



2025-26



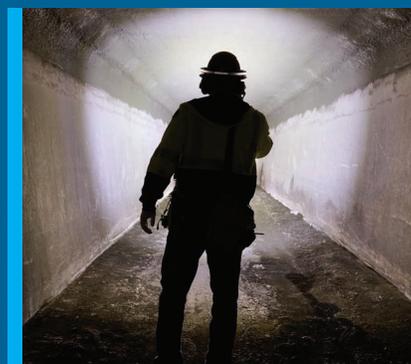
Water Infrastructure Plan

Introduction

The Los Angeles Department of Water and Power (LADWP) maintains and operates a vast Water System with about 7,341 miles of mainlines and trunk lines and 476 miles of water conveyance system along the Los Angeles Aqueduct (LAA), along with related infrastructure and storage facilities that are critical to deliver high-quality water to Los Angeles residents and businesses. The Water Infrastructure Plan (WIP) describes infrastructure accomplishments and goals that are a part of LADWP’s \$8 billion five-year Water System capital plan. All major water infrastructure components are evaluated through the ongoing Asset Management (AM) Program to systematically manage assets to achieve the lowest cost of ownership, including capital, operations, and maintenance costs. The AM Program data and analysis is continuously being improved and refined.

Infrastructure at a Glance

Distribution Mainlines (miles)	6,794
Trunk Lines (miles)	547
Large Valves	2,800+
Major Active Reservoirs	10
Smaller Reservoirs and Tanks	106
Dams	25
Treatment Facilities	39
Pump Stations	86
Pressure Regulator and Relief Stations	348
Large Meters	7,300
Small Meters	700,000
LAA Conveyance System (miles)	476
LAA Reservoirs	8
LAA Dams	10



About the Cover: LADWP crews are shown with a Continuous Miner machine, which is used for the Old Top Removal Project to grind away the concrete that once formed the cover of the covered conduit portion of the First Los Angeles Aqueduct.

Distribution Mainlines

- Approximately 6,794 miles of mainline pipe
- 20 inches or smaller in diameter

Distribution mainlines around the city of Los Angeles constitute the backbone of LADWP's water distribution system. They deliver water to individual services and convey water between distribution supply facilities. Over 30 percent of LADWP's mainlines are more than 80 years old.

Based on LADWP's analysis, about 6 percent of LADWP's water distribution mainlines are classified as a high priority for replacement. The factors for prioritizing mainline replacement include:

- Leak history (quantity and density of leaks, type of leaks, time between leaks)
- Age of pipe (design and construction method used at time of installation)
- Soil conditions (corrosiveness, hillside, landslide, fault line, and liquefaction potential)
- Risk of service interruption and community disruptions
- Coordination with planned projects by StreetsLA
- Other Water System improvement projects

2024-25 Achievements

- Installed approximately 240,800 feet of mainline pipe (FY 24-25 Goal: 240,000 feet)
- Installed approximately 11,500 feet of earthquake-resilient pipe in FY 24-25 (FY 24-25 Goal: 17,600 feet)
- Achieved a 36% percent lower average leak rate (16.1 leaks per 100 miles) than the national industry average of 25 leaks per 100 miles in FY 24-25 (Water Research Foundation, 2017)

2025-26 Goal

- Replace 240,000 feet of mainline pipe

Long-Term Goals

- Continue to replace 240,000 feet of mainline pipe each fiscal year to maintain a 150-year replacement cycle
- Reduce distribution life cycle costs, including capital, operations, and maintenance costs
- Continue installation of earthquake-resilient pipe and buildout of seismic-resilient pipe networks
- Replace highest priority and most critical mainline serving the Pacific Palisades area



Trunk Lines

- Approximately 547 miles of Trunk Line Pipe
- Larger than 20 inches in diameter

Trunk lines provide the transmission capacity to move large amounts of water around the city, from reservoirs and tanks to smaller distribution mainlines. Prioritization for trunk line replacement is similar to the process for mainlines, taking into account leak history, soil conditions, and pipe age, along with other factors. LADWP continues to make pipe replacements required to meet drinking water regulatory compliance and work with stakeholders to raise awareness about projects in their communities and minimize impacts due to construction.

2024-25 Achievement

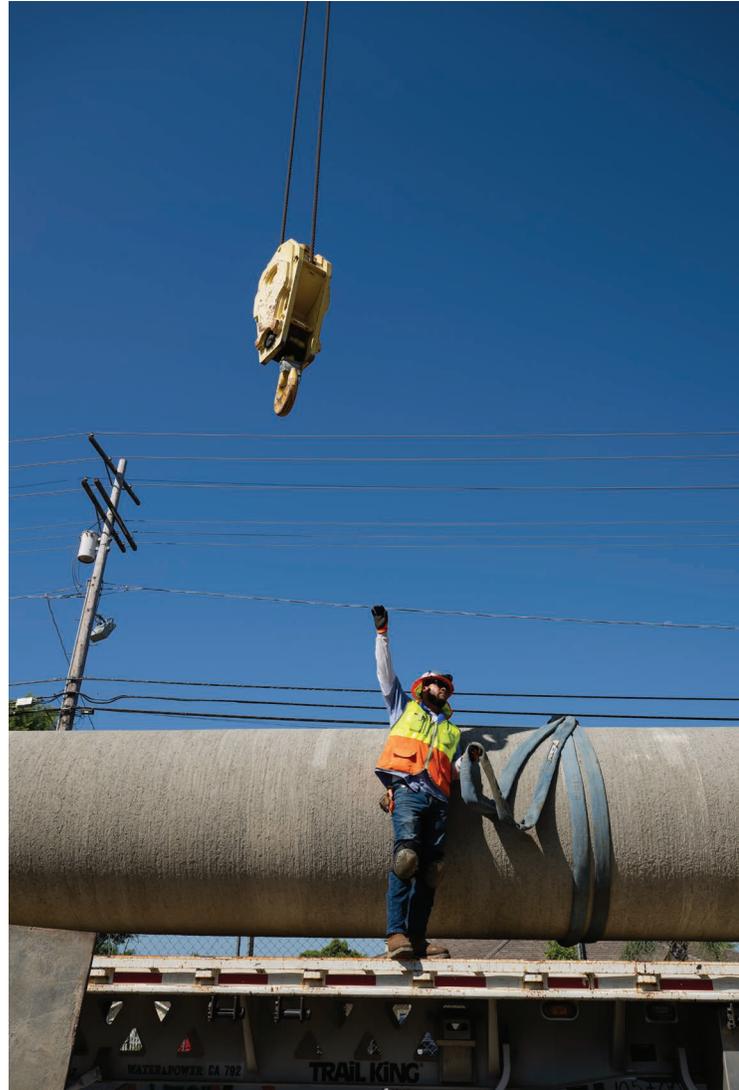
- Installed 5,266 feet of trunk line pipe (FY24-25 Goal: 5,785 feet)

2025-26 Goal

- Replace 6,047 feet of trunk line pipe

Long-Term Goals

- Accelerate design and construction to achieve 3.5 miles of trunk line replacement each fiscal year by FY 2029-30, to replace high-risk trunk lines
- Continue to advance the corrosion protection program
- Enhance trunk line resilience through the use of earthquake-resilient pipe





Large Valves

- More than 2,800 Large Valves
- 16 to 144 inches in diameter

Large valves are flow control devices that are critical for Water System operations around the city. The Department's Large Valve Replacement Program strategically prioritizes replacement of large valves based on operational needs, water shutdown, and valve availability.

2024-25 Achievement

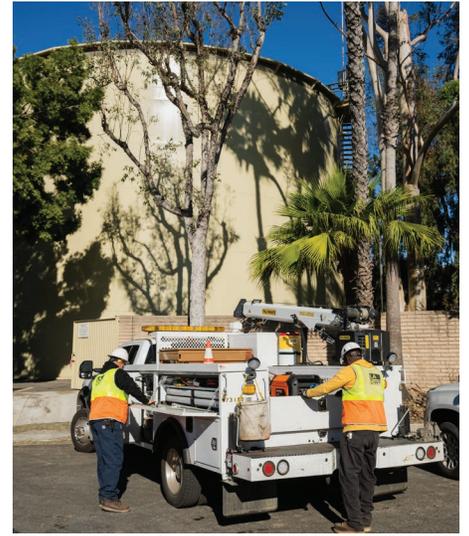
- Replaced 7 large valves (FY24-25 Goal: minimum of 5 large valves)

2025-26 Goal

- Replace minimum of 5 large valves as part of the Large Valve Replacement Program, along with additional large valve replacements under other Water System improvements

Long-Term Goals

- Continue to maintain and update a complete list of inoperable and difficult-to-operate valves
- Continue to exercise, maintain, and replace large valves to minimize valve damage and extend the valves' useful life
- Continue the installation and renewal of large valves in conjunction with trunk line construction projects
- Continue large valve vault assessments and rehabilitations



Reservoirs, Dams, and Tanks

- 10 major active Reservoirs
- 106 smaller Reservoirs and Tanks
- 25 Dams

Reservoirs, dams, and tanks around the city provide storage capacity and pressure management and create operational flexibility to balance water supplies and customer demands.

LADWP reservoirs Eagle Rock, Elysian, Lower Franklin No. 2, Green Verdugo, Santa Ynez, Upper Stone Canyon, and Lower Van Norman Bypass are protected with a floating membrane or roof; Headworks East and Headworks West are buried structures; and Los Angeles Reservoir utilizes shade balls and ultraviolet (UV) disinfection.

Additionally, the following six large reservoirs are no longer in-service but contain up to 8.5 billion gallons of non-potable water for emergency use: Encino (see above, left), Upper Hollywood, Lower Hollywood, Ivanhoe, Silver Lake, and Lower Stone Canyon. The Hollywood, Lower Stone Canyon, and Encino reservoirs were used to support aerial firefighting efforts in the January 2025 fires.

Similarly, tanks provide the needed daily and emergency supplies for the community. Steel and concrete tanks have capacity ranging from 9,000 gallons to 30 million gallons. The typical useful life is 60 years for a steel tank and 100 years for a concrete tank.

Objectives for maintaining reservoirs, dams, and tanks include:

- Preserve water quality and structural integrity
- Replace floating covers based on a 20-year useful life or earlier if needed due to deterioration and damage, or as required by the California State Water Resources Control Board (SWRCB), Division of Drinking Water
- Retrofit or replace tanks based on condition assessment of structural and mechanical elements, materials, and safety seismic stability

- Maintain dam safety surveillance on reservoirs as required by the California Department of Water Resources, Division of Safety of Dams
- Continue inspection and maintenance program for reservoirs, dams, and tanks

2024-25 Achievements

- Completed 30 percent design of the Solano Reservoir Replacement Project
- Completed repair of Santa Ynez Reservoir cover and returned reservoir to service
- Completed the aeration and recirculation systems for the Silver Lake and Ivanhoe Reservoir project and refilled the Ivanhoe reservoir

2025-26 Goals

- Complete construction of the Headworks Flow Control Station
- Complete design and start construction of the Santa Ynez Reservoir Floating Cover Replacement Project
- Complete seismic assessment of the Eagle Rock Reservoir Seismic Improvement Project
- Complete comprehensive inspection of 9 tanks and reservoirs, of which 7 will also receive an interior cleaning

Long-Term Goals

- Construct De Soto Tank in Chatsworth
- Replace Elysian Park Tank
- Refurbish Solano Reservoir in Elysian Park

Treatment Facilities

39 Treatment Facilities

Treatment facilities are necessary for achieving drinking water standards. Treatment facilities include the Los Angeles Aqueduct Filtration Plant; the Dr. Pankaj Parekh Ultraviolet Disinfection Facility; the Los Angeles Reservoir Ultraviolet Disinfection Plant; groundwater treatment facilities; and ammoniation, chlorination, and fluoridation stations.

The goal of LADWP's San Fernando Groundwater Basin Remediation Program is to fully restore the city's allocation of groundwater from the San Fernando Basin, a critical local water resource that has been limited due to historic contamination. LADWP has constructed three major facilities to limit the migration of contaminants that prevent the full beneficial use of the groundwater: North Hollywood West (NHW) Wellhead, North Hollywood Central (NHC), and Tujunga Central (TJ) Treatment Facilities.

The Los Angeles Groundwater Replenishment Project (LAGWR), a partnership between LADWP and Los Angeles Sanitation and Environment (LASAN), will provide a new local, drought-resistant, and reliable water source for Los Angeles. The project involves designing and constructing a new Advanced Water Purification Facility at LASAN's Donald C. Tillman Water Reclamation Plant in the San Fernando Valley. The new facility will produce purified recycled water that will be distributed to nearby spreading grounds and later extracted and blended with drinking water. The facility will be capable of purifying 100 percent of the available wastewater from the Tillman plant.

2024-2025 Achievements

- Completed full construction of the NHC and TJ Treatment Facilities
- Started construction of Rinaldi-Toluca (RT) Chlorination Station Improvement Project
- Placed the Cyprean Tank Chloramination Trailer in service
- Completed design and started construction of the LAGWR Project (see right, top and bottom)

2025-26 Goals

- Place NHW Wellhead Treatment Facility in service
- Receive SWRCB's Division of Drinking Water permit to place TJ Treatment Facility in service
- Place NHC Treatment Facility in service
- Complete design of the Mission Wells Chloramination

Station and the Manhattan Wells On-Site Hypochlorite Generation Project

- Receive SWRCB's Division of Drinking Water permits and place the Chloramination Trailers at Highway Highlands and Ascot Tank sites in service
- Achieve 50 percent construction completion of the LAGWR project

Long-Term Goals

- Complete construction of the 99th Street Wells Chloramination and Filtration Plant and place in service
- Complete construction of the RT, NHW, and NHC Chlorination Station Improvement Projects
- Place the Chloramination Trailers at Bairdstown, Blue Jay, Alta View Tank sites in service
- Complete construction of the LAGWR project



Pump Stations

▪ 86 Pump Stations

Pump stations pump water to customers or storage facilities at higher elevations around the city. Pump station maintenance objectives include:

- Preventing service disruptions
- Maintaining operations during construction or replacement
- Minimizing operational costs
- Reducing repair costs through appropriate preventative maintenance

2024-25 Achievement

- Replaced or rehabilitated 13 pumps and motors (FY24-25 Goal: 14 pumps and motors)

2025-26 Goal

- Replace or rehabilitate 12 pumps and motors



Pressure Regulator and Relief Stations

▪ 348 Regulator and Relief Stations

Regulator and relief stations around the city control water pressure by adjusting for changes in flow and accommodating customer peak usage. Maintenance objectives include:

- Preventing service disruptions
- Maintaining system operations during construction
- Minimizing life cycle costs

2024-25 Achievements

- Rehabilitated 1 regulator station and header (FY24-25 Goal: rehabilitate 2 regulator stations)
- Retrofitted 9 regulator and relief stations (FY24-25 Goal: retrofit 8 regulator and relief stations)

2025-26 Goals

- Rehabilitate 2 regulator stations
- Retrofit 10 regulator and relief stations





Water Meters

- 7,300 Large Meters (3 inches and larger)
- Approximately 700,000 Small Meters (2 inches and smaller)

Accurate metering is necessary to fully account for water use by all customers as well as to quantify water loss within the distribution system. Since completing the cycle for large meter replacements, LADWP has focused on replacing small meters, which constitute the vast majority of the Water System’s meter inventory.

The industry average life cycle of a small meter is 20 years, before wear and tear on its moving parts cause loss of measuring accuracy. LADWP maintains a replacement goal of 34,000 small meters per fiscal year, which equates to a 20-year replacement cycle.

2024-25 Achievement

- Replaced approximately 26,000 small meters (FY24-25 Goal: 34,000 small meters)

2025-26 Goal

- Replace 34,000 small meters

Long-Term Goals

- Achieve and maintain a replacement rate of 34,000 small meters per year
- Achieve at least 80 percent completion rate for repair or replacement of stuck or defective meters within 30 days after the service order is released by the Field Investigations Group
- Continue to research and evaluate new meter technologies



Los Angeles Aqueduct System

- 476 miles of Conveyance System*

The Los Angeles Aqueduct (LAA) conveyance system, which includes tunnels, open channels, covered conduit, and sag pipe, conveys water from the Eastern Sierra and Owens Valley to Los Angeles. LADWP's objective is to maintain operations through in-place refurbishment of the entire LAA System.

2024-25 Achievements

- Replaced the Bishop Creek Canal Headgate structure and flume
- Replaced 2.5 miles of the original top on the concrete conduit section in the Freeman Division
- Completed replacement of three large diversion structures damaged in the 2023 storms in Independence
- Completed refurbishment of two Aqueduct & Reservoir Keeper houses
- Completed Long Valley Dam stem and gate operator replacement

2025-26 Goals

- Install new Long Valley Dam gate house
- Complete solar canopy installation project at the Bishop Administration Office
- Complete repairs and modifications to diversion structure on Bishop Creek
- Complete installation of fiber optic cable along the LAA, Tinemaha Dam, and Long Valley Dam

- Complete repair of Black Rock Siphon in Independence
- Complete repair of Terminal Hill Road damaged in 2023 storms
- Complete installation of monitoring equipment on Jawbone Siphon and initiate hydraulic study
- Replace 2.0 miles of the original top on the concrete conduit section in the Freeman Division
- Complete planning of a new intertie connection to the State Water Project for improved resiliency of the supply system

Long-Term Goals

- Complete the exterior recoating of 5 miles of sag pipe
- Select alternatives to mitigate potential San Andreas Fault rupture at the Elizabeth Tunnel
- Re-drill and replace groundwater wells in the Owens Valley, averaging two per year
- Complete construction of Bishop Bypass Intake Structure Replacement
- Develop program to repair or replace sag pipe support structures including identifying new technologies and methods to perform work
- Initiate program to replace more than 50 miles of splash wall along the LAA and stabilize the unlined section in the Independence area

*Combined total for First Los Angeles Aqueduct and Second Los Angeles Aqueduct

LAA Reservoirs and Dams

8 Reservoirs and 10 Dams

Reservoirs and dams along the LAA provide storage capacity and pressure management, and create operational flexibility to balance water supplies. LADWP evaluates and maintains the integrity of the LAA's dam structures by conducting site-specific stability studies. The Department also maintains a reservoir surveillance program, as required by the California Department of Water Resources, Division of Safety of Dams.

2024-25 Achievements

- Completed installation of new power poles and electrical supply upgrade as part of the Long Valley Dam Emergency Tunnel Stem and Operator Project
- Began installation of new gate stem and operator at Long Valley Emergency Outlet Tunnel (see below, left), with commissioning scheduled for end of September 2025
- Rebuilt hydraulic operating system for guard gate and began replacement of bypass valve on Long Valley Shaft House to facilitate operations and emergency response

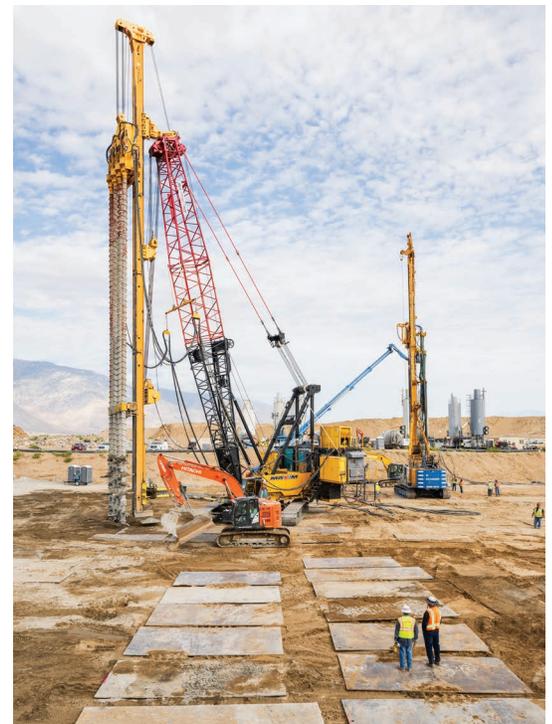
2025-26 Goals

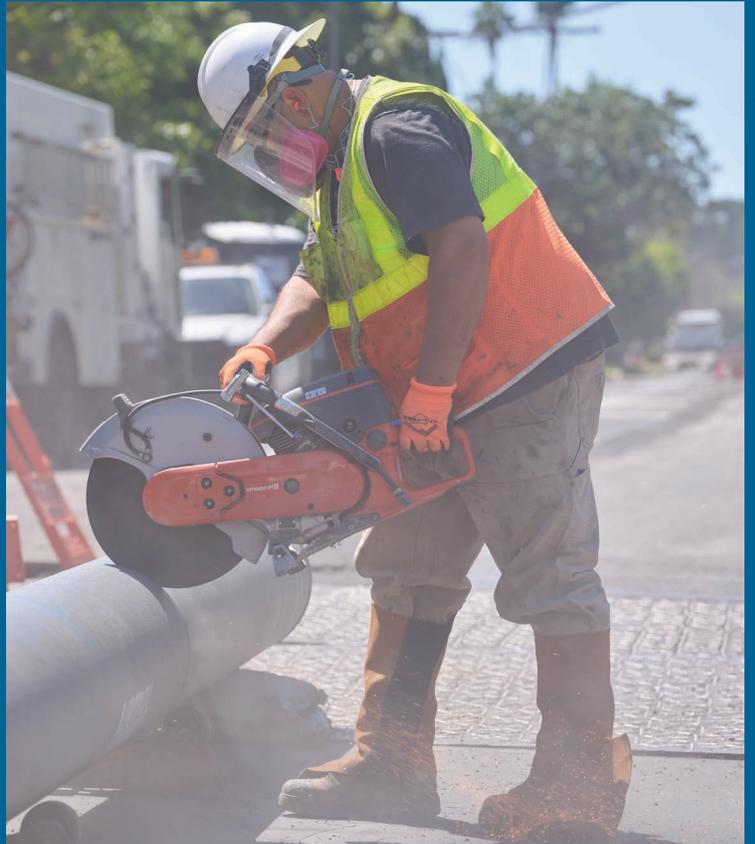
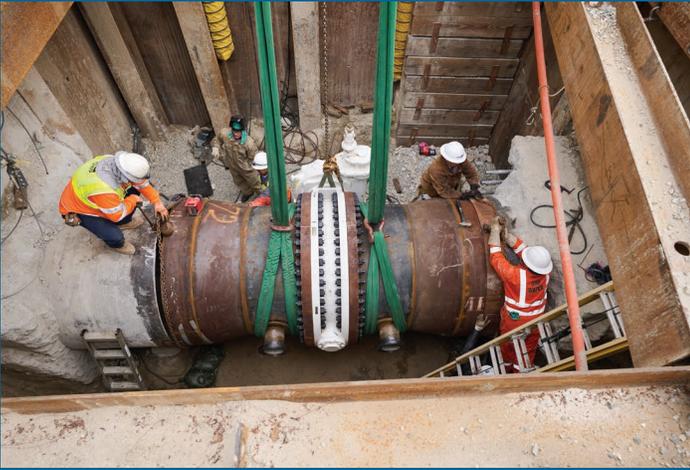
- Repair leak at Fairmont Reservoir No. 2
- Complete inspection of Merritt Cutt Tunnel and Haiwee Bypass Channel

- Complete repair to the Spunky Flume at Bouquet Reservoir
- Replace 30-inch blowoff valves at South Haiwee Reservoir
- Complete feasibility studies for the Bouquet Canyon Reservoir Auxiliary Spillway Upgrade/Replacement Project
- Complete 90 percent design of spillway and new siphons for Grant Lake Reservoir
- Complete 45 percent of the design and begin groundbreaking of the Fairmont Sedimentation Plant

Long-Term Goals

- Complete construction of the North Haiwee Dam No. 2 (see below, right)
- Complete design and construction of the Fairmont Sedimentation Plant
- Design and construct a new auxiliary spillway at Bouquet Canyon Reservoir
- Complete modification of spillway, installation of siphons, and replacement of outlet valve at Grant Lake





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