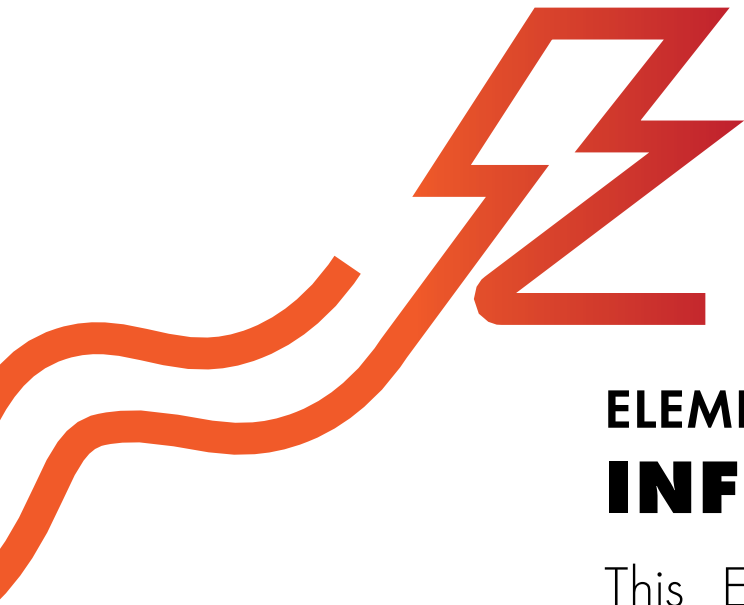




# PICTURE OUR COMMUNITY



## **ELEMENT 7**

# **INFRASTRUCTURE**

This Element addresses the equitable distribution and resiliency of water and energy infrastructure, including potable water, wastewater, and stormwater, electricity, and natural gas.

# INTRODUCTION

Culver City's sustainable growth, as envisioned in the General Plan Update, relies on having reliable water infrastructure, including potable water, wastewater, and stormwater, as well as energy infrastructure, including electricity and natural gas. Due to Culver City's geographic location, the City will need to coordinate with new and existing regional and county partners to provide sustainable water and energy infrastructure. Doing so will create a city resilient to climate change and connect sustainability initiatives across parcels, districts, and region. Key to this effort is ensuring that public spaces and infrastructure are distributed equitably, and that the City focuses on SB 1000 Priority Neighborhoods and their surrounding areas when implementing infrastructure investments.

## What We are Trying to Achieve

- Water users efficiently use potable water resources and additional future potable demand is met without increasing imported water supply.
- The City of Culver City applies holistic water management strategies to integrate stormwater management, water treatment, reuse, and conservation initiatives.
- Citywide low impact development (LID) and green infrastructure networks reduce the burden on existing storm drain infrastructure and promote improved water quality in receiving waterways.
- The City provides economically-justified and attainable pathways to new and expanded water conservation and reuse systems at multiple scales.
- Infrastructure has adequate capacity and is equitably distributed and maintained throughout Culver City, and the City prioritizes vulnerable, disadvantaged, low-income, and SB 1000 Priority Neighborhoods.



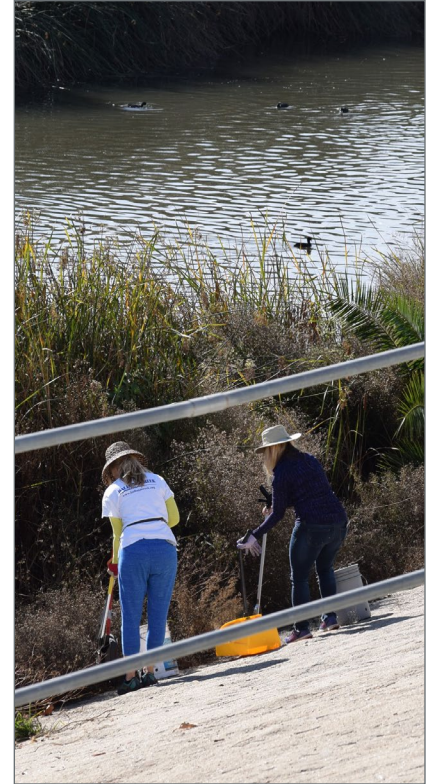
Culver Boulevard Realignment and Urban Runoff and Stormwater Project

# KEY ISSUES AND OPPORTUNITIES

This section describes existing infrastructure in Culver City and opportunities for improvement to serve future residents. The policy framework was developed based on an understanding of the existing role and status of infrastructure systems in Culver City and builds upon the strategies and plans already in place to ensure a sustainable and resilient future.



Ballona Creek



Ballona Creek cleanup

## Water

The Los Angeles Department of Water and Power (LADWP) and Golden State Water Company (GSWC) provide water service for Culver City. The two independently-operated systems are interconnected and provide the ability to share water between them if necessary. The majority of Culver City is served by GSWC and LADWP serves the western portion of the city. Mclaughlin Avenue, west of I-405, demarcates the distinction in utility service. GSWC serves the connections east of Mclaughlin Avenue, while LADWP serves the connections west of Mclaughlin Avenue. Culver City imports nearly all its potable water supply from the Colorado River Aqueduct and the State Water Project, which is a major consideration for long-term resiliency planning

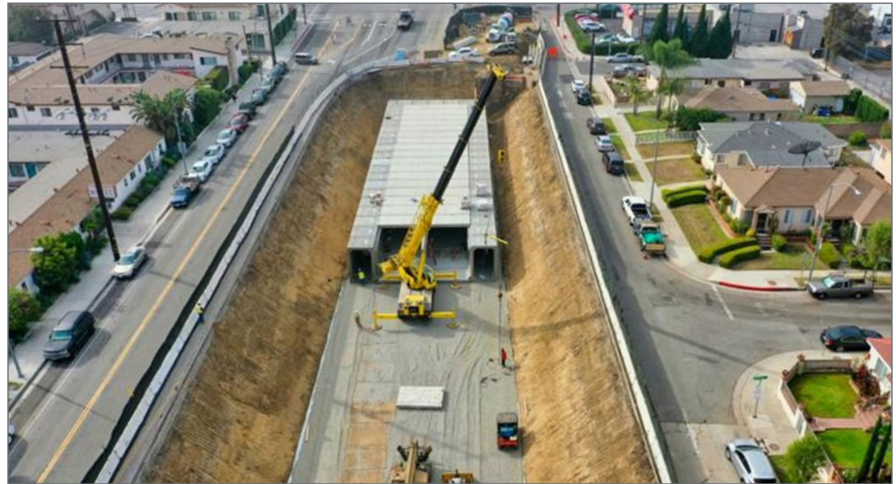
as water scarcity increases. Local groundwater is reserved for emergency conditions. Both agencies are exploring measures to diversify their water supplies, enhance storage capacities, and reduce losses.

While no operating capacity issues currently exist, the current and future reliance on imported water results in potential cost and procurement implications for serving additional demands generated by new and existing densified development. Existing voluntary and mandated water conservation measures are in effect at local, regional, and State levels, including those outlined in the 2015 Culver City Water Conservation Plan. To account for new and uncertain demand factors based on projected

population growth and available supplies, Culver City is committed to establishing alternative and innovative policies and programs to meet water demand, conserve supplies, and increase reuse. Such policies include expanding the implementation of LID and other on-site retention and infiltration measures, as well as policies that enhance and expand water conservation measures and establish mandates and incentives to limit demand to ensure a future of water sustainability.

## Wastewater

Culver City's wastewater infrastructure relies on the Hyperion Wastewater Treatment Reclamation Plant located in Playa del Rey, which is projected to have adequate capacity to continue to serve the city. Sewage is conveyed through a series of gravity mains and lift stations, and ultimately through trunk sewers to the centralized process site. All the wastewater collected at the site is either recycled or discharged into the Pacific Ocean via a 5-mile submerged outfall pipe in Santa Monica Bay. In addition to the treatment plant's energy and maintenance costs, the conveyance system also requires maintenance and energy for pumping. Future considerations include potential increased potable water demands which translates to increased wastewater treatment flows. The City abandoned the Mesmer and Overland wastewater pumping stations and constructed a new station on Bankfield Avenue to improve capacity and operations. These improvements redirected flows, lowering energy and maintenance costs. These improvements also reduced the potential for



Construction of Culver Blvd stormwater infrastructure. Source: Michael Baker Intl.

sanitary sewer overflows and provide new opportunities to repurpose the now unused facilities.

Reducing potable water use through conservation efforts and by implementing greywater or blackwater treatment and reuse systems creates opportunities to reduce potable water demands and decrease wastewater flows diverted out of the city. Expanding reuse systems at the parcel, district, and city scales align with sustainable water use strategies by

appropriately using water resources and supporting ecological and human wellness. Expanding holistic water systems reduces operational and maintenance costs while prioritizing and providing adequate reuse water for landscaping and public green spaces. While no recycled water systems currently connect to Culver City, future supply needs and regional alignment may make it possible to explore implementing recycled water networks.

## Stormwater

The city sits within two major watersheds. The Ballona Creek Watershed receives 99 percent of the city's runoff, while the Marina del Rey Watershed receives 1 percent. Within City limits, Ballona Creek is conveyed in an engineered concrete channel. While Culver City's stormwater management systems effectively and safely convey stormwater, the connection to large-scale regional stormwater infrastructure creates ongoing water quality challenges.

The City is working on various stormwater infrastructure improvement efforts, including aligning the Ballona Creek Enhanced Watershed Management Program (BCEWMP) to its own stormwater ordinance,

implementing Culver City's Clean Water measure (Measure CW), the County's Safe Clean Water Program (Measure W), and other funding resources, and executing the City's Stormwater Quality Master Plan (SWQMP). The SWQMP is a customized tool to guide the City's stormwater quality compliance strategy, prioritize best management practices and spending, identify potential project partners, and maximize grant funding opportunities.

Sustainable stormwater management strategies and best practices can enhance water quality while providing multi-benefit and ecological amenities. Tradeoffs may exist between promoting open space for stormwater management and competing

land use needs, but tradeoffs may be minimized by incentivizing flexible and adaptable strategies. Additionally, private developments at both the smaller parcel and larger district scale can augment the public infrastructure by creating and enhancing areas for stormwater capture and infiltration. While Culver City's location in a liquefaction area limits certain opportunities for infiltration, opportunities still exist to support regional groundwater recharge efforts. Green streets can align with stormwater management, pedestrian, and active transportation planning efforts, while creating ecological connectivity across the city and region.



Electric vehicle charging

## Energy: Electricity and Natural Gas

Culver City is evolving to meet rigorous electrification and emissions reductions goals, aided by the provisioning of sustainable infrastructure solutions. These systems must address current and future energy needs as the city provides for current demand and progressively evolves to meet their long-term goals. Culver City is a member of the Clean Power Alliance, which provides clean, renewable energy choices. Southern California Edison is the electric power distributor. LADWP also conveys and delivers power to parts of Culver City. Capital improvement projects have included transmission and distribution equipment replacements and upgrades, circuit reliability upgrades, and underground conversion and structure replacement.

Opportunities exist to incorporate technological advancements or route networks underground to support specific development goals. An increase in localized renewable energy, such as building-scale solar power, would further enhance

the city's electrification network. Electrical vehicle charging stations are currently available in the city, with an increase in charging station prevalence and use to further support 100 percent renewable energy supply alongside an increase in localized renewable energy systems.

Southern California Gas Company (So Cal Gas) conveys and delivers natural gas services to Culver City by using a combination of storage and pipeline facilities to serve both residential and public services. The City plans to replace all diesel-fueled and other vehicles with battery electric when available, and the City's all compressed natural gas (CNG) bus network is also transitioning to electric buses. In addition to natural gas pipelines throughout and connecting the city, additional hazardous liquid and gas pipelines are present within the city, namely for operations at the Inglewood Oil Field. Use of natural gas for residential and business uses could further be reduced due

to additional electrification systems or energy conservation measures. Safety improvements at storage facilities and within the city continue to show added benefits, especially with the potential for demand growth or fluctuations in service.

The Greenhouse Gas Reduction Element addresses emissions reductions and fossil free energy as a complement to the infrastructure energy goals included herein. The City's transition to all-electric infrastructure powered by renewable, carbon-free energy and associated energy conservation will require phased in requirements for new development and existing residences and businesses. Energy sustainability strategies span a wide array of goals, including creating active transportation networks, improving efficiency of water and wastewater treatment systems, and effectively managing electricity transmission and storage.

# POLICY FRAMEWORK

Key: Goal attributes.

● Equity & Inclusion

● Innovation & Creativity

● Sustainability

● Compassion & Community

## GOAL INF-1

**Climate change.** The City proactively responds to climate change considerations in energy and water provisioning and stormwater management.



**INF-1.1: Resilient infrastructure.** Prioritize resilient infrastructure as a key strategy for creating healthy communities that increases health, livability, mobility, opportunity, and resilience for all residents, particularly in SB 1000 Priority Neighborhoods.

**INF-1.2: Community engagement and water goals.** Expand resident and business involvement in shaping City and regional water goals.

**INF-1.3: Circular economy and infrastructure.** Promote a circular economy through resilient and strategic infrastructure advancements that focus on equity, multi-use benefits, and ecological integration.

## GOAL INF-2

**Water conservation.** Water conservation strategies are implemented and expanded citywide to meet sustainability targets and ensure future resiliency.



**INF-2.1: Water conservation.** Expand and enhance existing water conservation measures, mandates, and strategies to optimize wise use of water.

**INF-2.2: Water conservation rebate outreach.** Increase citywide outreach and residential and commercial participation in LADWP, GSWC, West Basin Water District and other water conservation rebate and incentive programs (residential program rebates, high efficiency water conservation kits, multifamily and commercial/institutional programs, Water Savings Incentive Program, Large Landscape Survey Program, etc.).

**INF-2.3: Water Conservation Plan.** Continually revisit and revise the City's Water Conservation Plan and ensure municipal and resident enforcement of the plan.

**INF-2.4: Dry weather runoff reduction.** Reduce dry weather runoff, and track baseline runoff volumes at key facilities, including the reused Mesmer Station to monitor and capture dry weather flows and to divert them for treatment at the Hyperion Wastewater Treatment Reclamation Plant

**INF-2.5: Drought-tolerant landscaping.** Provide resources and guidance for conventional lawn conversion to drought tolerant landscaping.

**INF-2.6: Water use on non-edible irrigated landscapes.** Restrict and eliminate potable water use for primarily non-edible irrigated landscapes where alternative water sources are available, including captured rainwater, greywater, and recycled water.

**INF-2.7: Information on irrigation and water treatment standards.** Create and equitably share resources that provide information on appropriate irrigation methods and water treatment standards for both productive and non-productive landscapes.

**INF-2.8: Dual plumbing.** Provide dual plumbing for all new public parks and landscape projects in anticipation of future water recycling or on-site water capture, treatment and re-use infrastructure to be used for irrigation.

**INF-2.9: Mulching and composting.** Expand mulching and composting activities on City-owned sites to promote healthy soils and retain water in irrigated landscapes.

**INF-2.10: Healthy water and soils strategies.** Integrate healthy water and soils strategies to support expansion of urban agriculture practices.

### GOAL INF-3

**Water security and groundwater recharge.** Culver City actively contributes to regional initiatives to improve security and diversify the water supply and groundwater recharge efforts.



**INF-3.1: Water sources.** Source water locally and statewide.

**INF-3.2: One Water LA 2040 Plan.** Align with Los Angeles' One Water LA 2040 plan to improve water supply resiliency.

**INF-3.3: Potable water capture.** Support California efforts to build new infrastructure that captures, stores, and increases the supply of potable water while protecting ecological and cultural systems.

**INF-3.4: Groundwater.** Maintain and increase City groundwater well levels for emergency use and diverse future water supply opportunities.

**INF-3.5: Potable water quality.** Monitor and continually improve potable water quality standards citywide, with specific emphasis placed on SB 1000 Priority Neighborhoods.

### GOAL INF-4

**Water reuse networks.** Water reuse networks are expanded and optimized throughout the city at the district and parcel scales.



For related policies and implementation actions related to green buildings, see [Greenhouse Gas Reduction Element Goal 2](#).

**INF-4.1: Greywater infrastructure.** Develop greywater infrastructure to support city, district, and parcel level treatment and reuse strategies.

**INF-4.2: Repurposing of stormwater management infrastructure.** Optimize the repurposing stormwater management infrastructure approaching the end of its service life to support city-wide stormwater management and water reuse programs in alignment with water conservation programs.

**INF-4.3: Availability of recycled water supply.** Explore opportunities to increase the availability of recycled water supply (i.e., install purple-pipe infrastructure).

**INF-4.4: Water provisioning.** Incorporate recycled and reuse water strategies in water provisioning.

**INF-4.5: Incentivize water recycling.** Encourage and incentivize water recycling techniques such as rainwater capture barrels and cisterns for outdoor watering purposes.

### GOAL INF-5

**Stormwater collection and reuse systems.** Stormwater collection and reuse systems are enhanced at the parcel, district, and city scale to improve water quality and reduce runoff.



For related policies and implementation actions related to flood hazards, see [Safety Element Goal 6](#).

**INF-5.1: Stormwater quality projects.** Implement stormwater quality projects in alignment with the prioritization set forth in the Stormwater Quality Master Plan (SWQMP), ensuring implementation in SB 1000 Priority Neighborhoods as prioritized in the SWQMP.

**INF-5.2: Water quality coordination.** Coordinate with surrounding local jurisdictions to improve water quality and minimize flooding.

- Coordinate with the jurisdictions that comprise the Ballona Creek Watershed Management Group, including Beverly Hills, Inglewood, Los Angeles,

Santa Monica, West Hollywood, Los Angeles County, the Los Angeles County Flood Control District, and the U.S. Army Corps of Engineers.

- Coordinate with the City and County of Los Angeles, the Los Angeles County Flood Control District, and the U.S. Army Corps of Engineers to develop methods to improve water quality within the Marina del Rey watershed.



**INF-5.3: Reduce impacts of development and redevelopment on water quality.** Require new development and redevelopment projects to, at a minimum, meet federal, State, regional, and local stormwater requirements around site design, stormwater treatment, stormwater infiltration, peak flow reduction, and trash capture. Reduce impacts of development and redevelopment projects on water quality, encouraging private developers to address on-site stormwater management beyond what is required by law by:

- Requiring and incentivizing new development to construct bioswales or similar features to treat runoff before it enters the storm drains or receiving waters.

- Requiring implementing Best Management Practices in parking lots to reduce pollutants in runoff and encourage pervious surfaces in new developments.

**INF-5.4: Green infrastructure strategies.** Integrate green infrastructure strategies into City-owned landscapes. For example, use drought-resistant plants, native plants, recycled water to irrigate, permeable paving, and other low-impact development features. Promote community participation and education of green infrastructure strategies through educational and case-study landscapes that demonstrate multi-benefits.

**INF-5.5: Rainwater harvesting.** Expand rainwater harvesting tracking systems for capture and reuse.

---

**GOAL INF-6**  
**Water quality. Water quality at downstream receptors and in Ballona Creek are improved.**

●  
For related policies and implementation actions connected to Ballona Creek, see [Conservation Goal 6](#), [Mobility Goal 9](#), [Parks, Recreation, and Public Facilities Goal 1](#).

**INF-6.1: Naturalized filtration.** Expand naturalized filtration before discharge into Ballona Creek by connecting green infrastructure, integrating bioswales, and expanding green infrastructure strategies.

**INF-6.2: Swales and retention areas in capital projects.** Integrate vegetated swales and retention areas into pedestrian and bicycle planning capital improvement projects.

**INF-6.3: Green streets.** Implement green streets to manage 50 percent of stormwater runoff, encouraging stakeholders (e.g. property owners) to integrate green infrastructure with capital improvements.

**INF-6.4: Water quality at contaminated sites.** Ensure water quality of stormwater is managed appropriately at contaminated sites to protect natural systems from groundwater infiltration and stormwater runoff. Appropriate measures include:

- Proactive bioremediation measures at contaminated sites.
- Collection of water over existing sumps on contaminated sites.
- Contaminated site remediation activities as community educational opportunities to showcase naturalized regeneration and bioremediation technologies where feasible and at stages in the project deemed safe to do so.

## GOAL INF-7

**Fossil fuel free energy. Electricity and natural gas infrastructure supports a carbon positive and renewable economy.**



For related policies and implementation actions connected to green building and energy use, see [Greenhouse Gas Reduction Element Goals 2 and 3](#).

**INF-7.1: Fossil fuel free energy.** Residents and businesses have affordable and easy access to carbon-free and renewable energy sources.

**INF-7.2: Local energy generation.** Enhance local energy generation and storage to safeguard the city's electrification network against shocks and stressors.

**INF-7.3: Energy and open space projects.** Align energy conversion and enhancement projects with public open space and trails provisioning.

**INF-7.4: Building electrification reach codes.** Ensure compliance with adopted Building Reach Code to mandate building electrification.

**INF-7.5: Grid upgrades.** In coordination with relevant utilities, support identification of opportunities to advance grid infrastructure upgrades where they are needed to support building and vehicle electrification.

---

## GOAL INF-8

**Equitable and inclusive infrastructure investments. Infrastructure provisioning, quality of service, impact mitigation, and multi-benefit investments prioritize SB 1000 Priority Neighborhoods.**



**INF-8.1: Infrastructure investment in SB 1000 Neighborhoods.** Proactively target infrastructure enhancements and prevent disproportionate negative impacts upon SB 1000 Priority Neighborhoods.

**INF-8.2: Infrastructure reporting and tracking.** Enhance data collection, tracking, and transparency to understand disproportionate impacts to SB 1000 Priority Neighborhoods. Monitor infrastructure investments to ensure long term implementation and success. Establish methodology and tracking to ensure that outreach and incentives sharing is equitable and identify resources to ensure mandated infrastructure enhancements do not exclude their implementation in SB 1000 Priority Neighborhoods.

**INF-8.3: Displacement for infrastructure investments.** Minimize temporary and permanent displacement of residents due to reallocation of land for infrastructure investments.

**INF-8.4: Workforce training.** Grow, diversify, and upscale local skilled and trained workforce in alignment with infrastructure advancements by incorporating educational components in infrastructure investments and connecting residents of SB 1000 Priority Neighborhoods with workforce training and pathway opportunities in alignment with the City's infrastructural investments.

# IMPLEMENTATION ACTIONS

**Key:** Types of actions may include partnership, program, study, plan, physical improvements, and more.

**Key:** Timeframe icons for implementation actions table.

●  
Short-term  
1-5 Years

● ●  
Medium-term  
5-10 Years

● ● ●  
Long-term  
10+ Years

➡➡➡➡  
Ongoing

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
<b>IA.INF-1: Water supply and Multi-Jurisdictional Hazard Mitigation Plan.</b> Identify feasible local actions for increasing water supply security and explore opportunities for alternative water supply in alignment with the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP).	INF-1	● ●	Study	Public Works	—
<b>IA.INF-2: Infrastructure and climate risk assessment.</b> Conduct a risk assessment to determine the risks associated with increased storm intensity and what changes to the storm drain system may be needed to prevent flooding or other property damage.	INF-1	● ● ●	Assessment	Public Works	—
<b>IA.INF-3: Drought response.</b> Consider implementing policies like Executive Directive 5 (ED5) and LA's Sustainable City pLAN (pLAN) drought response and water conservation measures, in addition to those from GSWC and LADWP.	INF-2	● ● ●	Program	Public Works	—
<b>IA.INF-4: Development standards for groundwater.</b> Regularly update development standards to: <ul style="list-style-type: none"> <li>• Incentivize and mandate property owners infiltrate stormwater where feasible</li> <li>• Mandate permeability of new and redeveloped hardscaping where feasible.</li> </ul>	INF-3	● ● ●	Program	Public Works	—
<b>IA.INF-5: Aquifer recharge.</b> Establish and participate in regional coordination targeting aquifer recharge and sustainable groundwater supply.	INF-3	● ● ●	Program	Public Works	—

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
<b>IA.INF-6: Greywater infrastructure outreach.</b> Enhance outreach, incentivization, and permit streamlining for greywater to irrigation systems. Establish public resources to implement greywater recycling systems in existing residential buildings.	INF-4	● ● ●	Program	Public Works	—
<b>IA.INF-7: Greywater-ready new development.</b> Consider establishing regulations to require new development to be greywater ready or include greywater treatment and reuse systems.	INF-4	● ● ●	Program	Planning and Development	—
<b>IA.INF-8: Rainwater capture system requirements.</b> Regularly update development standards and requirements to: <ul style="list-style-type: none"> <li>• Require rainwater capture systems for large-scale parcels and large-scale public storm-water management projects.</li> <li>• Require implementation and on-going monitoring of tracking systems to measure outflow of collected water used for irrigation.</li> <li>• Require sufficient filtration of collected rainwater / ensure collected rainwater is applied to landscape through subsurface drip irrigation.</li> </ul>	INF-5	▶▶▶▶▶	Program	Parks, Recreation, and Community Services	Public Works
<b>IA.INF-9: Clean Power Alliance.</b> Maintain City membership in Clean Power Alliance (CPA) and continue to work to maintain a high level of private property owner, business, and residential customer participation in CPA. Encourage investment in carbon positive technologies.	INF-7	▶▶▶▶▶	Program	Public Works	—

Implementation Action	Associated Goal(s)	Timeframe	Type of Action	Primary Responsibility	Secondary Responsibility
<b>IA.INF-10: Alternative energy study.</b> Conduct a study about alternative energy generation opportunities, including community and block-scale solar projects, façade solar paneling, and roadway/walkway installations.	INF-7	● ● ●	Study	Public Works	Planning and Development
<b>IA.INF-11: Local energy generation plan.</b> Create a phased plan to incorporate local energy generation and storage systems into supply calculations in partnership with the CPA.	INF-7	● ● ●	Program	Public Works	—
<b>IA.INF-12: SB 1000 criteria in budgeting and prioritization efforts.</b> Incorporate SB 1000 Priority Neighborhood considerations into infrastructure decision making and capital improvements.	INF-8	● ● ●	Program	Public Works	—

This page intentionally left blank.