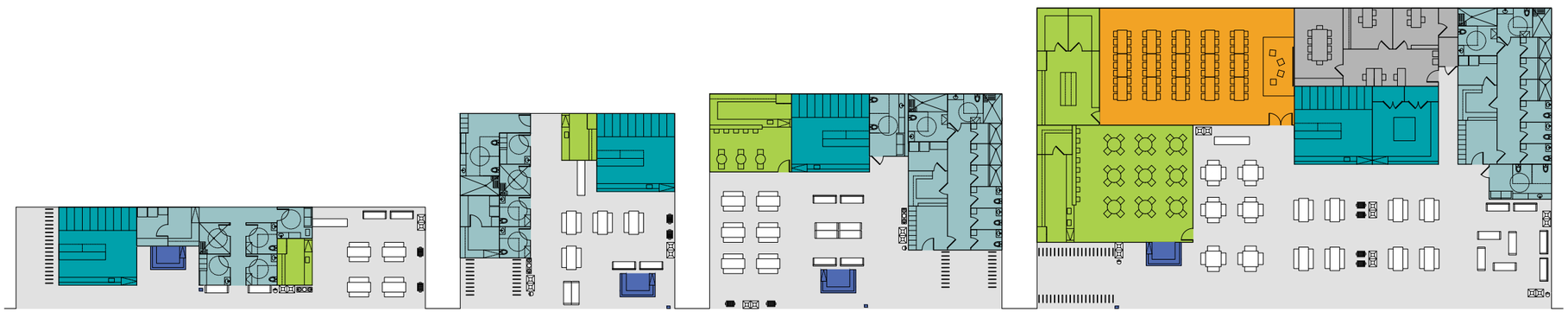
MULTI-PURPOSE ROOM /
COMMUNITY KITCHEN

Source: Gehry Partners, OLIN

PAVILION CONFIGURATIONS



SHADE PAVILIONS (TIER I)

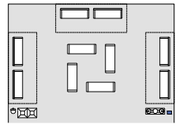


REST PAVILIONS (TIER II)

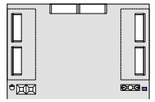
Source: Gehry Partners, OLIN

GATHERING PAVILIONS (TIER III)

SHADE PAVILIONS (TIER I)



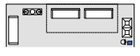
EXPANDED



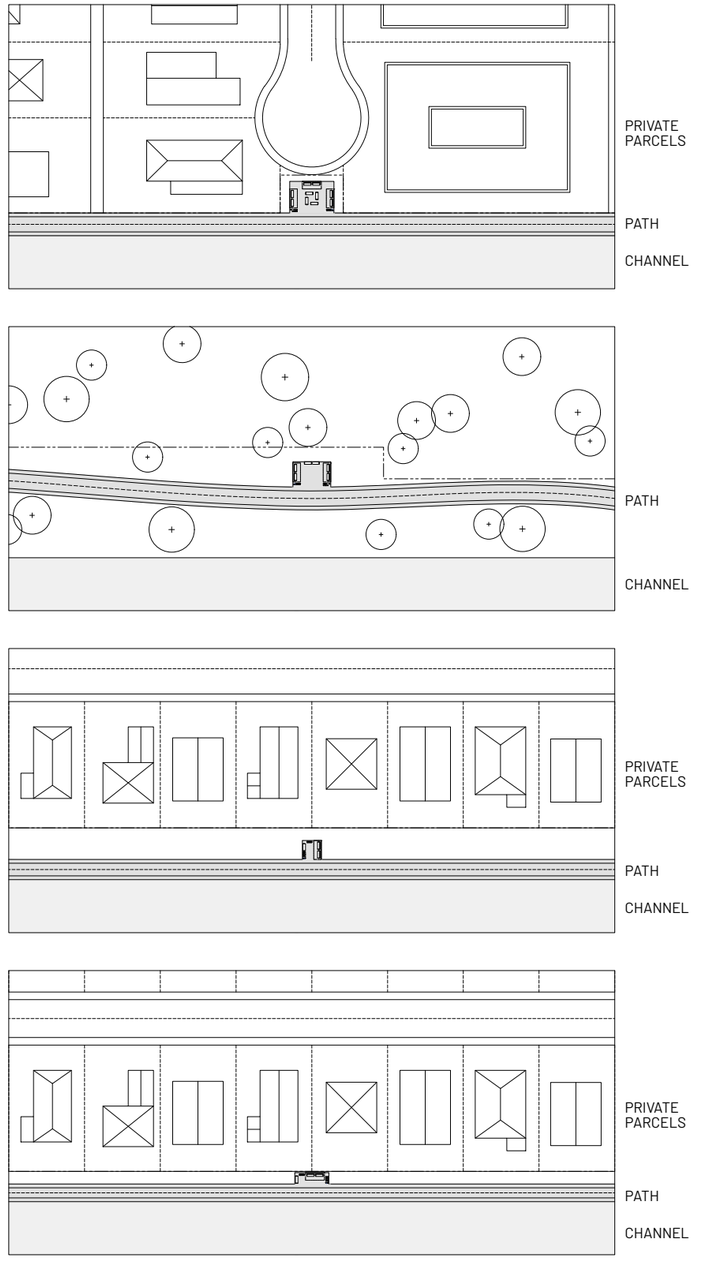
MODERATE



SMALL | SQUARE

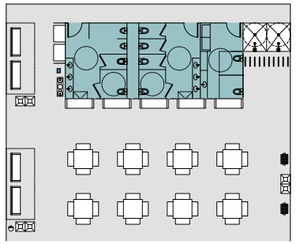


SMALL | LINEAR

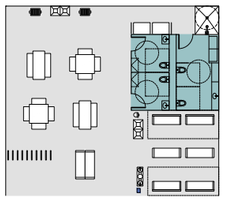


Source: Gehry Partners, OLIN

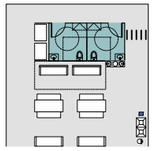
REST PAVILIONS (TIER II)



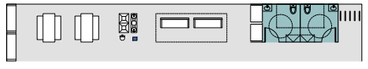
EXPANDED



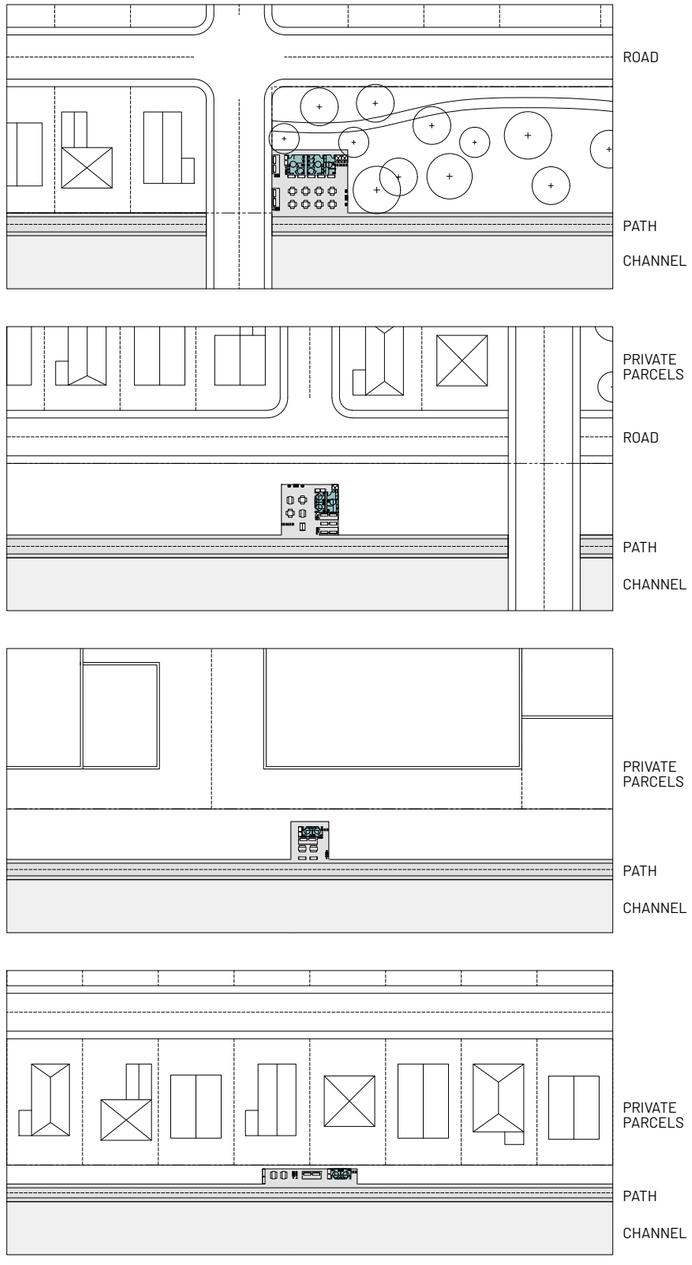
MODERATE



SMALL | SQUARE



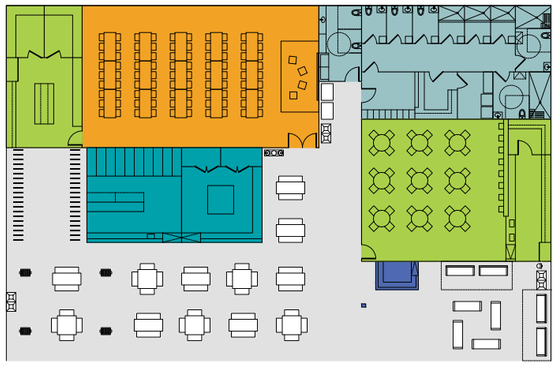
SMALL | LINEAR



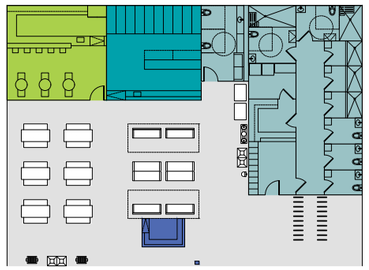
Source: Gehry Partners, OLIN

COMMON ELEMENTS

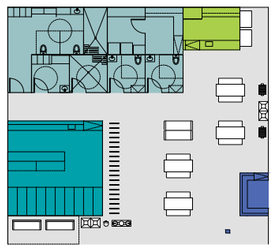
GATHERING PAVILIONS (TIER III)



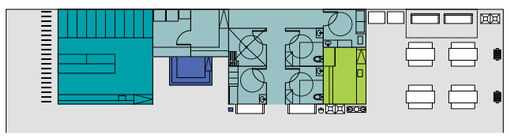
EXPANDED



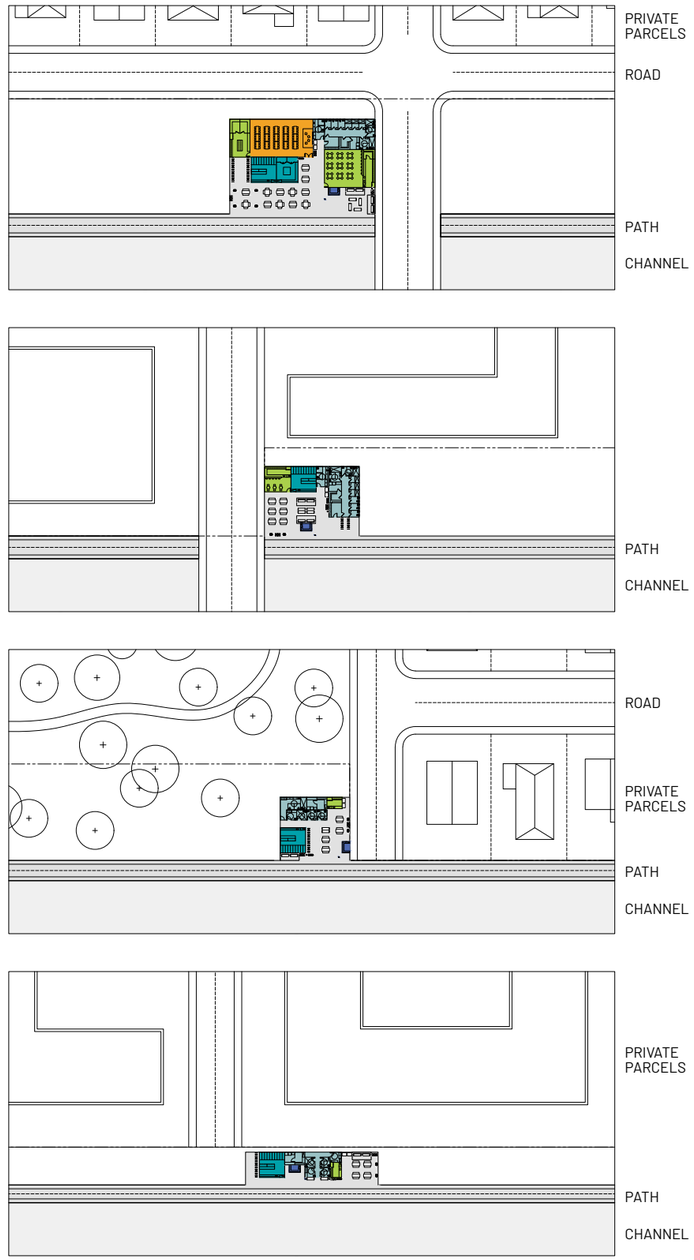
MODERATE



SMALL | SQUARE

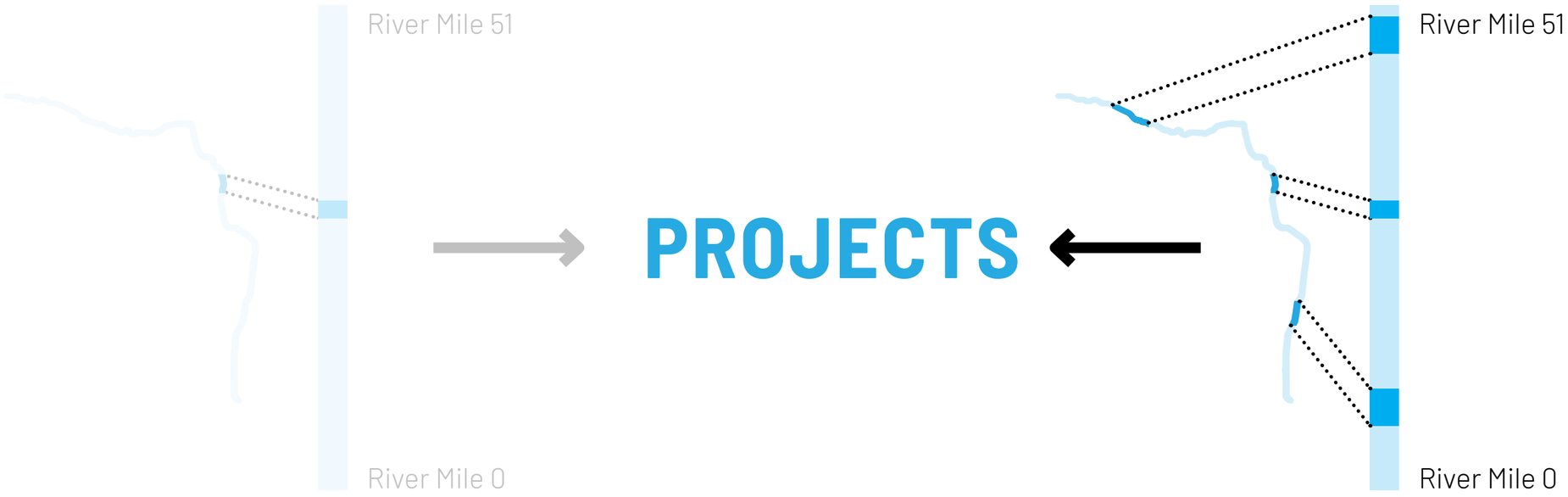


SMALL | LINEAR



Source: Gehry Partners, OLIN

SYSTEM-BASED PROJECTS ARE COMPRISED OF MANY SITES WORKING TOGETHER TO ADDRESS NEEDS WITH RIVER-WIDE IMPLICATIONS

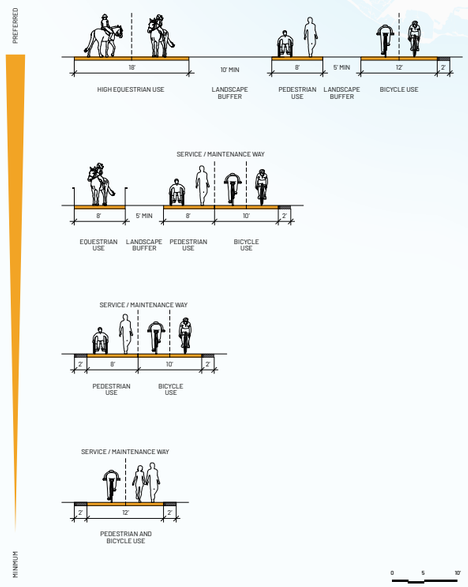


SITE-BASED

SYSTEM-BASED

SYSTEM: 51-MILE RIVER TRAIL

Continuous trail and access points





— Existing LA River Trail

— Planned or Proposed LA River Trail

Source: OLIN, based on City of Los Angeles, LA River Greenway, LA River Access and Point sof Interest, 2018

SYSTEM: 1% FLOOD RISK REDUCTION AREAS[1]

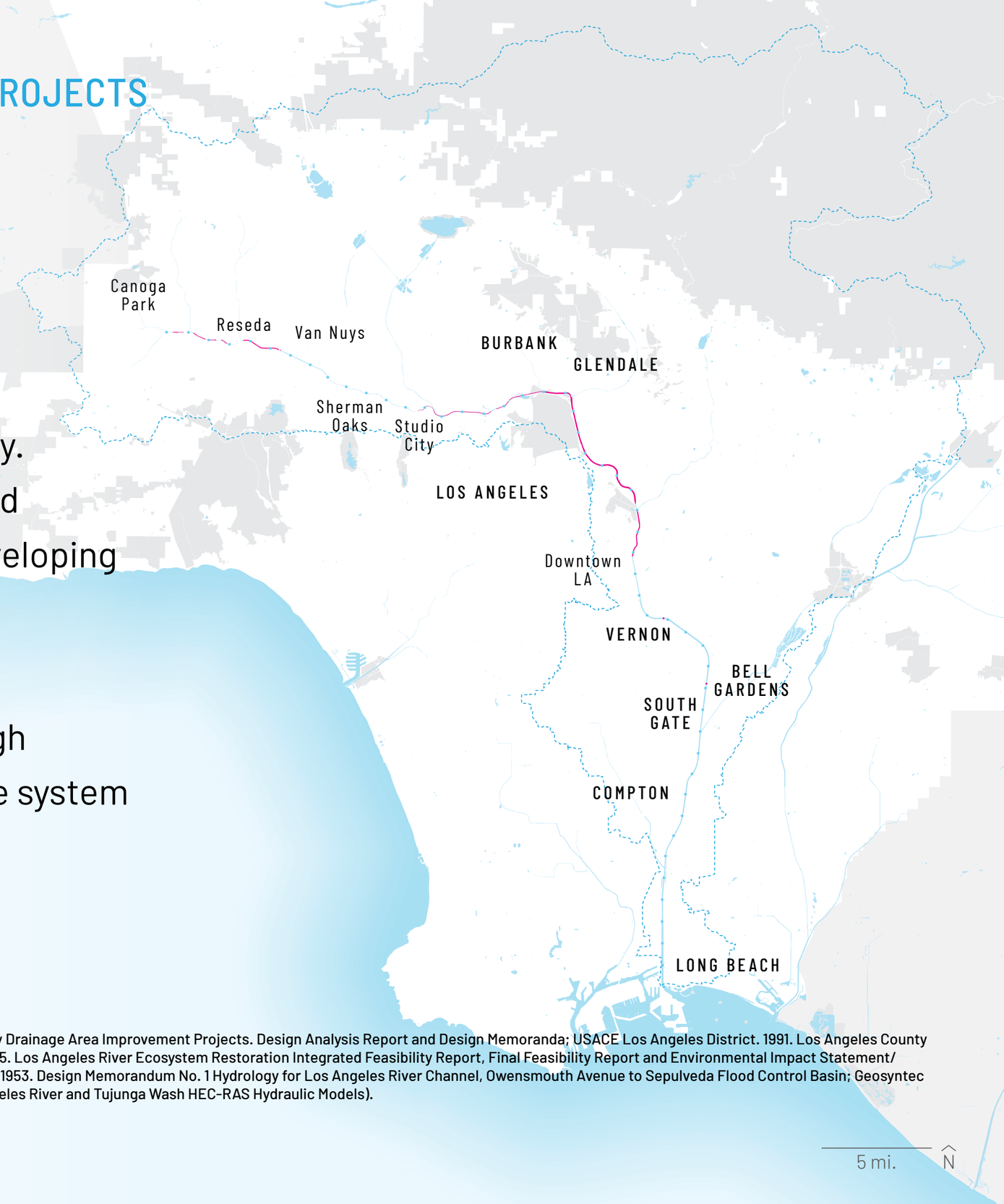
Short-Term Priorities:

1. Improve channel areas under 1% flood capacity.
2. Improve resiliency of critical infrastructure and facilities in the 1% and 0.2% floodplains by developing specific flood risk reduction strategies.

Long-Term Policies:

1. Improve resilience of the overall system through strategic modification of the flood conveyance system and floodplains.

Areas that do not meet 1% flood capacity needs[1]

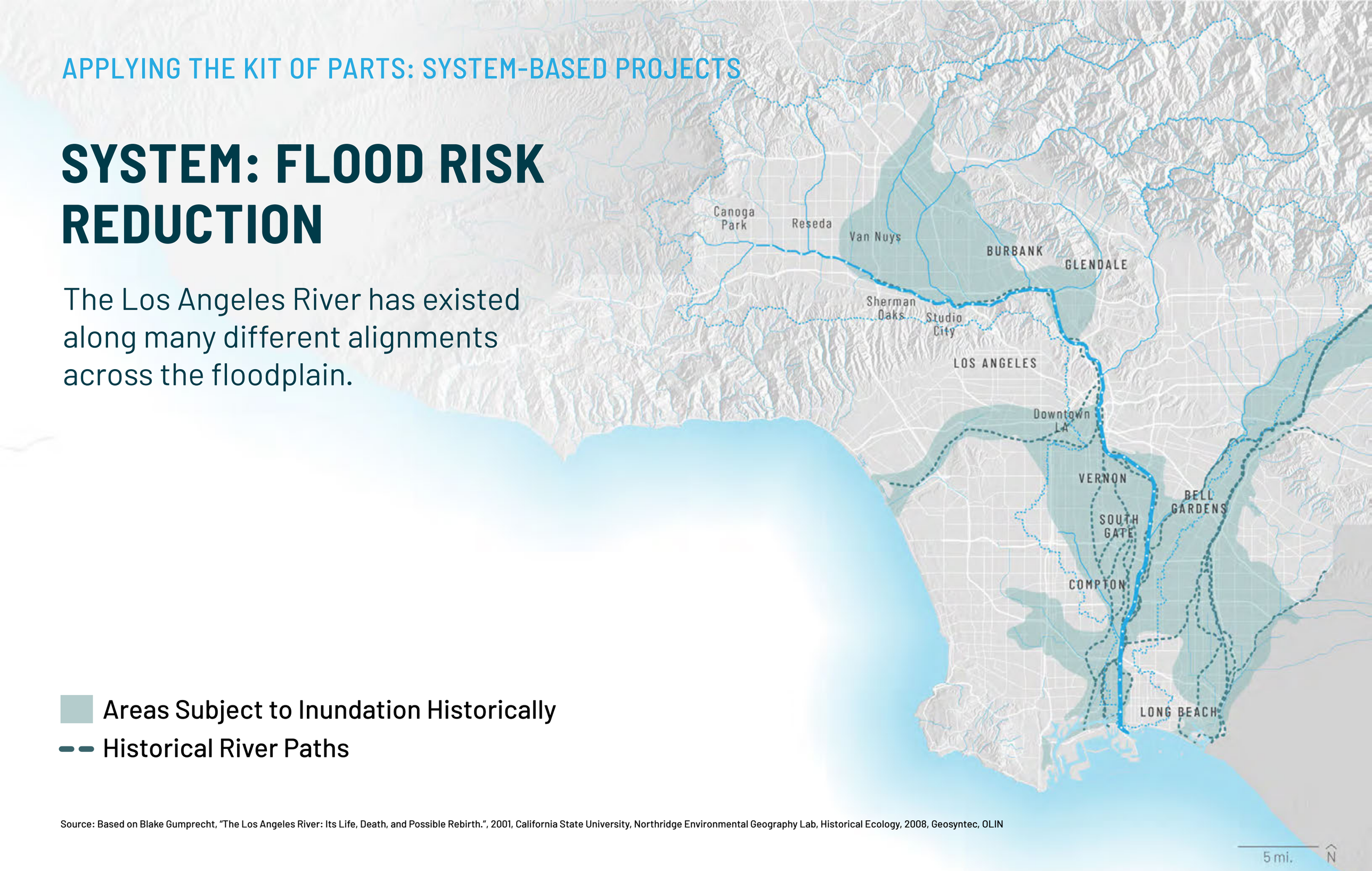


Footnotes:
1. U.S. Army Corps of Engineers (USACE) Los Angeles District. 1996a, 1996b, 1997a, 1997b, and 1999. Los Angeles County Drainage Area Improvement Projects. Design Analysis Report and Design Memoranda; USACE Los Angeles District. 1991. Los Angeles County Drainage Area (LACDA): Review, Part I Hydrology Technical Report: Base Conditions; USACE: Los Angeles District. 2015. Los Angeles River Ecosystem Restoration Integrated Feasibility Report, Final Feasibility Report and Environmental Impact Statement/ Environmental Impact Report, Appendix E. Table 17: Original Design Discharge and Existing Channel Capacity; USACE. 1953. Design Memorandum No. 1 Hydrology for Los Angeles River Channel, Owensmouth Avenue to Sepulveda Flood Control Basin; Geosyntec analysis using HEC-RAS models (USACE Los Angeles District. 2005. Los Angeles County Drainage Area Upper Los Angeles River and Tujunga Wash HEC-RAS Hydraulic Models).

Source: Geosyntec, OLIN

SYSTEM: FLOOD RISK REDUCTION

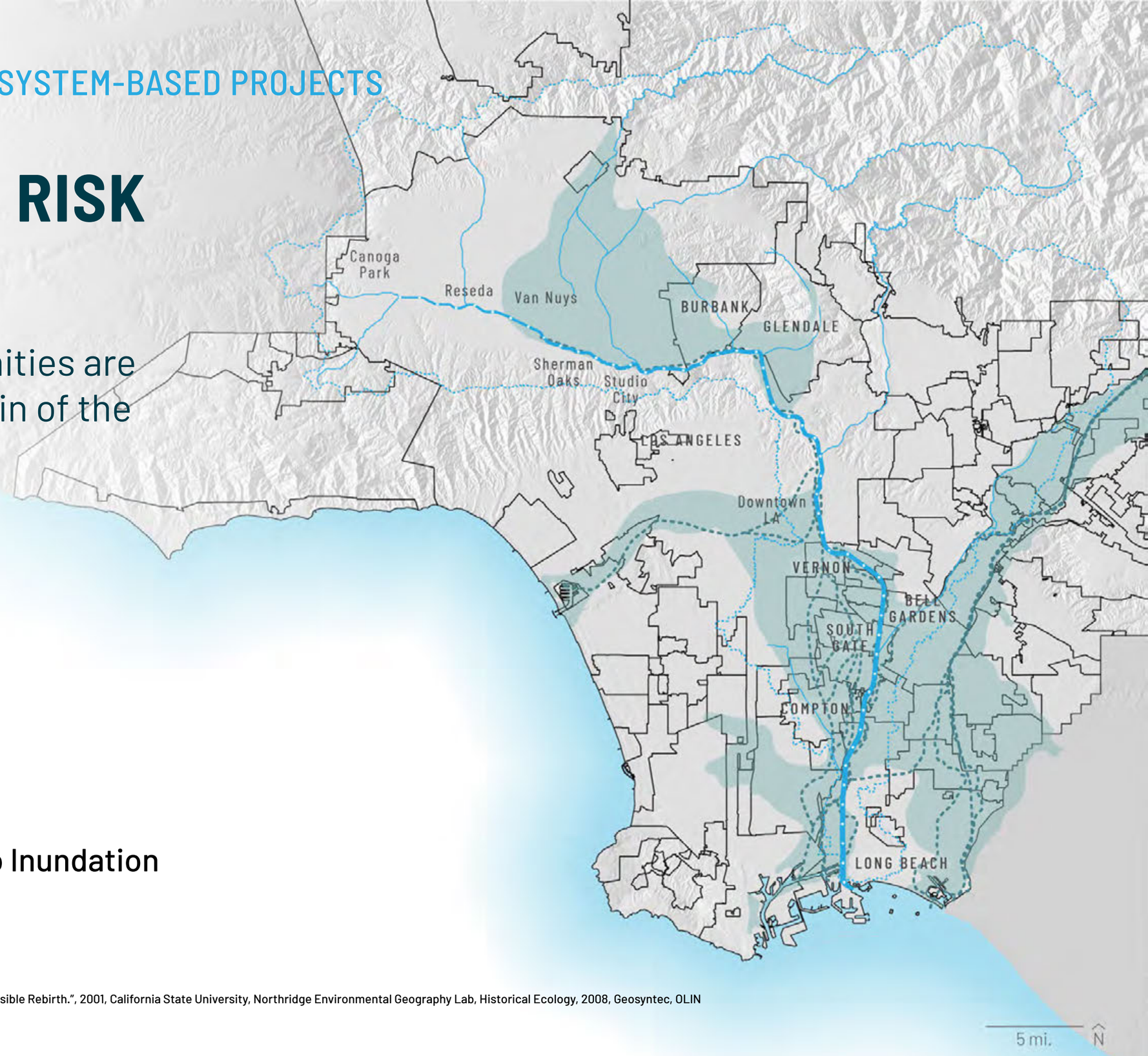
The Los Angeles River has existed along many different alignments across the floodplain.



Source: Based on Blake Gumprecht, "The Los Angeles River: Its Life, Death, and Possible Rebirth.", 2001, California State University, Northridge Environmental Geography Lab, Historical Ecology, 2008, Geosyntec, OLIN

SYSTEM: FLOOD RISK REDUCTION

Many present-day communities are within the historic floodplain of the LA River.



Source: Based on Blake Gumprecht, "The Los Angeles River: Its Life, Death, and Possible Rebirth.", 2001, California State University, Northridge Environmental Geography Lab, Historical Ecology, 2008, Geosyntec, OLIN

CHANNEL CAPACITY[1]



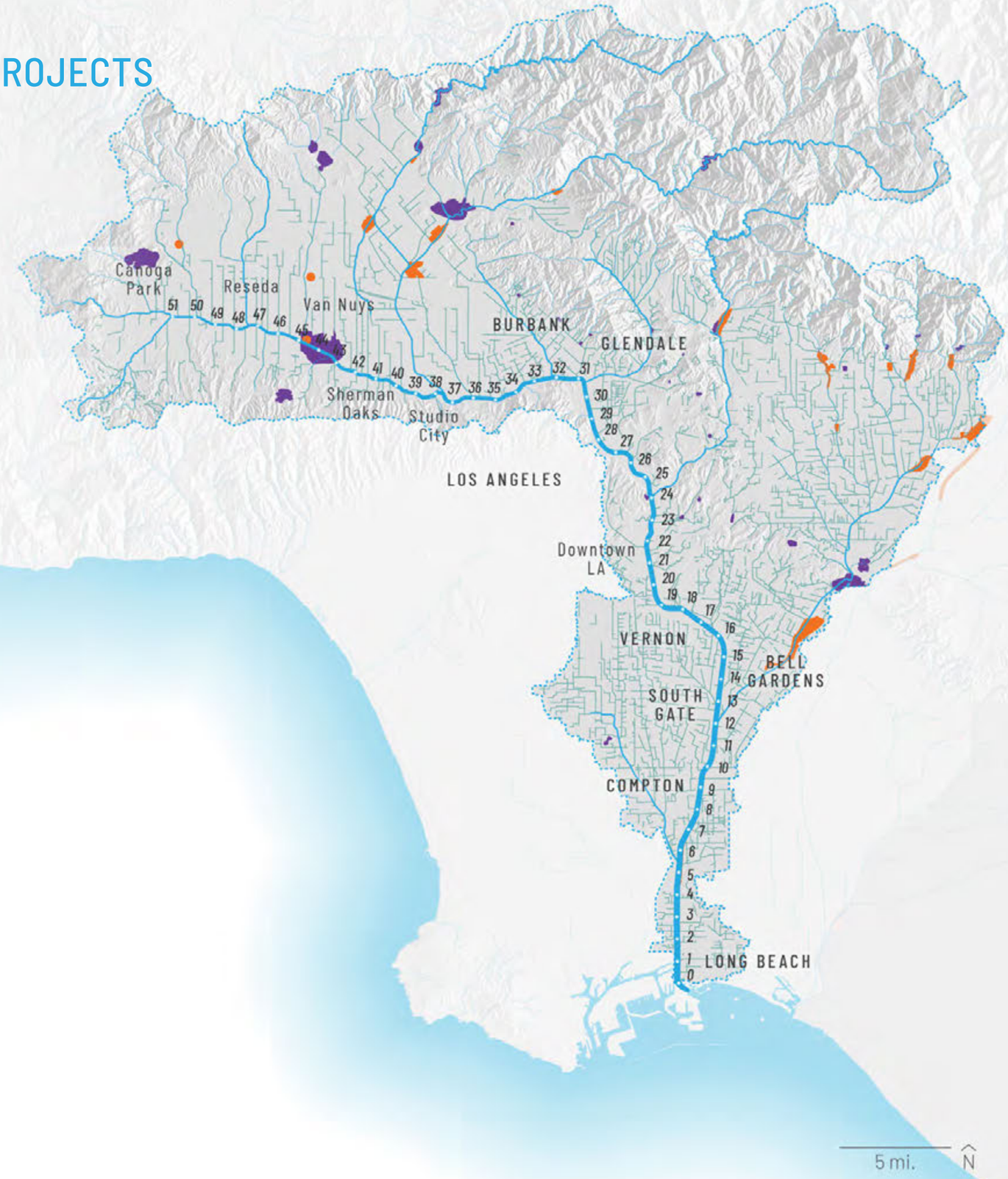
Annual Chance of Exceedance

- 10% or Worse
- 2% or Worse
- 1% or Worse
- 1% or Better

Footnotes:
1. U.S. Army Corps of Engineers (USACE) Los Angeles District. 1996a, 1996b, 1997a, 1997b, and 1999. Los Angeles County Drainage Area Improvement Projects. Design Analysis Report and Design Memoranda; USACE Los Angeles District. 1991. Los Angeles County Drainage Area (LACDA): Review, Part I Hydrology Technical Report: Base Conditions; USACE: Los Angeles District. 2015. Los Angeles River Ecosystem Restoration Integrated Feasibility Report, Final Feasibility Report and Environmental Impact Statement/ Environmental Impact Report, Appendix E. Table 17: Original Design Discharge and Existing Channel Capacity; USACE. 1953. Design Memorandum No. 1 Hydrology for Los Angeles River Channel, Owensmouth Avenue to Sepulveda Flood Control Basin; Geosyntec analysis using HEC-RAS models (USACE Los Angeles District. 2005. Los Angeles County Drainage Area Upper Los Angeles River and Tujunga Wash HEC-RAS Hydraulic Models).

Source: Geosyntec, OLIN

HYDRAULIC FLOOD SYSTEM



Spreading Grounds

Flood Control Basins

Storm Drains

Streams and Channels

Source: LA County GIS Portal

A VARIED CHANNEL

River Mile 51: Canoga Park

River Mile 43: Sepulveda Basin

River Mile 39: Studio City

River Mile 28: Atwater Village

River Mile 24: Elysian Park

River Mile 22: Downtown Los Angeles

River Mile 12: South Gate

River Mile 2: Long Beach

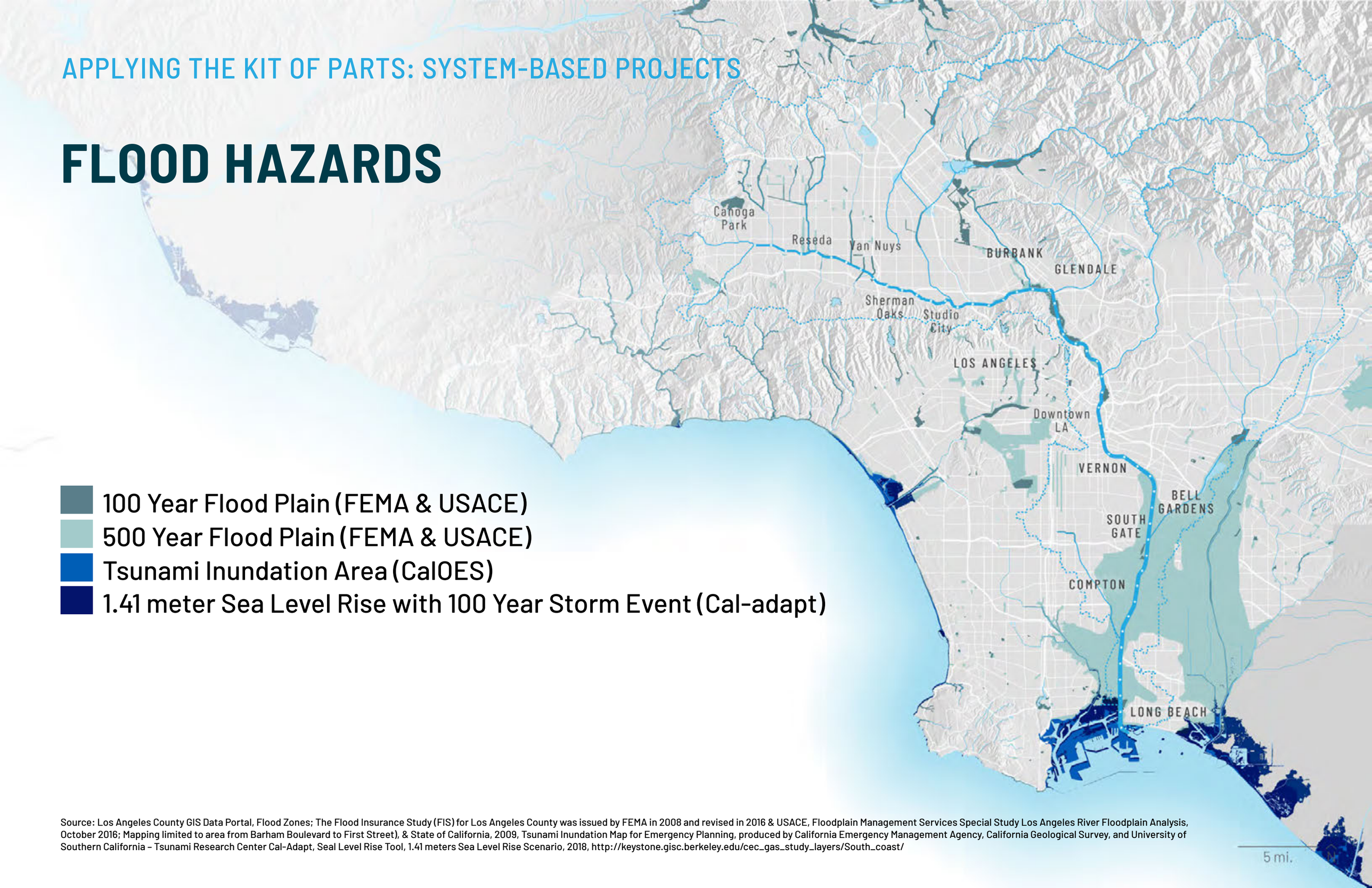
River Mile 0: River Mouth

LA RIVER HISTORY: NORTH FIGUEROA BRIDGE AT ARROYO SECO 1938

After this bridge was washed out, this section of the channel was built to 0.2% flood capacity to protect this critical infrastructure.

Source: Los Angeles Public Library, 1938 from Boyle Heights

FLOOD HAZARDS



- 100 Year Flood Plain (FEMA & USACE)
- 500 Year Flood Plain (FEMA & USACE)
- Tsunami Inundation Area (CalOES)
- 1.41 meter Sea Level Rise with 100 Year Storm Event (Cal-adapt)

Source: Los Angeles County GIS Data Portal, Flood Zones; The Flood Insurance Study (FIS) for Los Angeles County was issued by FEMA in 2008 and revised in 2016 & USACE, Floodplain Management Services Special Study Los Angeles River Floodplain Analysis, October 2016; Mapping limited to area from Barham Boulevard to First Street), & State of California, 2009, Tsunami Inundation Map for Emergency Planning, produced by California Emergency Management Agency, California Geological Survey, and University of Southern California – Tsunami Research Center Cal-Adapt, Seal Level Rise Tool, 1.41 meters Sea Level Rise Scenario, 2018, http://keystone.gisc.berkeley.edu/cec_gas_study_layers/South_coast/

FLOOD HAZARDS & CRITICAL FACILITIES & INFRASTRUCTURE

- Disaster and Emergency Operations Centers
- Police and Fire Stations
- Medical Facilities
- Schools
- Hazardous Facilities
- 100 Year Floodplain (FEMA & USACE)
- 500 Year Floodplain (FEMA & USACE)
- Tsunami Inundation Area (CalOES)
- 1.41 meter Sea Level Rise with 100 Year Storm Event (Cal-adapt)
- Evacuation Routes
- Transmission Lines
- Passenger Rail
- Wastewater Treatment Plants
- Oil and Gas Facilities
- Electric Power Facilities
- Transit Facilities
- Bridges
- Freeway Exits

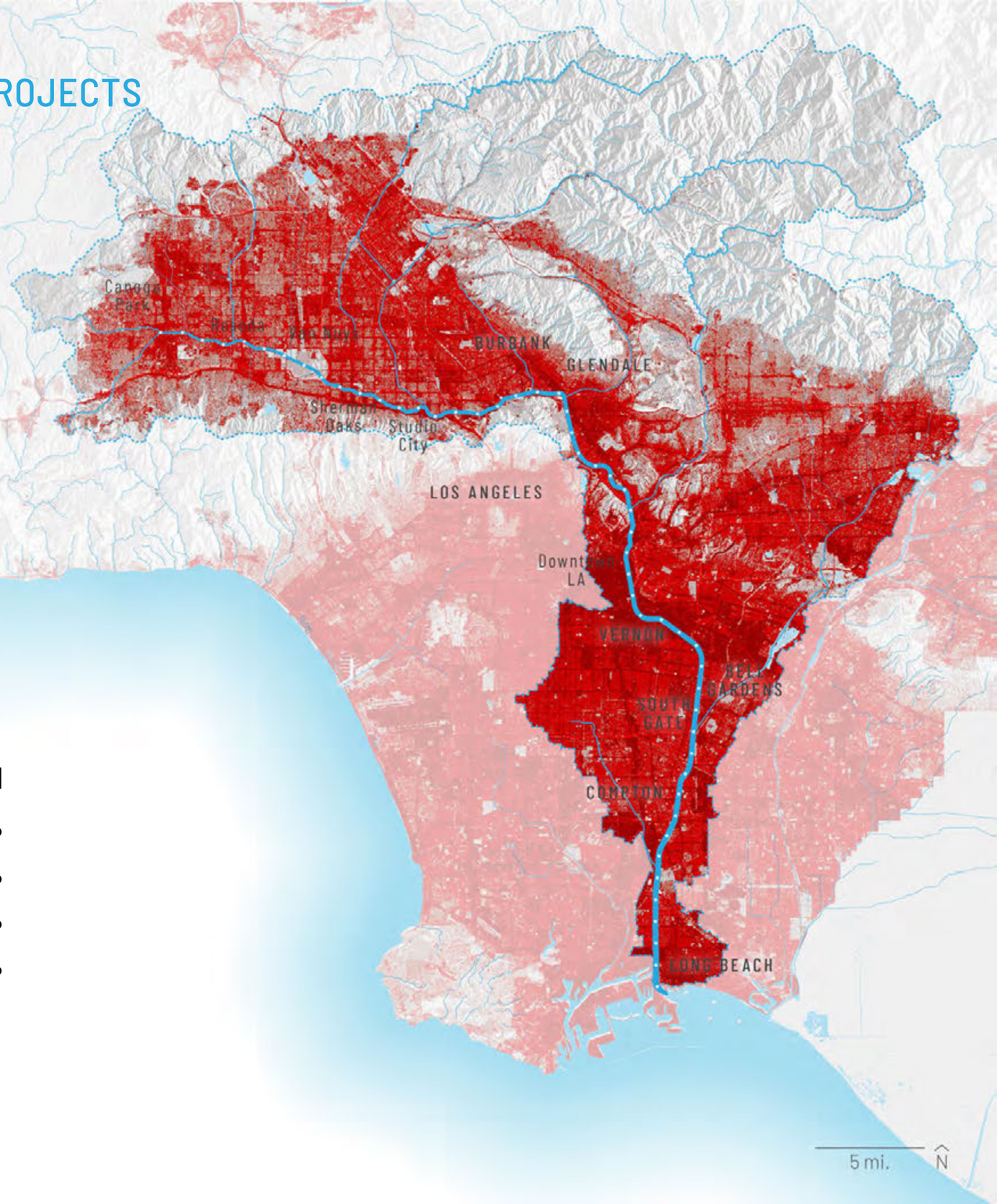
Source: Los Angeles County GIS Data Portal, Points of Interest, 2016 & Los Angeles County GIS Data Portal, Disaster Routes, 1998 & California Department of Transportation, California Rail Network, 2013 & EPA, FRS Geospatial Data, 2018 & State of California Energy Commission, California Electric Transmission Line, 2018 & California Department of Conservation, All Wells, 2018 & Los Angeles County GIS Data Portal, Flood Zones; The Flood Insurance Study (FIS) for Los Angeles County was issued by FEMA in 2008 and revised in 2016 & USACE, Floodplain Management Services Special Study Los Angeles River Floodplain Analysis, October 2016; Mapping limited to area from Barham Boulevard to First Street), & State of California, 2009, Tsunami Inundation Map for Emergency Planning, produced by California Emergency Management Agency, California Geological Survey, and University of Southern California – Tsunami Research Center Cal-Adapt, Seal Level Rise Tool, 1.41 meters Sea Level Rise Scenario, 2018, http://keystone.gisc.berkeley.edu/cec_gas_study_layers/South_coast/

NEARLY ALL OF THE LA RIVER CORRIDOR IS DEVELOPED

Given the current density of urbanization, it is not reasonable to reinstate the historic LA River floodplain.

Developed Land Cover of the LA River Watershed	2011
Developed, Open Space	10.4%
Developed, Low Intensity	15.8%
Developed, Medium Intensity	26.3%
Developed, High Intensity	9.2%

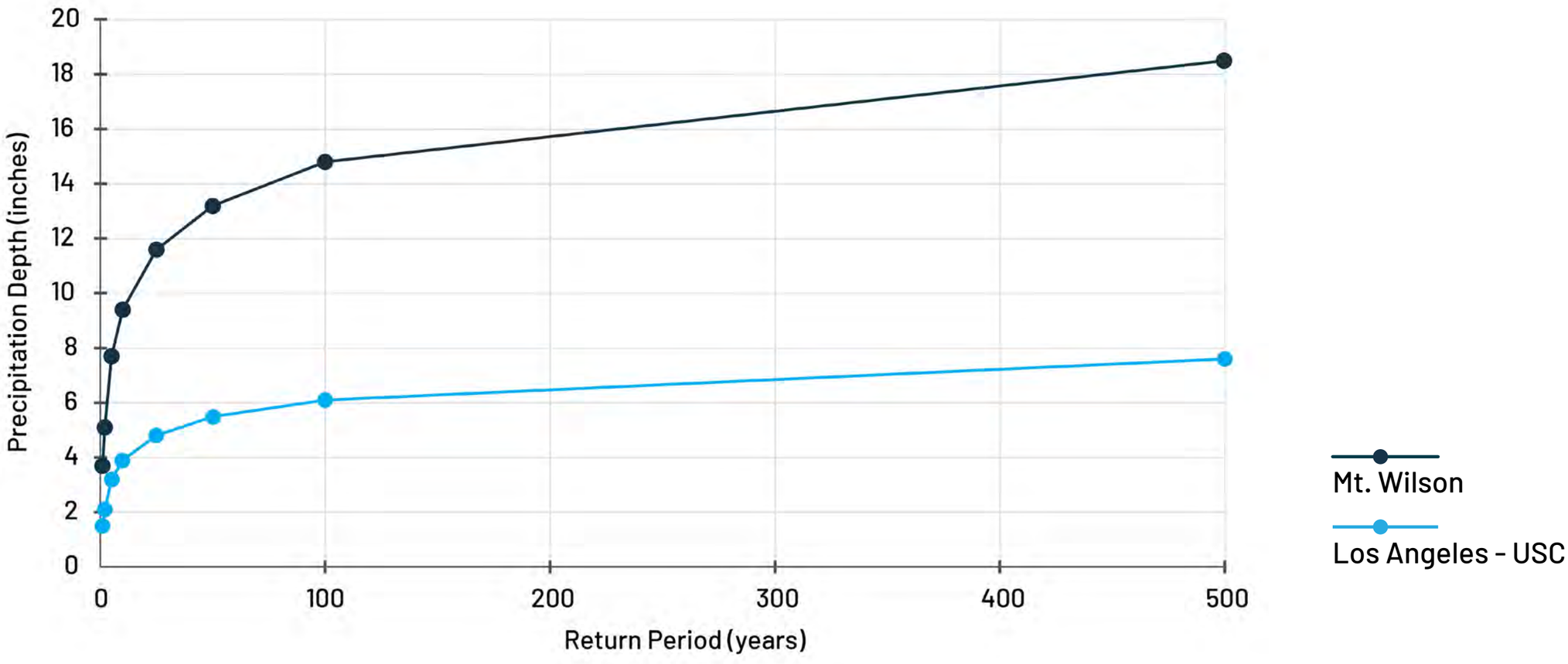
Source: National Land Cover Database 2011



STORM RETURN PERIODS



24-hour Precipitation Depth versus Return Period



Source: Los Angeles County GIS Data Portal, Rainfall Intensity, 2011

EXTREME EVENTS HAPPEN

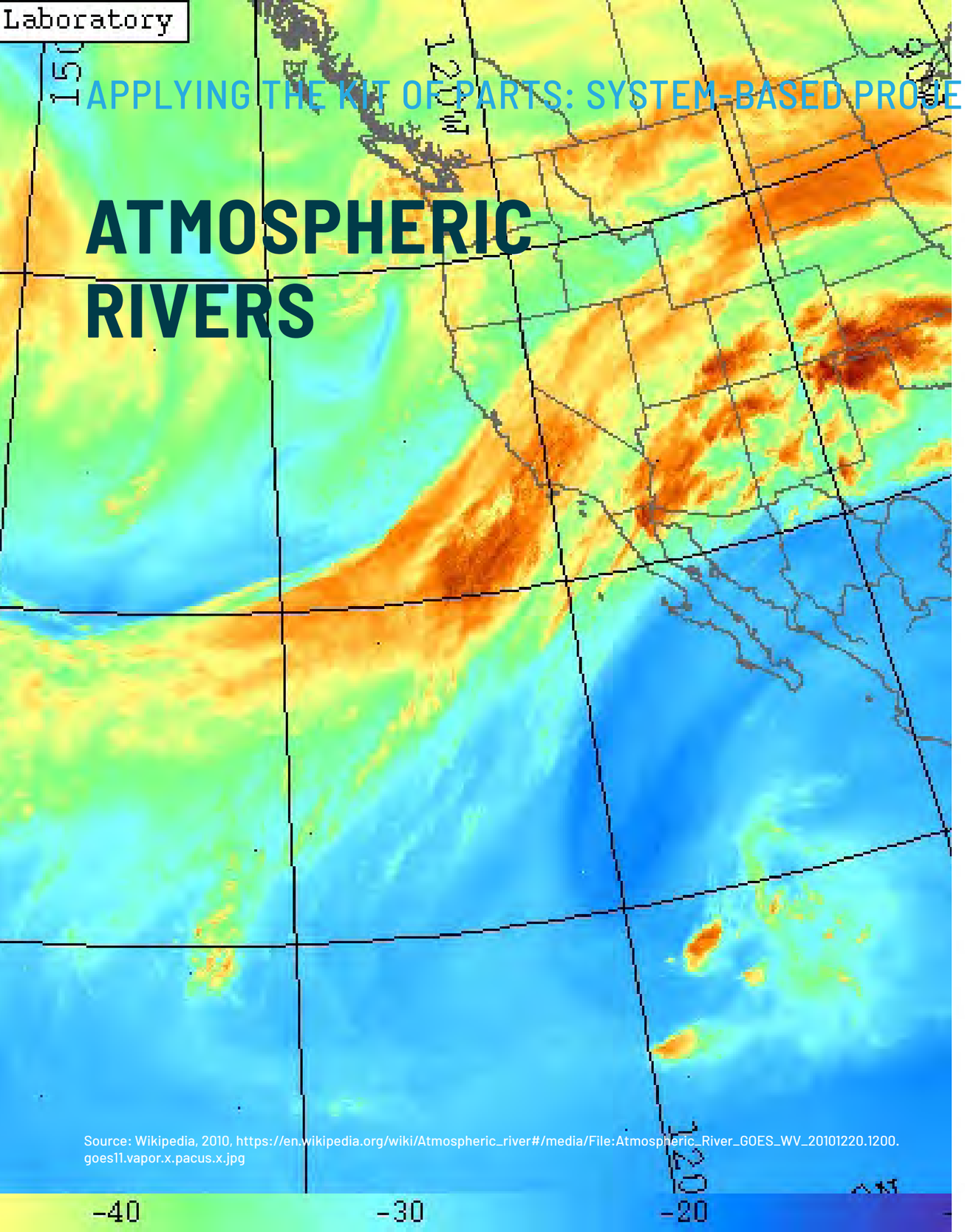
SUPERSTORM SANDY

Source: Jolliffe, R., Flickr User, 2012, https://flic.kr/p/dpcGmB

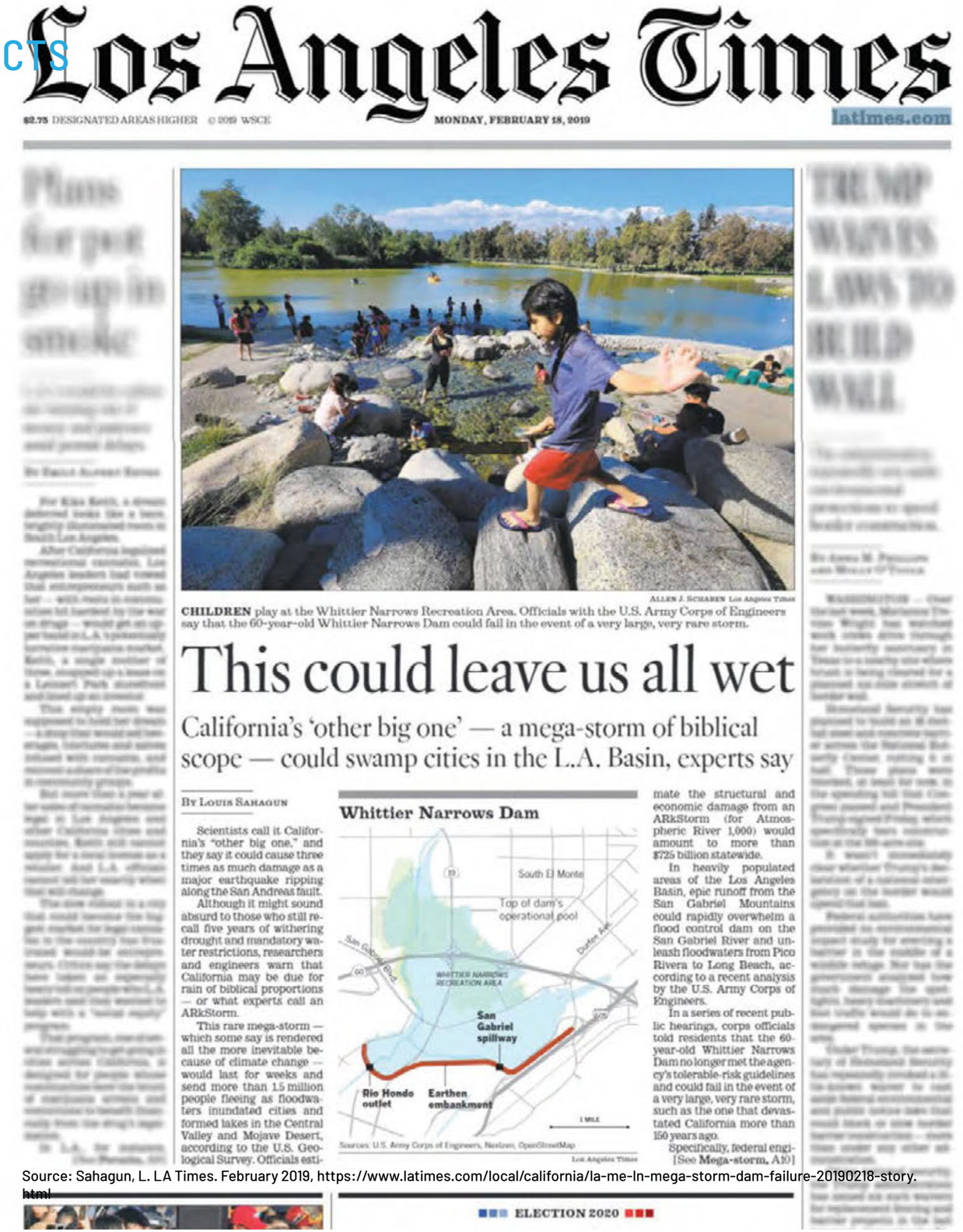
HURRICANE HARVEY

Source: Chandler, J., Flickr User, 2017, https://flic.kr/p/Y487SD

ATMOSPHERIC RIVERS



Source: Wikipedia, 2010, https://en.wikipedia.org/wiki/Atmospheric_river#/media/File:Atmospheric_River_GOES_WV_20101220.1200.goes11.vapor.x.pacus.x.jpg



Los Angeles Times

$2.75 DESIGNATED AREAS HIGHER © 2019 WSCE — MONDAY, FEBRUARY 18, 2019 — latimes.com

Plans for pot go up in smoke

TRUMP WAIVES LAWS TO BUILD WALL

ALLEN J. SCHABEN Los Angeles Times

CHILDREN play at the Whittier Narrows Recreation Area. Officials with the U.S. Army Corps of Engineers say that the 60-year-old Whittier Narrows Dam could fail in the event of a very large, very rare storm.

This could leave us all wet

California's 'other big one' — a mega-storm of biblical scope — could swamp cities in the L.A. Basin, experts say

By Louis Sahagun

Scientists call it California's "other big one," and they say it could cause three times as much damage as a major earthquake ripping along the San Andreas fault.

Although it might sound absurd to those who still recall five years of withering drought and mandatory water restrictions, researchers and engineers warn that California may be due for rain of biblical proportions — or what experts call an ARkStorm.

This rare mega-storm — which some say is rendered all the more inevitable because of climate change — would last for weeks and send more than 1.5 million people fleeing as floodwaters inundated cities and formed lakes in the Central Valley and Mojave Desert, according to the U.S. Geological Survey. Officials estimate the structural and economic damage from an ARkStorm (for Atmospheric River 1,000) would amount to more than $725 billion statewide.

In heavily populated areas of the Los Angeles Basin, epic runoff from the San Gabriel Mountains could rapidly overwhelm a flood control dam on the San Gabriel River and unleash floodwaters from Pico Rivera to Long Beach, according to a recent analysis by the U.S. Army Corps of Engineers.

In a series of recent public hearings, corps officials told residents that the 60-year-old Whittier Narrows Dam no longer met the agency's tolerable-risk guidelines and could fail in the event of a very large, very rare storm, such as the one that devastated California more than 150 years ago.

Specifically, federal engi- [See **Mega-storm,** A10]

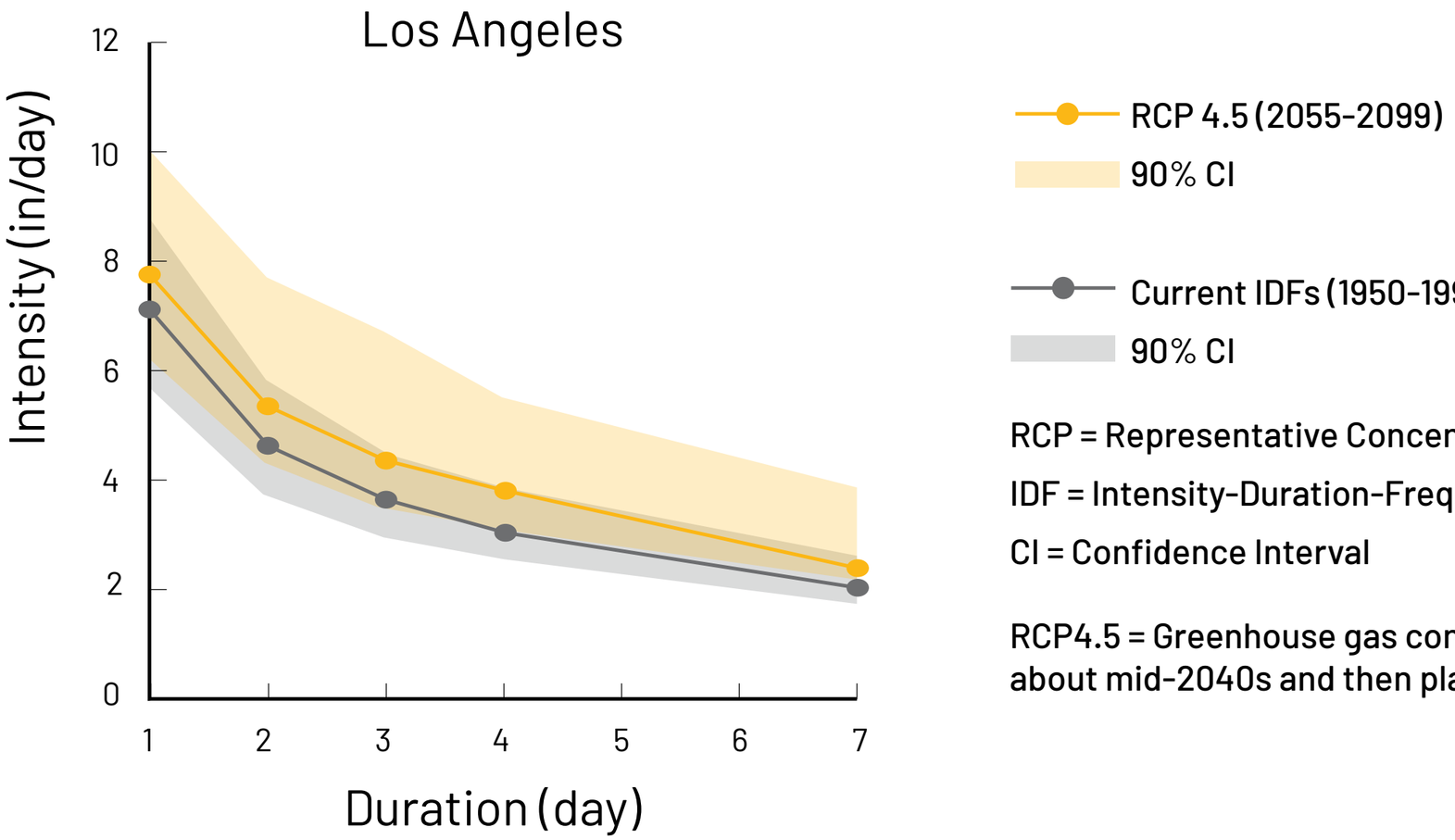
Whittier Narrows Dam

ELECTION 2020

Source: Sahagun, L. LA Times. February 2019, https://www.latimes.com/local/california/la-me-ln-mega-storm-dam-failure-20190218-story.html

CLIMATE CHANGE

Current rainfall design frequencies may underestimate future climate conditions.



RCP = Representative Concentration Pathways

IDF = Intensity-Duration-Frequency

CI = Confidence Interval

RCP4.5 = Greenhouse gas concentrations continue upward until about mid-2040s and then plateau.

Source: Modified from AghaKouchak, Amir, Elisa Ragno, Charlotte Love, and Hamed Moftakhari. (University of California, Irvine). 2018. Projected changes in California's precipitation intensity-duration-frequency curves. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CCCA4-CEC-2018-005, Geosyntec, OLIN

HISTORICAL WETLAND ECOLOGY (1870)

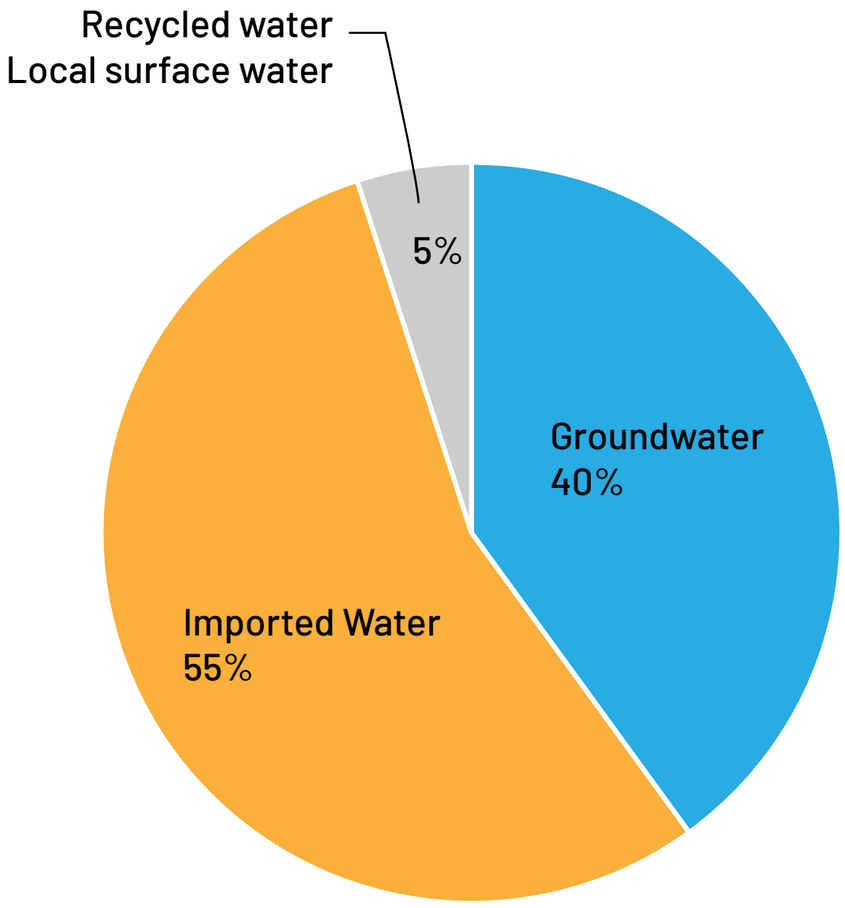
Long-term strategic modifications of the flood conveyance system and floodplain reclamation should be informed by the locations of historical wetlands and floodplains.

- Historical Wetlands
- Current Wetlands
- Historical and Current Wetlands
- Historical Floodplain

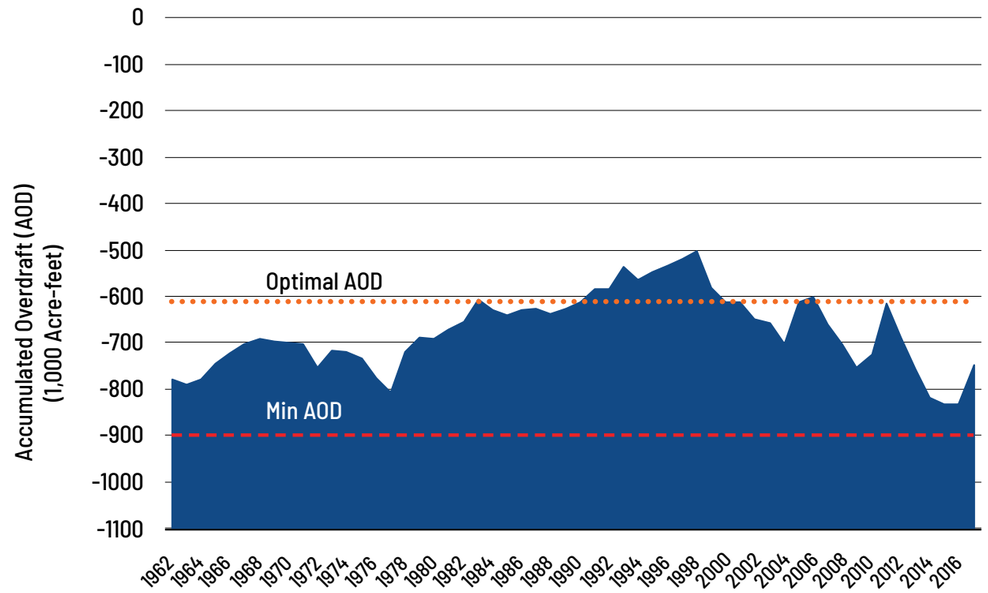


Source: Adapted from: Charles Rairdan, 1998. Regional restoration goals for wetland resources in the Greater Los Angeles Drainage Area: A landscape-level comparison of recent historic and current conditions using Geographical Information Systems. Dissertation. UCLA

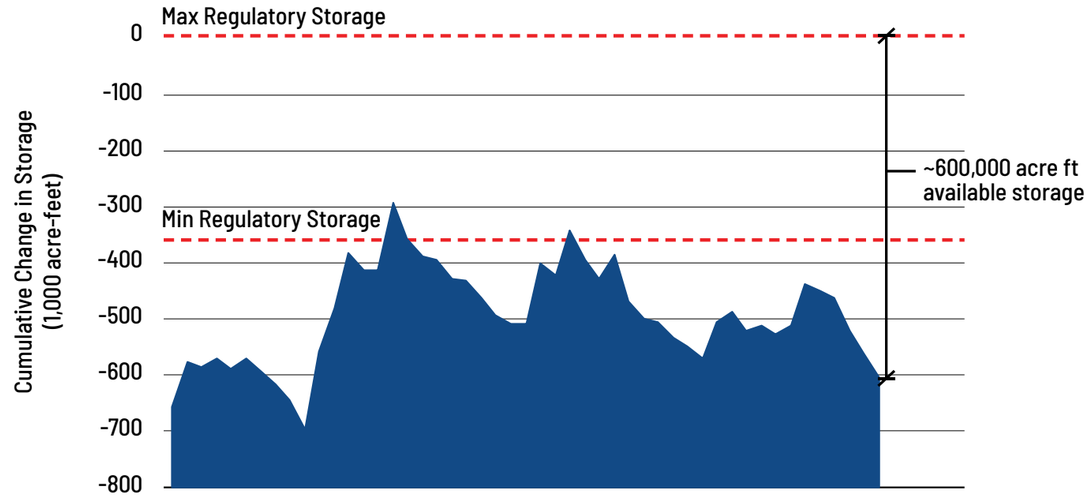
SYSTEM: REGIONAL GROUNDWATER RECHARGE



Supply portfolio of the greater Los Angeles Basin



Cumulative change in storage in the San Fernando Basin

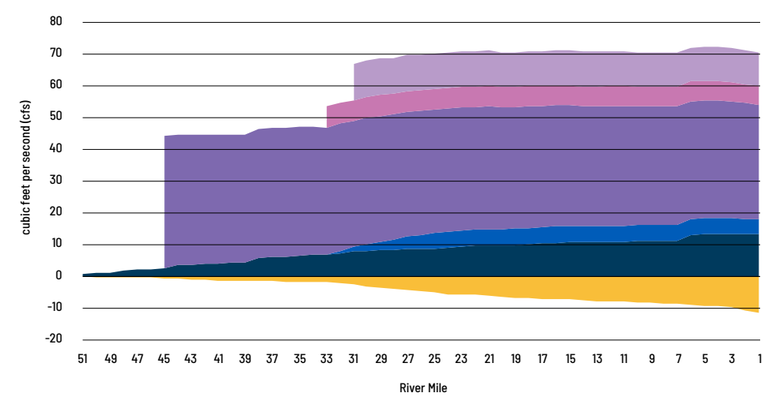


Accumulated Overdraft in the Central Basin and West Coast Basin

Source: ULARA Annual WatermasterReport, 2015-16 Water Year, December 2017; WRD Engineering and Survey Report, 2018

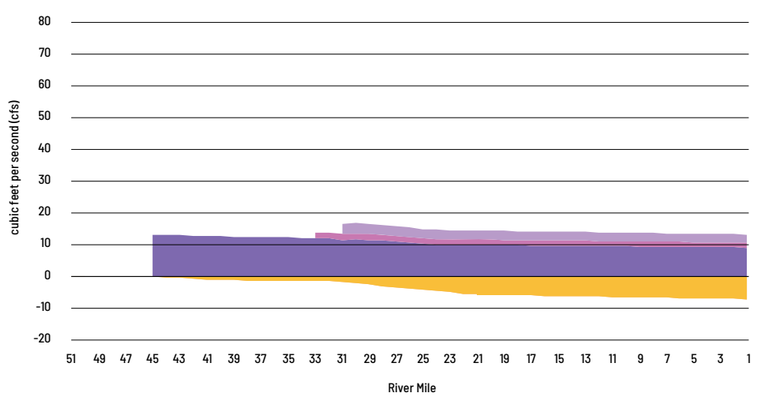
ESTIMATED EXISTING AND POSSIBLE FUTURE DRY WEATHER FLOW AT MOUTH:

Estimated Existing: 51,000 acre-feet per year



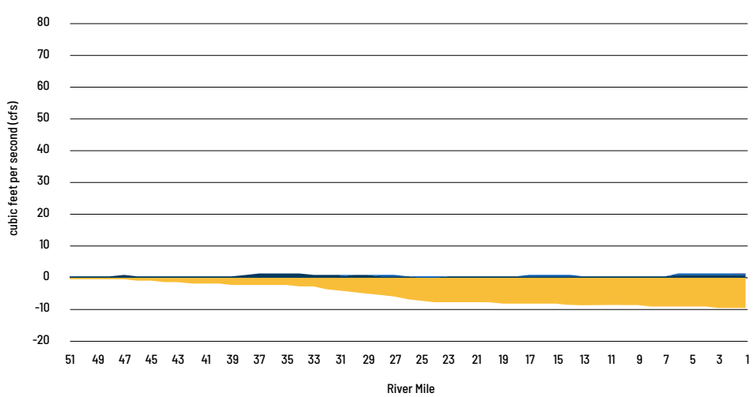
Upwelling
Incidental Urban Runoff
Evapotranspiration
LAG WRP
Burbank WRP
DC Tillman WRP

Plausible Future: 10,000 acre-feet per year



DC Tillman WRP
Evapotranspiration
LAG WRP
Burbank WRP

Possible Future: 1,000 acre-feet per year



Upwelling
Incidental Urban Runoff
Evapotranspiration

Source: Adapted from OneWater LA 2040 Plan, Geosyntec

WET WEATHER FLOWS AT MOUTH

Average Volume of Wet Weather Events:

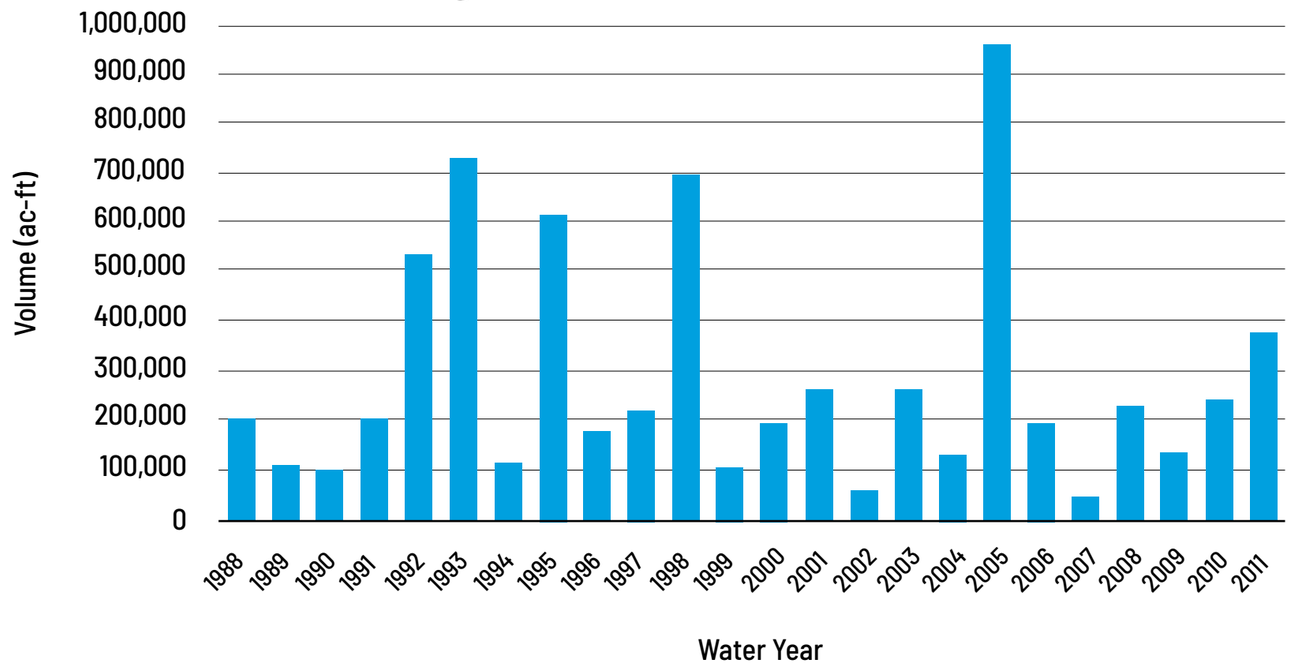
280,000 acre-feet

Wettest Year - 2005:

950,000 acre-feet

Driest Year - 2007

50,000 acre-feet



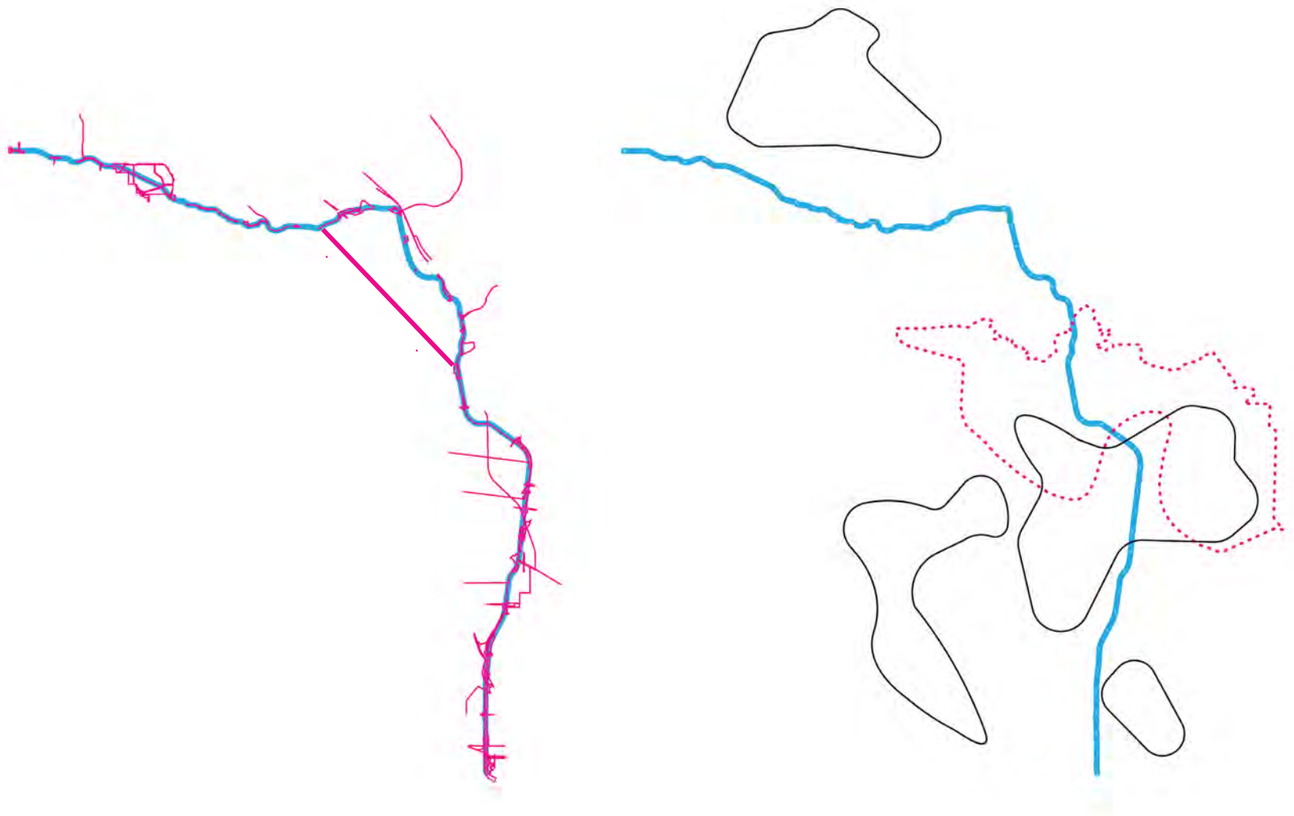
Note: Flow volumes are calculated from Los Angeles County Watershed Model. Comparison of modeled flow volumes with USGS gage 11103000 at Los Angeles River above Long Beach for the period of available overlapping record (WY1989 - WY1992) indicates modeled annual flow volumes are typically within approximately 1% of measured annual flow volumes (LACDPW, 2010, Figure 84).

Source: LACDPW, 2010, Los Angeles County Watershed Model Configuration and Calibration —Part I: Hydrology,
LADWP, 2015, Stormwater Capture Master Plan, August 2015. Prepared by Geosyntec

SYSTEM: REGIONAL GROUNDWATER RECHARGE

Projects along the river can help store water for groundwater recharge

- Capture and recharge flows in the upper watersheds
- Utilize parks and existing and proposed projects/infrastructure as storage
- Diversions from the channel for treatment and recharge can occur between River Miles (RM) 2-20
- Discharge treated brine back into channel for improved bird habitat and estuarine conditions below RM 7



Source: Geosyntec, OLIN, Gehry Partners

SYSTEM: REGIONAL GROUNDWATER RECHARGE

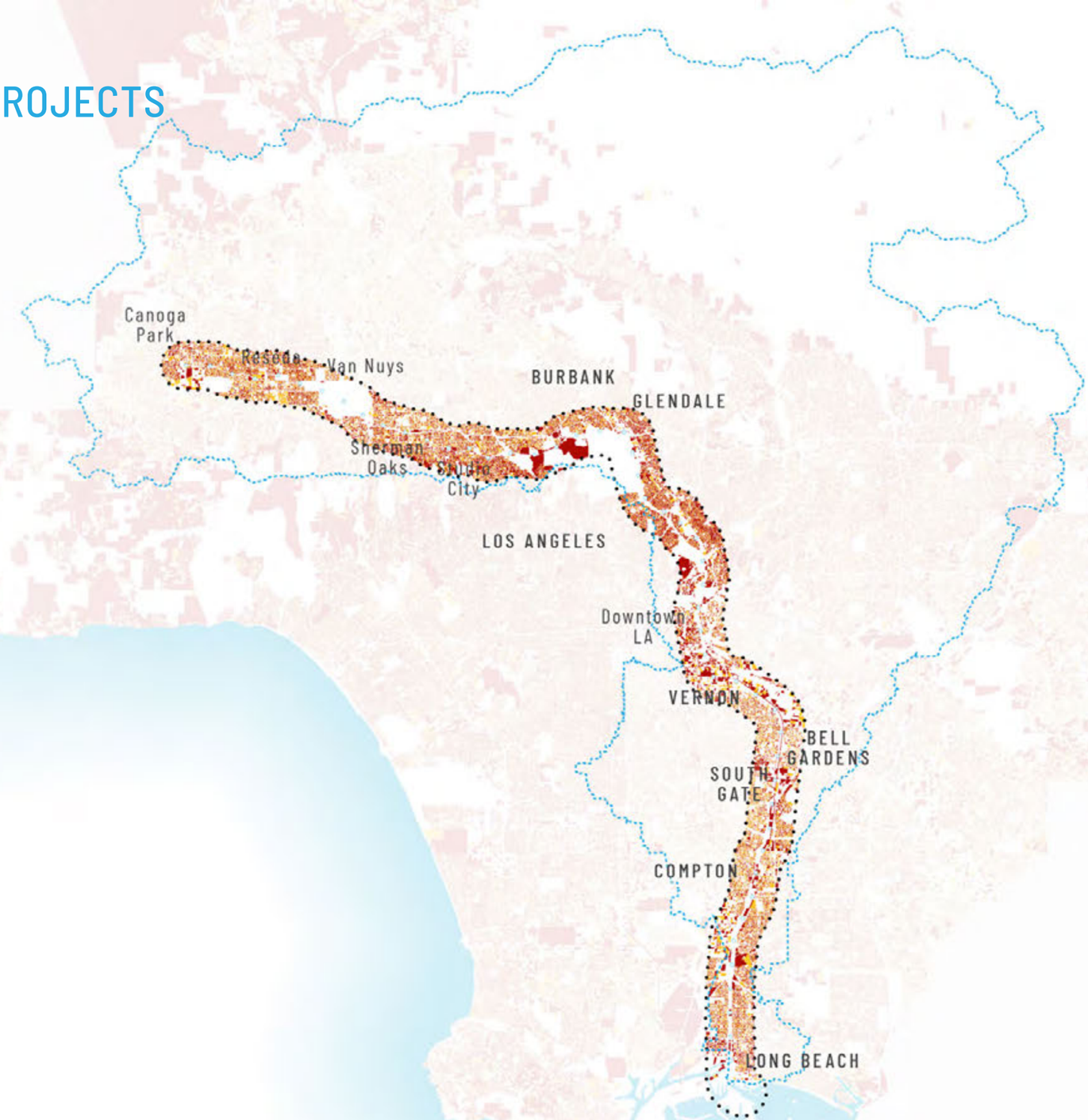


- Proposed and Planned projects
- Recharge Opportunity Areas
- Central Basin Forebay
- Water Reclamation Plant
- San Fernando Basin
- Central Basin
- West Coast Basin

Source: Geosyntec, OLIN, based on Groundwater Basin Boundaries, California Department of Water Resources, 2015.

SYSTEM: AFFORDABLE AND PERMANENT SUPPORTIVE HOUSING

**Identify opportunities for increasing affordable housing*



Source: OLIN, Gehry Partners

WITHIN 1 MILE OF THE LA RIVER, 38,100 HOUSEHOLDS ARE AT RISK

HOUSEHOLDS MAKING UNDER HALF THE AREA MEDIAN INCOME

Making under $35,000

→

38,100 AT-RISK HOUSEHOLDS

←

SEVERELY RENT-BURDENED HOUSEHOLDS

Spending more than 50% of income on rent

Source: U.S. Census Bureau 2012–2016 American Community Survey 5-Year Estimates

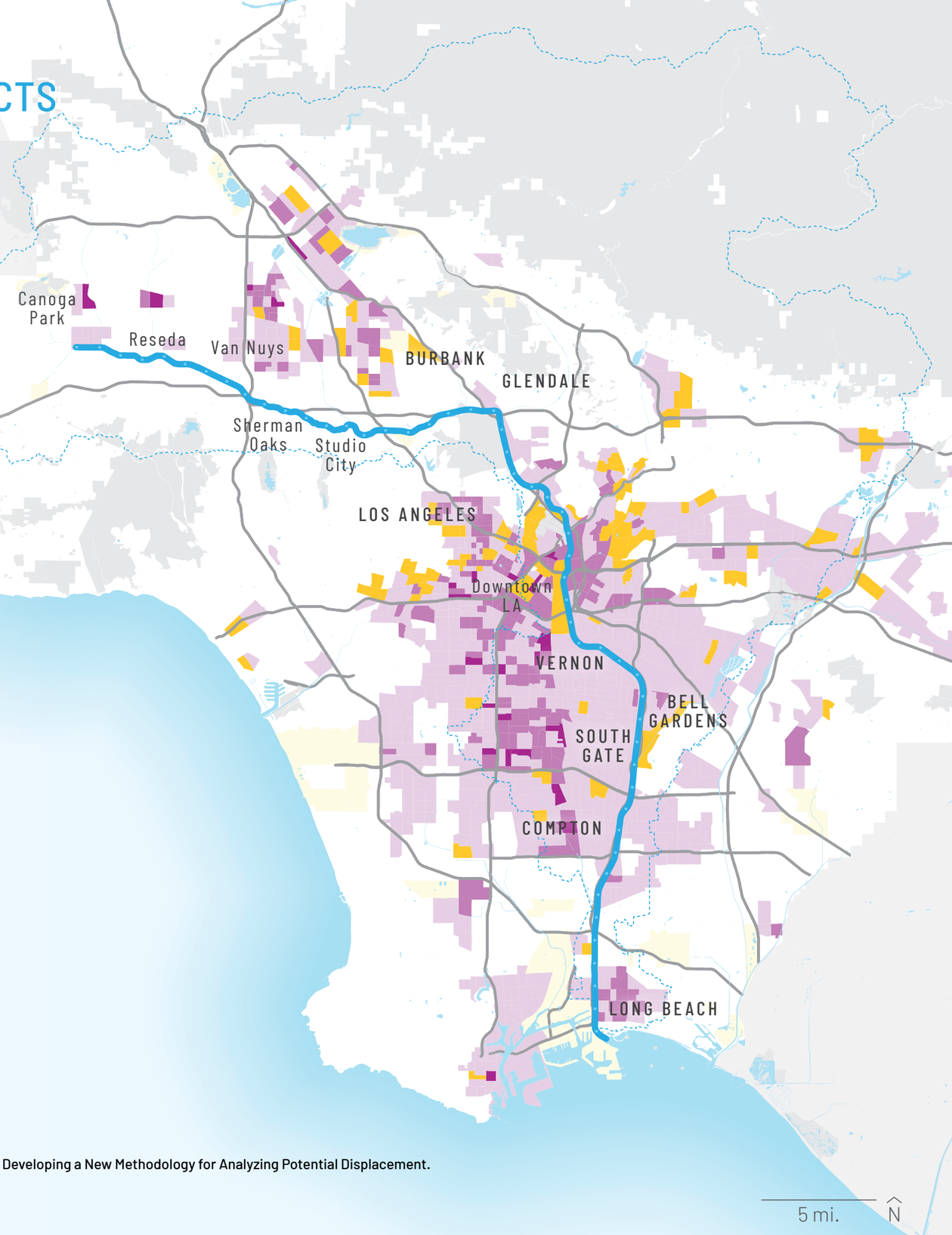
FOR EXAMPLE, IF WE WERE TO TARGET 15% OF EXISTING AT-RISK HOUSEHOLDS



DISPLACEMENT RISK IS MOST PERVASIVE BETWEEN DOWNTOWN LA AND LONG BEACH

- Advanced Displacement
- Ongoing Displacement
- At Risk of Displacement
- Vulnerable to Displacement
- Not Vulnerable
- No Data

Preliminary, Subject to Further Refinement



Map developed based on research by the Urban Displacement Project: Chapple, K., Loukaitou-Sideris, A., Waddell, P., Chatman, D., & Ong, P. (2017). Developing a New Methodology for Analyzing Potential Displacement.

MEASURING DISPLACEMENT RISK

VULNERABLE TO DISPLACEMENT

Areas with a high share of vulnerable households

High Percentages of 3 of the Following:

- Low-Income Households
- Non-College-Educated Adults
- Renters
- Non-White Households

AT RISK OF DISPLACEMENT

Low income areas with proven risk factors

Vulnerable Plus 2 of the Following:

- Nearby Rail Station
- High % Pre-1950 Buildings
- High Employment Density
- Rents Rising Faster than County Average

ONGOING DISPLACEMENT

Low income areas that are changing quickly

- Low Income Area
- Growing Population
- Loss of Lower Income Population
- Rents Rising Faster than County Average

ADVANCED DISPLACEMENT

Not currently low income but getting whiter and more expensive

NOT a Low Income Area Plus Above Average Growth in:

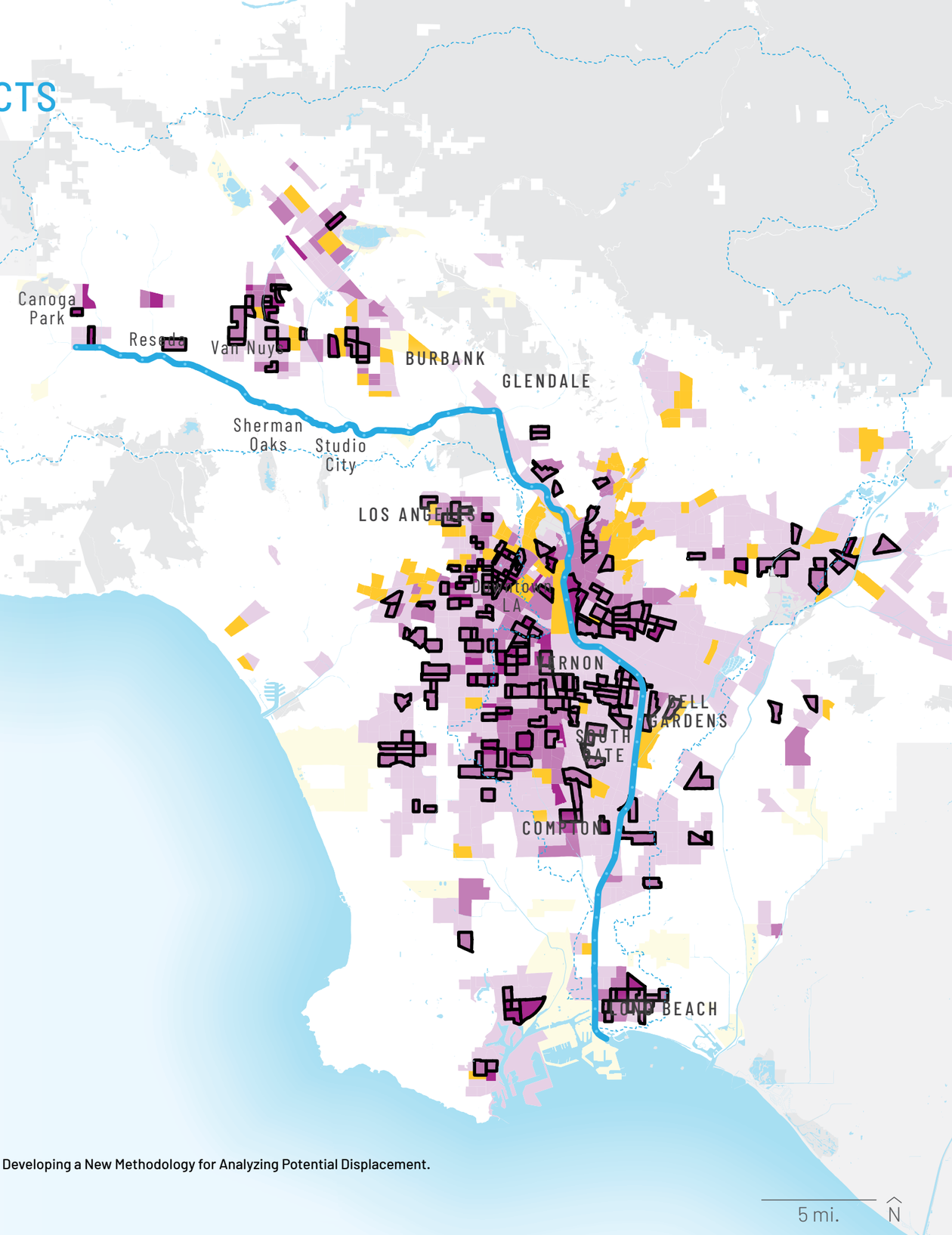
- College-Educated Adults
- White Population
- Median Income
- Rents

Criteria developed based on research by the Urban Displacement Project: Chapple, K., Loukaitou-Sideris, A., Waddell, P., Chatman, D., & Ong, P. (2017). Developing a New Methodology for Analyzing Potential Displacement.

HOW DO IMPROVEMENTS TO THE RIVER CHANGE NEED?

- Advanced Displacement
- Ongoing Displacement
- At Risk of Displacement
- Vulnerable to Displacement
- Not Vulnerable
- Tracts Where Rent Increases Would Change Risk Category
- No Data

Preliminary, Subject to Further Refinement



Map developed based on research by the Urban Displacement Project: Chapple, K., Loukaitou-Sideris, A., Waddell, P., Chatman, D., & Ong, P. (2017). Developing a New Methodology for Analyzing Potential Displacement.

MEASURING DISPLACEMENT RISK

VULNERABLE TO DISPLACEMENT

Areas with a high share of vulnerable households

High Percentages of 3 of the Following:

- Low-Income Households
- Non-College-Educated Adults
- Renters
- Non-White Households

AT RISK OF DISPLACEMENT

Low income areas with proven risk factors

Vulnerable Plus 2 of the Following:

- Nearby Rail Station
- High % Pre-1950 Buildings
- High Employment Density
- Rents Rising Faster than County Average

ONGOING DISPLACEMENT

Low income areas that are changing quickly

- Low Income Area
- Growing Population
- Loss of Lower Income Population
- Rents Rising Faster than County Average

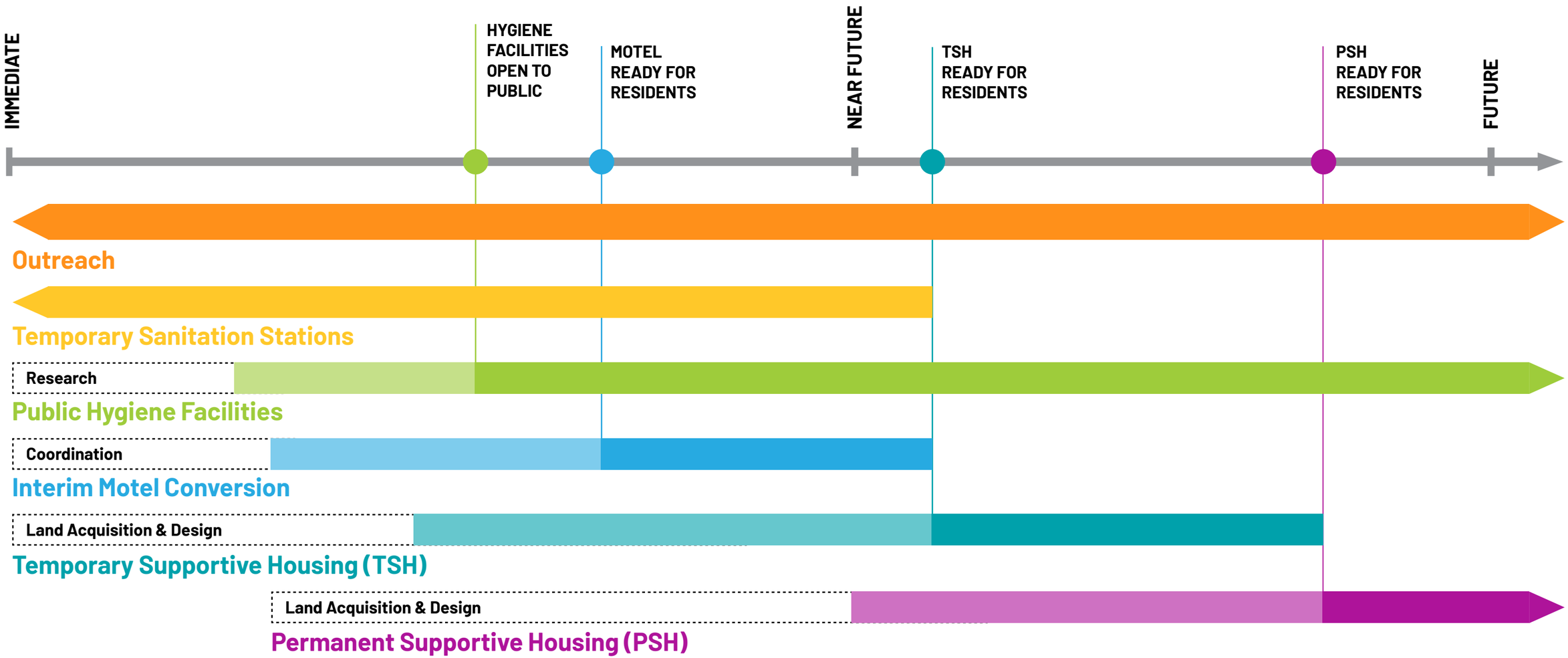
ADVANCED DISPLACEMENT

Not currently low income but getting whiter and more expensive

NOT a Low Income Area Plus Above Average Growth in:

- College-Educated Adults
- White Population
- Median Income
- Rents

STEPS FOR HOMELESSNESS OUTREACH AND ESTABLISHMENT OF FACILITIES



HOW MANY PERMANENT SUPPORTIVE HOUSING UNITS SHOULD BE ALONG THE RIVER, AND WHERE SHOULD THEY GO?

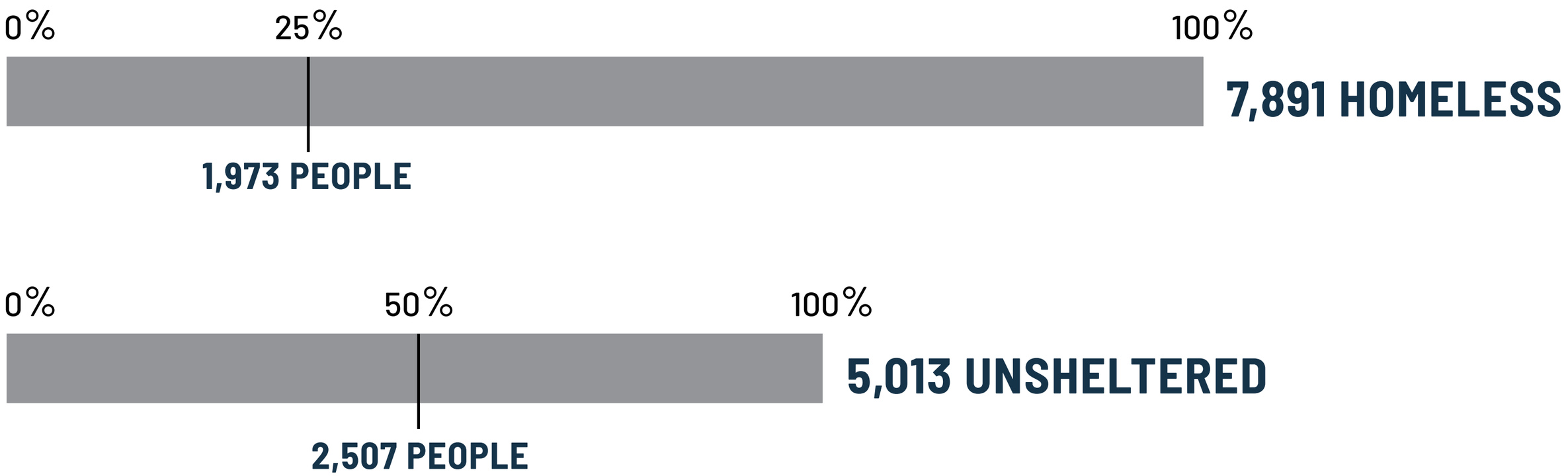
TARGET NUMBER OF UNITS = **NUMBER OF CHRONICALLY HOMELESS**

25%
of the overall homeless population

50%
of the unsheltered homeless population

Source: United Way of Greater Los Angeles, Home for Good

ESTIMATES OF THE CHRONICALLY HOMELESS POPULATION WITHIN 1 MILE OF THE LA RIVER



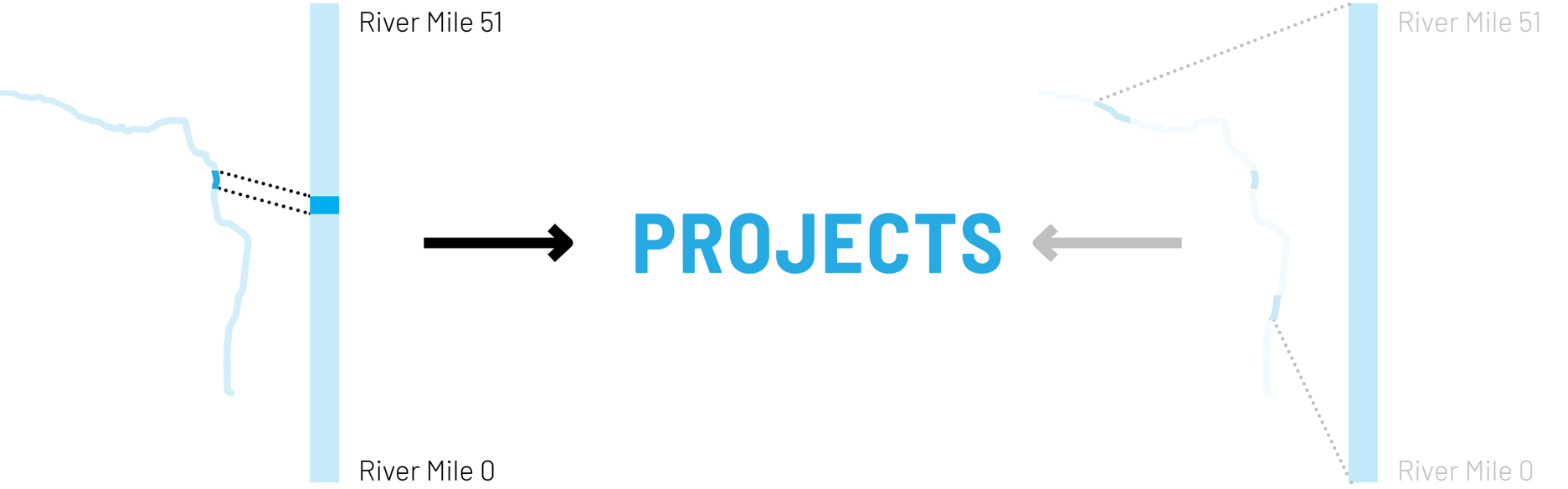
TARGET: 2,200 UNITS

Source: OLIN

ADDITIONAL CONSIDERATIONS FOR SITING PERMANENT SUPPORTIVE HOUSING

	ACCESS	NEARBY USES	RESOURCES	OTHER
PURSUE	• Near existing and future public transportation • Good pedestrian and bike access (sidewalks, bike lanes, and trails) • Near major streets and intersections • Vehicular access	• Employment opportunities • Commercial and retail • Potential of adjacent or nearby parcels to develop in the future	• Public services • Public health and medical facilities • Religious institutions • Public resources like schools and parks in cases of family or youth supportive housing	• Shape and proportions of site conducive to development
AVOID	• Dead-ends and cul-de-sacs • Direct exposure to major thoroughfares and vehicular intersections	• Nested within a residential neighborhood • Adjacent to multiple residential neighborhoods • Environmental nuisances (power lines, contaminated sites, and noxious smells)		

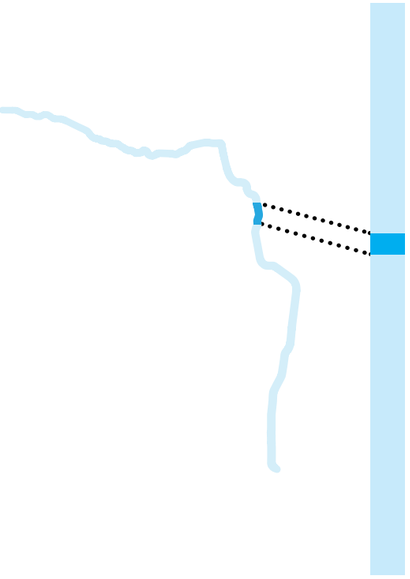
WITHIN THE LA RIVER MASTER PLAN, PROJECTS ENCOMPASS A COMBINATION OF SITE-SPECIFIC AND SYSTEM-ORIENTED STRATEGIES



SITE-BASED

SYSTEM-BASED

SITE-BASED PROJECTS ARE GEOGRAPHICALLY SPECIFIC AND FOCUS ON NEEDS MOST IMMEDIATE TO THE PROJECT AREA



XS, S PROJECTS

- **Pavilions**
- **Access Gateways**
- **Pocket Parks**
- **Lighting**
- **Benches**

SITE-BASED

XS, S PROJECTS: PAVILIONS

43 NEWLY PROPOSED PROJECTS
123 ADDITIONAL PROJECTS FROM PLANS
42 IMPROVED ACCESS POINTS

- XS, S Proposed Projects
- XS, S Projects from Plans*
- Potential Access Points to Upgrade
- Existing Access Points



Source: OLIN

*Plans referenced include Lower Los Angeles River Revitalization Plan and Los Angeles River Revitalization Master Plan

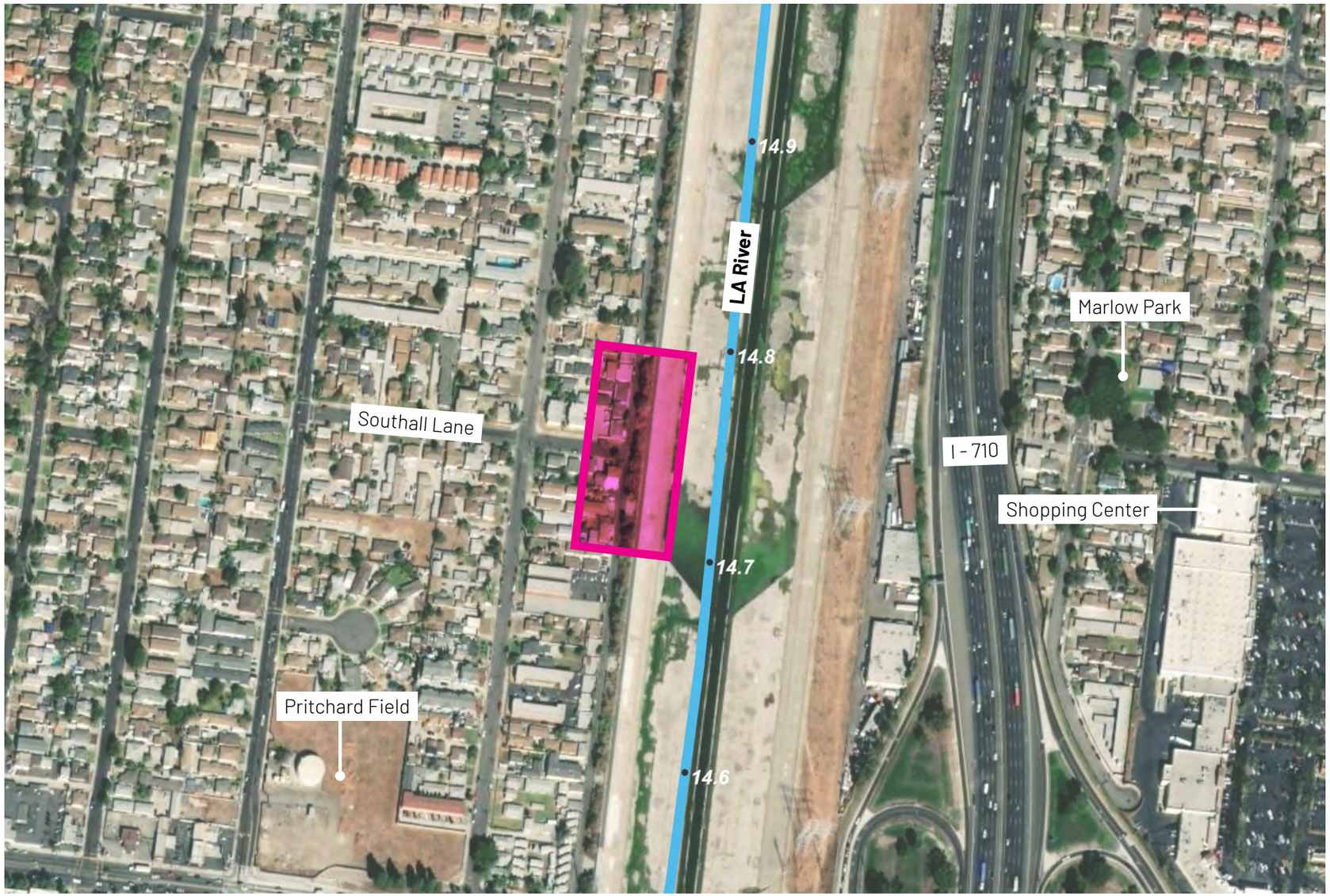
SHADE PAVILION (TIER I): RM 14.7

PROJECT DESCRIPTION:

A typical lower river condition with a bike path on top of the levee and a tight and sloped landside area between a frontage street and the bike path.

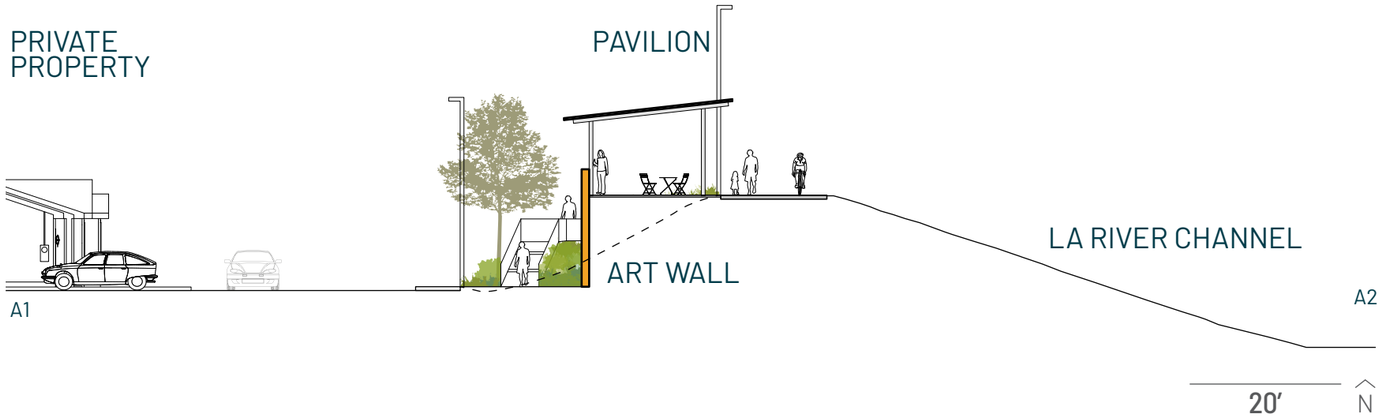
SHADE PAVILION (TYPICAL):

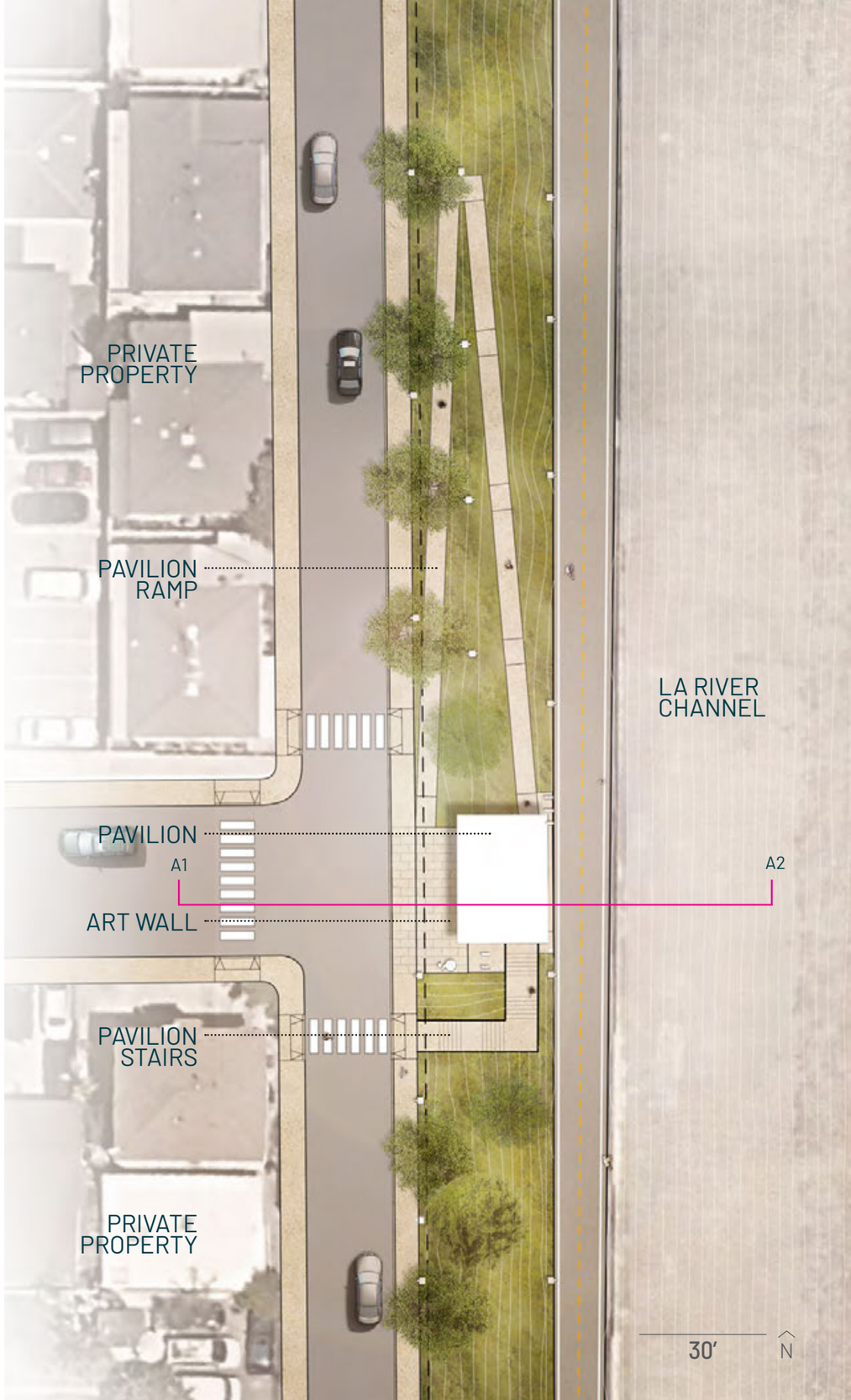
- Same grade as the bike path
- Where possible, centered on adjacent street-ends acting as signage, welcome, and art wall for the adjacent neighborhood
- Denotes an access point with parallel single switchback ramps and stairs added to get down to grade from the levee where needed



Source: OLIN

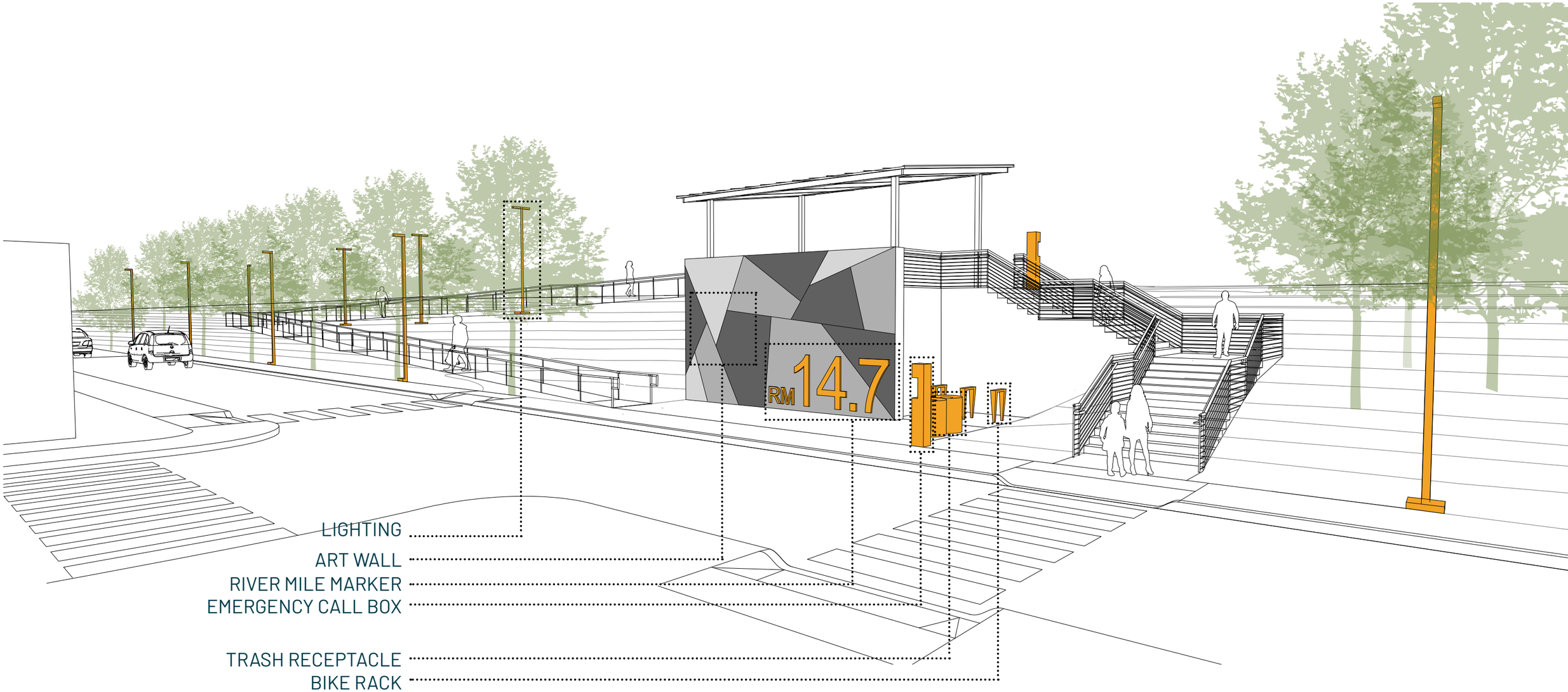
SHADE PAVILION (TIER I): RM 14.7





Source: OLIN

SHADE PAVILION (TIER I): RM 14.7



Source: OLIN

SHADE PAVILION (TIER I): RM 14.7



Source: OLIN

REST PAVILION (TIER II): RM 50.9

PROJECT DESCRIPTION:

A typical upper river condition in the San Fernando Valley where a street terminates at the river's edge, sending local stormwater flow from the street directly in the river without providing access the adjacent community.

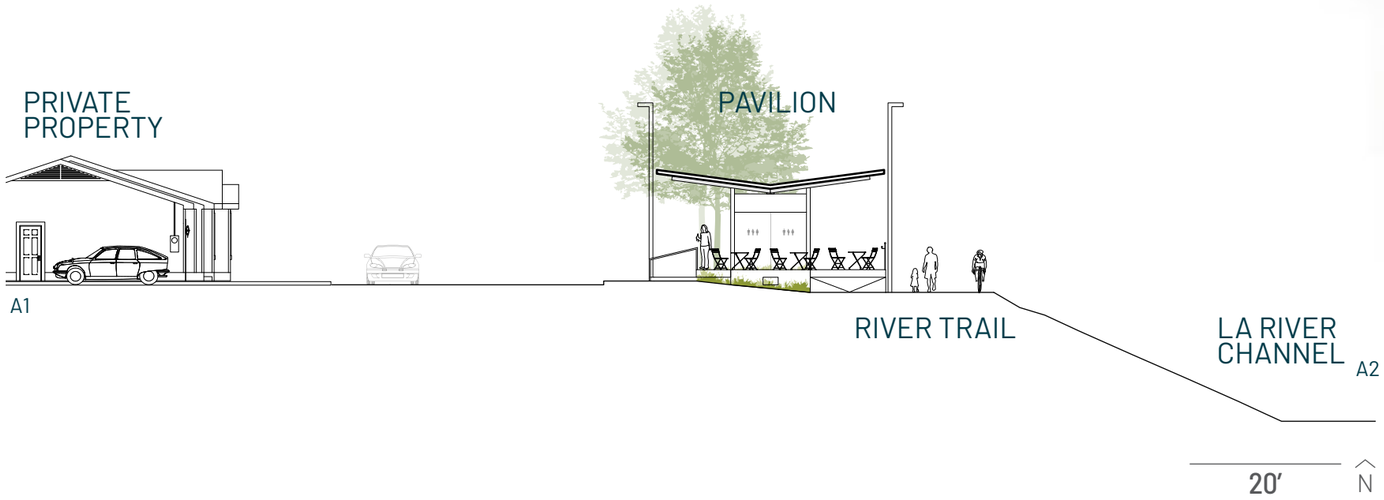
REST PAVILION (TYPICAL):

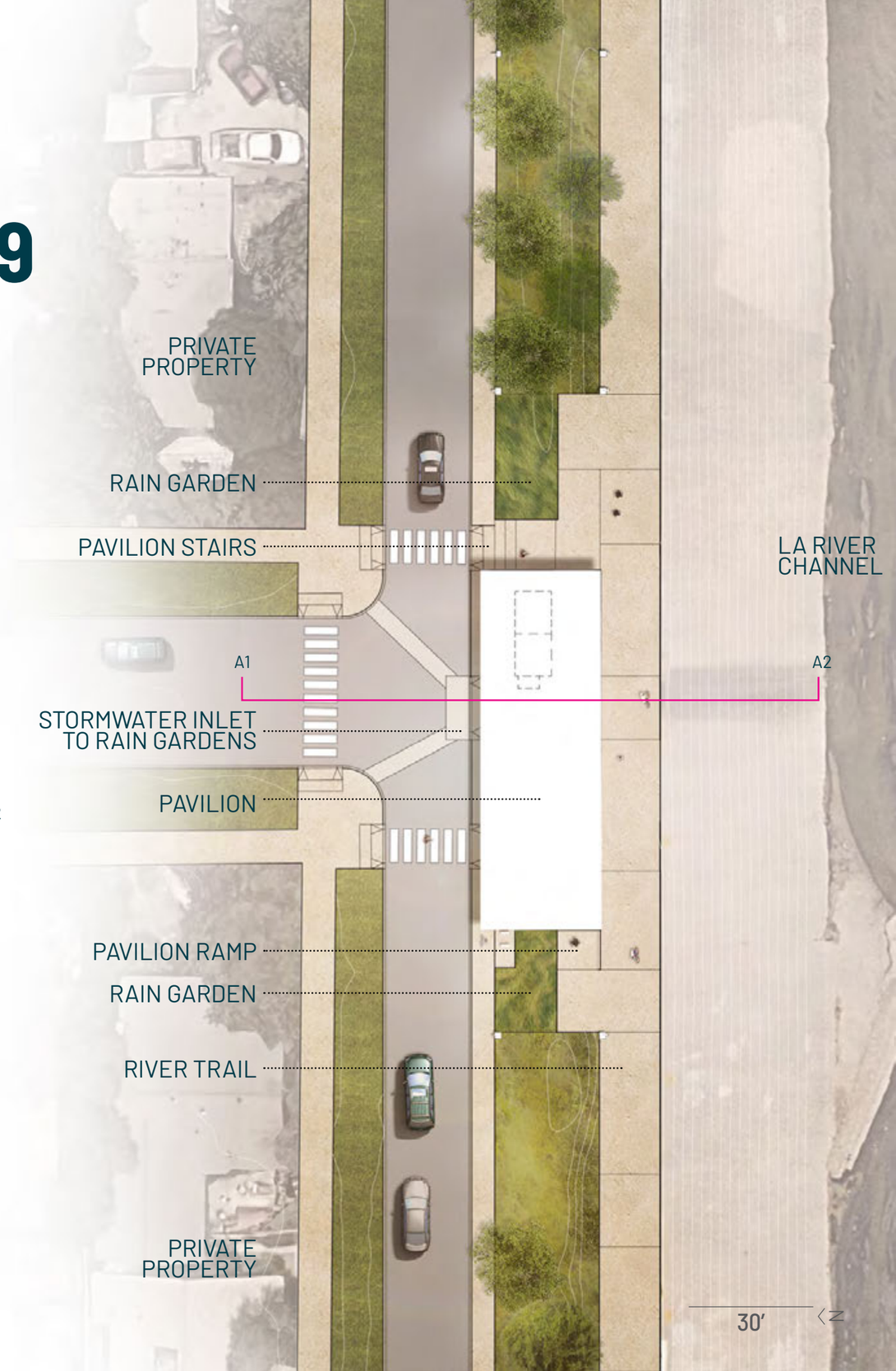
- Same grade as the bike path
- Where possible, centered on adjacent street-ends acting as signage, welcome, and art wall for the adjacent neighborhood
- Small grade separation provides a buffer between the bike path and the pavilion



Source: OLIN

REST PAVILION (TIER II): RM 50.9





Source: OLIN

REST PAVILION (TIER II): RM 50.9



Source: OLIN

REST PAVILION (TIER II): RM 50.9



Source: OLIN

GATHERING PAVILION (TIER III): RM 28.4

PROJECT DESCRIPTION:

A somewhat unique condition where the existing river trail bridges over a crossing road bridge with oversized piers. This site has the potential to add amenities along the river trail while improving connections to the adjacent community.

RIVER PAVILION A:

- Multiple pavilions around a central courtyard.
- Buildings shield bike path and courtyard space from adjacent highway on-ramp.

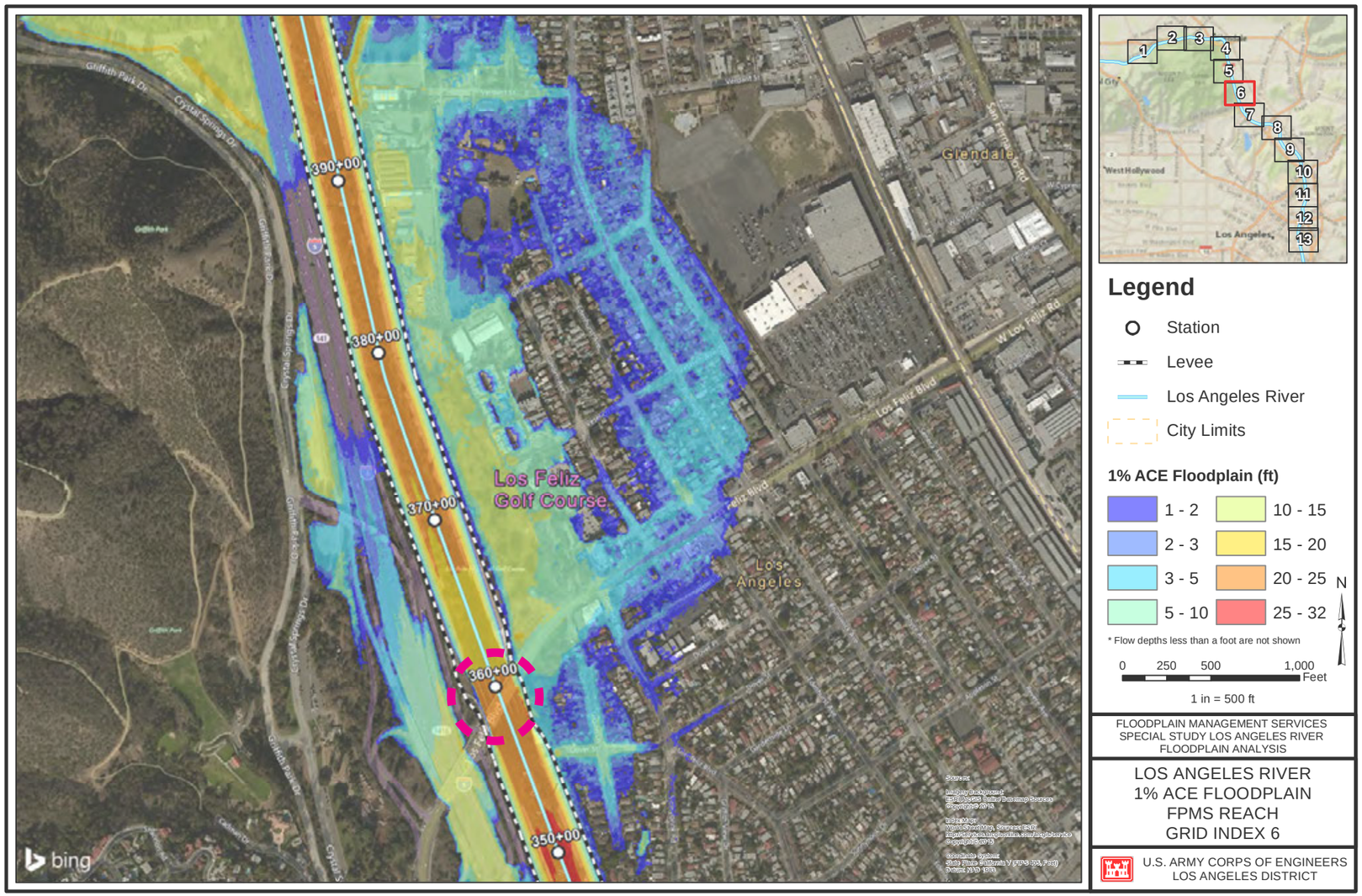
RIVER PAVILION B:

- Additional pavilion spans the bridge piers and the left river bank
- Creates a pedestrian river crossing adjacent to the busy Los Feliz Bridge



Source: OLIN

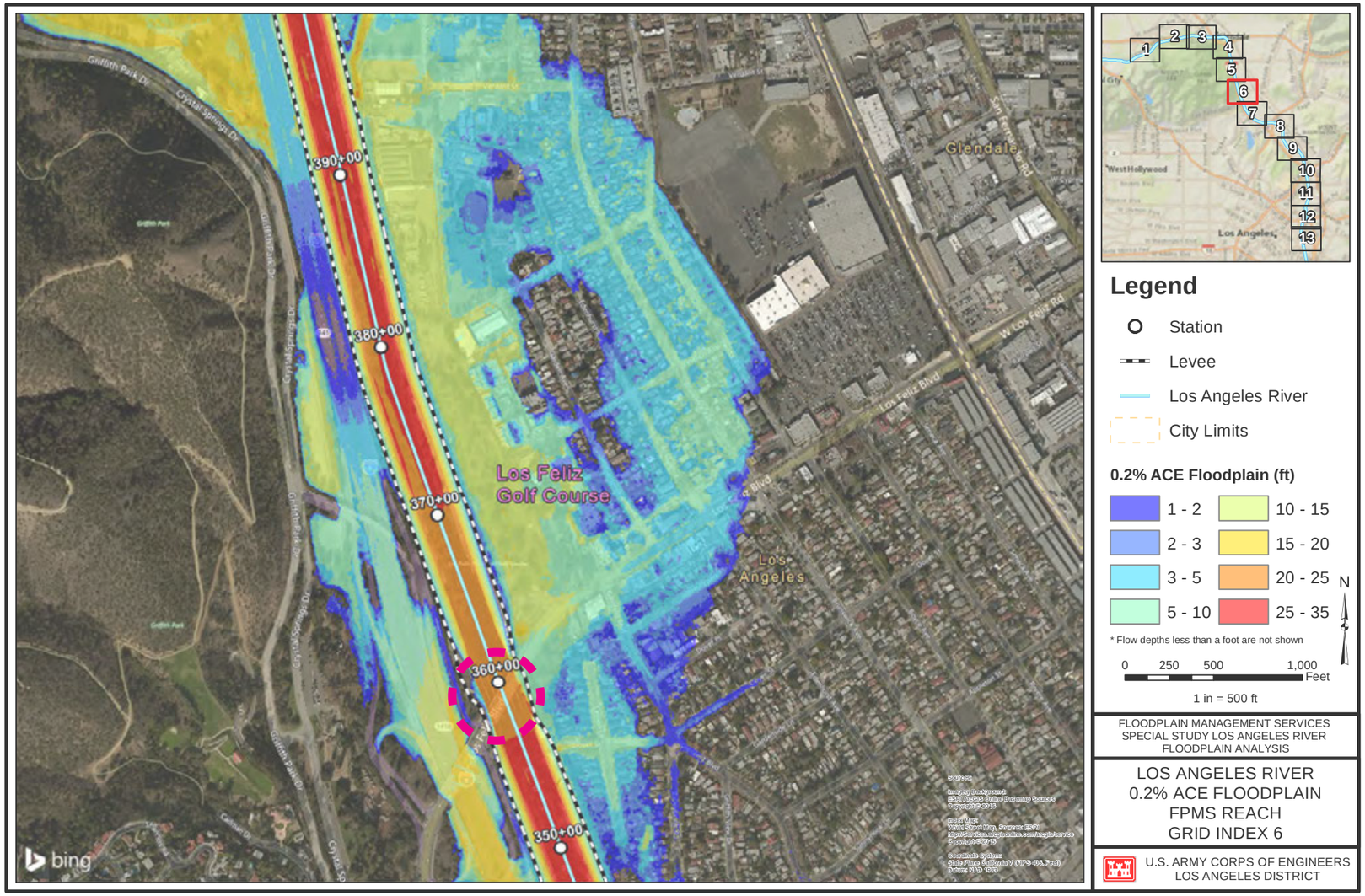
USACE ARBOR STUDY 1% FLOOD MAP



Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 18," October 2016

USACE ARBOR STUDY 0.2% FLOOD MAP

Floodplain Analysis

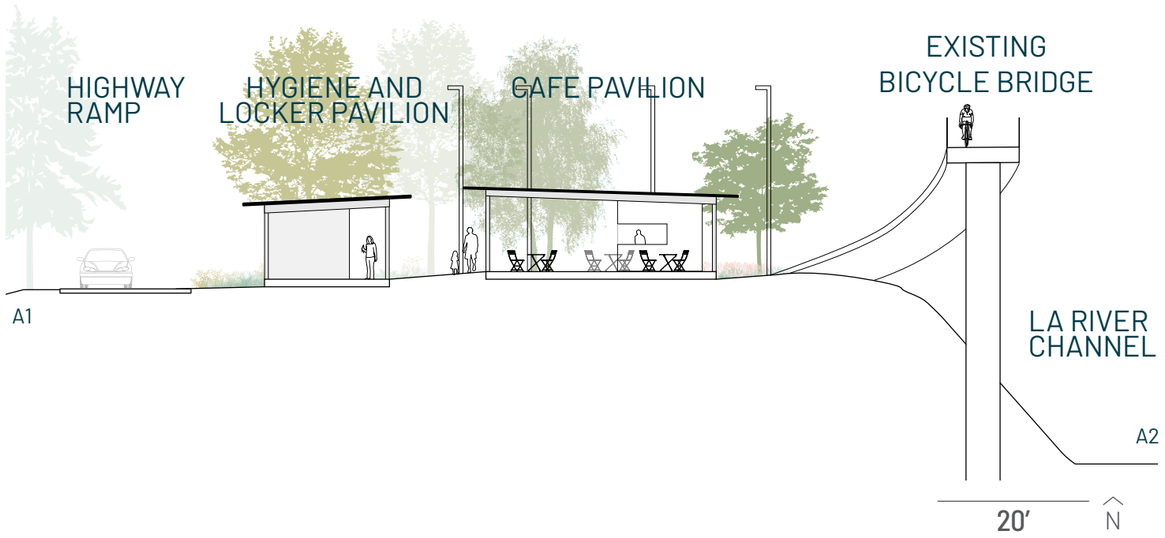


October 2016

Plate 32

Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 18," October 2016

GATHERING PAVILION (TIER III-A): RM 28.4





Source: OLIN

GATHERING PAVILION (TIER III-A): RM 28.4



Source: OLIN

GATHERING PAVILION (TIER III-A): RM 28.4



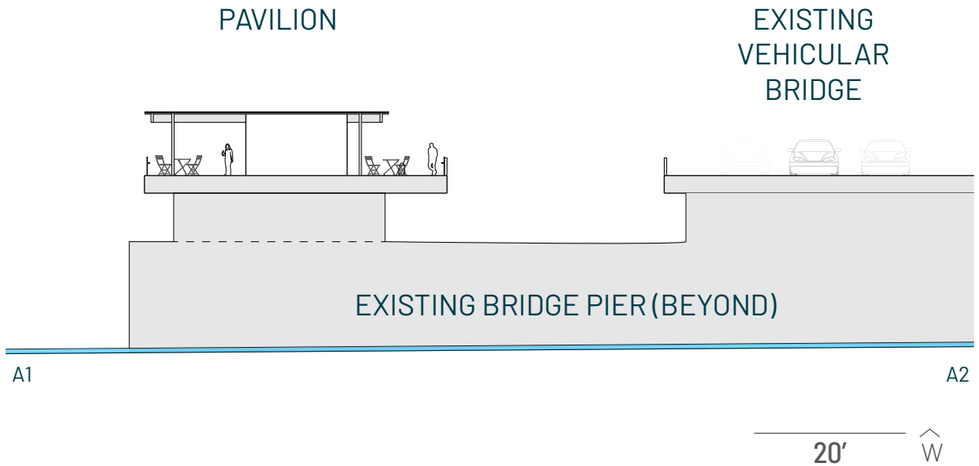
Source: OLIN

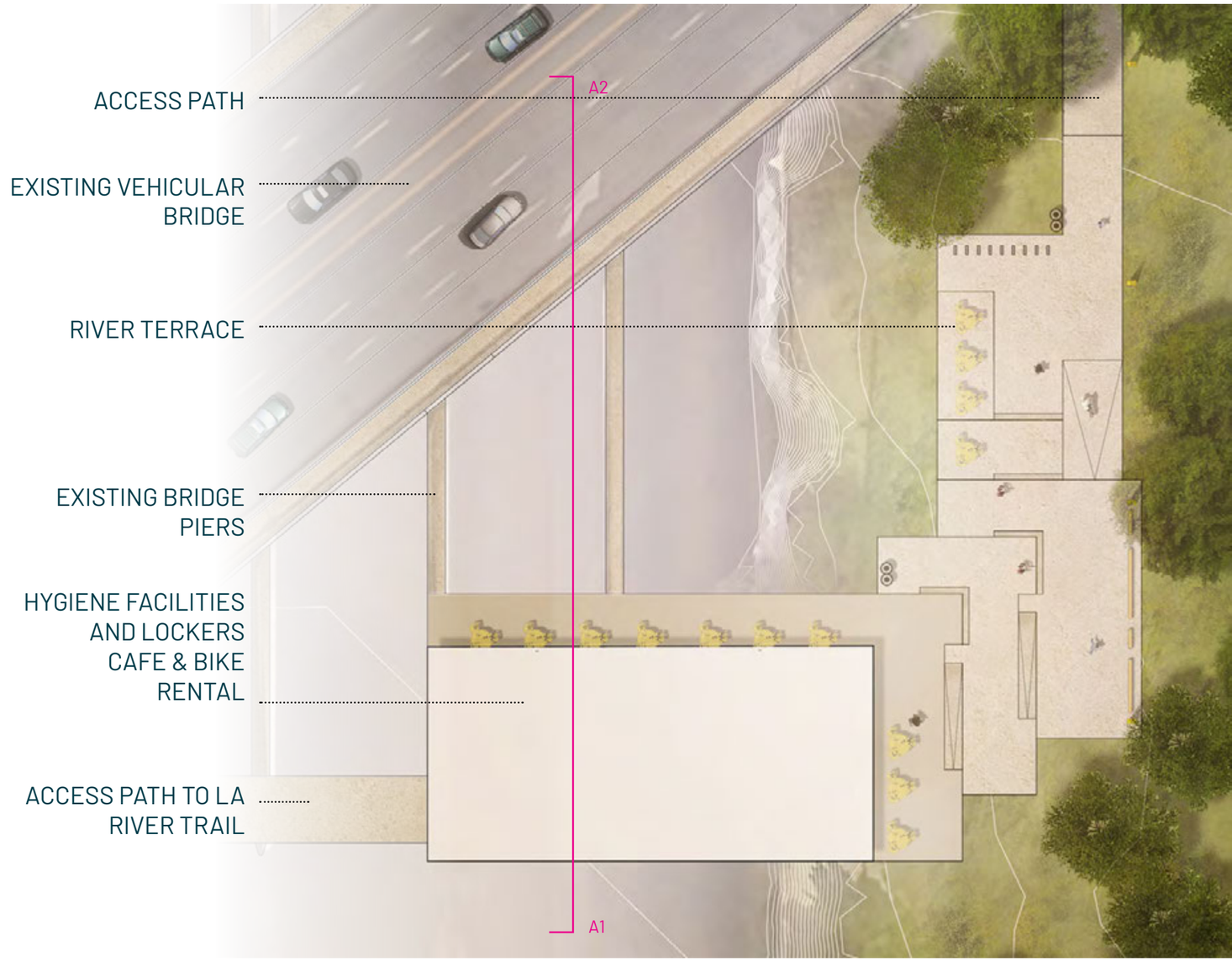
GATHERING PAVILION (TIER III-B): RM 28.4



Source: OLIN

GATHERING PAVILION (TIER III-B): RM 28.4





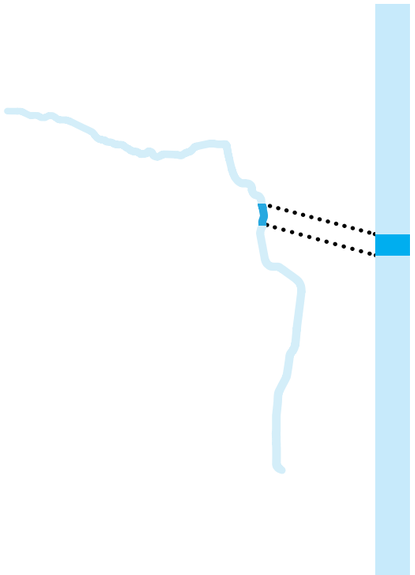
Source: OLIN

GATHERING PAVILION (TIER III-B): RM 28.4



Source: OLIN

SITE-BASED PROJECTS ARE GEOGRAPHICALLY SPECIFIC, FOCUSING ON NEEDS MOST IMMEDIATE TO THE PROJECT AREA



M, L, XL PROJECTS

- **Neighborhood Parks**
- **Cultural Centers**
- **Regional Parks**
- **Bridges**
- **Recharge Areas**

SITE-BASED

APPLYING THE KIT OF PARTS: M, L, XL PROJECTS

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS

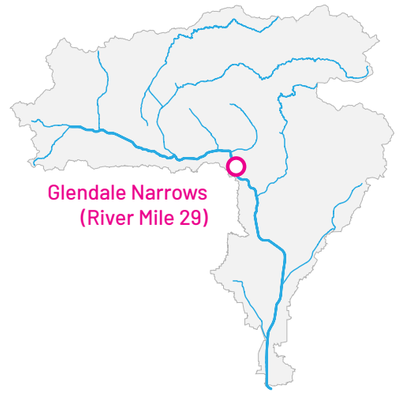
Replacement of woody and invasive vegetation with native grasses



— Area of Rehabilitation

Source: Geosyntec, OLIN

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS

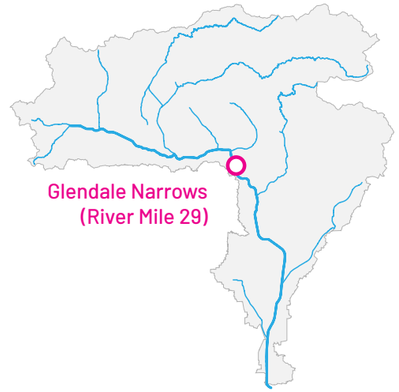


Existing Section: **34,700 cfs capacity**
n = 0.06 (Manning's Equation roughness)

Alternative Section: **78,000 cfs capacity**
n = 0.03 (Manning's Equation roughness)

Source: Geosyntec, OLIN

XL PROJECT: CHANNEL REHABILITATION AT THE NARROWS



Existing Section: **34,700 cfs capacity**

n = 0.06 (Manning's Equation roughness)

BIRDS



Ardea herodias
Great Blue Heron

Himantopus mexicanus
Black-necked Stilt

Chlidonias niger
Black tern *

Sternula antillarum browni
California least tern *

Falco peregrinus anatum
Peregrine Falcon *

Alternative Section: **78,000 cfs capacity**

n = 0.03 (Manning's Equation roughness)

BIRDS



Ardea herodias
Great Blue Heron

Megaceryle alcyon
Belted Kingfisher *

Himantopus mexicanus
Black-necked Stilt

Aphelocoma californica
California Scrub-Jay

Dendroica petechia brewsteri
Yellow Warbler

Lanius ludovicianus
Loggerhead Shrike *

Melozone crissalis
California Towhee

Sayornis nigricans
Black Phoebe

MAMMALS (SMALL)



Sciurus griseus
Western Gray Squirrel

Thomomys bottae
Botta's Pocket Gopher

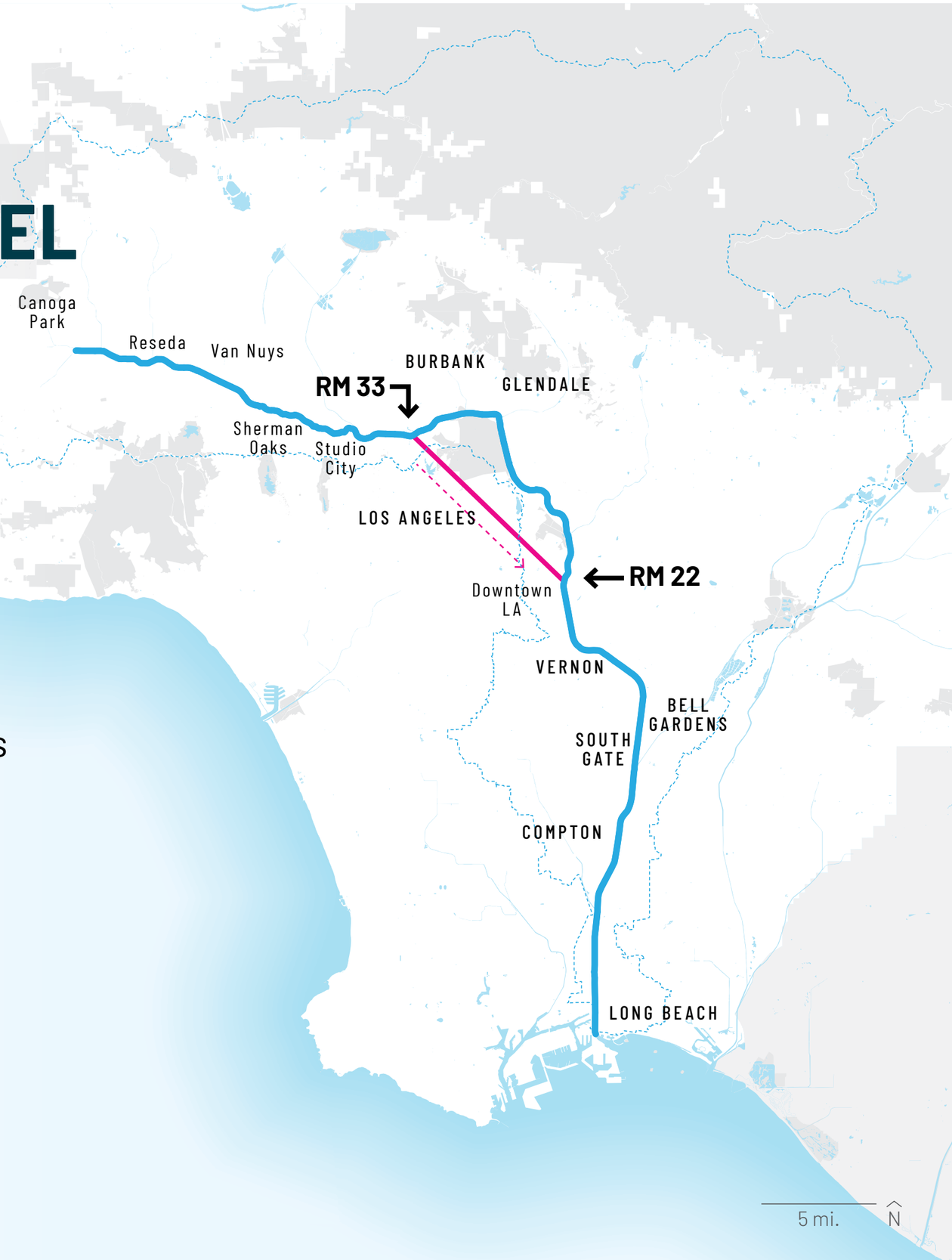
Perognathus longimembris brevinasus
Los Angeles Pocket Mouse *

Source: Geosyntec, OLIN

XL PROJECT: BYPASS TUNNEL

A 40-foot diameter concrete bypass tunnel diverts water at RM 33 and returns it to the channel at RM 22.

- 9 miles long
- 0.6% slope
- Assume maximum capacity is half full
- 20,000 cfs capacity
- Adds conveyance capacity during major flood events
- Stores water during smaller rain events
- Hydraulic challenges
- $2.7 billion (scaled from Delta Tunnels estimate)

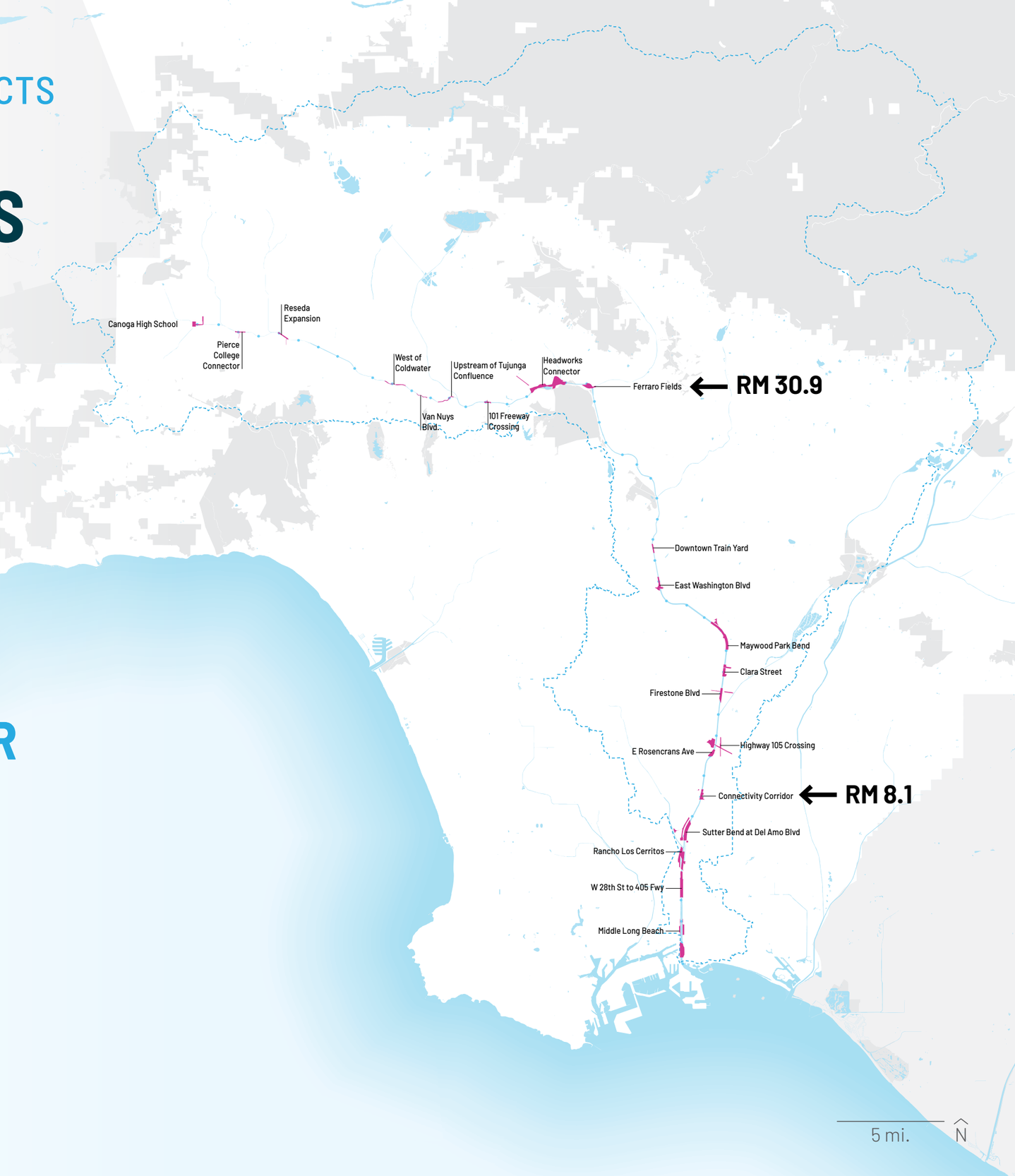


— Bypass Tunnel

Source: Geosyntec, OLIN

M, L, XL PROJECT TESTS

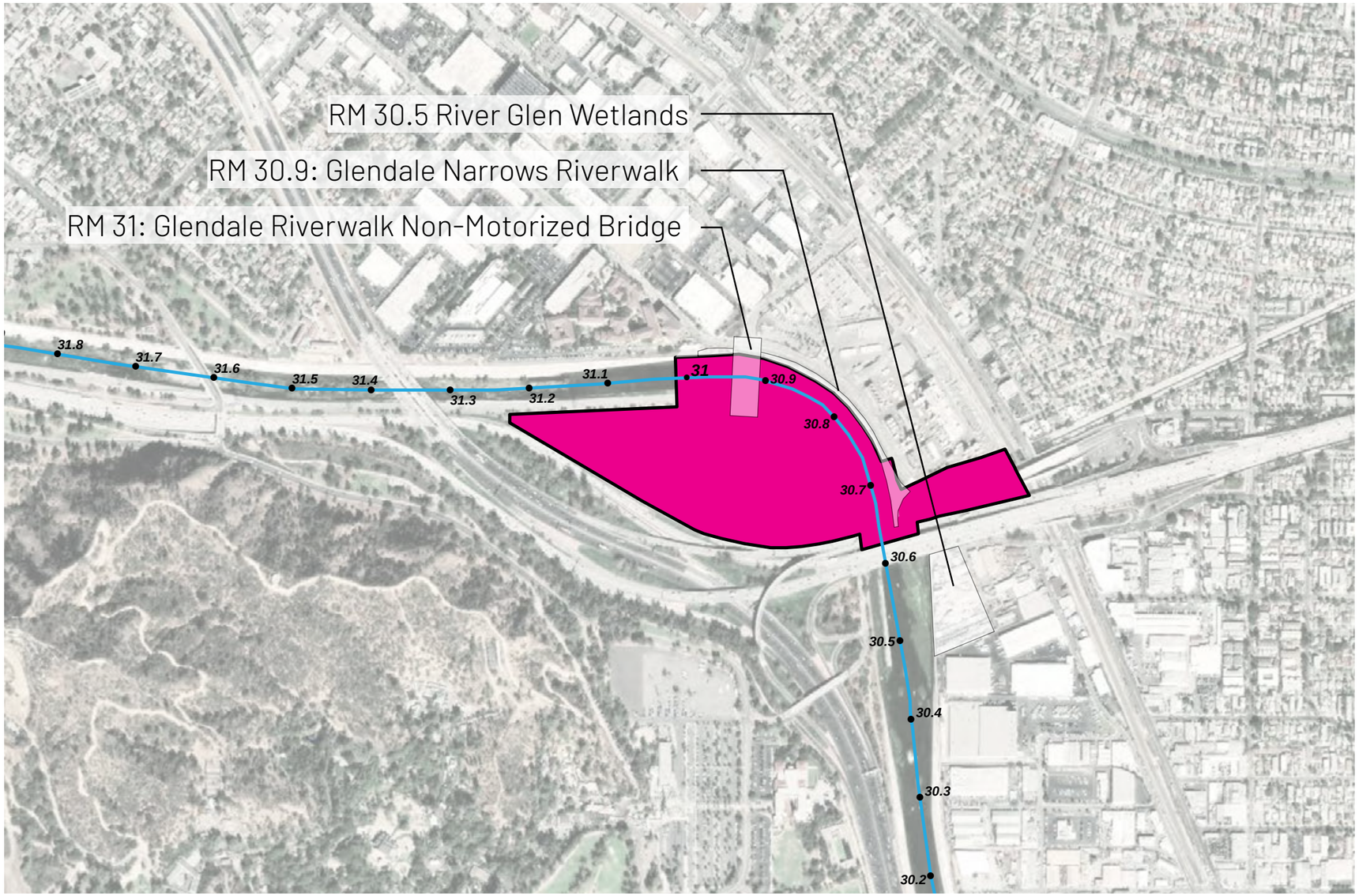
RM 30.9: FERRARO FIELDS
RM 8.1: CONNECTIVITY CORRIDOR



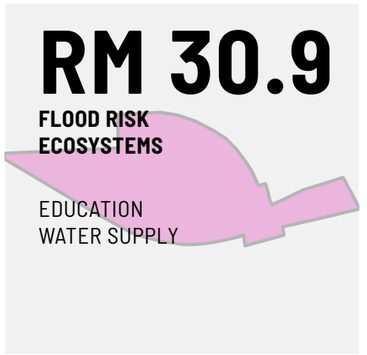
Proposed Projects (LARMP)

Source: OLIN, Gehry Partners, Geosyntec

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN, Gehry Partners, Geosyntec



PROJECT DESCRIPTION:

- Maintains existing recreation
- Directs flooding away from neighborhoods and critical infrastructure
- Adds habitat

Proposed Project Site

Planned Major Project

800’ N

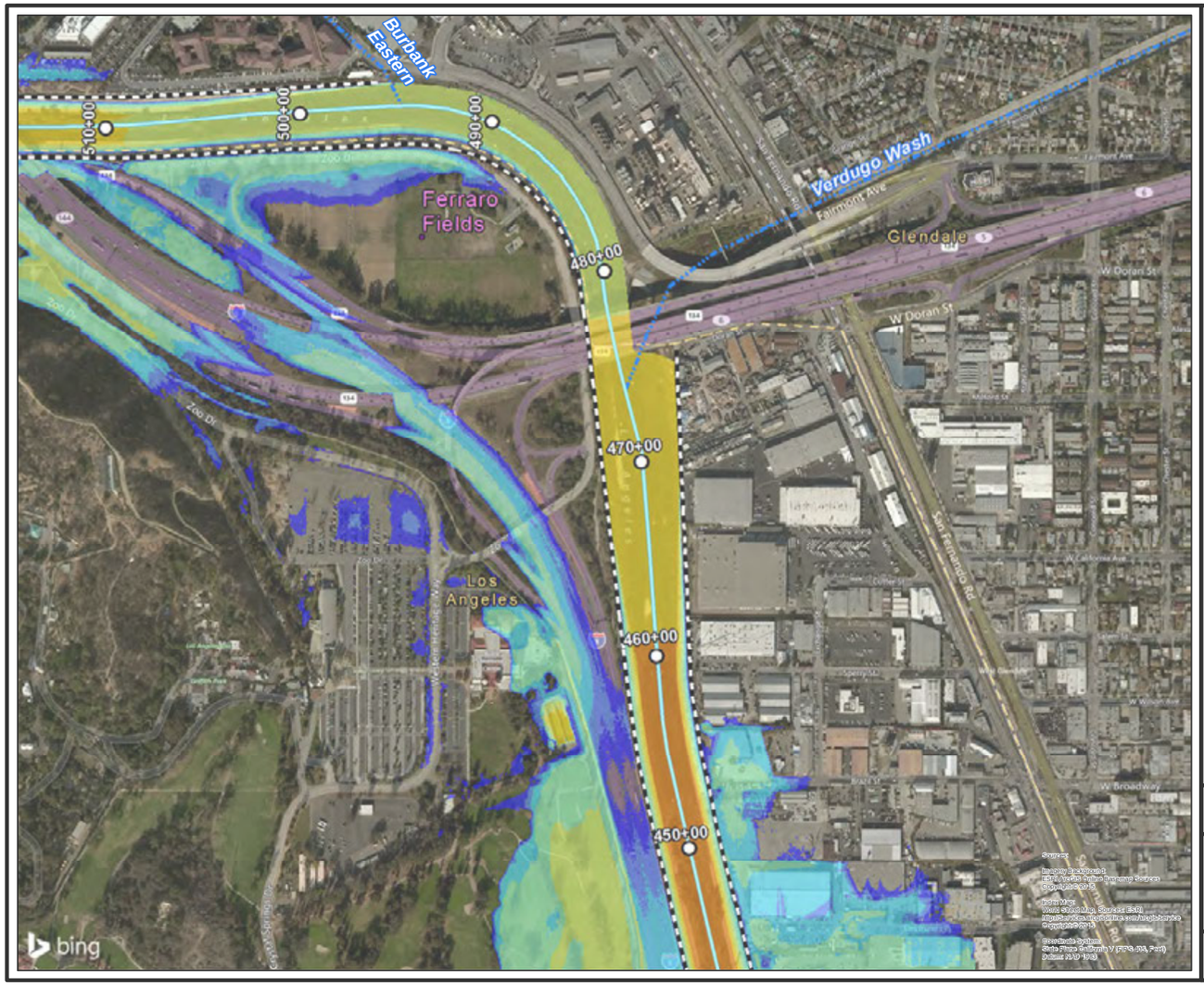
RM 30.9: FERRARO FIELDS SIDE CHANNEL

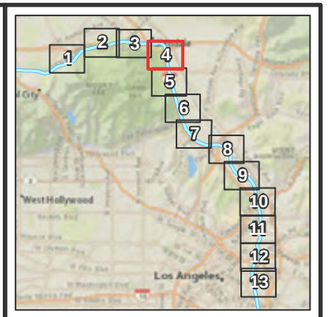


Source: OLIN, Geosyntec

USACE ARBOR STUDY 1% FLOOD MAP

Floodplain Analysis





Legend

- Station
- Levee
- Los Angeles River
- LACDA Channels
- City Limits

1% ACE Floodplain (ft)

1 - 2	10 - 15
2 - 3	15 - 20
3 - 5	20 - 25
5 - 10	25 - 32

* Flow depths less than a foot are not shown

N

0 250 500 1,000 Feet

1 in = 500 ft

FLOODPLAIN MANAGEMENT SERVICES
SPECIAL STUDY LOS ANGELES RIVER
FLOODPLAIN ANALYSIS

LOS ANGELES RIVER
1% ACE FLOODPLAIN
FPMS REACH
GRID INDEX 4

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

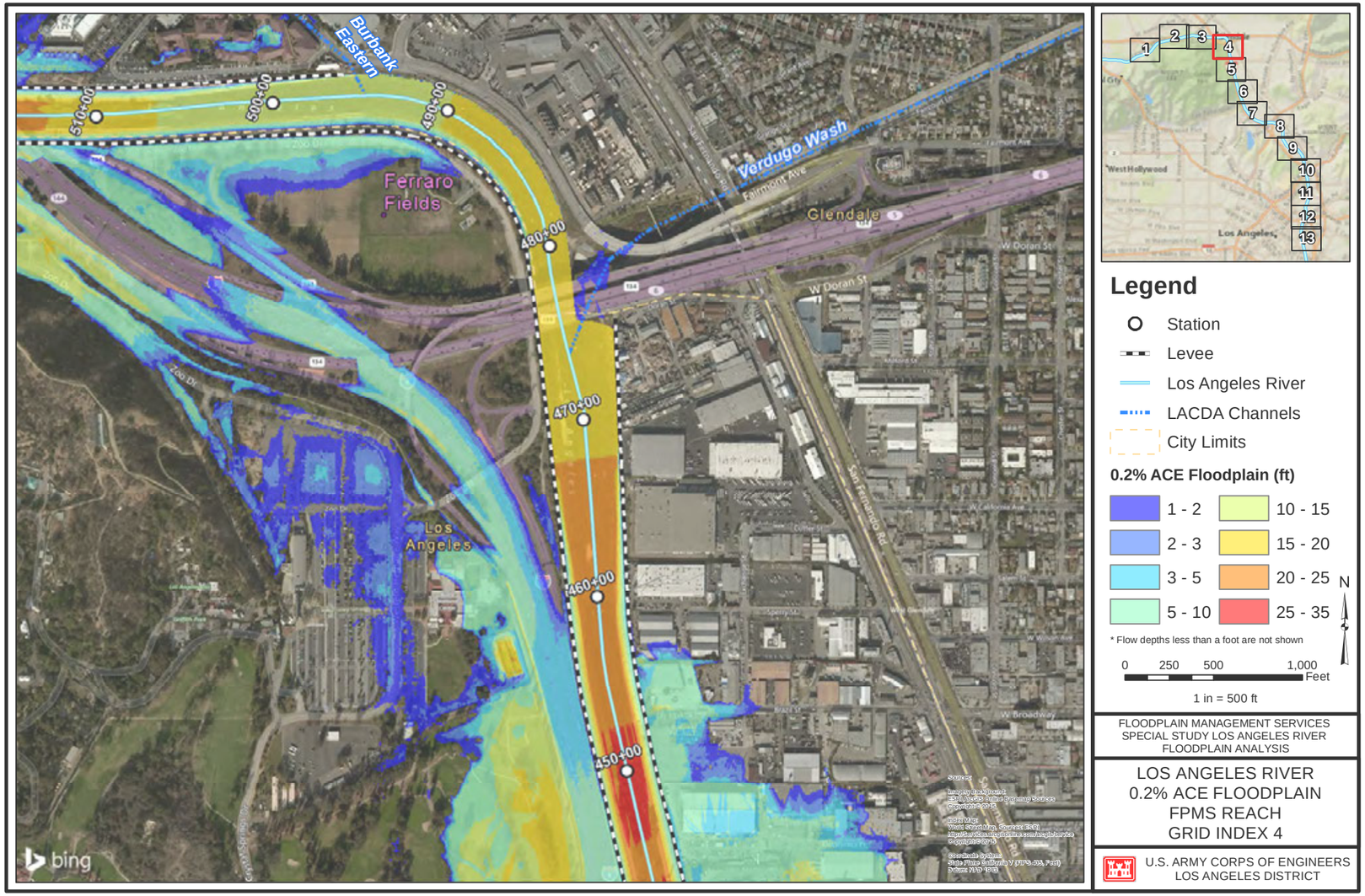
October 2016

Plate 16

Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 16", October 2016

USACE ARBOR STUDY 0.2% FLOOD MAP

Floodplain Analysis



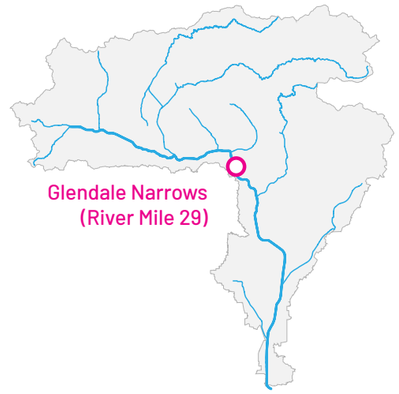
October 2016

Plate 30

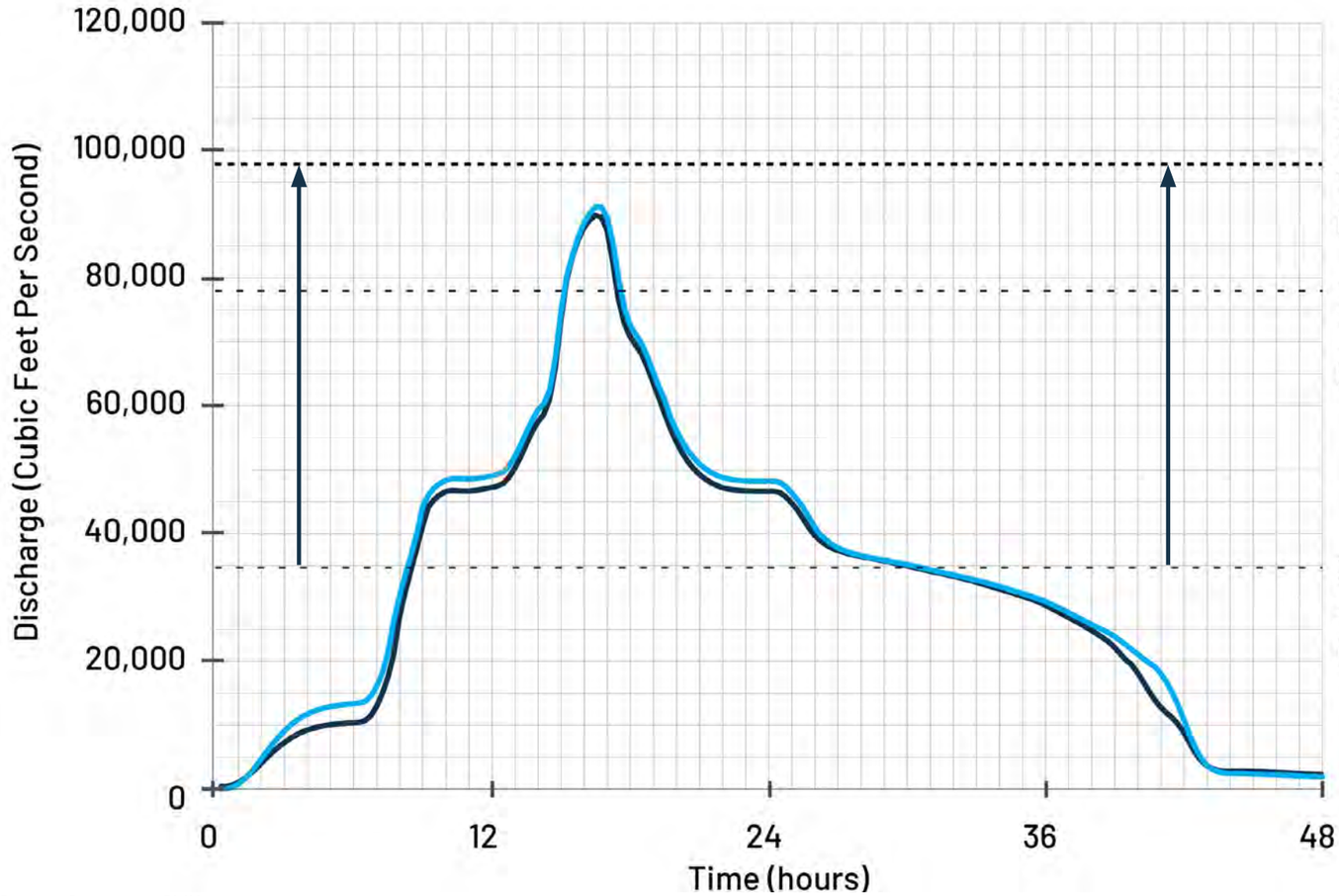
Source: USACE "LA River FPMS Hydraulic Report_FINAL_Plate 16", October 2016

REFURBISHMENT + BYPASS + EWMP 2037

Remove invasives, remove sediment, maintain channel, optional native grasses, build bypass, 28% impervious surface reduction



Hydrograph: Glendale Narrows, River Mile 29



HEC-HMS

MANNING'S

HEC-RAS

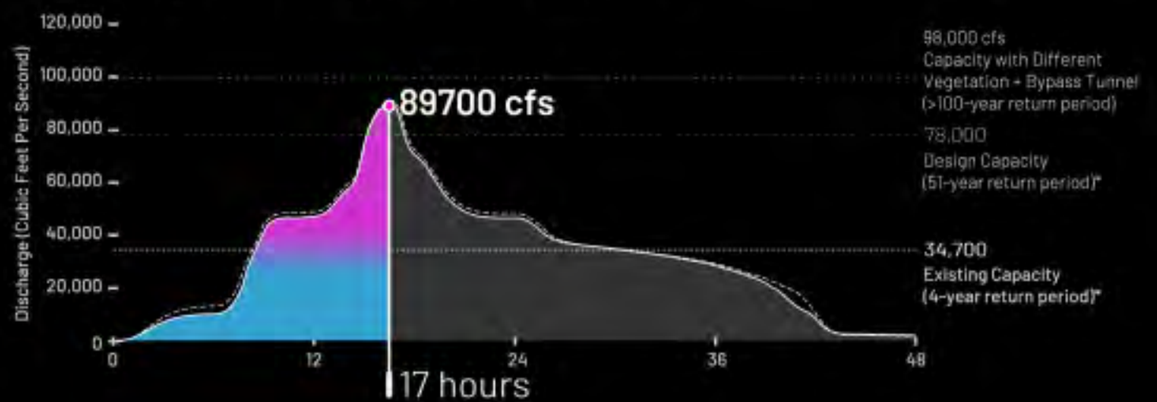
Source: Geosyntec, OLIN

* flow rates and return periods from Table 17 of HH Appendix E (USACE, 2015)

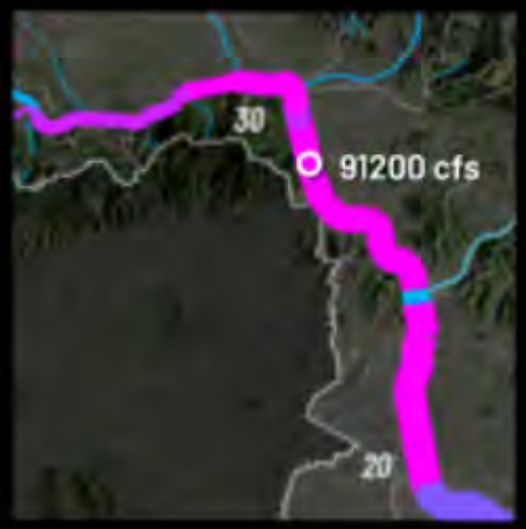
INCREASING CAPACITY: 100-YEAR STORM EVENT

HEC-HMS Model:
Glendale Narrows (River Mile 29)

Hydrograph: 28% Impervious Reduction



Baseline Imperviousness



28% Imperviousness Reduction



28% Imperviousness Reduction + Refurbishment



28% Imperviousness Reduction + Refurbishment + Bypass Tunnel



Geosyntec, OLIN

Note: Width of river represents flow, not floodway width

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN, Geosyntec

RM 30.9: FERRARO FIELDS SIDE CHANNEL

Site Plan

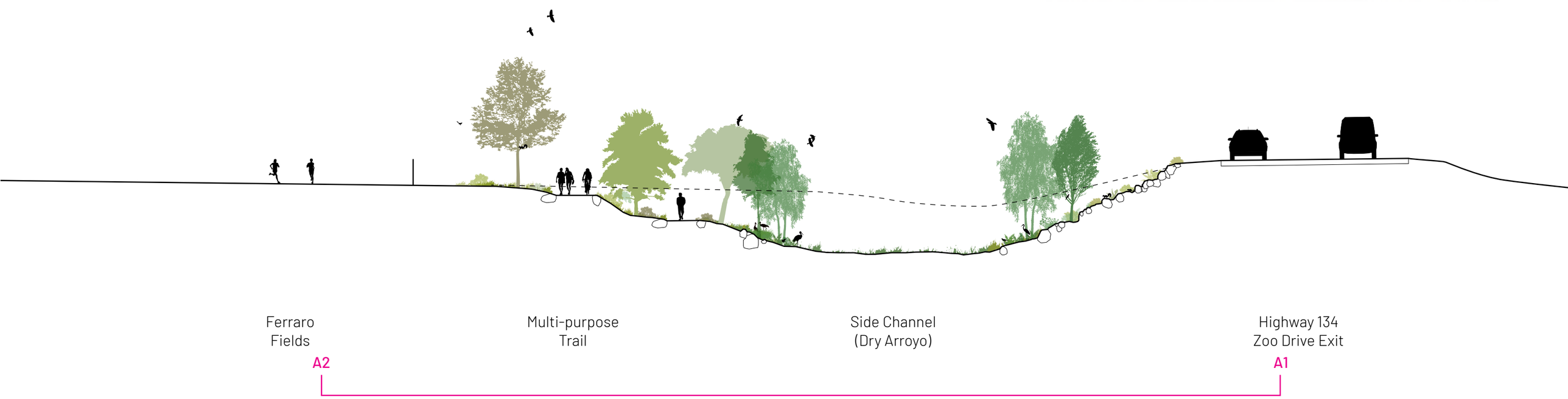


Source: OLIN

RM 30.9: FERRARO FIELDS SIDE CHANNEL

Typical Section at Side Channel





Source: OLIN

20'
N

RM 30.9: FERRARO FIELDS SIDE CHANNEL

Typical Section at Side Channel with Gabion Embankment





Source: OLIN

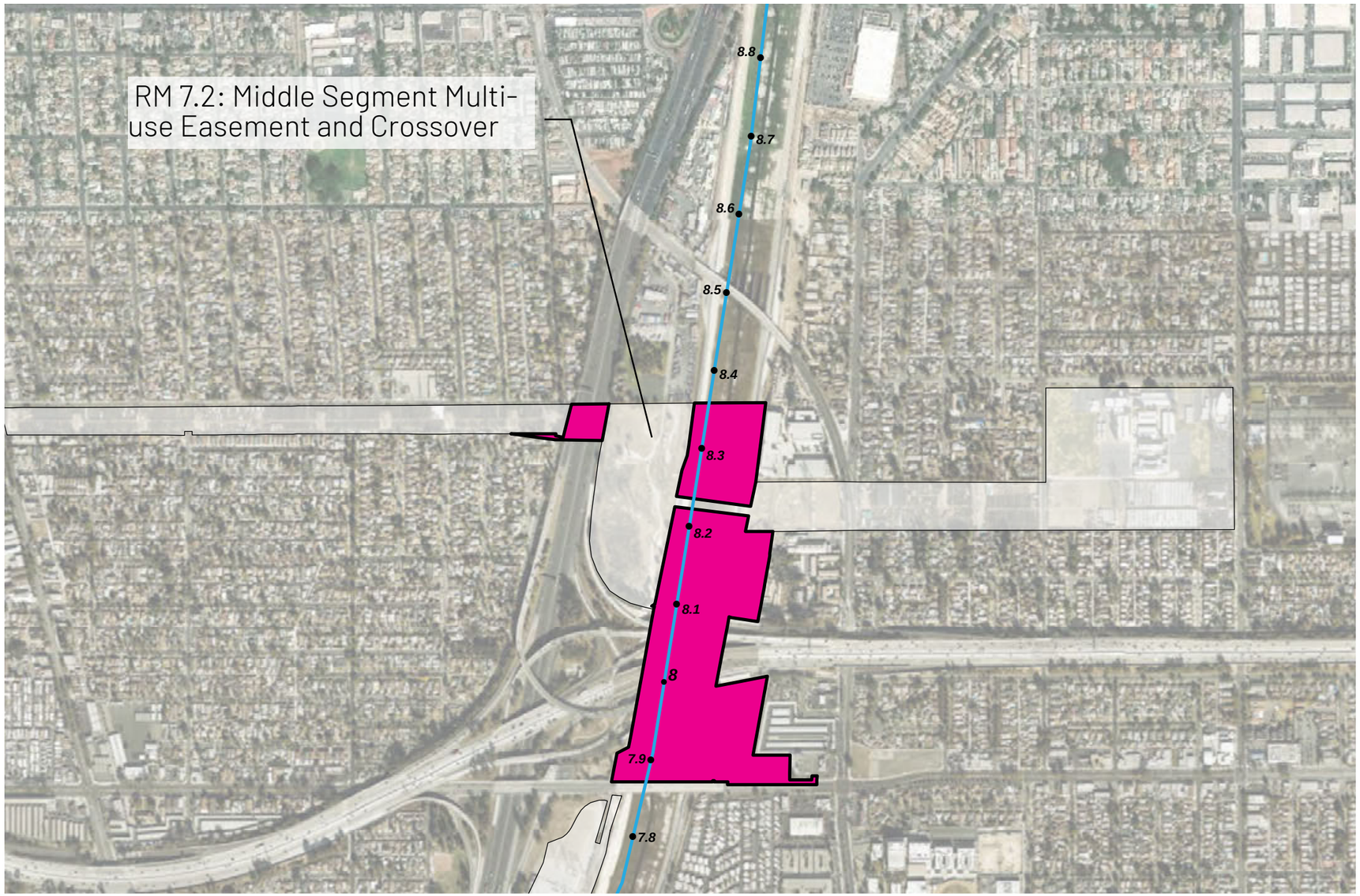
20'

RM 30.9: FERRARO FIELDS SIDE CHANNEL



Source: OLIN

RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN, Gehry Partners, Geosyntec

RM 8.1

ECOSYSTEMS
ACCESS
ARTS & CULTURE
WATER SUPPLY

FLOOD RISK
PARKS
AFFORDABLE HOUSING
EDUCATION
WATER QUALITY

PROJECT DESCRIPTION:

Building on an adjacent planned major project which utilizes a large transmission line right-of-way that crosses the LA River, this site offers the potential to expand this connection across the river between with adjacent communities with a multi-benefit platform.

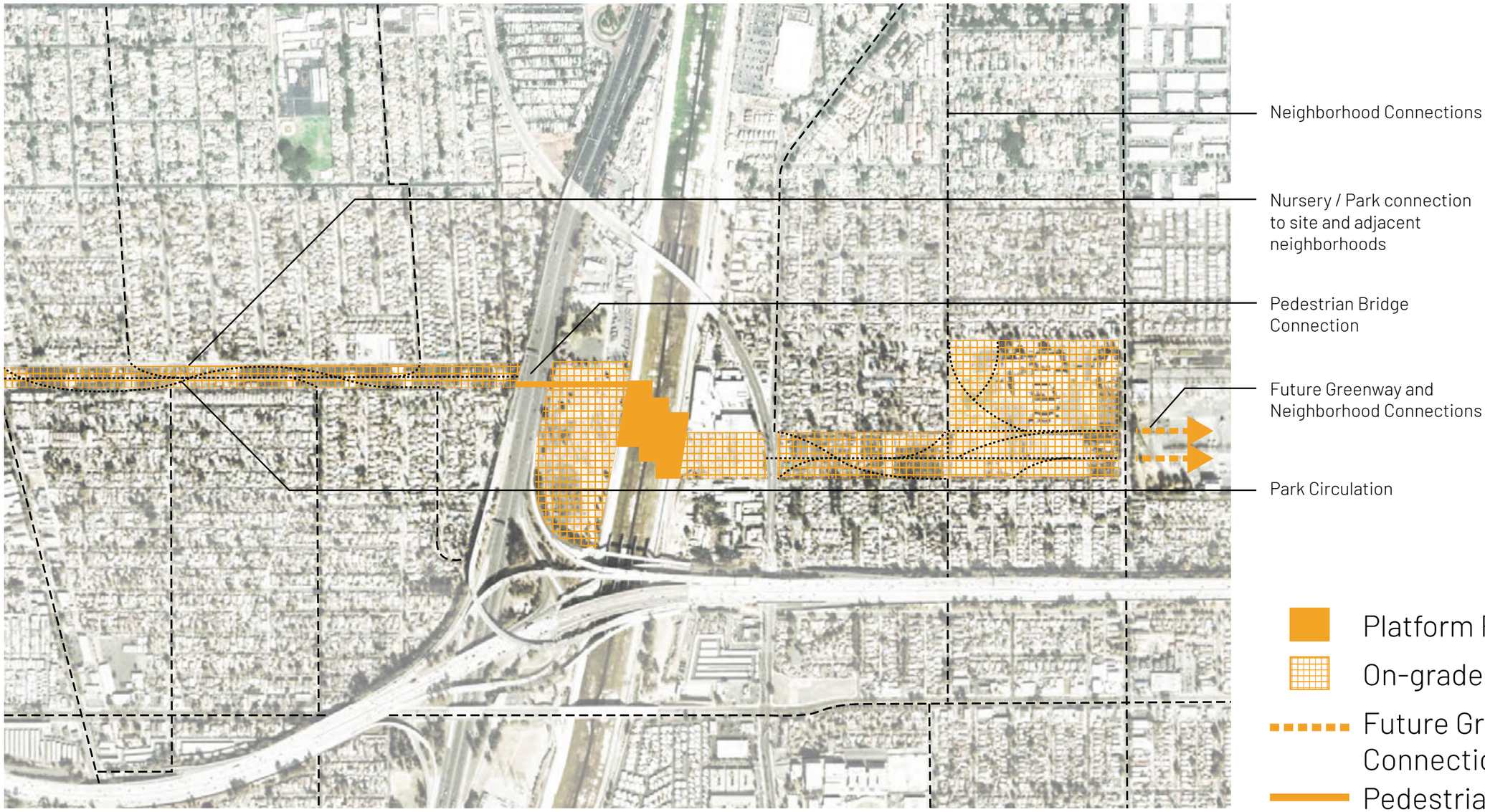
Proposed Project Site

Planned Major Project

800’

N

RM 8.1: CONNECTIVITY CORRIDOR



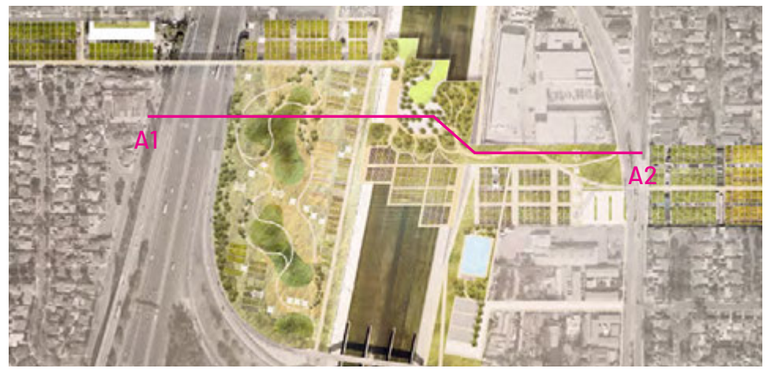
Source: OLIN

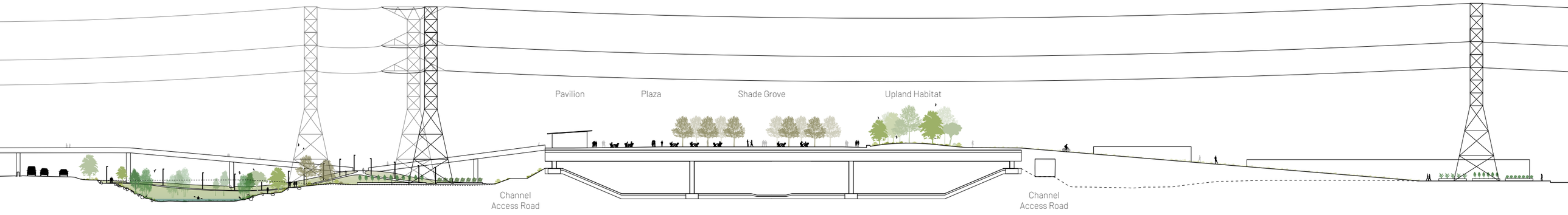
RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN

RM 8.1: CONNECTIVITY CORRIDOR





Wetland

Access Ramps (Beyond) Nursery (Under Transmission Lines)

Platform at LA River Channel

Access Incline

Nursery Leases (Under Transmission Lines)

A1 — A2

Source: OLIN

40'

N

RM 8.1: CONNECTIVITY CORRIDOR



Source: OLIN

APPLYING THE KIT OF PARTS: M, L, XL PROJECTS



Source: OLIN