CITY OF LOS ANGELES
CLEAN WATER INITIATIVE UPDATE

Prepared by LA Sanitation

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CITY OF LOS ANGELES CLEAN WATER INITIATIVE

MEASURE O:
CLEAN WATER, OCEAN, RIVERS, BEACHES, BAY THROUGH STORMWATER PROJECTS

All projects shall provide water quality benefits and have as their primary purpose the reduction of pollutant loads to the impaired waters of Los Angeles to meet water quality standards. Wherever feasible projects shall be designed (1) to provide multiple benefits and purposes including water supply, flood management, open space, habitat, and recreation benefits, (2) with consideration of source control measures and leveraging of funds and collaboration with other agencies, and (3) shall utilize a strategic adaptive management approach that incorporates assessment, feedback, adaptation, and flexibility. In order to protect public health, improve water quality, conserve water and reduce flooding, the types of projects include stormwater cleanup, control and diversion; water quality, pollution and bacteria control; trash capture; urban lakes and bay improvements; habitat/wetlands restoration and development; stormwater retention facilities/parks/greenbelts; and water conservation/reuse facilities.*

* *Excerpt from Measure O which was overwhelmingly passed by Los Angeles voters in 2004, authorizing the City of Los Angeles to fund projects (up to $500 million) that prevent and remove pollutants from our regional waterways and ocean, consequently protecting public safety and meeting federal Clean Water Act regulations.*

Report Prepared by LA Sanitation
Watershed Protection Program

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OVERVIEW & INTRODUCTION

In November 2004, voters of the City of Los Angeles passed Proposition O, the Clean Water Bond referendum, authorizing $500 million in general obligation bonds for projects to protect public health and the environment by removing pollutants in the City's rivers, lakes and beaches. The City's goal is to ensure that all its waterways and coastline beaches comply with the Federal Clean Water Act and to improve the water quality in Los Angeles by reducing storm drain pollution (also known as non-point source water pollution or urban runoff). Proposition O was presented to City voters in 2004 to provide some of the resources needed to achieve these water quality goals. In particular, Proposition O funds have been used to decrease water pollution from trash, bacteria, petrochemicals and heavy metals that can cause human illness and damage our aquatic environments.

Proposition O projects have been developed in four general project categories:

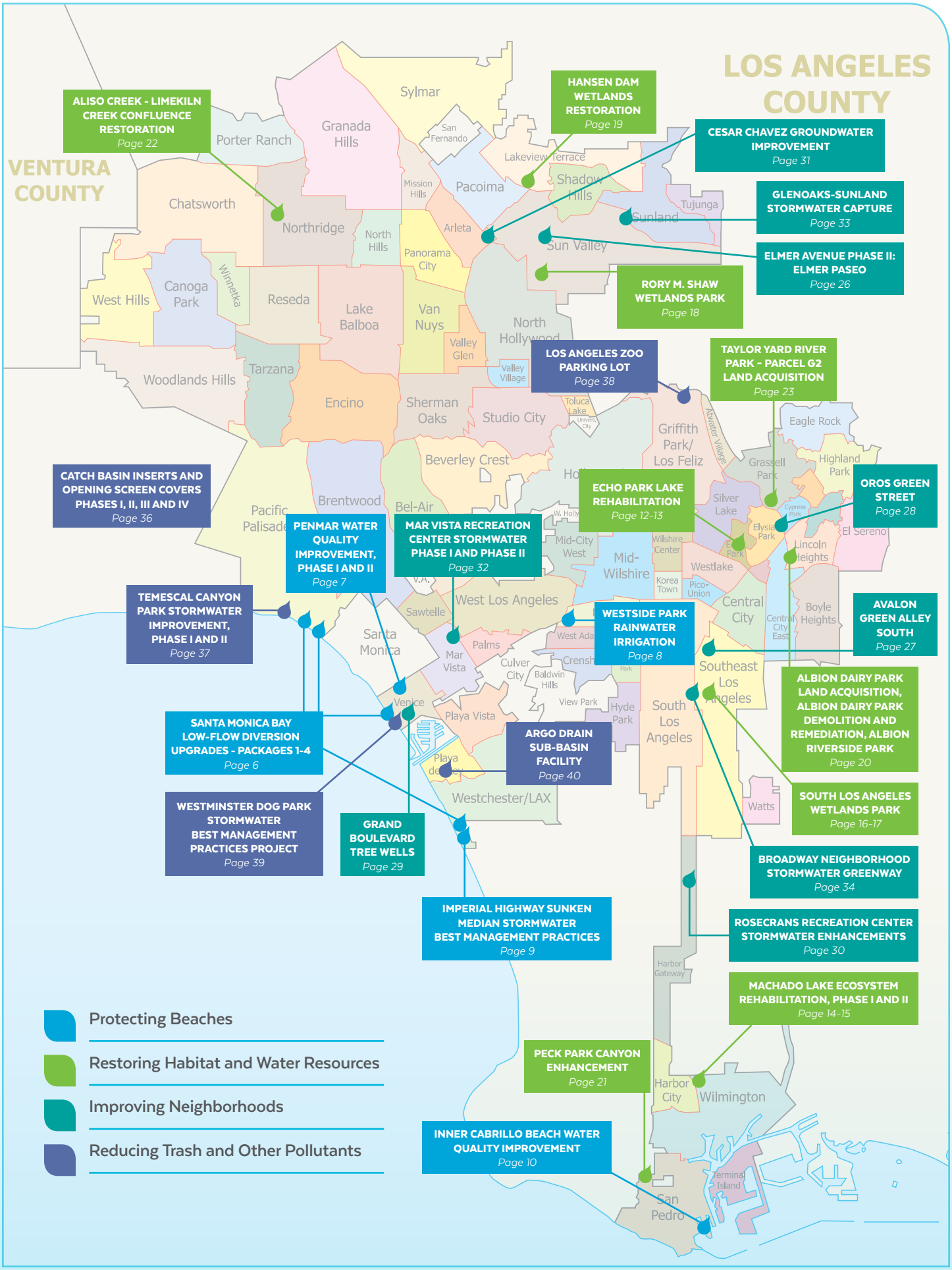
- River, lakes, beaches, bays and ocean water quality protection projects
- Water conservation and projects to protect drinking water and its sources
- Flood water reduction, river and neighborhood parks that prevent polluted runoff and improve water quality
- Stormwater capture and reuse projects

Since its inception, Proposition O funds have been used to fund more than 40 projects. Funding for many of these projects comes from several sources. Proposition O funding for the projects ranges from $199,000 to more than $110.5 million.

Note: The project results presented in this document include reporting data from 2017 and earlier. The funding information presented in this document is based on the December 2016 Proposition O monthly report. Updated funding information is provided in the monthly Proposition O reports at: www.lacitypropo.org/reports.php.



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PROPOSITION O:
RESIDENTS, NEIGHBORHOODS AND THE ENVIRONMENT

Proposition O-funded projects are located throughout Los Angeles. By selecting a geographically diverse range of projects, water quality is being improved throughout the City. More than 40 projects have been completed or are in their post-construction phase. Others are currently in construction, design, or the bid and award phases.

WORKING TO IMPROVE QUALITY OF LIFE IN LOS ANGELES

In addition to improving water quality, many projects provide multiple benefits, such as habitat improvement and restoration, infiltration to increase groundwater supplies, flood protection, recreational and educational opportunities, and public access to new resources. These additional benefits, part of the original multi-use intent of Proposition O, are important elements for projects to be successful in improving the quality of life of communities, habitats and the water resources of the region. The following projects: Albion Riverside Park, Avalon Green Alley South, Broadway Neighborhood Stormwater Greenway, Hansen Dam Wetlands, and Elmer Avenue Paseo are prime examples of the multiple benefits that can be achieved through the Proposition O program.

ADDRESSING REGIONAL NEEDS IN THE CITY

The Proposition O projects are located in different watershed areas – Los Angeles River, Ballona Creek, Dominguez Channel and Santa Monica Bay. The main purpose of Proposition O is to improve water quality in the watersheds within the Los Angeles region. The Regional Water Quality Control Board, Los Angeles Region, and the United States Environmental Protection Agency regulate the watersheds, and in some cases, sub-watershed areas to limit the amount of pollutants that can be discharged into the region's water resources.

IMPROVING WATER QUALITY AND PROTECTING THE WATERSHEDS OF LOS ANGELES

Each Proposition O project was designed to remove pollutants from the runoff that drains to the project. The more than 40 projects manage 48,500 "green" acres, capture 26,200 acre-feet of water per year, remove 10,990 tons of pollutants such as oil and grease, total metals, total phosphorous, total hydrocarbons, total nitrogen, and trash and reduce 99% of bacteria. The catch basin retrofit project provided 100% compliance with the trash TMDLs. The various Proposition O projects, combined with other TMDL projects, will assist the City in improving water quality in the projects' respective watersheds and meeting the TMDL mandates. .

** "green" acres: Total drainage area managed by the project.*

STATUS OF PROPOSITION O PROJECTS

Completed Projects

- Albion Dairy Park - Land Acquisition
- Catch Basin Inserts and Screen Covers, Phase I
- Catch Basin Opening Screen Covers, Phase II
- Catch Basin Opening Screen Covers, Phase III
- Cesar Chavez Groundwater Improvement
- Echo Park Lake Rehabilitation
- Elmer Avenue Phase II: Elmer Paseo
- Glenoaks-Sunland Stormwater Capture
- Grand Boulevard Tree Wells
- Hansen Dam Wetlands Restoration
- Imperial Highway Sunken Median Stormwater Best Management Practice
- Inner Cabrillo Beach Bacterial Water Quality Improvement
- LA Zoo Parking Lot
- Mar Vista Recreation Center Stormwater Best Management Practice
- Oros Green Street
- Peck Park Canyon Enhancement
- Penmar Water Quality Improvement Phase I
- Rosecrans Recreation Center Stormwater Enhancements
- Santa Monica Bay Low Flow Diversion Upgrades, Package I
- Santa Monica Bay Low Flow Diversion Upgrades, Package 2
- Santa Monica Bay Low Flow Diversion Upgrades, Package 3, Phase I
- Santa Monica Bay Low Flow Diversion Upgrades, Package 4
- South Los Angeles Wetlands Park
- Strathern Pit Multi-Use - Land Acquisition
- Westminster Dog Park Stormwater Best Management Practice
- Westside Park Rainwater Irrigation

Projects in the Post-Construction Phase

- Albion Dairy Park - Demolition and Remediation
- Avalon Green Alley South
- Broadway Neighborhood Stormwater Greenway
- Machado Lake - Phase I (Wilmington Drain)
- Santa Monica Bay Low Flow Diversion Upgrades, Package 3, Phase II
- Temescal Canyon Park Stormwater Best Management Practice, Phase I

Projects in the Construction Phase

- Catch Basin Inserts and Opening Screen Covers, Phase IV
- Machado Lake Ecosystem Rehabilitation
- Penmar Water Quality Improvement, Phase II
- Temescal Canyon Park Stormwater Best Management Practice, Phase II

Projects in the Bid and Award Phase

- Albion Riverside Park

Projects in the Design Phase

- Aliso Creek-Limekiln Creek Restoration
- Argo Drain Sub-Basin Facility
- Mar Vista Recreation Center Stormwater Best Management Practice, Phase II
- Rory M. Shaw Wetlands Park

Land Acquisition Projects in Process

- Taylor Yard River Park - G2 Land Acquisition

** Note: As of December 2016*

Protecting Beaches

PROJECT RESULTS

Manages **12,660** "green" acres

Captures **5,290** acre-feet of water per year

Removes **1,681** tons of pollutants

Reduces **100%** of bacteria

SANTA MONICA BAY LOW-FLOW DIVERSION UPGRADES - PACKAGES 1-4

Storm drain outfalls ring Santa Monica Bay, draining polluted inland stormwater and urban runoff onto beaches and into coastal waters. In 1996, an epidemiological study by the Santa Monica Bay Restoration Project examined the adverse effects of swimming near storm drains. Following this study, the City of Los Angeles implemented a low-flow diversion (LFD) program to re-route the flow from major storm drains along Santa Monica Bay to the municipal sewer system and the Hyperion Water Reclamation Plant for treatment. In 2003, the Santa Monica Bay Beaches Bacteria Total Maximum Daily Load (TMDL) became effective requiring that bacterial indicators should not exceed acceptable levels during summer dry months. To address the requirements of this TMDL, the cities of Los Angeles and Santa Monica and the County of Los Angeles built 24 LFD projects. Los Angeles was the lead agency for eight LFDs: Santa Monica Canyon, Temescal Canyon, Thornton Avenue, Bay Club Drive, Palisades Park, Imperial Highway, Venice Pavilion and Marquez Avenue. The County of Los Angeles and City of Santa Monica were the lead agencies for the balance of the LFDs.

The Santa Monica Bay Low-Flow Diversion Upgrades focus on upgrading the eight City of Los Angeles LFD facilities to divert both summer and winter dry-weather flows and construct a Coastal Interceptor Relief Sewer to the Coastal Interceptor Sewer to assist in complying with the bacteria TMDL winter dry-weather regulations.

PROJECT GOALS

- Minimize pollutants in the runoff that drains into Santa Monica Bay.
- Intercept and reroute polluted urban runoff to prevent it from reaching Will Rogers State Beach and Santa Monica Bay.

PROJECT BENEFITS

- Improves water quality by treating pollutants of concern such as bacteria, trash, and other contaminants, helping the City meet strict water quality requirements for the local area and watershed, including the Santa Monica Bay.
- Upgrades eight LFD facilities (Santa Monica Canyon, Temescal Canyon, Thornton Avenue, Bay Club Drive, Palisades Park, Imperial Highway, Venice Pavilion and Marquez Avenue) to divert polluted dry weather flow year-round.
- Constructs a Coastal Interceptor Relief Sewer to the Coastal Interceptor Sewer to ensure compliance with the bacteria TMDL winter dry-weather regulations.
- Improves public health and restores and preserves marine and plant habitat.
- Reduces local beach closures.

PROJECT FUNDING & STATUS

LFD Upgrades Package 1 *Completed July 2010*	$4,553,112
LFD Upgrades Package 2 *Completed October 2010*	$2,026,413
LFD Upgrades Package 3 *Completed October 2012*	$12,604,684
LFD Upgrades Package 4 *Completed April 2011*	$3,848,291
Total LFD Upgrades Packages 1 - 4	$23,032,500

PROJECT IMPACTS

The Santa Monica Low-Flow Diversion Upgrades improve the quality of urban runoff flowing from a drainage area of 18,456 acres. These projects will remove pollutants from the Santa Monica Bay and increase capacity and system reliability which allows the LFDs to function year round during dry weather and creates a cleaner Santa Monica Bay.

PENMAR WATER QUALITY IMPROVEMENT, PHASE I AND II

The Penmar Water Quality Improvement project is located in the community of Venice, adjacent to the Penmar Golf Course and under a portion of the Penmar Recreation Center Park play fields. Untreated urban runoff from the park and nearby areas adds oil and grease, metals and other pollutants to the storm drain system, contaminating the neighborhood, local watershed and Venice Beach. The City of Los Angeles and the City of Santa Monica joined forces to implement this project which captures, cleans, and beneficially uses this urban runoff.

PROJECT IMPACTS

The Penmar Water Quality Improvement project will capture surface runoff and remove pollutants from the Santa Monica Bay. In addition, a portion of the captured runoff will be treated and used for landscape irrigation at Penmar Park, reducing the need to use Los Angeles' potable water.

PROJECT RESULTS

Manages **1,468** "green" acres

Captures **200** acre-feet of water per year

Removes **81** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Reduce pollutants in the stormwater runoff from the existing Rose Avenue Storm Drain that now empties directly into Santa Monica Bay at Venice Beach.
- Capture and treat the runoff generated at and near the site.
- Use a portion of the treated runoff for landscape irrigation.

PROJECT BENEFITS

- Improves water quality by capturing urban runoff from a drainage area of 1,468 acres in the cities of Santa Monica and Los Angeles.
- Diverts stormwater from the Rose Avenue storm drain to an underground 2.75 million-gallon reservoir, which retains the water until it is pumped to the sanitary sewer system for treatment at the Hyperion Water Reclamation Plant. (Phase I)
- Diverts dry weather flow from the Rose Avenue storm drain and pumps it directly to the sanitary sewer. (Phase I)
- Disinfects and uses the captured water at Los Angeles' Penmar Recreation Center and Park, Penmar Golf Course, and Santa Monica's Marine Park for irrigation. (Phase II)
- Assists the City of Los Angeles in meeting water quality TMDL requirements for the Santa Monica Bay watershed.
- Restores and preserves marine and plant habitat.
- Reduces local beach closures.

PROJECT FUNDING & STATUS

A total of $17,402,572 in Proposition O funds was expended on Phase I. A total of $5,830,000 has been allocated for Phase II. The Department of Water Resources and Los Angeles County Department of Public Works provided additional funding for Phase I. Proposition 84 provided additional funding for Phase II.

Phase I was completed in February 2014. Phase II to be completed at the end of the year.

WESTSIDE PARK RAINWATER IRRIGATION

PROJECT GOALS

- Minimize pollutants in the runoff that flows into the storm drain system, impacting the local community, Ballona Creek and Santa Monica Bay.
- Capture and treat runoff generated at and near the site and use it for subsurface irrigation at Westside Park.

PROJECT BENEFITS

- Improves water quality by providing pre-treatment and treatment of urban runoff which addresses pollutants of concern such as bacteria, oil and grease, gasoline, suspended solids and heavy metals.
- Assists the City in meeting water quality requirements for Ballona Creek and Santa Monica Bay.
- Utilizes captured rainwater to irrigate the park, reducing the need for potable water.

PROJECT FUNDING & STATUS

A total of $4,555,953 in Proposition O funds was expended on the Westside Park Rainwater Irrigation project. Proposition 50, Proposition K and the Recreation and Parks Quimby Fund provided additional funding.

The Westside Park Rainwater Irrigation project was completed in July 2011.

The Westside Park Rainwater Irrigation project is located in Los Angeles' La Cienega/Fairfax neighborhood. Runoff from the park and nearby area adds oil and grease, metals and other pollutants to the storm drain system, contaminating the neighborhood, Ballona Creek and Santa Monica Bay. The focus of the project is to capture, treat and use runoff from 298 acres of land adjacent to Westside Park.

PROJECT IMPACTS

The Westside Park Rainwater Irrigation project collects and treats polluted urban runoff from nearly 300 acres of land adjacent to the park and then uses it for landscape irrigation. In addition to improved water quality and reduced flooding, the park has been equipped with a new solar-powered lighting system and recreational amenities including a jogging path, a garden, an outdoor fitness center and universally accessible playground. This project improves the quality of life within the surrounding community and the health of the coastal environment.

PROJECT RESULTS

Manages **298** "green" acres

Captures **149** acre-feet of water per year

Removes **220** tons of pollutants

Reduces **99%** of bacteria

PROJECT RESULTS

Manages **11** "green" acres

Captures **5.2** acre-feet of water per year

Removes **0.6** tons of pollutants

Reduces **100%** of bacteria

IMPERIAL HIGHWAY SUNKEN MEDIAN STORMWATER BEST MANAGEMENT PRACTICES

Imperial Highway is a heavily traveled divided street that separates Los Angeles International Airport (LAX) and nearby residential neighborhoods and leads directly to Dockweiler Beach, a popular recreational spot. Runoff from this transportation corridor historically contained pollutants such as oil, grease, suspended solids, metals, gasoline and pathogens. The focus of the Imperial Highway Sunken Median Stormwater Best Management Practices project includes the capture, treatment and infiltration of polluted stormwater runoff along a one-mile stretch of Imperial Highway.

PROJECT IMPACTS

The Imperial Highway Sunken Median Stormwater Best Management Practices Project installed a stormwater system to capture and treat polluted runoff along this major transportation corridor. The system includes vegetated swales (broad, shallow channels) and a natural treatment process that slows, collects and filters stormwater to help remove bacteria, oil, trash and other pollutants. Prior to the project, polluted stormwater runoff discharged directly into Santa Monica Bay. Now runoff is captured and treated before being infiltrated until the local underground aquifer or released to flow into Santa Monica Bay.

PROJECT GOALS

- Divert, capture and infiltrate stormwater runoff from 7.5 acres.
- Install stormwater systems in the highway median, which initiate best management practices to treat polluted runoff before water infiltrates into the local aquifer or flows into Santa Monica Bay.

PROJECT BENEFITS

- Improves water quality by removing oil and grease, suspended solids, metals, bacteria and gasoline, helping the City meet water quality requirements for Santa Monica Bay and reducing bacteria levels in the surf zone.
- Captures and infiltrates runoff from 7.5 acres utilizing dry wells, a 200-foot grass swale, a 250-foot long infiltration trench, and native vegetation.
- Reduces ponding at the intersection of Imperial Highway and Main Street through local regrading.
- Adds 396 trees to the median landscaping.
- Installs an automated irrigation system that uses recycled water for median landscaping.
- Reduces the potential for human safety and health risk.
- Reduces beach closures and increases recreational uses of the Santa Monica Bay and beaches.

PROJECT FUNDING & STATUS

A total of $1,301,724 in Proposition O funds was expended on the Imperial Highway Sunken Median Stormwater Best Management Practices project.

The Imperial Highway Sunken Median Stormwater Best Management Practices project was completed in November 2009.

PROJECT RESULTS

Manages **71** "green" acres

Captures **30** acre-feet of water per year

Reduces **100%** of bacteria

INNER CABRILLO BEACH WATER QUALITY IMPROVEMENT

The Inner Cabrillo Beach Water Quality Improvement project is located on the western edge of San Pedro Bay, inside the Port of Los Angeles breakwater. Inner Cabrillo Beach is one of the City's most popular recreational, educational and historic resources, serving the San Pedro community, residents across the City and the greater Los Angeles area since the early 1900s. It is the home of the Cabrillo Marine Aquarium and recently restored Cabrillo Bath House.

While Inner Cabrillo Beach is one of the few urban beaches in the Los Angeles area protected from open ocean waves, it has also experienced a high frequency of bacterial water quality violations. The Inner Cabrillo Beach Water Quality Improvement project aims to correct this taking into account the potentially conflicting natural resources of the area, which include significant bird habitats and extensive aquatic eelgrass beds immediately offshore. Leaking sewers, faulty storm drains and restricted circulation at the beach face are among additional issues impacting Inner Cabrillo Beach.

PROJECT GOALS

- Improve water quality to reduce violations at Inner Cabrillo Beach and prevent potential health risks for beach users.
- Install and maintain multiple components to improve water quality, which include extending a bird exclusion structure; repairing and replacing defective sewer systems; re-contouring and replacing sand to improve drainage and prevent flooding; and, diverting stormwater discharges from Inner Cabrillo Beach to the ocean side of the breakwater.

PROJECT BENEFITS

- Improves the quality of urban runoff flowing from 72 acres into San Pedro Bay and the Port of Los Angeles.
- Assists in bringing Inner Cabrillo Beach into compliance with water quality standards and assists the City of Los Angeles in meeting the requirements of the Los Angeles Harbor Bacteria Total Maximum Daily Load (TMDL).
- Reduces beach closures and increases recreational uses of Inner Cabrillo Beach and San Pedro Bay.

PROJECT FUNDING & STATUS

A total of $6,921,005 in Proposition O funds was expended on the Inner Cabrillo Beach Water Quality Improvement project. The Port of Los Angeles provided additional funding for the project.

The Inner Cabrillo Beach Water Quality Improvement project was completed in July 2009.

PROJECT IMPACTS

In addition to improving water quality at Cabrillo Beach and reducing the potential risk to human health, this project has enhanced the western Los Angeles Harbor with parkland and habitat improvements. Better water quality and other improvements allow continued and expanded use of Inner Cabrillo Beach, the park, community and beach facilities, which enrich the lives of the hundreds of thousands of visitors who come to this beach every year and thousands of students who participate in educational field trips.

Restoring Habitat and Water Resources

ECHO PARK LAKE REHABILITATION

PROJECT RESULTS

- Manages **356** "green" acres
- Captures **150** acre-feet of water per year
- Removes **3** tons of pollutants
- Reduces **99%** of bacteria

Built in the 1860s, the lake originally served as one of the City's drinking water reservoirs and later became part of the stormwater and flood control system. In 1892, the area with its lake was officially christened Echo Park with canoes, fishing and a floating Lotus flower garden. However, over the years, a major leak developed in Echo Park Lake, which required the City to use potable water to maintain lake levels. In addition, an accumulation of bacteria, other pollutants and trash contributed to a significant decline in water quality. In 2006 Echo Park Lake was identified as an "impaired body of water" by the State of California. Through Proposition O funding, Echo Park Lake and the surrounding park underwent a complete rehabilitation. The park was redesigned, the leak was repaired, Echo Park Lake was dredged and lined and a natural filtration system was installed. With the polluted lake cleaned up and restored, Echo Park Lake was transformed into a beautiful park for Los Angeles residents and visitors while improving water quality in the Los Angeles River watershed.

PROJECT IMPACTS

The City worked closely with the Echo Park and Silver Lake communities to restore Echo Park Lake and improve water quality while making the park and surrounding area more ecologically friendly and a welcoming gathering place for residents and visitors alike. Since its renewal, which included the restoration of the floating Lotus flower gardens, every summer Echo Park Lake once again hosts Los Angeles' annual Lotus Festival.

ECHO PARK LAKE REHABILITATION

PROJECT GOALS

- Improve water quality in Echo Park Lake and the Los Angeles River watershed.
- Eliminate the use of the City's potable water supply to maintain the lake's water level.
- Replace the park's degraded and crumbling asphalt retaining wall and walkway.
- Enhance plant and wildlife habitat and provide improved green space for the community.
- Assist the City of Los Angeles in meeting water quality regulations for the Los Angeles River watershed.

PROJECT BENEFITS

- Improves water quality by diverting and treating storm drain flows from a 732-acre area by removing pollutants of concern including trash, nutrients (nitrogen), bacteria, oil and grease, total suspended solids, and heavy metals.
- Maintains water quality by installing trash removal devices and adding treatment wetlands that act as a natural water filtration system.
- Uses native plants, bioswales, permeable paving and the installation of a "Smart" irrigation system to create enhanced landscaping and further the use of natural processes to conserve and protect resources.
- Removes lake sediment that had accumulated for more than 20 years.
- Serves as a detention basin in the City's stormwater system, while rehabilitating and restoring the park, which provides wildlife habitat and open space for the community.
- Expands the park's recreational benefits including a new pedestrian path, boating, fishing, birdwatching, educational signage, seating and picnic areas.

PROJECT FUNDING & STATUS

A total of $36,626,015 in Proposition O funds was expended on the Echo Park Lake Rehabilitation project. Proposition K provided additional funding for the project.

The Echo Park Lake Rehabilitation project was completed in September 2013.

MACHADO LAKE ECOSYSTEM REHABILITATION, PHASE I AND II

Machado Lake is a natural lake located in Ken Malloy Harbor Regional Park in the Dominguez Channel watershed. Within a drainage area of approximately 20 square miles (12,800 acres), it is one of the largest parks in the City of Los Angeles and has one of the most diverse habitats in the region, including a 45-acre lake, a seasonal freshwater marsh, a riparian woodland and a non-native grassland. The park is also a popular recreational area attracting local residents and visitors from across Los Angeles County.

Because rainwater flows naturally into the lake from several major drains - Wilmington Drain is one of those drains - Machado Lake serves as a flood control retention basin. Unfortunately, Machado Lake has also become the unintended dumping ground for contaminants, such as trash, bacteria, pesticides, oil and grease, and heavy metals, from stormwater runoff with many of these pollutants settling at the bottom of Machado Lake. During and after rainfall, this polluted runoff flows from Machado Lake into the Los Angeles River and the Pacific Ocean. This resulted in Machado Lake's designation as an "impaired body of water" by the State of California.

In 2004 the Machado Lake Integrated Water Quality and Habitat Improvement Program was developed. It consisted of two phases. Phase I was the Wilmington Drain Multi-Use Project with the overall goal of reducing trash, coliform, heavy metals, total suspended solids and nitrogen in the Wilmington Drain. Phase II is the Machado Lake Ecosystem Rehabilitation that has the broad objective of improving water quality conditions, visual aesthetics and the biological diversity of Machado Lake's ecosystem to attain and sustain its desired uses and characteristics, which include recreational, fishing, wildlife habitat and environmental education. Restoration of the 231-acre park will assist in returning it to one of the most productive ecosystems in Southern California.

PROJECT GOALS

- Reduce trash, coliform, heavy metals, total suspended solids and nitrogen in Wilmington Drain by installing trash netting systems, biofilters or similar vegetated best management practices.
- Recontour and align the Wilmington Drain channel.
- Improve Machado Lake's water quality by removing soil contaminated by DDT, other harmful pesticides and toxic contaminants such as ammonia, bacteria, copper and lead.
- Improve stormwater quality and increase flood control capacity.
- Create a new public park and restore and enhance the surrounding habit.

PROJECT RESULTS

Manages **14,112** "green" acres

Captures **6,820** acre-feet of water per year

Removes **5,103** tons of pollutants

Reduces **99%** of bacteria

MACHADO LAKE ECOSYSTEM REHABILITATION, PHASE I AND II

PROJECT BENEFITS

- Assists the City in meeting water quality requirements for Machado Lake, Los Angeles Harbor and San Pedro Bay by removing pollutants of concern including trash, nutrients (nitrogen), bacteria, oil and grease, total suspended solids, and heavy metals, which are typically found in the urban runoff flowing through these water bodies.
- Rehabilitates the 45-acre Machado Lake and surrounding 231-acre Ken Malloy Harbor Regional Park.
- Improves water quality in Machado Lake by removing contaminated sediment at the lake's bottom, treating stormwater inflows, installing nutrient-removal wetlands and treatment systems and an oxygenation system.
- Increases water conservation by installing "Smart" irrigation controls that monitor moisture and help sustain new native, drought-friendly landscaping, which absorbs and reduces runoff.
- Creates a new public park area including fishing piers, pedestrian bridges, lakeside pathway, picnic tables, biking and jogging paths.

PROJECT FUNDING & STATUS

A total of $23,794,559 in Proposition O funds has been expended on Phase I, the Wilmington Drain Multi-Use project. A total of $110,457,563 in Proposition O funds has been allocated for Phase II, Machado Lake Ecosystem Rehabilitation project. The Coastal Conservancy, Proposition K, Los Angeles County, Proposition 50 and the City of Los Angeles Department of Recreation and Parks Quimby Funds provided additional funding for the two phases of this project.

The Wilmington Drain Multi-Use project was completed in June 2015. The Machado Lake Ecosystem Rehabilitation project is currently undergoing a five-year period of habitat mitigation and monitoring, which will be complete in 2022.

PROJECT IMPACTS

Phase I and Phase II of the Machado Lake Ecosystem Rehabilitation project redesigned Machado Lake to be a living system that includes native landscaping and habitat and systems that remove pollution and treat polluted runoff. Through the restoration and improvement of the Machado Lake ecosystem, the project improves wildlife habitat and enhances both active and passive recreational opportunities including biking, jogging, fishing, bird watching and nature study while removing pollutants from urban runoff flowing from approximately 12,800 acres.

SOUTH LOS ANGELES WETLANDS PARK

PROJECT RESULTS

- Manages **525** "green" acres
- Captures **95** acre-feet of water per year
- Removes **105** tons of pollutants
- Reduces **90%** of bacteria

South Los Angeles Wetlands Park is a former industrial site and a Los Angeles County Metropolitan Transportation Authority brownfield that previously housed a bus and rail yard. The project site is located between 54rd Street and 55th Street and is bordered by Avalon Boulevard and San Pedro Street. Over the years, the vacant lot was frequently used as an illegal dumping ground and was littered with trash, metals and barbed wire that blighted the community and polluted urban runoff, contaminating the local watershed and receiving waters including the Los Angeles River.

PROJECT IMPACTS

The City worked in partnership with the local community to develop the South Los Angeles Wetlands Park. This multi-beneficial project combines nature and neighborhood to create a sprawling nine-acre park and urban wetland which stores and cleans stormwater runoff while giving the community a place to rest and play. New park features include trails, boardwalks, viewing platforms, an outdoor classroom, educational signage and picnic benches. The on-site treatment wetland filters trash and chemicals, such as grease and oil, from city streets. South Los Angeles Wetlands Park provides much-needed green space for the community and is a popular destination for residents and visitors alike.

SOUTH LOS ANGELES WETLANDS PARK

PROJECT GOALS

- Capture and treat urban runoff and stormwater, improving the City's water quality in South Los Angeles neighborhoods and the Los Angeles River watershed.
- Create a multi-use park and green, open space for the community.

PROJECT BENEFITS

- Creates a wetlands park that spans an entire city block, and diverts and treats storm drain flow from a 525-acre watershed area.
- Aims to remove pollutants such as trash, bacteria, metals, and nutrients, thus aiding the City in meeting strict federal and state water quality regulations.
- Installs a hydrodynamic separator to remove trash, sediments, oil and grease.
- Creates 4.5 acres of wetlands to remove nutrients, metals, bacteria, and other pollutants through vegetation uptake and other wetland processes.
- Creates a new nine-acre neighborhood park which serves as an outdoor classroom with multiple benefits including walking and cycling paths, educational signage, birdwatching and picnic areas.

PROJECT FUNDING & STATUS

A total of $9,829,374 in Proposition O funds was expended on the South Los Angeles Wetlands Park project.

Additional funding was provided by Proposition K; the State of California's Propositions 12, 40 and 50; a Brownfields grant; and the Metropolitan Transit Authority.

The South Los Angeles Wetlands Park project was completed in December 2011 and opened to the public in February 2012.

PROJECT RESULTS

Manages **929** "green" acres

Captures **895** acre-feet of water per year

Removes **628** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Capture and pre-treat stormwater runoff from the local watershed and tributary basin.
- Control flooding by diverting stormwater runoff from the storm drains to be stored in a large detention basin.
- Transform a former landfill into a natural habitat area with accessible open green space.

PROJECT BENEFITS

- Will improve the quality of urban runoff flowing from a drainage area of 929 acres in the Los Angeles River watershed.
- Will mitigate the flooding issues that have plagued this area during rain events.
- Will pump pre-treated stormwater through a series of two wetlands, which will remove pollutants utilizing filtration and settling and biological removal through natural processes.
- Will assist the City of Los Angeles in meeting stormwater quality requirements for the Sun Valley Watershed and Los Angeles River watershed.
- Will provide a natural habitat for wildlife, open green space and numerous new park amenities for the community including basketball and tennis courts, soccer fields, pedestrian trails, picnic areas, exercise stations, an amphitheater and other features.

PROJECT FUNDING & STATUS

A total of $17,800,000 in Proposition O funds have been allocated for the Rory M. Shaw Wetlands Park. Los Angeles County will provide additional funding for the project.

The Rory M. Shaw Wetlands project is currently in the Design Phase. The project will be completed in July 2021.

Named for one of its employees, the park is of special significance to the City of Los Angeles. Rory M. Shaw was a dedicated Bureau of Engineering employee who lost his life during an emergency inspection of the site during a winter storm in February 2005. Mr. Shaw is remembered with pride and great fondness by the City of Los Angeles, his former colleagues, friends and family.

RORY M. SHAW WETLANDS PARK

This site was previously the home of a 46-acre landfill in a San Fernando Valley community that regularly flooded when it rained. Stormwater runoff that flows from the upstream 929-acre drainage area contains pollutants such as motor oil, heavy metals and bacteria, contaminating the area and local watershed, including the Los Angeles River. This project focuses on creating a wetlands park as a way to capture and naturally treat polluted stormwater runoff before allowing the water to infiltrate into underground aquifers and is one of several projects identified within the Sun Valley Watershed Management Plan.

PROJECT IMPACTS

Once built, the multi-purpose park will include a treatment wetland that will serve as a natural filter for urban runoff and remove pollutants from the Los Angeles River watershed while turning a former landfill site into 46 "green" acres.

PROJECT RESULTS

- Manages **133** "green" acres
- Captures **31** acre-feet of water per year
- Removes **48** tons of pollutants
- Reduces **10%** of bacteria

HANSEN DAM WETLANDS RESTORATION

The Hansen Dam Recreational Area is a 40-acre water recreation park located in northeastern San Fernando Valley. Open year-round, the recreational area features a lake for fishing and boating as well as a smaller swim lake. The area is also home to one of the most significant riparian habitat areas in the county, providing shelter to many sensitive and significant species. As one of Los Angeles' most popular public parks and open space areas, Hansen Dam draws an estimated 1.6 million visitors each year including residents of Los Angeles and tourists with many utilizing the park's adjacent parking lots.

When it rains in the northeast San Fernando Valley, the polluted runoff from streets and parking lots adjacent to the Hansen Dam Recreation Area flows onto the site. This runoff brings trash, oil, grease, pesticides, herbicides and bacteria, to sensitive habitat, plants and wildlife, negatively impacting them. The main goal of the Hansen Dam Wetlands Restoration project is to clean the urban and stormwater runoff entering the Hansen Lake riparian wetlands, which provide habitat for the Least Bell's Vireo, a federally-protected bird species.

PROJECT IMPACTS

The Hansen Dam Wetlands Restoration project improves water quality in the Hansen Lake Basin through the construction of various stormwater best management practices (BMPs), including detention/infiltration basins and vegetated swales. One parking lot was reduced in size to direct polluted runoff into the BMPs. The project enhances wildlife habitat and improves downstream water quality and recreational benefits within the park.

PROJECT GOALS

- Improve stormwater quality in the Hansen Dam Recreational Area by treating and removing trash, oil, grease, pesticides and other pollutants from stormwater runoff.
- Create a balance between water reclamation, or recovery, and minimize the amount of water needed to support, protect and enhance the area's habitat, including plants and wildlife.

PROJECT BENEFITS

- Improves water quality by removing pollutants (e.g. trash, bacteria, oil and grease) carried by urban runoff into our lakes, streams, and the ocean.
- Assists the City of Los Angeles meet water quality requirements for the Hansen Dam Recreation Area, including the San Fernando Groundwater Basin and the Los Angeles River watershed.
- Treats polluted "first flush" flow onsite and offsite runoff from a 133-acre subwatershed area.
- Installs trash racks at the basin inlets which capture trash in urban runoff.
- Installs water quality improvement features including bioswales that provide for pre-treatment of runoff from Hansen Dam's Parking Lot #2 prior to the conveyance of the water to an infiltration basin.
- Treats 1.72 acre-feet of water annually in the north infiltration basin and treats 1.12 acre-feet of water each year in the south infiltration basin.

PROJECT FUNDING & STATUS

A total of $1,812,791 in Proposition O funds was expended on the Hansen Dam Wetlands Restoration project. Caltrans Federal Transportation Improvement Program provided additional funding for the project.

The Hansen Dam Wetlands Restoration project was completed in February 2012.

PROJECT GOALS

- Remove on-site hazardous materials and replace with clean soil.
- Improve stormwater quality before it flows into the Los Angeles River.
- Expand open space and create new park improvements including recreational and educational uses.
- Improve access and linkages to the Los Angeles River and the adjacent Downey Park.

PROJECT BENEFITS

- Will improve water quality by diverting stormwater from nearby storm drains that has a drainage area of approximately 300 acres. Stormwater is treated by best management practices (BMPs) such as hydrodynamic separators, bioswales, bioretention basins, permeable pavement, and underground storage/ infiltration galleries.
- Will help the City meet stormwater quality requirements for the Los Angeles River.
- Will provide six acres of green, open space and recreational amenities for the community.
- Will provide multi-purpose athletic fields, walking paths, adult fitness zones, children's play area, picnic area, new permeable paving parking lot, native landscaping and a public plaza.

PROJECT FUNDING & STATUS

Albion Dairy Park Land Acquisition	$14,560,000
Albion Dairy Park Demolition and Remediation	$6,956,400
Albion Riverside Park	$11,455,000
Total	$32,971,400

The EPA's Brownfields Grant Program, Proposition 84 and Proposition K provided additional funding for the three phases of the Albion Riverside Park project.

The land acquisition, demolition and remediation portions of this project were completed in 2009 and 2013 respectively. The Albion Riverside Park broke ground in May 2017 and is due to open in 2019.

ALBION DAIRY PARK LAND ACQUISITION, ALBION DAIRY PARK DEMOLITION AND REMEDIATION, ALBION RIVERSIDE PARK

A six-acre parcel of land adjacent to the Los Angeles River and Downey Park in the community of Lincoln Heights was home to the Swiss Dairy Company for many years. As the former site of the dairy's warehouse and related operations, the land was significantly contaminated and contributed to polluted urban runoff. Additionally, several old buildings and other facilities were in disrepair. However, because of its location, the site plays an integral role in connecting the Lincoln Heights community with the Los Angeles River. Proposition O funds were utilized for all three phases of the Albion Riverside Park including the acquisition of this site; the demolition of the buildings of the former Swiss Dairy Company site and remediation of all hazardous materials and soils on site; importation of clean soil in preparation for the creation of Albion Riverside Park; and the installation of a series of stormwater best management practices within the proposed Albion Riverside Park.

PROJECT IMPACTS

Once complete, Albion Riverside Park will be an important dual-purpose facility that improves stormwater quality while providing much needed park space and recreational areas for the residents of Lincoln Heights. The new park will include a community center, walking paths, picnic areas and will provide a vital link to the Los Angeles River.

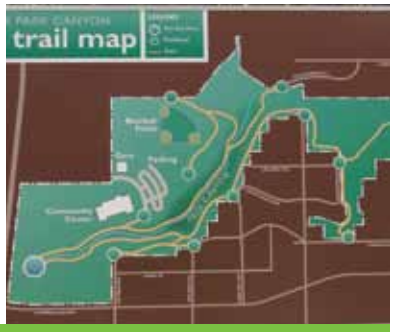
PROJECT RESULTS

Manages **300** "green" acres

Captures **110** acre-feet of water per year

Removes **18** tons of pollutants

Reduces **100%** of bacteria



PECK PARK CANYON ENHANCEMENT

Peck Park Canyon includes approximately 30 acres of undeveloped land within the larger Peck Park in San Pedro. Both the park and the extensive trail system through Peck Park Canyon, which is also known as Mira Flores Canyon, have always been an important part of the San Pedro community. Decades ago goats and cattle grazed on the property, which is near a former dairy farm. Over the years, the area has been neglected and became overgrown with weeds. Water from local storm drains flows into the canyon carrying untreated runoff from nearly 100 acres that border the park. As part of the Dominguez Channel watershed, the water flowing in the Peck Park Canyon stream ultimately flows into San Pedro Bay. This project focuses on the installation of best management practices to improve water quality in the Dominguez watershed and San Pedro Bay.

PROJECT IMPACTS

Through the Peck Park Canyon restoration project, an improved and healthier environment for the community has been achieved by cleaning the stormwater runoff that flows through the canyon and into the San Pedro Bay. In addition, native plants and vegetation have replaced the weeds that had overgrown the site, and new and improved hiking trails and park improvements have been added.

PROJECT RESULTS

Manages **222** "green" acres

Captures **15** acre-feet of water per year

Removes **15** tons of pollutants

Reduces **90%** of bacteria

PROJECT GOALS

- Improve the quality of the stormwater that enters and leaves the canyon by cleaning and maintaining the stream that starts at the Palos Verdes Peninsula and travels underground to drain into the San Pedro Bay and Los Angeles Harbor.
- Provide additional improvements to the park including trail repair and expanded access to the trails to assist hikers and other visitors to the area.

PROJECT BENEFITS

- Improves water quality by reducing the velocity of the stream, thus reducing erosion and sedimentation; removing sediments metals, bacteria, nutrients and organics; and capturing trash and debris, helping the City meet strict stormwater requirements.
- Installs a multi-pronged treatment train including upland stormwater treatment best management practices, in-stream stabilization and trash capture devices to address water quality impairment issues.
- Improves Peck Park by restoring and widening existing trails, developing new trails and adding pedestrian bridges to provide access over the stream and extend the trails.
- Provides increased and enhanced access to three miles of hiking trails through the canyon, creating more open space and a healthier environment for the community.

PROJECT FUNDING & STATUS

A total of $5,557,090 in Proposition O funds was expended on the Peck Park Canyon Enhancement project. Proposition 50 and the Recreation and Trails Grant provided additional funding for the project.

The Peck Park Canyon Enhancement project was completed in May 2011.

PROJECT RESULTS

Manages **12,500** "green" acres

Captures **25** acre-feet of water per year

Removes **560** tons of pollutants

Reduces **90%** of bacteria

PROJECT GOALS

- Divert and treat stormwater runoff from the Aliso Creek and Limekiln Creek.
- Plant new landscaping including native and woodland vegetation along the banks of both creeks and adjacent areas to filter stormwater and help reduce flooding.
- Provide improved recreational areas for the community.

PROJECT BENEFITS

- Will improve water quality by diverting/treating onsite and offsite runoff from the Aliso Creek and Limekiln Creek, which have a combined drainage area of 12,500 acres.
- Will treat polluted runoff utilizing stormwater best management practices that include low-flow channel diversions, stormwater pump stations, stormwater pre-screening devices, vegetated bio-retention basins, and open space restoration of upland and riparian habitat.
- Will reduce flooding from local runoff by increasing flood capacity.
- Will utilize stormwater treatment to clean the polluted runoff, by capturing and infiltrating it in underground aquifers.
- Will create open space, including recreational and educational amenities for the community.

PROJECT FUNDING & STATUS

A total of $10,940,089 in Proposition O funds has been allocated for the Aliso Creek - Limekiln Creek Confluence Restoration.

The Aliso Creek - Limekiln Creek Confluence Restoration is in the design phase. The project will be completed in March 2020.

ALISO CREEK - LIMEKILN CREEK CONFLUENCE RESTORATION

The Aliso Creek - Limekiln Creek Confluence Restoration project will be located at the confluence of the two creeks at Vanalden Park in the Los Angeles community of Northridge. In 2010, the Los Angeles Regional Water Quality Control Board designated the Aliso Canyon Wash as an impaired water body within the Los Angeles River watershed. Untreated urban runoff flows through the channelized Aliso Canyon Wash (Aliso Creek) and Limekiln Creek. The pollutants found in this runoff include trash, heavy metals, oil, bacteria and other toxins, which flow into the Los Angeles River.

PROJECT IMPACTS

The Aliso Creek - Limekiln Creek Confluence Restoration project will include the capture, filtering and cleaning of polluted stormwater before it enters the Los Angeles River, resulting in improved water quality and reduced flooding risk. Additionally, there will be enhanced natural space for recreational use and native wildlife, particularly birds. By integrating these amenities, the general public will have improved access to Vanalden Park and the Wilkinson Senior Multipurpose Center. This project will also help ensure that San Fernando Valley residents have safer and enhanced access to open, green space and a new connection to the Los Angeles River.

TAYLOR YARD RIVER PARK – PARCEL G2 LAND ACQUISITION

The Taylor Yard G2 parcel is an approximately 42-acre parcel located on the east bank of the Los Angeles River, north of downtown in the Elysian Valley community of Cypress Park. It is the final remnant of the 250-acre Taylor Yard, which was owned by Union Pacific Railroad. The acquisition of this parcel of land is included in the Los Angeles River Revitalization Master Plan.

PROJECT IMPACTS

The Taylor Yard G2 parcel will connect the current Rio de Los Angeles State Park with the Bowtie parcel, another state park site, which will open up more than a mile of direct riverfront access. Because of its size and location along a soft-bottomed stretch of the Los Angeles River, G2 will help to restore riparian habitat, while also providing new public views of Elysian Park and Griffith Park.

PROJECT GOALS

- Acquire this 42-acre riverfront parcel of land.

PROJECT BENEFITS

- Create much-needed public open space in the northeastern area of Los Angeles.
- Provide extensive habitat restoration.
- Create a key access point for the local community to connect to the Los Angeles River.

PROJECT FUNDING & STATUS

A total of $12, 440,000 was allocated to acquire the G2 Taylor Yard parcel. This parcel has been acquired. The City is preparing plans for the future use of the site.

The City is preparing plans for future use of the site.

Improving Neighborhoods

PROJECT RESULTS

Manages **65** "green" acres

Captures **32** acre-feet of water per year

Removes **3.2** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Capture, treat and infiltrate polluted urban runoff from 45 acres of residential land using vegetated swales along the public right-of-way, permeable pedestrian surfaces and an underground infiltration gallery.
- Convert a paved alley into a pocket park.
- Reduce street flooding and polluted runoff to the local neighborhood, the Los Angeles River, and ultimately the Pacific Ocean.
- Improve stormwater quality in the Los Angeles River watershed.
- Promote sustainable low-impact design.

PROJECT BENEFITS

- Improves water quality by removing pollutants of concern typical of urban runoff, such as bacteria, oil and grease, gasoline, suspended sediments and heavy metals, helping the City of Los Angeles meet water quality requirements for the Los Angeles River watershed.
- Installs sustainable solutions that serve multiple benefits within the Elmer Avenue Paseo such as vegetated swales, drought tolerant plants, permeable materials, and educational signage.
- Demonstrates how rainwater can be naturally added to the local aquifer, increasing long-term water supplies.
- Enhances the community through increased green space and improved infrastructure.

PROJECT FUNDING & STATUS

A total of $752,741 in Proposition O funds was expended on the Elmer Avenue Phase II: Elmer Paseo project. The Council for Watershed Health provided additional funding for the project.

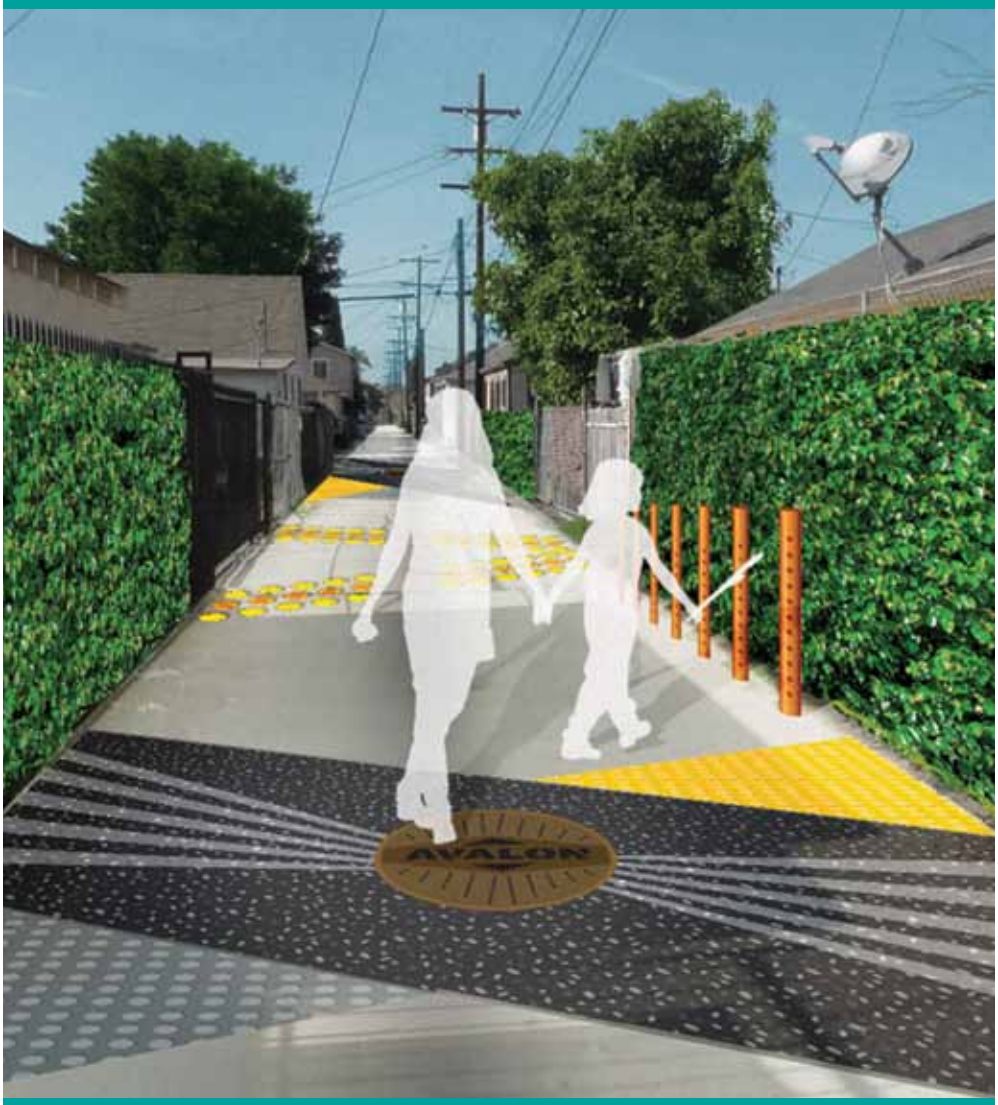
The Elmer Avenue Phase II: Elmer Paseo project was completed in November 2013.

ELMER AVENUE PHASE II: ELMER PASEO

For many years the neighborhood located on Elmer Avenue between Keswick and Stagg Streets in the San Fernando Valley was susceptible to flood conditions. In fact, stormwater from 65 acres of residential land north of the area often flowed through the community causing massive flooding, making it dangerous for residents to walk. Flood waters were so deep at times that people couldn't drive or get out of their cars. In addition, the runoff was polluted by trash, oils, toxics and other contaminants picked up from the streets and sidewalks as it flowed through the neighborhood to the Los Angeles River. As a result, this community was home to a very serious flooding and stormwater pollution problem that needed to be addressed. To mitigate the problem, the Elmer Avenue Neighborhood Retrofit project was constructed in May 2010. The Elmer Paseo project, located at the southern end of Elmer Avenue, represents the second phase of the Elmer Avenue Neighborhood Retrofit project.

PROJECT IMPACTS

The City of Los Angeles, the Elmer Avenue neighborhood and non-profit organizations found a unique solution to the flooding and pollution problem, which had serious local and regional impacts. The result was the Elmer Avenue Neighborhood Retrofit project, one of the City's model "green street" sustainability projects. Through this effort, a typical street was transformed into a green oasis with a state-of-the-art stormwater capture and treatment system that helps resupply the local groundwater basin. In addition, the community was enhanced through increased green space and enhanced awareness about water conservation practices.



AVALON GREEN ALLEY SOUTH

The Avalon Green Alley South project is located at 131 East 54th Street in a highly urbanized area of Los Angeles. The project site is bordered by 53th and 54th Streets to the north and south, and by San Pedro Boulevard and Main Street to the east and west. Los Angeles has more hundreds of miles of alleys, and the illegal dumping of discarded furniture, scattered trash and debris is a constant challenge. Alleys are also prone to flooding and often remain flooded after a rain event. Alley puddles mixed with trash and other debris pose a threat to the health and safety of residents, local neighborhoods and water quality. As one of Los Angeles' oldest neighborhoods, South Los Angeles has the greatest percentage of alleys, which is why this community was selected as the site for City's first green alley.

PROJECT IMPACTS

Through collaboration on this multi-beneficial project, the City and its partners have improved water quality and reduced flooding while reclaiming and transforming a previously neglected alley into a thoroughfare that provides a safer and healthier environment for the South Los Angeles community.

PROJECT RESULTS

Manages **5** "green" acres

Captures **3** acre-feet of water per year

Removes **0.2** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Capture and treat runoff generated in South Park neighborhood alleys to aid the City in meeting water quality regulations for the Los Angeles River.
- Replenish the local aquifer with treated stormwater.
- Convert an alley into a green alley.

PROJECT BENEFITS

- Diverts stormwater flow from a 4.44-acre drainage area and removes pollutants of concerns including trash, bacteria, metals, and nutrients, through a stormwater infiltration system including porous pavers, dry wells, underground trenches and shallow basins planted with vegetation.
- Enhances and transforms a polluted alley into a community area with green space and other amenities as part of the larger Avalon Green Alley Network.
- Assists the City of Los Angeles in meeting water quality regulations, known as Total Maximum Daily Loads or TMDLs, adopted by the Los Angeles Regional Water Quality Control Board.

PROJECT FUNDING & STATUS

A total of $1,602,642 in Proposition O funds was expended on the Avalon Green Alley South project. Proposition 84 provided additional funding for the project.

The Avalon Green Alley South project was completed in September 2016.

PROJECT RESULTS

Manages **3** "green" acres

Captures **1** acre-feet of water per year

Removes **0.2** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Reduce urban runoff along Oros Street and improve water quality by constructing a natural stormwater collection and treatment system in the street's parkway and underneath a neighborhood park located at the end of the street.
- Divert runoff to the system by directing its flow through shallow basins to clean it before it flows into the Los Angeles River.
- Improve the streetscape along Oros Street by planting native plants and trees.

PROJECT BENEFITS

- Improves water quality by capturing and infiltrating runoff from eight acres in the Elysian Valley, which assists the City in meeting water quality requirements for the Los Angeles River.
- Retrofits the parkways with "stormwater gardens", which are shallow basins planted with native grasses that capture and infiltrate runoff from individual properties.
- Captures, filters and treats polluted stormwater runoff through natural biological processes.
- Utilizes a landscaped infiltration trench built in Steelhead Park, a pocket park located at the end of Oros street, to capture and clean additional runoff from Oros Street before it flows into the Los Angeles River.
- Reduces localized flooding, enhances public safety, and provides aesthetic enhancements and the addition of green space to the streetscape.

OROS GREEN STREET

The Oros Green Street project is located on a residential street in the Elysian Valley community of Los Angeles. When it rains, urban runoff from streets and sidewalks flows through this area, carrying pollutants through the neighborhood and into the Los Angeles River. The stormwater runoff causes local flooding and degrades water quality in the Los Angeles River. This project pioneered the use of green street best management practices in Los Angeles.

PROJECT FUNDING & STATUS

A total of $198,924 in Proposition O funds was expended on the Oros Green Street project. Proposition 13 and the Clean Water Act provided additional funding.

The Oros Green Street project was completed in July 2007.

PROJECT IMPACTS

As the City's first "green street" project, the Oros Green Street project demonstrates how a typical residential street can be redesigned to capture stormwater runoff in an environmentally sustainable way. In addition to improved water quality and reduced flooding, the neighborhood is enhanced and beautified. The Oros Green Street project helps emphasize the neighborhood's connection to the Los Angeles River and is an example of a successful, collaborative partnership effort. It demonstrates how the City working with environmental organizations, neighborhood residents and other leaders come together and build projects to improve water quality and enhance a community's environment.

GRAND BOULEVARD TREE WELLS

The Grand Boulevard Tree Wells are located in the community of Venice within a high-density residential neighborhood and commercial corridor along Abbot Kinney Boulevard and Grand Boulevard. This is a highly urbanized area that has been prioritized as a "hot spot" because of the impacts of polluted stormwater and urban runoff. Runoff from the area adds bacteria, oil and grease, metals, gasoline and other pollutants to the storm drain system, contaminating the neighborhood and Santa Monica Bay.

PROJECT IMPACTS

The project included the installation of tree wells, or shallow basins, built around native trees planted along Grand Avenue. These tree wells serve as stormwater filtration systems, capturing and cleaning untreated urban runoff from the surrounding community. The runoff flows into the tree wells and gradually soaks through the soil-filter media before entering the storm drain system. In addition to improved water quality, the planted trees enhance and beautify the surrounding neighborhood.

PROJECT RESULTS

- Manages **7** "green" acres
- Captures **1.3** acre-feet of water per year
- Removes **0.3** tons of pollutants
- Reduces **49%** of bacteria

PROJECT GOALS

- Install and utilize stormwater capture and treatment systems to minimize pollutants generated from runoff.
- Collect and treat dry weather flow and some wet weather flow along Abbot Kinney Boulevard and Grand Boulevard using a system that eliminates trash, bacteria, metals and other pollutants.

PROJECT BENEFITS

- Improves water quality and reduces bacteria levels in Santa Monica Bay's surf zone by assisting in the removal of pollutants of concern.
- Includes the installation of seven stormwater bio-retention filters located at the intersection of Grand Boulevard and Riviera Avenue and along Abbot Kinney Boulevard between Rialto Avenue and Santa Clara Avenue.
- Reduces pollutants in stormwater runoff from a drainage area of 5.9 acres by allowing stormwater to flow through engineered soil-filter media for bio-filtration before it discharges into the storm drain system.
- Increases the beneficial and recreational uses of Santa Monica Bay.

PROJECT FUNDING & STATUS

A total of $578,465 in Proposition O funds was expended on the Grand Boulevard Tree Wells project. Proposition 50 also provided funds for this project.

The Grand Boulevard Tree Wells project was completed in July 2009.

PROJECT RESULTS

Manages **13** "green" acres

Captures **5** acre-feet of water per year

Removes **2** tons of pollutants

Reduces **90%** of bacteria

PROJECT GOALS

- Minimize pollutants in site runoff that drains into the storm drain system and impacts the local neighborhood and watershed.
- Alleviate flooding by improving drainage and irrigation.
- Provide the community with improved facilities at the recreation center.

PROJECT BENEFITS

- Improves water quality in the Dominguez Watershed by targeting pollutants such as bacteria, oil and grease, gasoline, nutrients, toxic organic compounds and heavy metals.
- Utilizes stormwater best management practices including bioswales, vegetated retention basins, new site landscaping, decomposed granite pathways, permeable paving in the parking lot, and catch basins to reduce, capture, and treat surface runoff from the park and adjacent streets with excess urban runoff being returned to the storm drain system.
- Increases water conservation by installing a "Smart" irrigation system that monitors moisture and helps sustain new landscaping which helps absorb and reduce runoff.
- Improves the Rosecrans Recreation Center's facilities including the replacement of an existing grass soccer field with a new synthetic turf field, which reduces the amount of water needed for irrigation, reduces pollutants from fertilizer and eliminates green waste.
- Installs recreational features such as baseball and softball fields, basketball courts, sports fields lighting, scoreboards, park fencing and picnic areas.

ROSECRANS RECREATION CENTER STORMWATER ENHANCEMENTS

The Rosecrans Recreation Center is located on West 149th Street in a residential neighborhood in the Harbor community. Urban runoff from the site causes flooding when it rains and carries trash, oil, grease, metals, gasoline and other pollutants into the storm drain system. The focus of the project is to capture, reduce and treat surface runoff from a 12.7-acre drainage area to improve water quality for the neighborhood, local Dominguez Watershed and the San Pedro Bay.

PROJECT FUNDING & STATUS

A total of $2,978,235 in Proposition O funds was expended on the Rosecrans Recreation Center Stormwater Enhancements project. Proposition K provided additional funding for the project.

The Rosecrans Recreation Center Stormwater Enhancements project was completed in October 2013.

PROJECT IMPACTS

The Rosecrans Recreation Center Stormwater Enhancements project demonstrates how restoring our local watersheds and habitat and capturing and treating stormwater runoff improve water quality, increase local water supply and improve and beautifies our neighborhoods. Improvements at the recreation center include the installation of a "Smart" irrigation system to increase water conservation; the use of bioswales to help slow stormwater runoff and capture and naturally treat the pollutants; and, the construction of new parking lots using porous pavement that allows runoff to soak into the ground instead of flowing into the storm drain system.

PROJECT RESULTS

- Manages **41** "green" acres
- Captures **11,000** acre-feet of water per year
- Removes **553** tons of pollutants
- Reduces **100%** of bacteria

CESAR CHAVEZ GROUNDWATER IMPROVEMENT

The Cesar Chavez Groundwater Improvement project is located on the 41-acre site of the former Sheldon-Arleta Landfill in the Sun Valley community of Los Angeles. When the landfill reached capacity in the 1970s, the City of Los Angeles closed the facility, covered it with soil and installed a gas collection system. Unfortunately, due to the unintended migration of methane gas from the landfill, the spreading capacity of the adjacent Tujunga Spreading Grounds has been reduced by 80% since the 1990s. Local residents also expressed concern about the potential for leaking gas to migrate into the surrounding community and the City began to look at a replacement system.

PROJECT FUNDING & STATUS

A total of $2,527,873 in Proposition O funds was expended on the Cesar Chavez Groundwater Improvement project. Los Angeles Department of Water and Power, the California Integrated Waste Management Board, Urban Development Areas Planning Grants and the City's Capital Improvement Expenditure Program provided additional funding for the project.

The Cesar Chavez Groundwater Improvement project was completed in October 2009.

PROJECT IMPACTS

This project provides multiple benefits to the City of Los Angeles and the region. The Cesar Chavez Groundwater Improvement project demonstrates how the City works in partnership with the local community, other governmental and neighborhood organizations to improve water quality, alleviate flooding and restore local water supplies while providing an improved and healthier environment for neighboring communities.

PROJECT GOALS

- Improve existing landfill gas collection system to mitigate gas migration and maximize the capacity of the nearby Tujunga Spreading Grounds, where local water supplies are replenished.
- Allow a greater volume of stormwater, which accumulates at the Big Tujunga Dam throughout the year, to be captured and infiltrated into the Tujunga Spreading Grounds for eventual use as potable water as opposed to having the runoff flow into the Los Angeles River.
- Grade and increase the depth of soil over the landfill site and establish a proper drainage system.
- Resolve issues related to the landfill gas collection system to enable the construction of the Cesar Chavez Recreational Complex, a natural park featuring open space and amenities for the community.

PROJECT BENEFITS

- Upgrades the methane gas extraction system at the former Sheldon-Arleta Landfill, which mitigates the unintended migration of gas into the Tujunga Spreading Grounds.
- Complements the Tujunga Spreading Grounds Enhancement Project, which improves the health and long-term sustainability of the San Fernando Groundwater Basin by replenishing groundwater supplies.
- Assists with the development of the Cesar Chavez Recreational Complex, a natural park within a portion of the former Sheldon-Arleta Landfill that includes pedestrian paths, a "Smart" irrigation system, seating areas and drought tolerant landscaping.

PROJECT RESULTS

Manages **270** "green" acres

Captures **55** acre-feet of water per year

Removes **16** tons of pollutants

Reduces **94%** of bacteria

MAR VISTA RECREATION CENTER STORMWATER BEST MANAGEMENT PRACTICES, PHASE I AND PHASE II

The Mar Vista Recreation Center is located on a 15-acre site at the intersection of Palms Boulevard and Sawtelle Boulevard in a high-density residential area and transportation corridor in Los Angeles. The recreation center is operated by the City's Recreation and Parks Department. Runoff from the site and the surrounding drainage area of 270 acres carries oil, grease, metals, gasoline and other pollutants into Ballona Creek. The focus of the Mar Vista Recreation Center Stormwater Best Management Practices project is to capture and treat the runoff to improve water quality in the Ballona Creek watershed and Santa Monica Bay.

PROJECT GOALS

- Minimize pollutants in the runoff that drains into the stormwater system and impacts the local neighborhood and watershed.
- Capture, store and treat runoff from the site and the nearby Sawtelle Channel during Phase I of the project.
- Install systems that will use a portion of the captured and treated stormwater runoff to irrigate the park's landscaped areas during Phase II of the project.

PROJECT BENEFITS

- Removes bacteria, trash, metals and total suspended solids and other pollutants from the urban runoff of a 244-acre Mar Vista subwatershed, and helps prevent these pollutants from reaching Ballona Creek and Santa Monica Bay, thereby assisting the City in meeting Total Maximum Daily Load (TMDL) requirements and reducing bacteria levels in Santa Monica Bay's surf zone.
- Installs a storm drain diversion structure, trash maintenance hold, stormwater lift station, hydrodynamic separator, 270,000-gallon underground detention tank, disinfection facility, overflow/return piping and pump and control systems. (Phase I)
- Installs a system to beneficially use the captured and treated runoff to irrigate Mar Vista Park. (Phase II)
- Conserves potable water previously used for park irrigation.

PROJECT FUNDING & STATUS

A total of $4,163,094 in Proposition O funds was expended on the Mar Vista Recreation Center Stormwater BMP project.

Phase I of the Mar Vista Recreation Center Stormwater BMP project was completed in November 2010. Phase II of the Mar Vista Recreation Center Stormwater BMP project is currently under construction.

PROJECT IMPACTS

The Mar Vista Recreation Center Stormwater BMP project captures and treats polluted urban runoff from the nearby Sawtelle Channel and the site itself, and uses a portion of that treated runoff to irrigate the park's landscaping.

GLENOAKS-SUNLAND STORMWATER CAPTURE

The Glenoaks-Sunland Stormwater Capture is located on Glenoaks Boulevard north of Sunland Boulevard in the San Fernando Valley. In previous years when it rained, stormwater from a tributary area to the Los Angeles River flowed along Glenoaks Boulevard causing severe flooding. The runoff carried trash, grease, oil and other toxins, polluting the neighborhood before it flowed into the Los Angeles River. This project focused on reducing local flooding problems, capturing stormwater runoff for use and infiltration and improving water quality in the Los Angeles River watershed.

PROJECT IMPACTS

The Glenoaks-Sunland Stormwater Capture Project was the first project to utilize a two-chamber system in a public right-of-way. Sand, dirt and other materials are screened in the first compartment before the water flows into the second chamber, which is open at the bottom so it can percolate into the ground. Other improvements included street and sidewalk repairs and the installation of planter boxes equipped with a system that allows runoff to soak into the soil.

PROJECT RESULTS

Manages **302** "green" acres

Captures **28** acre-feet of water per year

Removes **15** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Build shallow drains and two-chamber dry well systems along Glenoaks Boulevard to capture and treat the stormwater.
- Reduce flooding and polluted runoff in the local neighborhood and local watershed.
- Improve stormwater quality.

PROJECT BENEFITS

- Improves water quality by removing pollutants of concern typical of urban runoff, such as bacteria, oil and grease, gasoline, suspended sediments and heavy metals, helping the City meet water quality requirements for the Los Angeles River.
- Captures stormwater and urban runoff in a storm drain and diverts it into an underground system consisting of a hydrodynamic separator, settling basin, retention chamber and infiltration chamber.
- Captures and infiltrates runoff from 302 acres of tributary area into an underground infiltration gallery and stores the remaining runoff in underground retention chambers for on-site irrigation.
- Has the potential to collect, use, and/or infiltrate more than 16 million gallons of stormwater runoff per year.
- Increases the local groundwater supply and decreases Los Angeles' dependence on imported water in the future.
- Enhances the community with tree plantings and other landscaping, key components of the new stormwater capture system.

PROJECT FUNDING & STATUS

A total of $375,250 in Proposition O funds was expended on the Glenoaks-Sunland Stormwater Capture project.

The Glenoaks-Sunland Stormwater Capture project was completed in June 2014.

PROJECT RESULTS

Manages **220** "green" acres

Captures **41** acre-feet of water per year

Removes **4** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Intercept, capture and treat urban runoff from commercial and private properties to improve water quality in local neighborhoods, Compton Creek and the Los Angeles River.
- Improve and increase flood control capacity.
- Improve the streetscape to enhance and revitalize the community.

PROJECT BENEFITS

- Augments groundwater recharge, and provides additional water quality benefits including the removal of trash, oil, grease, and pesticides.
- Diverts and treats storm drain flow from a 290-acre drainage area through a system of 19 rain gardens, eight street-end dry wells, and four parkway infiltration swales.
- Beautifies and revitalizes the neighborhood.
- Assists the City of Los Angeles in meeting water quality regulations, known as Total Maximum Daily Loads (or TMDLs), for bacteria, nutrients, trash and metals.

PROJECT FUNDING & STATUS

A total of $4,468,236 in Proposition O funding was expended on the Broadway Neighborhood Stormwater Greenway. Proposition 84 provided additional funding for the project.

The Broadway Neighborhood Stormwater Greenway was completed in April 2016.

BROADWAY NEIGHBORHOOD STORMWATER GREENWAY

The Broadway Neighborhood Stormwater Greenway is located in a residential and commercial neighborhood in South Los Angeles. The project site is bordered by 36th Place and 51st Street to the north and south, and by Main Street and Broadway to the east and west. During rain events, untreated runoff carries trash, oil, grease and other pollutants through the neighborhood, causing flooding and other environmental problems for the community. This project focuses on capturing and infiltrating or treating polluted urban runoff to improve water quality in the Los Angeles River while beautifying and revitalizing a South Los Angeles neighborhood.

PROJECT IMPACTS

Through collaboration on this multi-beneficial project, the City and its partners have improved water quality, reduced neighborhood flooding and increased groundwater recharge while creating one of Los Angeles' first "green" streets, which beautifies and creates a healthier environment for South Los Angeles.

Reducing Trash and Other Pollutants

PROJECT RESULTS

100% Trash TMDL Compliance

Removes **1800** tons of pollutants

PROJECT GOALS

- Install inserts and/or opening screen covers in 36,000 catch basins to capture trash and other debris.
- Implement street sweeping and enforcement practices and policies.
- Implement public education programs regarding the importance of stormwater improvement projects and programs.

PROJECT BENEFITS

- Improves water quality by preventing trash from entering local rivers, creeks, lakes and ocean.
- Restores and preserves aquatic and marine habitat.
- Improves the visual aesthetics of local water bodies by removing trash and debris.
- Enhances receiving waters and increases the recreational uses of the Los Angeles River, Ballona Creek, local lakes, Santa Monica Bay and the Pacific Ocean.
- Assists the City of Los Angeles in meeting trash TMDL requirements for Los Angeles River and Ballona Creek.

PROJECT FUNDING & STATUS

Catch Basin Inserts and Covers:

Phase I *Completed September 2007*	$14,702,886
Phase II *Completed October 2007*	$9,630,788
Phase III *Completed July 2011*	$43,477,927
Total	$67,811,601

Catch Basin Inserts and Covers Phase IV is currently in the bid/award phase. A total of $6,160,000 has been allocated for Phase IV. Completion of Phase IV is projected for October 2020.

CATCH BASIN INSERTS AND OPENING SCREEN COVERS PHASES I, II, III AND IV

There are more than 36,000 catch basins in Los Angeles. As the openings to the region's storm drain system, catch basins play a vital role in helping control flooding during rain events. Unfortunately, they also provide an entry point for trash and debris that flow into our local waterways and, ultimately, Santa Monica and San Pedro bays. The State of California identifies urban runoff, which flows into catch basins and through the regional storm drain system, as the main source of trash in water bodies.

To address this problem and meet water quality requirements, the City of Los Angeles conducted a citywide study to identify areas that generate high, medium and low amounts of trash, using trash collection data from City-owned catch basins. Phases I and II focus on installing catch basin inserts and opening screens in the high and medium trash generation areas of the city. Phases III and IV include retrofitting catch basins with inserts and screen covers in City-owned catch basins not included in the first two phases as well as state and county-owned catch basins within Los Angeles.

PROJECT IMPACTS

The Catch Basin Inserts and Opening Screen Covers project is an essential part of the City's overall stormwater improvement strategy because retrofitting catch basins with inserts and screen covers prevents trash and debris from entering local rivers, creeks, lakes and beaches. Phase I, II and III of the Catch Basin Inserts and Opening Screen Covers project included the installation of 10,600 inserts and 36,619 opening screen covers citywide. In FY 2015-16, LA Sanitation crews removed 2,095 tons of trash and debris from catch basins, many of which had been retrofitted with inserts and screen covers.

TEMESCAL CANYON PARK STORMWATER IMPROVEMENT, PHASE I AND II

The Temescal Canyon Park Stormwater Improvement project is located at Temescal Canyon Park and along Temescal Canyon Road and Pacific Coast Highway. Runoff from the park, canyon and adjacent areas adds trash, oil and grease, metals and other pollutants to the storm drain system, contaminating the local neighborhoods, watershed and the Santa Monica Bay.

PROJECT IMPACTS

Temescal Canyon Park Stormwater Improvement project demonstrates the effectiveness of developing and enhancing the City's stormwater infrastructure system to improve water quality and the local environment. By capturing runoff and contaminants from a rainstorm's "first flush", this project helps keep Santa Monica Bay clean and healthy for beachgoers and marine life. The project includes the construction of a collection tank in a fenced-off portion of Temescal Canyon Park and a separator system that removes trash and other contaminants before the runoff enters the storm drain system. The project complements the operations of a related Proposition O project, a stormwater diversion structure at the corner of Pacific Coast Highway and Temescal Canyon Road. The combined projects minimize the amount of urban runoff that flows to the Pacific Ocean from the outfall at Will Rogers State Beach. Both projects are examples of Los Angeles' commitment to the environment and support the City's efforts to protect Santa Monica Bay.

PROJECT RESULTS

Manages **1,594** "green" acres

Captures **50** acre-feet of water per year

Removes **16** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Divert and treat runoff from an existing storm drain beneath Temescal Canyon Road before discharging it into the sanitary sewer system for further treatment at the Hyperion Water Reclamation Plant. (Phase I)
- Improve the stormwater infrastructure system by building and installing a stormwater collection tank in a fenced off portion of Temescal Canyon Park. (Phase I)
- Construct an onsite stormwater treatment/disinfection system and use treated stormwater runoff for landscape irrigation. (Phase II)
- Prevent urban runoff from flowing directly to the Santa Monica Bay.

PROJECT BENEFITS

- Improves water quality by capturing urban runoff that flows into the Temescal Canyon storm drain from 1,590 acres in Pacific Palisades.
- Diverts stormwater from the Temescal Canyon storm drain into a hydrodynamic separator and directs it into an underground detention tank reservoir where it is then pumped to the sanitary sewer system for treatment at the Hyperion Water Reclamation Plant.
- Directs dry weather flows by utilizing an upgraded low-flow diversion, which sends flows to the Temescal Canyon Pumping Plant, to the Coastal Interceptor Sewer, and ultimately to the Hyperion Water Reclamation Plant for treatment.
- Treats, disinfects and uses the captured water for irrigation at Temescal Canyon Park.
- Reduces beach closures and protects marine habitat and animal life.
- Aids in meeting water quality Total Maximum Daily Loads (TMDLs) for Santa Monica Bay.

PROJECT FUNDING

A total of $14,053,140 in Proposition O funds was expended on Phase I. A total of $4,398,565 has been allocated for Phase II.

Phase I of the Temescal Canyon Park Stormwater Improvement project is in the post construction phase. Phase II is still under construction. To be completed at the end of the year.

PROJECT RESULTS

Manages **28** "green" acres

Captures **8** acre-feet of water per year

Removes **0.5** tons of pollutants

Reduces **100%** of bacteria

PROJECT GOALS

- Improve stormwater quality by treating and removing trash, oil, grease, pesticides and other pollutants in the area.
- Transform a well-worn parking lot into a model example of the Zoo's mission of conservation and education.
- Demonstrate sustainable low-impact design elements through the use of natural stormwater treatment including native plant landscaping and other techniques.

PROJECT BENEFITS

- Improves water quality by removing pollutants such as bacteria, oil and grease, suspended sediments, and heavy metals from stormwater runoff from a 28-acre drainage area that flows into the Los Angeles River.
- Assists the City of Los Angeles in meeting water quality requirements for the Los Angeles River.
- Features Best Management Practices (BMPs) such as trash capture devices, permeable pavement, bioswales, native vegetation, and recycled water for irrigation to reduce the amount of polluted runoff that flows to the Los Angeles River.
- Re-grades the parking lot to direct surface water to the bioswales and permeable pavement for filtration and treatment before it flows through the existing storm drain that discharges to the Los Angeles River.
- Provides exhibit space where Zoo visitors can learn about environmental conservation, ecological sustainability and native planting techniques.

PROJECT FUNDING & STATUS

A total of $6,240,455 in Proposition O funds was expended on the Los Angeles Zoo Parking Lot.

The Los Angeles Zoo Parking Lot was completed in September 2011.

LOS ANGELES ZOO PARKING LOT

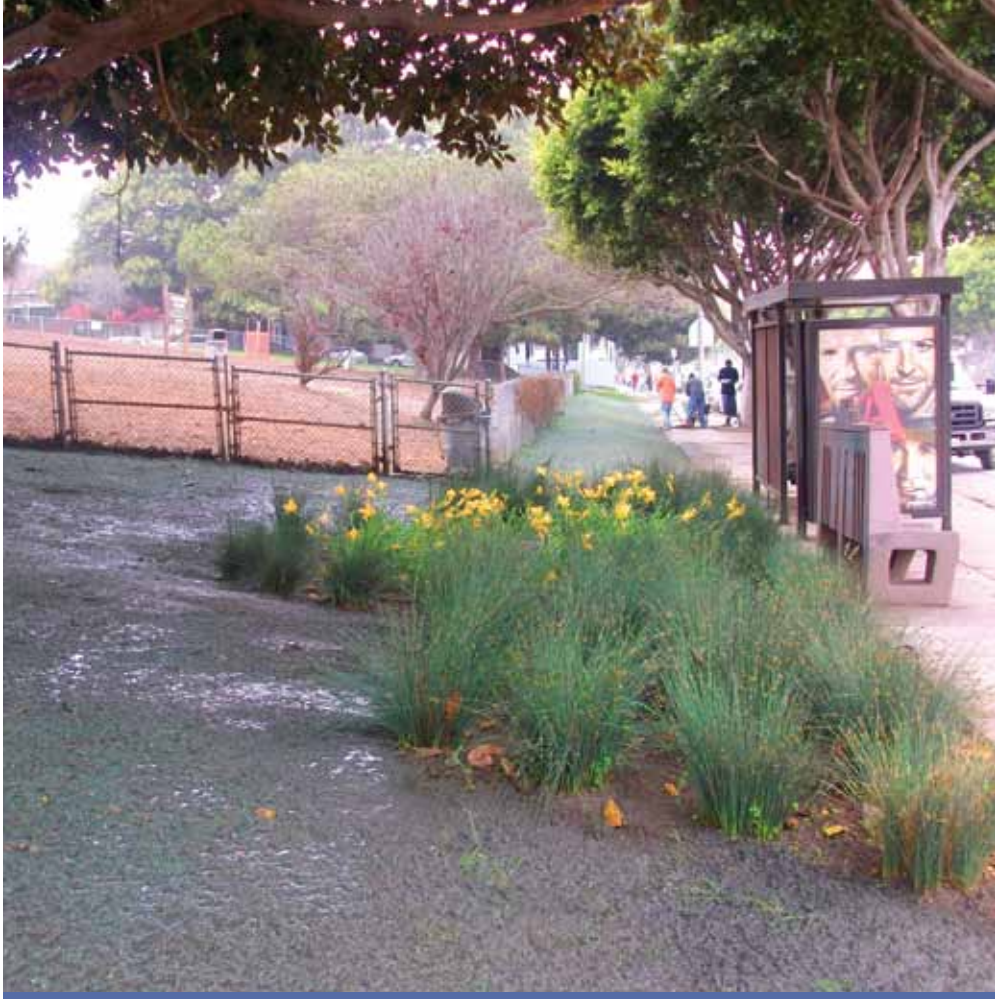
The Los Angeles Zoo and Botanical Gardens is located in Griffith Park next to the Los Angeles River near the intersection of the Golden State and Ventura freeways. The Zoo is one of Los Angeles' major educational and recreational attractions with more than 1.5 million visitors each year. This includes residents of Los Angeles as well as tourists from across the country and throughout the world, many of whom drive to the Zoo and park in any one of the facility's lots.

The Los Angeles Zoo Parking Lot project is Phase I of a two-phase reconstruction project of the 28-acre main asphalt parking lot and involved the re-construction of 10 acres of the main parking lot in front of the main entry gate. Phase II includes the reconstruction of the remaining 18 acres of the Zoo's parking lot and will be completed once a funding source has been identified.

Stormwater runoff from the LA Zoo parking lot had the potential to contribute pollutants to the Los Angeles River. When it rained, the untreated stormwater flowed off the parking lot, caused flooding and picked up trash, oil, grease and other pollutants as it flowed to the Los Angeles River.

PROJECT IMPACTS

The Los Angeles Zoo Parking Lot project utilizes permeable pavement, trash capture devices, bioswales and native vegetation and has the potential to remove 1,000 pounds of pollutants from stormwater runoff every year. It demonstrates the City of Los Angeles' commitment to remove trash and other pollutants in urban runoff before it flows into local creeks, rivers, lakes and the ocean.



WESTMINSTER DOG PARK STORMWATER BEST MANAGEMENT PRACTICES PROJECT

The Westminster Dog Park Stormwater Best Management Practices (BMP) project is located on South Main Street between Westminster Avenue and Pacific Avenue in a high-density residential neighborhood in Venice. The park is nearly 2.5 acres; a large portion is gated and serves as an off-leash dog park. When it rains, runoff polluted with bacteria flows down a park slope and discharges into Main Street, contaminating the community, local watershed and Santa Monica Bay.

PROJECT IMPACTS

The Westminster Dog Park Stormwater BMP project included the installation of a system that captures and treats polluted runoff from the park. The bioswale constructed at the Westminster Dog Park is a simple landscaping feature that slows, collects and filters stormwater. In this case, the vegetated swale works in conjunction with the modular constructed wetland to capture and treat polluted runoff before it is discharged to an existing storm drain.

PROJECT RESULTS

Manages **2** "green" acres

Captures **0.1** acre-feet of water per year

Removes **0.1** tons of pollutants

Reduces **82%** of bacteria

PROJECT GOALS

- Install and utilize stormwater capture and treatment systems at the site to minimize pollutants generated from runoff at the site.
- Collect and treat dry weather flow and some wet weather flow at and adjacent to the dog park using a system that eliminates dog feces, trash, bacteria and other pollutants.

PROJECT BENEFITS

- Improves water quality by using a vegetated swale with a shallow underdrain system and a modular constructed wetland to capture and treat dog waste and other pollutants in the park's runoff when it rains.
- Collects the infiltrated water and directs it to the constructed wetland where a bioremediation filtration process removes pollutants before the treated water is discharged to the Main Street storm drain.
- Reduces potential for human safety and health risk.
- Assists the City of Los Angeles in complying with federal mandates to reduce bacteria levels in stormwater runoff.

PROJECT FUNDING & STATUS

A total of $687,888 in Proposition O funds was expended on the Westminster Dog Park Stormwater BMP project.

The Westminster Dog Park Stormwater BMP project was completed in February 2010.

PROJECT GOALS

- Reduce pollutants in stormwater runoff at LAX and divert it to the City's nearby Hyperion Water Reclamation Plant where it will be treated and released into Santa Monica Bay.
- Divert a portion of the runoff into an underground tank at LAX where it will be treated before the water infiltrates into a local aquifer.

PROJECT BENEFITS

- Will reduce the discharge of polluted stormwater and urban runoff into Santa Monica Bay.
- Will recharge local groundwater supplies.
- Will assist the City of Los Angeles in complying with the Santa Monica Bay Beaches Wet Weather Bacteria Total Maximum Daily Load regulations, and LAWA's compliance with its Industrial General Permit and Low Impact Development requirements.
- Will remove pollutants of concerns including fecal indicator bacteria, trash, debris and metals, all of which pose a potential health risk, from stormwater and urban runoff.
- Will capture flows from three existing storm drains through the use of underground diversion structures (both inside and outside of LAX), an underground rainwater storage tank with trash removal best management practices, and underground infiltration galleries and wells with a total storage volume of 8.5 million gallons.
- Will restore and preserve marine and plant habitat in the Santa Monica Bay.
- Will reduce local beach closures.

PROJECT FUNDING & STATUS

A total of $30,122,000 in Proposition O funds has been allocated for the Argo Drain Sub-Basin Facility. Los Angeles World Airports will provide additional funding for the project.

The Argo Drain Sub-Basin Facility project is in the design phase. The project will be completed in January 2020.

ARGO DRAIN SUB-BASIN FACILITY

The Argo Drain Sub-Basin Facility is located at Los Angeles International Airport (LAX), on approximately five acres of Los Angeles World Airports (LAWA) property north of Westchester Parkway between Falmouth Avenue and Pershing Drive. Untreated runoff from LAX carries spilled fuels, oils, degreasers, metal particles and other compounds into Santa Monica Bay. The focus of the project is to capture, treat and reduce polluted runoff from approximately 2,400 acres of land adjacent to LAX. Approximately 52% of the runoff flow is generated by LAWA's properties.

PROJECT IMPACTS

The Argo Drain Sub-Basin Facility will improve water quality in the Santa Monica Bay and nearby beaches by removing fecal indicator bacteria, trash, debris and metals from stormwater and urban runoff; allowing for the natural filtration of the stormwater and urban runoff; and diverting the remaining polluted urban runoff to the Hyperion Water Reclamation Plant for treatment.

PROJECT RESULTS

Manages **2,402** "green" acres

Captures **1,200** acre-feet of water per year

Removes **113** tons of pollutants

Reduces **100%** of bacteria

Clean Water Results

The City's goal is to ensure that all its waterways and coastline beaches comply with the Federal Clean Water Act and to improve the water quality in Los Angeles by reducing storm drain pollution, which is also known as non-point source water pollution or urban runoff. Proposition O was presented to City voters in 2004 to provide some of the resources needed to achieve the following water quality goals:

- Pollutants Reduction
- Habitat/Open Space Requirements
- Water Conservation

In particular, Proposition O funds have been used to decrease water pollution from trash, bacteria, petrochemicals and heavy metals that can cause human illness and damage our aquatic environments. These pollutants and others are regulated under the Total Maximum Daily Load (TMDL) requirements for pollutants established under Federal Clean Water Act requirements, which incorporate other environmental and community benefits.

Prop O Governance

Proposition O called for the creation of two oversight committees.

The **Citizens Oversight Advisory Committee (COAC)** was created to ensure that program funds are spent as efficiently as possible for the purposes proposed to City voters in the proposition. To do this, a nine-member committee appointed by the Mayor and City Council President provides oversight for Proposition O spending. Oversight includes three main functions:

- Help select and recommend the most cost-effective projects and expenditures to the Mayor and the City Council prior to their approval of projects.
- Make recommendations on projects and expenditures to the Mayor and the City Council prior to their approval of projects.
- Monitor all aspects of the Proposition O program such as project appropriateness, budgets and schedules to ensure the most cost-effective use of public funds.

Proposition O also called for the creation of a committee of City officials known as the **Administrative Oversight Committee (AOC)** which has parallel responsibilities. The AOC is composed of the City Administrative Officer (Chair), the Chief Legislative Analyst, a representative of the Mayor's Office, a Board of Public Works Commissioner, and the General Manager of the Department of Water and Power.

The public is welcome to attend the meetings of the Proposition O Citizens Oversight Advisory Committee and the Administrative Oversight Committee.

For additional questions and comments, please contact the City of Los Angeles Stormwater program at www.LAStormwater.org or the Stormwater Hotline at (800) 974-9794.

Funding

PROPOSITION O

All available project funds from the Proposition O bond measure are allocated to the planning and implementation of water quality projects. Proposition O funds are not used for operations and/or maintenance of projects. The budget total of $542.6 million includes Proposition O funding, grant funding and other outside sources. Since its inception, Proposition O funds have been used to fund more than 40 projects. Funding for many of the Proposition O projects comes from several sources. Proposition O funding for the projects ranges from $199,000 to more than $110.5 million.

Five bond sales have occurred as of November 30, 2016 totaling $439,500,000. Total bond interest earnings as of November 30, 2016 are approximately $29.1 million. The bond sales have transpired smoothly despite some turmoil in the bond markets. The Bureau of Engineering regularly forecasts the cash flow needs of the Proposition O Program and works with the City Administrative Officer and the City's bond counsel to plan for future bond sales.

OUTSIDE FUNDING

Many projects rely on a combination of Proposition O bond proceeds and outside funding sources. Outside funding sources have included the City of Los Angeles' Proposition K, the state of California's propositions 12, 13, 40 and 50 and the federal American Recovery and Reinvestment Act, and contributions from other City departments and private foundations. Outside funding includes $64.8 million in other direct funding and $58.6 million grant reimbursements.

Source: Proposition O monthly report, December 2016.

PROJECT	BUDGET	ORIGINAL PROP O FUNDING (with set asides)	OTHER DIRECT FUNDING	POTENTIAL REIMBURSE-MENTS	SOURCE	STATUS
Land Acquisition Projects						
Taylor Yard River Park - Parcel G2 Land Acquisition	TBD	$12,400,000	TBD	TBD	TBD	TBD
Projects in Design						
Aliso Creek-Limekiln Creek Restoration	$10,940,089	$10,940,089	$ —	$ —		N/A
Argo Drain Sub-basin Facility	$ 37,122,000	$30,122,000	$ —	$ 7,000,000	LAWA	$2.79 million transferred from LAWA to Prop O
Mar Vista Recreation Center Stormwater BMP (Phase II)	$ 443,519	$ 443,519	$ —	$ —	N/A	N/A
Rory M. Shaw Wetlands Park	$22,000,000	$ 7,800,000	$14,200,000	$ —	LA Cnty Flood Control District	Secured
Projects in Bid & Award						
Albion Riverside Park	$ 17,139,355	$ 11,455,000	$ —	$ 5,000,000	Prop 84	Secured
			$684,355	$ —	Proposition K	

PROJECT	BUDGET	ORIGINAL PROP O FUNDING (with set asides)	OTHER DIRECT FUNDING	POTENTIAL REIMBURSE-MENTS	SOURCE	STATUS
Projects in Construction						
Machado Lake Ecosystem Rehabilitation	$111,886,560	$110,457,563	$ 780,000	$ —	Prop K	Funding of $780,000 paid/ completed
			$ 296,997	$ —	Coastal Conservancy	$296,997 received
			$ 352,000	$ —	Quimby	Secured
Penmar Water Quality Improvement (Phase II)	$ 5,830,200	$ 5,830,200	$ —	$ 2,112,985	Prop 84	$1,957,152 received, 10% withheld
Catch Basin Inserts & Opening Screen Covers (Phase IV)	$ 6,160,000	$ 6,160,000	$ —	$ —	N/A	N/A
Temescal Canyon Park Stormwater BMP (Phase II)	$ 4,398,565	$ 4,398,565	$ —	$ —	N/A	N/A
Projects in Post-Construction						
Albion Dairy Park - Demolition & Remediation	$ 6,956,400	$ 6,956,400	$ —	$ 500,000	Brownsfield	$500,000 reimbursed
			$ —	$ 3,000,000	Demolition escrow account	$3,000,000 received
			$ 642,761	$ —	Sprint/Swiss II lease payments	Lease payment of $642,761 received
			$ —	$ 37,569	City Clerk	Lease payment of $37,569 received
Avalon Green Alley South	$ 1,602,642	$ 1,602,642	$ —	$ 891,344	Prop 84	$802,209 received
Broadway Neighborhood Stormwater Greenway	$ 4,626,502	$ 4,626,502	$ —	$ 2,939,361	Prop 84	$2,937677 reimbursed
Santa Monica Bay Low Flow Diversion Upgrades, Pkg. 3 Ph 2	$ 14,194,469	$ 14,194,469	$ 173,981	$ 6,826,018	SCM Fund	$173,981 paid & $6,826,018 reimbursed
Temescal Canyon Park Stormwater BMP (Phase I)	$ 14,247,435	$ 14,247,435	$ —	$ —	N/A	N/A
Machado Lake-Phase I (Wilmington Drain)	$ 25,093,711	$ 25,093,711	$ —	$ 5,068,856	Prop 50-IRWMP	$4,447,921 received, approx $500k retention available soon
			$ —	$ 8,166,474	LA Cnty Flood Control District	Final Agreement Pending
			$ 10,000	$ —	Lawsuit Settlement	Direct funding of $10,000 paid and completed

Funding Continued

PROJECT	BUDGET	ORIGINAL PROP O FUNDING (with set asides)	OTHER DIRECT FUNDING	POTENTIAL REIMBURSE-MENTS	SOURCE	STATUS
Projects Completed						
Albion Dairy Park - Land Acq.	TBD	$14,560,000	$ –	$ –	N/A	N/A
Catch Basin Inserts/Coverings Ph I	$ 14,702,886	$ 14,702,886	$ –	$ 600,000	Prop 40	Grant completed
Catch Basin Screen Covers Ph II	$ 9,630,788	$ 9,630,788	$ –	$ –	N/A	N/A
Catch Basin Screen Covers Ph III	$44,500,000	$44,500,000	$ –	$ –	N/A	N/A
Cesar Chavez Ground Water Improvement	$ 9,841,230	$ 2,527,873	$ 5,250,000	$ –	DWP	Secured
			$ 750,000	$ –	CIWMB	Secured
			$ 387,230	$ –	UDAG	Secured
			$ 414,000	$ –	CIEP	Secured
Echo Park Lake Rehabilitation	$ 37,225,890	$ 36,626,015	$ 599,875	$ –	Prop K	Direct funding of $599,875 paid and completed
Elmer Avenue Phase II: Elmer Paseo	$ 1,275,000	$ 829,000	$ 446,000	$ –	Council for Watershed Health	Secured
Glenoaks/Sunland Stormwater Capture	$ 508,696	$ 508,696	$ –	$ –	N/A	N/A
Grand Blvd. Tree Wells	$ 713,039	$ 713,039	$ –	$ 350,000	Prop 50-SMBRP	Grant reimbursement of $350,000 received
Hansen Dam Wetlands Restoration	$ 2,517,702	$ 2,220,702	$297,000	$ –	Caltrans - FTIP	Secured by MRCA for Design
Imperial Highway Sunken Median Stormwater BMP	$ 1,301,724	$ 1,301,724	$ –	$ –	N/A	N/A
Inner Cabrillo Beach Bacterial Water Quality Improvement	$16,000,000	$8,000,000	$8,000,000	$ –	Port of Los Angeles	Secured
Los Angeles Zoo Parking Lot	$ 6,240,455	$ 6,240,455	$ –	$ –	N/A	N/A
Mar Vista Recreation Center Stormwater BMP	$ 4,556,186	$ 4,556,186	$ –	$ 1,777,838	American Recovery & Reinvestment Act (ARRA)	$1,777,838 received and grant completed
			$ –	$ 300,000	Prop 50-SMBRP	$300,000 received and grant completed
Oros Green Street	$ 784,251	$ 198,924	$ 586,651	$ –	Prop 13 & CWA 319th	Secured
Peck Park Canyon Enhancement	$ 7,263,283	$ 5,557,090	$ 1,586,193	$ –	Prop 50	$1,586,193 paid
			$ 120,000	$ –	Rec & Trails Grant	$120,000 in grant funding paid; grant completed
Penmar Water Quality Improvement (Phase I)	$ 17,754,800	$ 17,754,800	$ –	$ 14,925	LACDPW	$14,925.02 received and reimbursement completed
			$ –	$ 1,957,152	Dept. of Water Resources	A retention of $105,649.25 is being held
Rosecrans Recreation Center Stormwater Enhancements	$ 4,903,149	$ 2,978,235	$ 568,690	$ –	Prop K	Funding secured
			$ 1,356,224	$ –	TBD	Prop O K to find funding or down scope project

PROJECT	BUDGET	ORIGINAL PROP O FUNDING (with set asides)	OTHER DIRECT FUNDING	POTENTIAL REIMBURSE-MENTS	SOURCE	STATUS
Projects Completed						
Santa Monica Bay Low Flow Diversion Upgrades, Pkg. 1	$ 4,613,087	$ 4,613,087	$ –	$ 4,361,106	(ARRA)	ARRA funding for Pkg. 2 is bundled with Pkg. 1
			$ –	$ 767,077	Prop 50-CBI	$767,077 received and grant completed
Santa Monica Bay Low Flow Diversion Upgrades, Pkg. 2	$ 2,032,341	$ 2,032,341	$ –	$ –	(ARRA)	ARRA funding for Pkg. 2 is bundled with Pkg. 1
Santa Monica Bay Low Flow Diversion Upgrades, Pkg. 3	$ 14,079,108	$ 14,079,108	$ –	$ –	N/A	N/A
Santa Monica Bay Low Flow Diversion Upgrades, Pkg. 4	$ 3,891,062	$ 3,891,062	$ –	$ –	Prop 50-CBI	Pkg. 4 is bundled with Pkg. 1
South Los Angeles Wetlands Park (includes Site Readiness)	$ 17,901,225	$ 8,071,851	$ –	$ 3,808,583	Prop 50-IRWMP	$2,895,750 reimbursed & $508,583 anticipated
			$ 2,011,937	$ –	Prop 12 (RZH) - for Land	Direct funding of $2,011,937 paid and completed
			$ 1,282,721	$ –	Prop 40 (RZH)	Direct funding of $1,282,721 paid and completed
			$ 3,277,193	$ –	Supplemental Env. Project	Funding of $3,277,193 paid
			$ 1,000,000	$ –	Prop K - for Land Acquisition	Direct funding of $1,000,000 paid and completed
			$ 500,000	$ –	Prop K	Direct funding of $500,000 paid and completed
			$ –	$ 858,525	MTA for remediation	$858,525 received
			$ –	$ 67,501	MTA - lease payment	Lease payment of $67,501 received
			$ –	$ 199,977	EPA - Brownfields grant	$199,977 received and grant completed
Strathern Pit Multiuse - Land Acquisition	$28,000,000	$10,000,000	$18,000,000	$ –	LA Cnty Flood Control District	Secured
Westminster Dog Park Stormwater BMP	$ 687,888	$ 687,888	$ –	$ –	N/A	N/A
Westside Park Rainwater Irrigation	$ 5,746,542	$ 4,556,504	$ –	$ 2,000,000	Prop 50-SMBRP	Grant completed
			$ 900,000	$ –	Quimby	Secured
			$ 290,038	$ –	Prop K	Secured
Projects Canceled/Renamed						
La Cienega Fairfax Stormwater BMP - CANCELED	$ 668,159	$ 668,159	$ –	$ –	N/A	Project canceled
Westchester Stormwater BMP - RENAMED "ARGO"	$ 2,574,787	$ 2,574,787	$ –	$ –	N/A	N/A

Lessons Learned

PUBLIC ACCEPTANCE OF PROJECTS

Residents, community organizations, and other stakeholders have largely been supportive of the Proposition O Program and its goal of improving water quality throughout the City. Their participation in developing project concepts and designs has been mostly to ensure their interests are given fair consideration and to ensure the best possible projects are implemented. The lack of funding for public outreach and community engagement negatively impacted the Proposition O program. The lessons learned were that community acceptance (or opposition) can greatly impact a project and future bond programs should include funding for community outreach and engagement for each project.

STATE FUNDING ISSUES

Thirteen Proposition O projects have been awarded California state grant funding from Propositions 12, 13, 40, 50, and 84 for an approximate total of $29.3 million. The City receives the grant funds on a reimbursement basis. As work is completed, the City makes progress payments to its contractors, and then the City submits reimbursement requests to the State. As a result of the 2008 economic recession, the State suspended its grant program. Although it has since resumed, the suspension raised the possibility that grant funds could be lost. In that event, Proposition O would not recover the monies it front-funded and its carefully managed expenditure plan would fall out of balance. A second concern is that projects need to be constructed in accordance with grant deadlines. Thus, unanticipated project delays during design or construction have the potential to keep the City from satisfying grant requirements on time, which could result in the loss of grant funds. The lesson learned is that while the Proposition O program had success in obtaining and leveraging grant funding, more could have been done.

CONSTRUCTION COST VOLATILITY

The construction industry was volatile in early 2007 when some Proposition O projects were being finalized and processed for bid and award. The City Engineer's estimates were based on the inflation factor and existing market conditions. The recession then began to take effect in the time gap between when the final cost estimates were prepared and bids were received. To illustrate how this affected the bidding climate, bids received in March 2008 for the Grand Boulevard Tree Wells project were higher than the City Engineer's estimate by an average of 11%. But by October 2008, bids received for the Los Angeles Zoo Parking Lot project were lower than the City Engineer's estimate by an average of 34%. The lesson learned is that economic conditions and trends will impact how competitively contractors will bid to win jobs which make it difficult to determine with certainty if the Proposition O Program will be able to reap savings or be compelled to trim expenditures on projects.

CONTINGENCY FUNDS

At the start of the Proposition O program, the Citizens Oversight Advisory Committee (COAC) regularly adopted the recommended contingency budget to a project's construction budget. However, as more natural "green" systems were built, it was realized that natural "green" systems possessed greater variability as compared to more traditional "gray" infrastructure projects. The lesson learned is that additional contingency budget should be added to project budgets.

NEED FOR FUNDING FOR FUTURE MAINTENANCE AND OPERATIONS

As noted since its inception, Proposition O bond funds have only been used to fund capital improvement projects, and funding still needs to be secured for the

future operation and maintenance of these improvements. Proposition O funds have been allocated to optimize projects to ensure they are established and working as efficiently as possible to improve water quality during their initial years of operation. However, there is no funding source to sustain operation and maintenance costs over the long term. The lesson learned is that allocating 2-3% of a project's cost annually on the optimization, operations and maintenance of a project is essential to the efficacy of Proposition O projects and that the costs associated with operations and maintenance of projects need to be included in future bond programs.

QUANTITATIVE CRITERIA AND MONITORING OF PROJECTS

Quantitative criteria for project selection in future bond programs is important as is the need for quantitative monitoring of projects. If more quantitative criteria is incorporated into project selection, it would result in more measurable water quality benefits as well as assist the City of Los Angeles comply with water quality mandates. The lesson learned is that the quantitative water quality benefits of future projects need to be carefully developed and included in the original selection criteria.

ADDITIONAL FUNDING IS NEEDED

The one-time $500 million allocation by Proposition O has had a significant impact on improving Los Angeles' water quality; however, it only addresses a portion of the City's water quality challenges and did not fully solve the problem. Additional funding is necessary. The lesson learned is that in order to solve the water quality issues and federal mandates facing Los Angeles, the City of Los Angeles needs an annual allocation of, at a minimum, $150 million into perpetuity.

CITY OF LOS ANGELES' CONTROLLER'S AUDIT

In June 2016 the City of Los Angeles Controller released an audit of the Proposition O program. The following are two major points taken from that audit:

- Proposition O's bond-funded projects have, in general, gone well. Projects are taking longer than planned and several administrative processes are in need of improvement. Notwithstanding, given the complex set of community, legal, administrative and political challenges involved in designing, selecting and building innovative projects, the audit found that the City agencies with key roles - the Bureau of Sanitation, the Bureau of Engineering, and the City Administrative Office - have done a commendable job overall. Projects have been recognized with awards by engineering professional societies and environmental groups affiliated with the City.
- The City spent an unnecessary $6.8 million to finance its Proposition O projects because it sold some of its bonds prematurely - long before the City needed the cash the bond sales would provide. Although the City was given advantageous rates on the bonds, it ultimately paid for unnecessary interest on idle funds.

To review the entire 2016 audit of the Proposition O program, please visit www.lacontroller.org/audit_of_prop_o.

Proposition O
Awards & Acknowledgements

BROADWAY NEIGHBORHOOD STORMWATER

- 2016 Best Project Award - Stormwater Quality
  American Public Works Association Southern California Chapter

ECHO PARK LAKE REHABILITATION

- 2013 California Best Projects (Southern California) - Water Environment - Engineering News Record - California
- 2013 Best Project Award - Drainage, Water and Wastewater American Public Works Association - Southern California Chapter
- 2013 Outstanding Public Civil Engineering Project - (Water) over $10M - American Society of Civil Engineers - Metro Los Angeles Branch
- 2013 Outstanding Government Civil Engineering Project - American Society of Civil Engineers - Los Angeles Section
- 2013 Outstanding Parks & Recreation Project
- American Society of Civil Engineers - Region 9
- 2013 Engineering Achievement Award - California Water Environment Association - Los Angeles Basin Section
- 2013 Urban Design and Planning Award - Southern California Development Forum
- 2014 Operations and Environmental Performance Award - National Association of Clean Water Agencies
- 2014 Grand Prize for Environmental Sustainability - American Academy of Environmental Engineers and Scientists
- 2014 Project Achievement Award - Public Works Project, Construction Management Association of America - Southern California Chapter
- 2014 California Preservation Design Award - Rehabilitation Category - California Preservation Foundation
- 2014 Outstanding Sustainable Stormwater BMP Project - California Stormwater Quality Association (CASQA)
- 2014 Quality of Life Design Award - Honor Award, Recreation and Parks - American Society of Landscape Architects - Southern California Chapter
- 2014 Quality of Life Design Award - Award of Excellence - American Society of Landscape Architects - Southern California Chapter
- 2015 Outstanding Civil Engineering Achievement Award Finalist - American Society of Civil Engineers - National

ELMER AVENUE PHASE II: ELMER PASEO

- 2011 Operations and Environmental Performance Award - National Association of Clean Water Agencies
- 2014 Envision Platinum Award - Institute for Sustainable Infrastructure

MACHADO LAKE - PHASE I (WILMINGTON DRAIN)

- 2015 Outstanding Environmental Engineering Project - American Society of Civil Engineers - Metropolitan Los Angeles Branch
- 2015 APWA Best Project Award - Stormwater Quality - American Public Works Association - Southern California Chapter

RORY M. SHAW WETLANDS PARK

- 2014 Envision Platinum Award - Institute for Sustainable Infrastructure

SANTA MONICA BAY LOW FLOW DIVERSIONS UPGRADES

- 2013 Best Project Award - Stormwater Quality - American Public Works Association - Southern California Chapter

SOUTH LOS ANGELES WETLANDS PARK

- 2013 Project Achievement Award - Parks less than $10M - Construction Management Association of America - Southern California Chapter
- 2014 Envision Platinum Award - Institute for Sustainable Infrastructure
- 2014 Engineering Excellence Awards Competition National Recognition Award - American Council of Engineering Companies
- 2014 Superior Achievement Award - American Academy of Environmental Engineers and Scientists (AAEES)

TEMESCAL CANYON STORMWATER BMP - PHASE I

- 2015 Outstanding Small Project - American Society of Civil Engineers - Metropolitan Los Angeles Branch

environment LA SANITATION
CITY OF LOS ANGELES

Proposition O Partners

PROPOSITION O PARTNERS INCLUDE:

- Mayor Eric Garcetti
- Council District 1, Councilmember Gil Cedillo
- Council District 2, Councilmember Paul Krekorian
- Council District 3, Councilmember Bob Blumenfield
- Council District 4, Councilmember David E. Ryu
- Council District 5, Councilmember Paul Koretz
- Council District 6, Councilmember Nury Martinez
- Council District 7, Councilmember Monica Rodriguez
- Council District 8, Councilmember Marqueece Harris-Dawson
- Council District 9, Councilmember Curren D. Price, Jr.
- Council District 10, Councilmember Herb J. Wesson, Jr.
- Council District 11, Councilmember Mike Bonin
- Council District 12, Councilmember Mitchell Englander
- Council District 13, Councilmember Mitch O'Farrell
- Council District 14, Councilmember Jose Huizar
- Council District 15, Councilmember Joe Buscaino
- Chief Legislative Analyst
- City Administrative Officer
- City Attorney
- City Controller
- Department of Public Works, Board of Public Works
- Bureau of Engineering
- Bureau of Contract Administration
- Bureau of Street Services
- Department of Recreation and Parks
- Department of Water and Power
- Port of Los Angeles
- Los Angeles World Airports
- Alianza de Los Pueblos del Rio
- Ballona Creek Renaissance
- California Department of Water Resources
- California Greenworks
- Caltrans
- Canadian Goose Project
- City of El Segundo
- City of Santa Monica
- Coalition for Responsible Community Development
- Council for Watershed Health
- County of Los Angeles, Department of Public Works
- Friends of the Los Angeles River
- Hansen Dam Advisory Group
- Harbor City/Harbor Gateway Chamber of Commerce
- Harbor Gateway North Neighborhood Council
- Heal the Bay
- Integrated Regional Water Management Program Water Agencies
- Los Angeles and San Gabriel Rivers Watershed Council
- Los Angeles Conservation Corps
- Los Angeles Flood Control Division and Watershed Management Division
- Los Angeles Regional Water Quality Control Board
- Los Angeles Zoo and Botanical Gardens
- Mountains Recreation and Conservation Authority
- Mountains Restoration Trust
- Northeast Trees
- Northwest San Pedro Neighborhood Council
- Palos Verdes Peninsula Land Conservancy
- Paradise Baptist Church
- Rosecrans Park Neighborhood Watch
- Rosecrans Recreation Center Park Advisory Board
- San Fernando Valley Chapter of the Audubon Society
- Santa Monica Bay Restoration Commission
- South Robertson Neighborhood Council Green Team
- State Department of Fish and Wildlife
- State Water Resources Control Board
- Stormwater Resources Control Board Proposition 84
- Sun Valley Chamber of Commerce
- TreePeople
- Trust for Public Land
- Tujunga Watershed Council and Stakeholders
- United States Army Corps of Engineers
- United States Environmental Protection Agency
- Urban Semillas
- Water Replenishment District of Southern California

In addition to the above, residents and program stakeholders from communities throughout the City of Los Angeles who provided invaluable input and support to Proposition O projects.

SUMMARY OF PROJECT RESULTS

PROJECT NAME	"GREEN" ACRES MANAGED (ACRES)	CAPTURED VOLUME (AC-FT/ YEAR)	POLLUTANTS REMOVED ANNUALLY (TONS)	% REDUCTION OF BACTERIA
Albion Riverside Park	300	110	18	100
Aliso Creek – Limekiln Creek Restoration	12,500	25	560	90
Argo Drain Sub-Basin Facility	2,402	1,200	113	100
Avalon Green Alley South	5	3	0.2	100
Broadway Neighborhood Stormwater Greenway	220	41	4	100
Cesar Chavez Recreation Complex	41	11,000	553	100
Echo Park Lake	356	150	3	99
Elmer Avenue Phase II: Elmer Paseo	65	32	3.2	100
Glenoaks/Sunland Stormwater Capture	302	28	15	100
Grand Boulevard Tree Wells	7	1.3	0.3	49
Hansen Dam Wetlands	133	31	48	10
Imperial Highway Sunken Median	11	5.2	0.6	100
Inner Cabrillo Beach	71	30	N/A	100
Los Angeles Zoo Parking Lot	28	8	0.5	100
Machado Lake & Wilmington Drain	14,112	6,820	5,103	99
Mar Vista Recreation Center	270	55	16	94
Oros Green Street	3	1	0.2	100
Peck Park	222	15	15	90
Penmar Park, Phase I and II	1,468	200	81	100
Rory Shaw Wetlands Park	929	895	628	100
Rosecrans Recreation Center	13	5	2	90
Santa Monica Low Flow Diversion Upgrades: Packages 1 -4	12,660	5,290	1,681	100
South Los Angeles Wetlands Park	525	95	105	90
Taylor Yard River Park	TBD	TBD	TBD	TBD
Temescal Canyon Park, Phase I and II	1,594	50	16	100
Westminster Dog Park	2	0.1	0.1	82
Westside Rainwater Park	298	149	220	99
Catch Basin Inserts and Screens Covers, Phases I – IV	100% Trash TMDL Compliance		1,800	N/A
Total	**48,500**	**26,200**	**10,990**	**99**

Note: The information in this table includes reporting data from 2017 and earlier.

Prepared by LA Sanitation

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