

3.17 UTILITIES AND SERVICE SYSTEMS

This section evaluates the potential impacts to utilities and service systems associated with the adoption and implementation of the proposed Project. This section describes the regulatory framework and existing conditions; identifies criteria used to determine impact significance; provides an analysis of the potential utilities and service systems impacts; and identifies proposed General Plan 2045 goals and policies that would minimize potentially significant impacts. Impacts to hydrology (e.g., flooding) and water quality can be found in Section 3.10, *Hydrology and Water Quality*. The regulatory framework and existing conditions for electricity and natural gas facilities can be found in Section 3.6, *Energy*.

This section is based in part on the Livermore General Plan Update Existing Conditions Report prepared in March 2022 (City of Livermore 2022b). Where more recent data is available at the time of preparation of this Draft EIR, the information provided herein has been updated to reflect this.

Public services and utilities are provided in the EIR Study Area by the providers listed in Table 3.17-1, *Utility Providers*.

Table 3.17-1 Utility Providers

Utility	Agency Name
Water	California Water Service – Livermore District Livermore Municipal Water Zone 7 Water Agency
Wastewater Collection and Treatment	Livermore Public Works Department Livermore Water Reclamation Plant
Storm Drainage Infrastructure	City of Livermore, Water Resources Division Zone 7 Water Agency
Solid Waste Collection	Livermore Sanitation
Solid Waste Disposal (Landfills)	Vasco Road Landfill Altamont Landfill and Resource Recovery
Electricity	Pacific Gas & Electric (PG&E) and Ava Community Energy (Ava Energy)
Natural Gas	PG & E
Telecommunications	Comcast/Xfinity, AT&T, Dish Network, Zayo, Astound, Earthlink Fiber

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Terminology

The following terminology is used throughout this section:

- **AFY.** acre-feet per year
- **BMPs.** best management practices
- **LID.** low impact development
- **MGD.** millions of gallons per day
- **MS4.** municipal separate storm sewer system
- **NPDES.** National Pollution Discharge Elimination System
- **SWPPP.** stormwater pollution prevention plan
- **UWMP.** urban water management plan
- **WSA.** water supply assessment
- **WWTP.** wastewater treatment plant

3.17.1 Regulatory Framework

WATER

Federal

Safe Drinking Water Act

The Safe Drinking Water Act, the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The Act authorizes the United States Environmental Protection Agency (USEPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and human-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all public water systems in the United States to treat water to remove contaminants. In California, the State Water Resources Control Board (SWRCB) Division of Drinking Water regulates public drinking water systems. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

America's Water Infrastructure Act of 2018

America's Water Infrastructure Act was signed into law on October 23, 2018, and authorizes federal funding for water infrastructure projects; expands water storage capabilities; assists local communities in complying with the Safe Drinking Water Act and Clean Water Act (CWA); reduces flooding risks for rural, western, and coastal communities; and addresses significant

water infrastructure needs in tribal communities. Additionally, the Act requires that drinking water systems that serve more than 3,300 people develop or update risk assessments and emergency response plans. Risk assessments and emergency response plans must be certified by the USEPA within the deadline specified by the Act.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.) passed in California in 1969 and was amended in 2013. It is the basic water quality control law for California. Under this Act, the SWRCB has authority over state water rights and water quality policy. The Act divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional levels. RWQCBs engage in various water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. The EIR Study Area is overseen by the San Francisco Bay RWQCB (Region 2).

Sustainable Groundwater Management Act

On September 16, 2014, a three-bill legislative package was signed into law collectively known as the Sustainable Groundwater Management Act (SGMA). Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins must form groundwater sustainability agencies that oversee the preparation and implementation of groundwater sustainability plans. The purpose of these plans is to ensure that groundwater aquifers meet sustainable levels of pumping and overdraft of the groundwater basins is prevented. The EIR Study Area lie above the Livermore Valley Groundwater Basin, which is managed by the Zone 7 Water Agency as a medium-priority basin and is not considered critically overdrafted.

Senate Bills 610 And 221

Senate Bills (SB) 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions and confirm that there is an adequate water supply for new development. Specific projects are required to prepare a water supply assessment (WSA). The WSA is composed of information regarding existing and forecasted water demands as well as information pertaining to available water supplies for the new development. The following projects subject to CEQA are required to prepare a WSA:

- Residential developments consisting of more than 500 dwelling units.
- A shopping center or business establishment employing more than 1,000 people or having more than 500,000 square feet of floor space.

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- A commercial office building employing more than 1,000 people or having more than 250,000 square feet of floor space.
- A hotel or motel having more than 500 rooms.
- An industrial, manufacturing, or processing plant or industrial park with more than 1,000 employees, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.
- A project that would demand the amount of water equivalent to, or greater than, the amount of water required for a 500 dwelling-unit project.

SB 221 requires written verification that there is a sufficient water supply available for new residential subdivisions that include over 500 dwelling units. The verification must be provided before commencement of construction for the project.

SB 610 and SB 221 requirements apply to qualifying development projects and are not required for planning-level documents such as this General Plan. The bills clarify that water supply assessments and verifications are tied to project-level CEQA review and not to programmatic or long-range planning documents.

Urban Water Management Planning Act

The California Urban Water Management Planning Act and Section 10620 of the Water Code requires that every urban water supplier within California that provides over 3,000 acre-feet (AF) of water annually or serves more than 3,000 urban connections shall prepare and adopt an Urban Water Management Plan (UWMP) as well as update it every five years. The UWMP describes the service area of the water supplier, projected 20-year water supply and demand for the service area in normal years, dry years, and multiple dry years, a description of demand management measures, a water shortage contingency plan, and a discussion of the use of recycled water.

SWRCB Division of Drinking Water

The California Division of Drinking Water (DDW) regulates public water systems within California; oversees water recycling projects; permits water treatment devices; and supports and promotes water system security. The Division of Financial Assistance provides funding opportunities for drinking water system improvements; provides support for small water systems and for improving technical, managerial, and financial capacity; and certifies drinking water treatment and distribution operators. The Field Operations Branch of the Division of Drinking Water is responsible for the enforcement of the federal and California Safe Drinking Water Acts and the regulatory oversight of approximately 7,500 public water systems to ensure the delivery of safe drinking water to all Californians. In this capacity, Field Operations Branch

staff perform field inspections, issue operating permits, review plans and specifications for new facilities, take enforcement actions for noncompliance with laws and regulations, review water quality monitoring results, and support and promote water system security. All public water systems in Alameda County and the City of Livermore are under the purview of the DDW.

Water Conservation Act of 2009

The Water Conservation Act of 2009, also known as SB X7-7, requires all California water suppliers to increase their water-use efficiency. The goal of the bill was to reduce urban water usage by 20 percent by 2020. Urban water suppliers who did not meet the 20 percent by 2020 objective would be ineligible for state water grants or loans. Water suppliers must continue to calculate baseline water usage and set goals to meet specified water reductions. Compliance with the SB X7-7 requirements is reported in the UWMPs.

Mandatory Water Conservation

Following the declaration of a state of emergency on July 15, 2014, due to drought conditions, the SWRCB adopted Resolution No. 2014-0038 for emergency regulation of Statewide water conservation efforts. These regulations, which went into effect on August 1, 2014, were intended to reduce outdoor urban water use and persuade all California households to voluntarily reduce their water consumption by 20 percent. Urban water suppliers with 3,000 or more service connections were required to report monthly water consumption to the SWRCB.

In January of 2022, following the Governor's proclamation of a drought state of emergency for all counties, the SWRCB adopted the prohibited wasteful water uses emergency regulations. These include the prohibition of the following wasteful water use practices: 1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; 2) the washing of vehicles without an automatic shut-off nozzle; 3) the application of potable water to driveways and sidewalks; 4) the use of potable water in nonrecirculating ornamental fountains; and 5) the application of potable water to outdoor landscapes during and within 48 hours after at least 0.25 inch of rainfall. In June of 2022, additional emergency water conservation regulations were enacted prohibiting the irrigation of nonfunctional turf at commercial, industrial, and institutional accounts, and the implementation of conservation actions under Level 2 of urban water suppliers' WSCPs. As of June 5, 2024, the emergency regulations expired.

In October of 2023, AB 1572 was signed into law by the governor, prohibiting the irrigation of nonfunctional turf at commercial, industrial, and institutional sites (with exceptions for areas irrigated with recycled water or harvested rainwater). The irrigation prohibitions become effective in stages between 2027 and 2031, beginning with state and local government facilities. Under the law, urban water suppliers must adopt the same irrigation prohibitions into their local regulations.

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Water Conservation Legislation 2018

In 2018, the California Legislature enacted two policy bills (SB 606 and Assembly Bill [AB] 1668) to establish long-term improvements in water conservation and drought planning to adapt to climate change and longer and more intense droughts in California. The framework applies to both urban and agricultural water use. The California Department of Water Resources (DWR) and the SWRCB were tasked with establishing new water use efficiency standards for:

- Indoor residential water use
- Outdoor residential water use
- Commercial, industrial, and institutional water use for landscape irrigation with dedicated meters
- Water loss

Urban water suppliers are required to stay within annual water budgets based on their standards for their service areas, and to calculate and report their urban water use objectives in an annual water use report. The indoor residential water use standard was established with the passage of SB 1157 in 2022. As a result, the California Water Code defines a 47-gallon-per-person daily standard for indoor residential use beginning in 2025 and further decreases to 42 gallons by 2030.

The outdoor residential and commercial water use standards are established as landscape efficiency factors (LEFs) and become progressively more efficient over time, with an LEF for residential and commercial account of 0.80 until 2035, at which time it decreases to 0.63 until 2040, and then establishes a LEF for residential outdoor accounts of 0.55 and a LEF for commercial outdoor accounts of 0.45 after 2040. The water loss standard is the maximum allowable “real” water loss measured in gallons per connection per day for each water purveyor’s service area. Real losses are defined as the volume of annual leakage from the water purveyor’s distribution system.

Collectively, the water use efficiency standards and local service area characteristics (such as population and landscape area) establish the Urban Water Use Objectives (UWUOs) per urban retail water supplier that cannot be exceeded on an annual basis. Urban retail water suppliers are required to calculate and report their UWUOs alongside their actual usage in an annual report. The first reports were due to the SWRCB on January 1, 2024, and are required to be submitted every January 1 thereafter. The final proposed “Making Conservation a California Way of Life” regulation was adopted by the SWRCB on July 3, 2024, and became effective on January 1, 2025.

The legislation also includes changes to UWMP preparation requirements. These changes include additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, and establishment of annual drought risk assessment procedures and reporting.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act (AB 1881) requires cities and counties to adopt the State of California's Model Water Efficient Landscape Ordinance (MWELo) or a comparable landscape water conservation ordinance that is at least as effective as the State's MWELo in conserving water.

The MWELo was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and to build resiliency for future droughts. The 2015 revisions to the MWELo increased water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture and by limiting the portion of landscapes that can be covered in turf. Each city and county is required to submit annual reports to DWR that document how the agency is achieving compliance with the State MWELo and how many projects were subject to the ordinance during the annual reporting period.

MWELo went through a round of revisions in 2024 to reduce ambiguity and improve clarity of the requirements as well as reorganize the content to better adhere to the landscape design process. The 2024 revisions did not modify or add new requirements to MWELo.

Recycled Water Regulations

Two State agencies have primary responsibility for regulating the application and use of recycled water: the California Department of Public Health and the SWRCB. Planning and implementing water recycling projects entail numerous interactions with these regulatory agencies prior to project approval. The California Department of Public Health establishes the statewide effluent bacteriological and treatment reliability standards for recycled water uses in Title 22 of the California Code of Regulations (CCR), Division 4, *Environmental Health*. Title 22 establishes standards for each general type of use based on the potential for human contact with recycled water. The SWRCB is responsible for establishing and enforcing requirements for the application and use of recycled water within California. Permits are required from the SWRCB for water recycling operations. As part of the permit application process, applicants are required to demonstrate that the proposed recycled water operation would not exceed the ground and surface water quality objectives in the basin management plan and that the operation is compliant with Title 22 requirements.

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California Building Code: CALGreen

The California Building Standards Commission adopted the nation's first green building standards in July 2008, the California Green Building Standards Code, also known as CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California. The code establishes planning and design standards for sustainable site development, including water efficiency and water conservation measures that typically reduce water consumption by 20 percent.

CALGreen is updated every three years to allow for consideration and possible incorporation of new low flow plumbing fixtures and water efficient appliances. The mandatory provisions of CALGreen became effective January 1, 2011, and the latest version, the 2025 California Green Building Standards Code, became effective on January 1, 2026. The building efficiency standards are enforced through the local building permit process.

California Energy Code: Title 24, Part 6

Resource conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission, now the California Energy Commission, in June 1977 and most recently revised in 2025 (Title 24 CCR Part 6). Title 24 CCR Part 6 requires the design of building shells and building components to conserve energy, including that generated from water consumption. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2025 standards became effective and replaced the existing 2022 standards on January 1, 2026.

California Plumbing Code

The latest version of the California Plumbing Code was issued in 2025 and became effective on January 1, 2026. The California Plumbing Code is updated on a three-year cycle. It specifies technical standards for the design, materials, workmanship, and maintenance of plumbing systems. One of the purposes of the plumbing code is to prevent conflicting plumbing codes within local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems.

California Water Code

The California Water Code states that the water resources of the State must be put to beneficial use and that waste or unreasonable use of water should be prevented. The code is divided into several sections that include provisions regarding water quality, formation of irrigation districts and water districts, safe drinking water, and water supply and infrastructure improvements. The California Water Code also addresses water shortage emergencies, drought planning, conservation mandates, potable water reuse, appropriation of water, and water rights.

Regional

Cal Water Livermore District

Cal Water Service Company (Cal Water) Livermore District serves approximately 66 percent of the City of Livermore, mainly in the central portion of the EIR Study Area with a service area population of 59,814 in 2020 (Cal Water 2021).

2020 Urban Water Management Plan

Cal Water adopted its current 2020 UWMP in June 2021 in compliance with the Urban Water Management Planning Act, the Water Conservation Act of 2009, and Sections 10610 to 10656 of the California Water Code (Cal Water 2021). Cal Water is in the process of updating the UWMP and the 2025 UWMP is anticipated to be available by June 2026.

The Water Conservation Act of 2009, also known as SB X7-7, requires that urban water suppliers reduce per capita water use by 20 percent by 2020. As reported in the 2020 UWMP, Cal Water follows this goal with a per capita water demand of 143 gallons per capita per day (GPCD) in 2020 as compared to the target goal of 158 GPCD.

The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for normal years, single dry years, and multiple dry years. The UWMP also provides water supply contingency planning in case of shortage emergencies, demand management measures to increase water use efficiency, and current and planned water conservation efforts. The UWMP states that there will be sufficient supplies to meet existing and future demands through 2045 for all hydrologic conditions, including a five-year drought period and the impacts of climate change.

Water Shortage Contingency Plan

The Cal Water 2020 UWMP includes the WSCP as Appendix I which outlines stages of response to water shortages caused by drought or supply interruptions. The primary objective of the WSCP is to ensure that Cal Water has in place the necessary resources and management responses to protect health, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Water shortage levels range from 1 to 6, with goals to reduce water demand by 10 percent to over 50 percent, respectively. Stage 1 measures include: 1) limiting landscape irrigation to specific times, 2) prohibit the application of potable water to outdoor landscapes within 48 hours of measurable rainfall, 3) restaurants may only serve water upon request, and 4) prohibit the use of potable water for decorative water features that do not recirculate water. Stage 5, designated as an emergency shortage, requires net zero demand increase on new water service connections and prohibits single-pass cooling systems. Stage 6, which is classified as an extreme

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shortage, enacts a moratorium on new water service connections and prohibits all landscape irrigation.

Water Supply Planning Documents

Cal Water uses a series of integrated planning processes and reports to support water resource and environmental sustainability efforts and updates them on a recurring basis to adjust to changing conditions and risks and ensure that there are sufficient water supplies for their customers. Pertinent plans and studies developed by Cal Water are summarized below:

- **Climate Change Risk Assessment and Adaptation Framework.** This study consists of Phase 2, which is intended to assist in understanding climate change risk across all Cal Water's districts, and identify the top risks to individual districts. High likely risks include decreased water quality, reduced supply reliability due to wildfire and damage to assets from riverine and urban flooding and wildfires.
- **Water Supply and Demand Assessment.** This document is an annual report submitted to DWR that requires each urban water supplier to prepare an annual assessment and an annual shortage report that evaluates the near-term water supply reliability and describes actions that are taken to address potential shortages, including implementation of the Water Shortage Contingency Plan.
- **Conservation Master Plans.** These plans are also included as an appendix to the UWMP and updated on a five-year cycle. The plans summarize the mix of conservation measures that Cal Water plans to implement, including the estimated water savings, costs, and effects on water demand, as well as progress toward reaching its conservation goals.
- **Infrastructure Improvement Plans.** These plans and studies evaluate the existing infrastructure and water quality as well as the need for infrastructure improvement projects. The improvement projects are funded by tri-annual rate adjustments, as approved by the California Public Utilities Commission (CPUC).
- **Water Supply and Facilities Master Plans.** These plans are prepared for each Cal Water district every ten years and contain an assessment of existing infrastructure and long-term needs, focusing on the critical facilities of each water system, including groundwater wells, booster/pump stations, water transmission and distribution mains, storage tanks, and water treatment facilities.

Livermore Municipal Water

Livermore Municipal Water serves the northern and eastern portions of the City of Livermore with a service area population of 30,830 in 2020 (City of Livermore 2021). The rest of the City is served by Cal Water Livermore District.

2020 Urban Water Management Plan

Livermore Municipal Water is in the process of updating the UWMP, and the 2025 UWMP is anticipated to be available by May 2026. As reported in the 2020 UWMP, Livermore Municipal Water complies with the SBX7-7 goal with a per capita water demand of 190 GPCD in 2020 as compared to the target goal of 192 GPCD (City of Livermore 2021).

The 2020 UWMP describes water demands, water supply sources, and supply reliability for its service area in five-year increments for normal years, single dry years, and multiple dry years. The 2020 UWMP states that there will be sufficient supplies to meet existing and future demands through 2045 for all hydrologic conditions, including a five-year drought period.

Water Shortage Contingency Plan

Livermore Municipal Water's WSCP is provided in Appendix C of the 2020 UWMP. It outlines actions to be taken during various shortage levels or stages of a water shortage. There are six shortages levels, with Stage 1 being a shortage of up to 10 percent and Stage 6 being a shortage greater than 50 percent. Most of the actions are focused on reducing demand. For example, Livermore Municipal Water will implement conservation rates for the different stages to recover revenue based on the reduced volume of water during the shortages and also will restrict non-essential water uses.

Zone 7 Water Agency

Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency) is a wholesale water purveyor that provides treated potable water to the two water purveyors in the City of Livermore—Cal Water and Livermore Municipal Water. Zone 7 Water Agency also provides water to Pleasanton, Dublin, and a portion of San Ramon. Zone 7 Water Agency coordinates closely with the water retailers to estimate and provide water demands through the year 2045 (Zone 7 Water Agency 2021a).

2020 Urban Water Management Plan

The 2020 UWMP states that Zone 7 will be able to meet the water demands of all of the water purveyors within its service area, including demands during a five-year drought period, with a surplus of water supplies.

Water Shortage Contingency Plan

Zone 7 Water Agency also provides a WSCP as Appendix G of the 2020 UWMP and prepared a detailed study of the Tri-Valley municipal and industrial water demand, which includes the EIR Study Area. This study provides a regional, land use based water demand forecasting model for estimating water demand for each municipal water purveyor (Zone 7 Water Agency 2021b).

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Local

Livermore Municipal Code

The Livermore Municipal Code (LMC) includes various directives to minimize adverse impacts to water distribution and conservation. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to water distribution and conservation are in Title 13, *Public Services*, and Title 15, *Buildings and Construction*, as follows:

- **Title 13, Division I, Water**, contains general provisions (Chapter 13.04), service connections (Section 13.08), backflow prevention (Chapter 13.09), water main extensions (Chapter 13.12), water meters (Chapter 13.16), rates and charges (Chapter 13.20), Zone 7 connection charges (Chapter 13.24), the City's Water Efficient Landscape (Chapter 13.25), water conservation measures for City customers (Chapter 13.26), and mandatory drought conservation measures (Chapter 13.27).
- **Title 15, Buildings and Construction**, lists codes that are adopted by reference, including the most current Building Code (Chapter 15.02), Plumbing Code (Chapter 15.12), Green Building Standards Code (Chapter 15.26), and Civic Bay-Friendly Landscaping (Chapter 15.80).

Livermore Standard Specifications

The City of Livermore's standard specifications contain general requirements for the installation of water distribution systems, including piping specifications, backflow prevention assemblies, valves, fire hydrants, and water meters (City of Livermore 2015). It also includes detailed drawings for water service connections, fire hydrants, fire service lines, and meter installation.

Livermore Master Fee Schedule

The Master Fee Schedule is updated annually to assess service charges and connection fees, which provide the majority of the funding for the City's water distribution system. The service charges are set through the Proposition-218 compliant process every five years. The revenues generated from these fees finance the utility service funds, which are used for construction, reconstruction, operation, and maintenance of water distribution infrastructure.

Livermore 2017 Water Master Plan

The 2017 Livermore Municipal Water Master Plan includes a water demand analysis, hydraulic modeling to determine existing and future deficiencies in the water supply system, and recommendations for capital improvement projects and associated costs to meet buildout water system needs. Recommendations include an increase in water storage capacity, distribution system replacements to mitigate low pressure areas, and buildout for the Isabel neighborhood plan (City of Livermore 2017).

Livermore 2019 Community Services and Infrastructure Report

The 2019 Community Services and Infrastructure Report (CSIR) evaluates the existing and future needs of public services, including water supply and distribution. The report summarizes where the City's water supply comes from, projected demand, projects that have helped to increase water supply, and the different municipalities associated with providing water to the region (City of Livermore 2019).

Livermore 2025-2030 Capital Improvement Projects

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include water system improvements, including replacement of the City's Airway Pump Station as well as the replacement of 68 water service lines in the Springtown neighborhood (City of Livermore 2025d).

WASTEWATER

Federal

Clean Water Act

The federal CWA creates the framework for regulating pollutant discharge into the waters of the United States and provides water quality standards for surface waters. The CWA was initially enacted in 1948 but was significantly revised and expanded in 1972. Under the CWA, the USEPA established wastewater standards and made it unlawful to discharge pollutants from a point source to any navigable waters without obtaining a permit. Some of these point sources include pipes and man-made drainage channels that drain industrial facilities or commercial facilities.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established as part of the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permits generally identify effluent and receiving water limits on allowable connections and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a wastewater (sewage) treatment plant (WWTP).

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State and Regional

State Water Resources Control Board

On May 2, 2006, the SWRCB adopted Statewide General Waste Discharge Requirements (Order No. 2022-0103-DWQ) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipes. The order provides a consistent statewide approach to reducing sewer system overflows (SSO). The Waste Discharge Requirements require public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans (SSMP) and report all SSOs to the SWRCB's online reporting system. The SWRCB has delegated authority to nine RWQCBs to enforce these requirements within their regions.

The San Francisco Bay RWQCB (Region 2) issues and enforces NPDES permits in the EIR Study Area. NPDES permits allow the RWQCB to regulate where and how wastewater is disposed, including the discharge volume and effluent limits of waste and the monitoring and reporting responsibilities of the discharger. The RWQCB is also charged with conducting inspections of permitted discharges and monitoring permit compliance. The City of Livermore submits annual NPDES and pretreatment reports to the San Francisco Bay RWQCB to verify that the Livermore Water Reclamation Plant is meeting the requirements of its NPDES permit.

The SSMP evaluates existing sewer collection systems and provides a framework for minimizing the frequency and impact of SSOs. The SSMP includes an overflow emergency response plan; a fats, oil, and grease control program; scheduled inspections and condition assessment; design and construction standards; capacity assessment and management; and a monitoring program.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse wastewater impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to wastewater are in Title 13, *Public Services*, as follows:

- **Chapter 13.28, *Wastewater Connection and Construction***, describes rules and regulations, connection fees, and service laterals
- **Chapter 13.32, *Wastewater Collection and Treatment System***, discusses various requirements, permitting, and monitoring system.
- **Chapter 13.36, *Sewer Service and Use Charges***, describes types of customers, payments, and refunds.

Livermore NPDES Permit for Wastewater Treatment

The San Francisco Bay RWQCB most recently revised the NPDES permit for the City of Livermore Water Reclamation Plant in 2022 (Order R2-2022-0025). The order contains effluent limitations and discharge specifications, flow capacity increase limits, and the development of copper and cyanide action plans. It also provides monitoring and reporting requirements. This NPDES permit replaces the previous Order R2-2017-0018. Livermore is also regulated under two regional watershed permits for nutrient discharge (Order R2-2024-0013) and PCB and mercury discharge (Order R2-2017-0041).

Livermore Standard Specifications

The City of Livermore's standard specifications contain general requirements for sanitary sewer leakage testing, piping specifications, and manhole specifications as well as detailed drawings for sewer manholes, lateral connections, and sewage sampling stations (City of Livermore 2015).

Livermore Master Fee Schedule

The Master Fee Schedule is updated annually to assess service charges and connection fees. The revenues generated from these fees finance the utility service funds, which are used for construction, reconstruction, operation, and maintenance of the sewer system infrastructure. Most residential properties pay a fixed annual sewer service charge on their property tax bill, while all non-residential and some multifamily residential properties are billed monthly for sewer services. Sewer connection fees for new development are provided in the Master Fee Schedule under the Community Development Department Permit Center.

The Master Fee Schedule is updated annually to assess service charges and connection fees, which provide the majority of the funding for the City's water distribution system.

Livermore 2012 Water Reclamation Plant Master Plan

The 2012 Water Reclamation Plant Master Plan provides a roadmap for upgrading and expanding the plant in a manner that incorporates the appropriate technology, optimizes operations, and minimizes cost (City of Livermore 2012).

Livermore 2017 Sewer Master Plan

The 2017 Sewer Master Plan provides a description of the existing sewer collection system, the dry weather and wet weather flow rates, the collection system design and performance criteria, and a hydraulic model update to evaluate current and future capacities. It also provides recommended system improvements to meet existing and buildout collection system needs as well as projected capital improvement costs (City of Livermore 2017).

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Livermore 2019 Community Services and Infrastructure Report

The 2019 CSIR evaluates the existing and future needs of public services, including wastewater collection and treatment. The report summarizes the status of the current sewer collection system and wastewater treatment plant, results of asset management plans, and recommended upgrades to the water reclamation plant. The report states that the City has adequate wastewater disposal capacity to meet the buildout sewer flow of the current General Plan (City of Livermore 2019).

Livermore 2025 Sewer System Management Plan

The 2025 City of Livermore SSMP complies with WDR Order No. 2022-0103-DWQ, which requires SSMPs to be audited at least every three years and updated every 6 years. The SSMP provides a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system, which is the responsibility of the Water Resources Division. The SSMP provides an operations and maintenance program to reduce and prevent SSOs and mitigate any SSOs that do occur. The SSMP includes scheduled inspections; design and performance standards; a spill emergency response plan; fats, oils, and grease program; system evaluation and a capital improvement program; and a monitoring program (City of Livermore 2025c).

Livermore 2025-2030 Capital Improvement Plan

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include replacing, upsizing, or extending sewer lines, improvements to the sewer lift stations, rehabilitation and process improvements at the Livermore Water Reclamation Plant, modifications to the computer system (SCADA) that monitors the facilities, and the South Livermore Sewer Extension (City of Livermore 2025d).

STORMWATER

Federal

National Pollutant Discharge Elimination System

The NPDES permit program was established by the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States from their municipal separate storm water systems (MS4). Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. The EIR Study Area is within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The San Francisco Bay RWQCB issues a NPDES Municipal Regional Permit (MRP) to the City of Livermore and 75 other co-permittees, covering stormwater management activities for most of the Bay Area (Order No. R2-2022-0018 and Amendment R2-2023-0019 and NPDES Permit No. CAS612008).

National Flood Insurance Act of 1968

The City of Livermore has been a regular member of the National Flood Insurance Program. In participating communities that adopt adequate floodplain management policies, the Federal Emergency Management Agency (FEMA) is allowed to make affordable insurance protection against losses from flooding available to property owners. Discount on flood insurance policies is possible through implementation of flood protection and community awareness for a Class 9 rating in the Community Rating System.

State

SWRCB General Construction Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (Order No. 2022-0057-DWQ). Under the terms of the permit, applicants must file permit registration documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMP) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a sampling program to ensure compliance with water quality standards, and on-site collection of samples and inspection of BMPs during a qualifying precipitation event.

SWRCB General Industrial Permit

The Statewide General permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ and amended by 2015-0122-DWQ (2018) implements the federally required stormwater regulations in California for stormwater associated with industrial activities that discharge to Waters of the United States. This regulation covers facilities that are required by federal regulations or by the RWQCBs to obtain an NPDES permit. Dischargers are required to eliminate non-storm water discharges, develop SWPPPs that include BMPs, conduct monitoring of stormwater runoff, and submit all compliance documents via the SWRCB's SMARTS program.

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Regional

Municipal Regional Stormwater NPDES Permit

The Municipal Stormwater Program regulates stormwater discharges from municipal separate storm sewer systems (MS4). An MS4 is a conveyance system designed to collect and convey stormwater that is owned by a city, town, or other public entity.

Urbanized areas increase stormwater runoff because impervious surfaces like roads, parking lots, and rooftops prevent stormwater from infiltrating, or soaking, into the ground. Urbanization also increases the variety and amount of pollutants in stormwater runoff. MS4s collect and convey this urban runoff and, in most cases, discharge directly to surface waters without treatment. Urban runoff contributes significant quantities of suspended solids, heavy metals, petroleum hydrocarbons, and other pollutants to surface waters of the region. However, if runoff is properly managed, those stormwater pollutants can be attenuated, and stormwater can be a valuable resource for uses such as groundwater recharge.

San Francisco Bay RWQCB (Region 2) issued county-wide municipal stormwater permits in the 1990s to all municipalities and flood management agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and within Solano County, the cities of Fairfield, Suisun City, and Vallejo, and the Vallejo Flood and Wastewater District. In 2009, the Water Board reissued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit (MRP). The MRP (MRP 1) was reissued in 2015 (MRP 2) and again in 2022 (MRP 3). MRP 3 was amended in October 2023. The current permit, MRP 3, comprises Order Nos. R2-2022-0018 and R2-2023-0019.

San Francisco Bay RWQCB Post Construction Stormwater Management Requirements

The San Francisco Bay RWQCB requires post-construction stormwater management under the MRP (Order No. R2-2022-0018 NPDES Permit No. CAS612008), specifically, Provision C.3, which applies to new development or redevelopment projects that create or replace 5,000 square feet or more of impervious surface (10,000 square feet or more for single-family homes). The goal is to reduce pollutant runoff and manage stormwater flows through a combination of site design, source control, and treatment measures, often using Low-Impact Development (LID) features such as bioretention, infiltration areas, and pervious paving. Some projects may also need hydromodification management to prevent increased peak flows or runoff volumes.

Zone 7 Water Agency

As described in Section 3.10, *Hydrology and Water Quality*, Zone 7 Water Agency provides regional flood protection for 427 square miles of eastern Alameda County and currently owns and maintains approximately 37 miles of natural streams and flood control channels (City of Livermore 2019). Zone 7 Water Agency maintains approximately one-third of the creeks in the Livermore-Amador Valley. This includes portions of the Arroyo Las Positas, relocated Arroyo Las Positas, Altamont Creek, a portion of Arroyo Mocho, Arroyo Seco, and Collier Canyon Creek.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse stormwater impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to stormwater are in Title 13, *Public Services*, as follows:

- **Chapter 13.44, *Storm Drainage Facilities***, describes construction, fees, and approval procedures
- **Chapter 13.45, *Stormwater Management and Control Program***, discusses discharge, inspection, and violations
- **Chapter 13.46, *Stormwater System Enterprise Fund***, determines revenue, calculation of service charges, and collection

Livermore Standard Specifications and Details

The City of Livermore's standard specifications and details contain general requirements for storm drain system leakage testing, piping specifications, fittings and valves (City of Livermore 2015). It also includes detailed drawings for manholes, stormwater curb inlets, lateral connections, and concrete pipe storm drain mains.

Livermore Stream Maintenance Program

The Livermore Stream Maintenance Program (SMP) was developed by the City of Livermore to improve and define the maintenance and management of the engineered and modified flood control channels and natural creeks within the city. The SMP provides guidance to conduct maintenance activities and minimize environmental impacts. It also outlines the permitting process to meet federal and state laws and regulations when conducting maintenance activities in streams, creeks, and designated wetland (City of Livermore 2023a).

UTILITIES AND SERVICE SYSTEMS

Livermore 2019 Community Services and Infrastructure Report

The 2019 CSIR evaluates the existing and future needs of public services, including stormwater drainage and flood protection infrastructure. The report summarizes the status of the current storm drain collection system, a 100-year capacity evaluation of all creek culverts under public roadways, the City's ongoing maintenance program, and funding for storm drain expansion projects. In general, the storm drain pipes are fairly new and in good condition, with an average age of 40 years as compared to a service life of 100 years (City of Livermore 2019).

Livermore 2021 Citywide Asset Management Program

The Asset Management Program is a large-scale effort by the City of Livermore to document the age of all assets in the city, identify maintenance needs, and plan for replacement of facilities (City of Livermore 2025e). This program is ongoing and the effort involving the storm drain system is in progress. The project focuses on the renewal or replacement of storm drain assets based on age and condition. Storm drain improvements are funded by Urban Runoff Fees that are assessed to each property owner as part of the annual property tax bill along with an annual transfer from the City's General Fund. Developers pay separate storm drainage fees to cover the cost of any infrastructure necessary to connect new developments to the existing storm drain system.

Livermore 2022 Storm Drain Master Plan

The 2022 Storm Drain Master Plan (SDMP) focuses on storm drainage and flood management within the City. Storm drain design criteria set forth by the City of Livermore, in its 2015 standards and the Alameda County Hydrology and Hydraulic Manual (ACFC & WCD 2018) were used to analyze system performance. The information was used to create an integrated hydrologic and hydraulic model that represents storm drain systems, creeks, and ground surfaces throughout the City and the hydraulic capacity of each drainage system during storm events. The report identifies collection system and creek improvement projects to reduce future flooding events and includes a Capital Improvement Plan (CIP) along with costs to improve the storm drainage system (City of Livermore 2022a).

Livermore Annual Stormwater Reports

The City of Livermore, along with 75 other co-permittees to the NPDES MRP, is required to submit annual stormwater reports to the San Francisco Bay RWQCB documenting compliance with the MRP for water discharges through the City's stormwater system. The annual reports document what activities were conducted in the previous year to comply with Provisions C.2 through C.17 of the MRP, including a list of new development and redevelopment projects and the type of treatment processes implemented under Provision C.3 of the MRP (City of Livermore 2023b).

Livermore 2025-2030 Capital Improvement Projects

The planned capital improvement projects in the City of Livermore for the time period from 2025-2030 include storm damage repairs, Collier Canyon culvert and drainage improvements, Arroyo Las Positas desilting through Las Positas Golf Course, installation of storm drain trash capture devices throughout the City, stream maintenance, and Springtown flood protection (City of Livermore 2025d).

SOLID WASTE

Federal

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations) Part 258 contains regulations for municipal solid waste landfills and requires states to implement permitting programs incorporating the federal landfill criteria. The federal regulations address landfill location, operation, design, groundwater monitoring, and closure.

State

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) required that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. The Act required that each city and county prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), a department within the California Natural Resources Agency. AB 939 also establishes a goal for all California counties to provide at least 15 years of ongoing landfill capacity. In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is calculated as a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

Mandatory Commercial Recycling Requirements

AB 341 set a statewide solid waste diversion goal of 75 percent by 2020. AB 341, which was passed in 2011 and took effect July 1, 2012, mandates recycling for businesses producing four or more cubic yards of solid waste per week or multi-family residential dwellings of five or more units. Under AB 341, businesses and multi-family dwellings of five or more units must separate

UTILITIES AND SERVICE SYSTEMS

recyclables from trash and either subscribe to recycling services, self-haul their recyclables, or contract with a permitted private recycler.

Mandatory Organics Recycling Act

AB 1826, enacted in 2014, mandates organic waste recycling for all businesses and multifamily dwellings with five or more units. Starting January 1, 2020, all generators of 2 cubic yards or more of garbage, recycling, and compost combined per week must recycle organic waste. Organic waste includes food scraps, food-soiled paper waste, yard trimmings, and landscape materials. Organic waste can be recycled through composting, mulching, and anaerobic digestion which produces renewable energy and fuel. In addition to recycling food scraps, donating surplus food to local food banks can be part of the AB 1826 compliance effort.

California Short-Lived Climate Pollutants Act

SB 1383 focuses on the elimination of methane gas created by organic materials in landfills and set targets to achieve a 50 percent reduction in the statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. Organic waste makes up half of what Californians send to landfills. SB 1383 requires all businesses and residents to divert organic materials (including food waste, yard waste, and soiled paper products) from the landfill. The regulation took effect on January 1, 2022, and requires that organics collection services be provided to all residents and businesses. The collected organic waste must be recycled into new products, such as compost, mulch, biofuel, and electricity. Each city and county have an annual procurement target based on its population. Also, an edible food recovery program must be established by 2025 with the goal of recovering 20 percent of currently disposed edible food that would otherwise be sent to landfills to feed people in need. Mandated food donors and food recovery organizations and services must keep records of the amount and dates of food donations and acceptances.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires development projects to set aside areas for collecting and loading recyclable materials. This act required CalRecycle to develop a model ordinance for adoption by any local agency to provide adequate areas for the collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt a model or an ordinance of their own that establishes standards, including space allocation, for the collection and loading of recyclable materials.

CALGreen Building Code

CALGreen establishes building standards for sustainable site development. Section 4.408 (Residential) and Section 5.408 (Nonresidential) pertaining to construction waste reduction, disposal and recycling mandate that a minimum of 65 percent of nonhazardous construction and demolition debris generated during most new construction must be recycled or salvaged. CALGreen requires developers to prepare and submit a Construction and Demolition Recycling and Waste Reduction Plan, which is submitted to the City for approval, or use a waste management company with verifiable documentation. The waste management plan must:

- Identify the materials to be diverted from disposal, recycled, reused on the project, or salvaged for future use or sale.
- Specify if materials will be sorted on-site (source-separated) or bulk mixed (single stream).
- Identify the diversion facilities where the material will be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted be calculated by weight or volume, but not by both.

The 2025 CALGreen Code became effective January 1, 2026, as part of California's triennial building code cycle. The California Building Standards Commission adopts updates to CALGreen as part of Title 24 of the CCR.

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse solid waste impacts. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to solid waste are in Title 8, *Health and Safety*, as follows:

- **Chapter 8.08, Solid Waste Management**, focuses on preventing public nuisance and health hazards through effective management of solid waste. It highlights the importance of a collection program for recyclable and compostable materials to achieve diversion goals, addressing solid waste collection, disposal, and the processing of recyclable and compostable materials. Section 8.08.2000 outlines the requirements for regulated haulers and facility operators to comply with SB 1383. It mandates that customer service representatives and account managers/recycling coordinators in Alameda County must undergo annual training on generator requirements and compliance resources from SB 1383, including training during the onboarding of new staff.
- **Chapter 8.20, Disposable Foodservice Ware**, prohibits expanded polystyrene disposable foodservice ware by food vendors and mandate the use of recyclable or compostable options to enhance environmental and economic health in Livermore.

UTILITIES AND SERVICE SYSTEMS

OTHER UTILITIES

This section addresses existing electric, natural gas, and telecommunications services infrastructure, and supply and demand in the EIR Study Area.

Federal

The federal regulatory framework for energy is described in detail in Section 3.6, *Energy*.

State

The State regulatory framework for energy is described in detail in Section 3.6, *Energy*. This section provides a discussion of additional State regulations related to energy infrastructure.

California Energy Benchmarking and Disclosure

The Building Energy Benchmarking Program is mandated under AB 802 and requires owners of large commercial and multi-family buildings to report energy use to the California Energy Commission by June 1 annually. This program applies to all buildings with more than 50,000 square feet of gross floor area and owners of multi-family residential buildings with more than 50,000 square feet and 17 or more utility accounts. AB 802 requires each utility, upon the request and authorization of the owner, owner's agent, or operator of a building covered under the regulation, to deliver or provide aggregated energy usage data for a covered building. The required energy usage shall be reported to the California Energy Commission through the Energy Star Portfolio Manager.

California Public Utilities Commission Natural Gas Regulations

CPUC regulates natural gas utility rates and services as well as the transportation of natural gas over the extensive transmission and distribution pipeline systems. The CPUC also regulates gas storage facilities. The Gas Safety and Reliability Branch of the CPUC ensures that natural gas pipeline systems are designed, constructed, operated, and maintained according to the safety standards set by the CPUC and the federal government. The regulations are provided in the CPUC General Order No. 112-E and the Natural Gas Pipeline Safety Act of 2011.

California Energy Code: Title 24, Part 6

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and most recently revised in 2025 (Title 24 CCR Part 6). The California Energy Code requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The California Energy Commission adopted the 2025 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission. The 2025 standards became effective and replaced the existing 2022 standards on January 1, 2026. The 2025 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021). The Building Energy and Efficiency Standards and CALGreen undergo a triennial update with a goal to achieve zero net energy for new buildings by 2030.

California Green Building Standards Code: Title 24, Part 11

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Title 24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. It includes mandatory requirements for new residential and non-residential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives from the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were most recently updated in 2024 (2025 CALGreen update). The 2025 CALGreen update became effective on January 1, 2026, and provides updates to the residential and non-residential voluntary measures. This includes the requirement to recycle and/or salvage for reuse a minimum of 65 percent of nonhazardous construction and demolition waste (Section 5.408) and nonresidential mandatory measures for electric vehicle (EV) charging requirements (Section 5.106.5.3).

Overall, the code is established to make buildings more efficient in the use of materials and energy and reduce environmental impact during and after construction. CALGreen provides design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their planned efficiency.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. They contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers,

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washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California. These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The state aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The California Independent System Operator (CAISO) had a total energy storage capacity of more than 3,160 megawatts as of June 2022, and has increased this to over 16,942 megawatts storage capacity as of December 2025 with an additional 8,600 megawatts of storage planned to come online by 2027 (CAISO 2022; CEC 2025b; CESA 2025). This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and thermal storage. CAISO is responsible for managing the electricity grid for much of California. The State projects that 52,000 megawatts of battery storage will be needed by 2045 to support growth projections in statewide and regional consumption and to meet State climate action goals (CPUC 2022).

The Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of Load Serving Entities (LSE), called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders, and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system.

When an individual battery energy storage system (BESS) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by CAISO (CPUC 2025).

The Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BESS facility or generation infrastructure is proposed, the developer submits an application to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid.

Once the BESS facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time.

Overall, the Interconnection Queue is an important mechanism for integrating new BESS facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system (CISO 2025).

Local

Livermore Municipal Code

The LMC includes various directives to minimize adverse impacts to other utilities. The LMC is organized by title, chapter, section, and, in some cases, articles. Most provisions related to other utilities are in Title 13, *Public Services*, and Title 15, *Buildings and Construction*, as follows:

- **Chapter 13.48, Section 13.48.070, *Underground facilities: Plans required***, requires each utility to submit a plan to the city engineer prior to the designated hearing that details the location, alignment, depth, and nature of the work to underground its utility in the proposed district. The plan must indicate points of transition from overhead to underground and provide sufficient copies for coordination with other utilities or jurisdictions.
- **Chapter 13.52, *Cable System Regulations***, describes the City's process to grant franchises to construct, operate and maintain cable systems within the City Limit.
- **Chapter 15.36, *Small Residential Rooftop Solar System Expedited Permitting***, aims to establish a simplified solar permitting process in compliance with California's Solar Rights Act (Government Code Section 65850.5). It seeks to facilitate quick and economical installations of small residential rooftop solar systems by eliminating unnecessary obstacles, reducing costs for both property owners and the City, and enhancing property owners' capacity to install solar energy systems, all while ensuring public health and safety are maintained.

UTILITIES AND SERVICE SYSTEMS

3.17.2 Existing Conditions

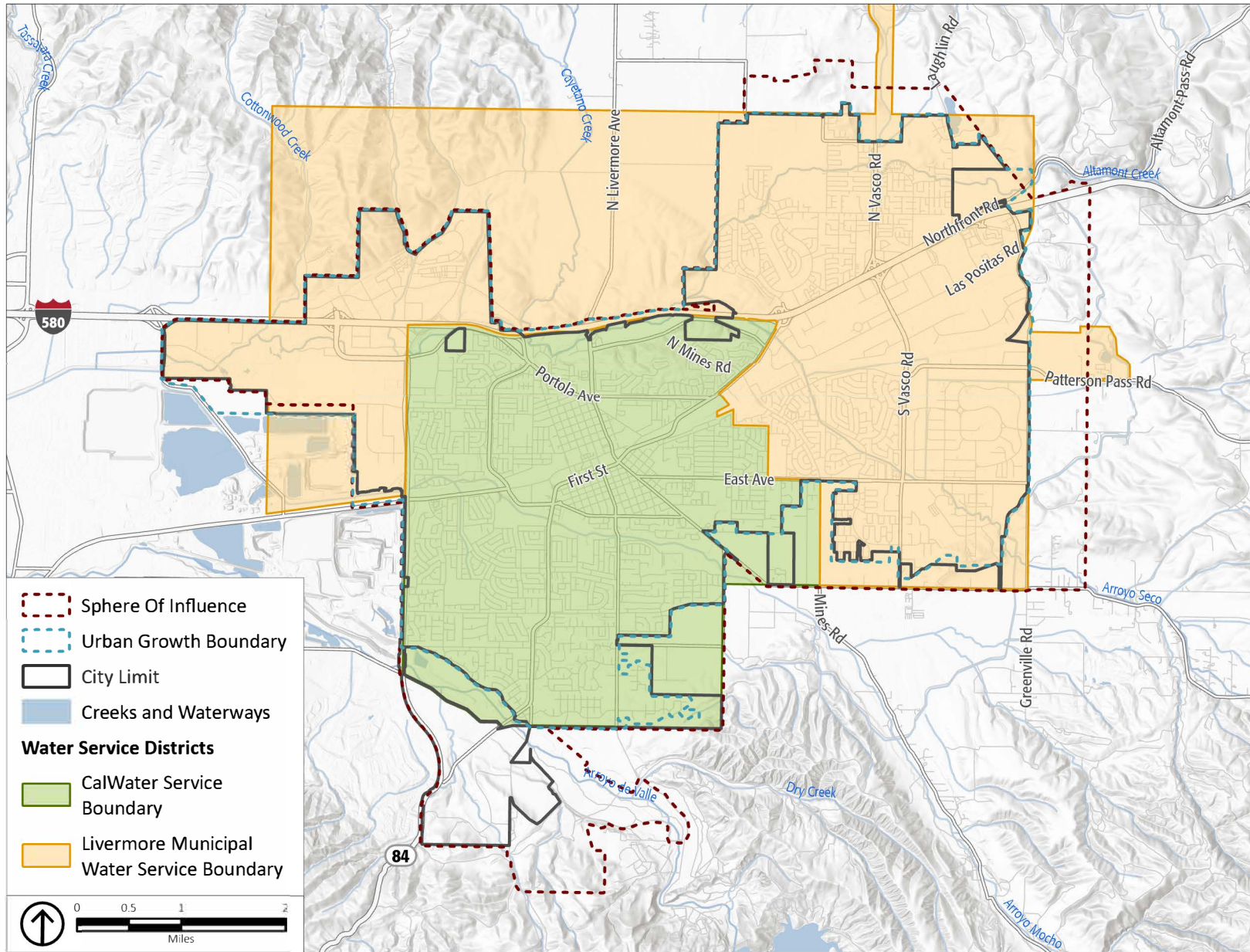
WATER

Zone 7 Water Agency provides wholesale water supplies to retail purveyors in the Tri-Valley, including California Water Service (Cal Water) and Livermore Municipal Water, which serve customers within the EIR Study Area (City of Livermore 2022b). As shown on Figure 3.17-1, *Water Service Districts*, Cal Water serves the downtown, central, and southern portions of the EIR Study Area, while Livermore Municipal Water serves the northwestern, northeastern, and eastern portions of the EIR Study Area. Cal Water and Livermore Municipal Water do not provide water service to the full EIR Study Area. Areas outside City jurisdiction are served by other water purveyors or rely on private wells.

The San Francisco Public Utilities Commission supplies water to the Lawrence Livermore National Laboratory and Sandia National Laboratory from the Hetch Hetchy Regional Water System. Livermore Municipal Water's service boundary extends across these areas and also provides water service to the laboratories (City of Livermore 2022a).

Cal Water serves a population of about 59,800 within its service area. The service area has about 18,500 connections and supplied 9,571 AFY to its customers in 2020. The service area includes a mix of low, medium, and high density residential, mixed use, commercial, public facilities, and parks/open space. Approximately 70 percent of Cal Water's water supply is treated water purchased from the wholesale Zone 7 Water Agency. Cal Water also pumps groundwater from nine active wells in the Livermore Valley Groundwater Basin, which supplies about 30 percent of Cal Water's annual water demand. The Livermore Valley Basin is not adjudicated and is not considered in critical overdraft (Cal Water 2021).

Livermore Municipal Water serves the northwest, north central, and northeast portions of the City with just over 10,000 service connections serving a population of 30,830 in 2020. Current land use in the service area is primarily residential, industrial, and open space, with some commercial use and community facilities. The 2020 UWMP assumed buildout to occur in 2040 and included the Isabel Neighborhood Specific Plan and portions of the South Livermore Valley Specific Plan within its service area in future demand calculations. Livermore Municipal Water's potable water supply is solely obtained from purchases of treated water from Zone 7 Water Agency. Livermore Municipal Water does not pump groundwater but does provide recycled water from the City's wastewater treatment facility that is used in Zone 1. In 2020, Livermore Municipal Water provided 8,728 AFY of water to its customers—6,549 AF was purchased water from Zone 7 Water Agency and 2,179 AF was recycled water provided to customers in Zone 1 (Kennedy Jenks 2021).



Source: CalWater 2023; City of Livermore, 2023.

Figure 3.17-1
Water Service Districts

UTILITIES AND SERVICE SYSTEMS

The Zone 7 Water Agency provides wholesale water to the Tri-Valley water agencies, which include Dublin San Ramon Services District, City of Pleasanton, City of Livermore, and Cal Water Livermore District. Eighty per cent of Zone 7 Water Agency's water supply is from the State Water Project (SWP), with the remainder coming from pumped groundwater and local surface water from the Arroyo Valle watershed. All surface water is treated at its two water treatment plants prior to sale to the water retailers. Zone 7 Water Agency's future water supplies are expected to keep pace with water demands through 2045. The 2020 UWMP indicates that Zone 7 Water Agency will have a surplus of water supplies to serve its water retailers during normal, single dry years, and a five-year drought period (Zone 7 Water Agency 2021a). Zone 7 Water Agency also published the 2020 *Tri-Valley Municipal and Industrial Water Demand Study*, which provides a detailed model that predicts future water demands for each water retailer and the ability of Zone 7 Water Agency to provide the water supplies needed (Zone 7 Water Agency 2021b). In addition, Zone 7 Water Agency serves as the groundwater sustainability agency for the Livermore Valley Basin and has prepared the Groundwater Sustainability Plan, which was approved by DWR in 2019.

Water Distribution Systems

Cal Water pumps groundwater from ten active wells within the Livermore Valley Groundwater Basin. Treated surface water purchased from Zone 7 Water Agency is distributed via nine turnout connections. The distribution system consists of 19 storage tanks, nine booster pump stations, and approximately 222 miles of pipeline. Cal Water's capital improvements include water main replacements and projects to maintain water quality in the distribution system. Due to the impending water quality regulations regarding per- and polyfluoroalkyl substances (PFAS), Cal Water will add treatment to several well sites. In addition, Cal Water proposes well renewal projects to extend the life of existing groundwater wells and installation of a new well (Cal Water 2024).

Livermore Municipal Water's water system consists of over 160 miles of potable water pipelines that deliver water to eleven pressure zones within the City's three water service area zones. The water distribution pipelines range in size from 4 to 24 inches in diameter and consist primarily of 47 percent polyvinyl chloride (PVC), 31 percent asbestos cement, and 21 percent steel. The City also has four potable water storage tanks with a total capacity of 13 million gallons and five pump stations. Surface water is purchased from Zone 7 Water Agency and is conveyed through seven water supply turnouts to the City's service areas. The City also has several interties with the Cal Water distribution system, the Dublin San Ramon Services District, and the City of Pleasanton for emergency use only. The City also produces and distributes recycled water from the Livermore Water Reclamation Plant via 22 miles of distribution pipelines to customers within the City's Zone 1 (West Yost Associates 2017).

Water Supply Sources

Both Cal Water and Livermore Municipal Water rely primarily on purchased treated water from Zone 7 Water Agency for their water supplies. Zone 7 Water Agency's largest water source is imported water from the SWP, which accounts for over 80 percent of the water supplied to their customers. Zone 7 Water Agency also stores local runoff from the Arroyo Valle watershed in the Del Valle Reservoir, owned and operated by DWR. In addition, Zone 7 Water Agency relies on "banked" water supplies with agreements between Semitropic Water Storage District and Cawelo Water District in Kern County for additional flexibility in managing annual fluctuations in supply. During high demand periods or drought conditions, Zone 7 Water Agency may tap into its stored groundwater. However, Zone 7 Water Agency does not pump more groundwater than it artificially recharges, so there is no net change in the groundwater sustainable yield (Zone 7 Water Agency 2021a).

Zone 7 Water Agency operates two water treatment plants: the Del Valle Water Treatment Plant and the Patterson Pass Water Treatment Plant, with a combined treatment capacity of 48 million gallons per day. The 2020 UWMP indicates that Zone 7 Water Agency will have a surplus of available water during normal, single dry years, and multiple dry years through 2045.

In addition, Cal Water supplements its purchases from Zone 7 Water Agency by pumping groundwater from nine active groundwater wells in the Livermore Valley Groundwater Basin. Groundwater makes up about 30 percent of its water supplies, with an annual quota of 3,069 AFY. Cal Water pumped 1,066 AF in 2020 (Cal Water 2021).

Livermore Municipal Water also supplements its water supplies with recycled water from the Livermore Water Reclamation Plant (Kennedy Jenks 2021).

Existing Water Demand

Table 3.17-2, *Cal Water and Livermore Municipal Water 2020 Existing Water Demand (AF)*, presents the water demand for 2020, as presented in the respective 2020 UWMPs for the service areas. Single-family homes represent most of the 2020 total demand at 59 percent. Multi-family homes and commercial uses make up about 5 percent and 14 percent of the total demand, respectively. Other uses, including institutional, landscape, and losses collectively represent 21 percent of the total demand. In addition, Livermore Municipal Water provided 2,179 AF of recycled water in 2020 to Zone 1 for irrigation purposes as well as commercial and industrial uses and sold 95 AF of recycled water to the City of Pleasanton. Cal Water does not provide recycled water within its service area.

UTILITIES AND SERVICE SYSTEMS

Table 3.17-2 Cal Water and Livermore Municipal Water 2020 Existing Water Demand (AF)

Use Type	Cal Water (AF)	Livermore Municipal Water (AF) ¹
Single-Family	6,580	2,995
Multifamily	439	436
Commercial	1,291	954
Institutional/Government	743	61
Landscape	6	1,353
Losses	501	669
Other	11	83
Total	9,571	6,551

Source: Kennedy Jenks 2021; Cal Water 2021.

Notes: AF = acre-feet

1. Volume was converted from million gallons to acre-feet.

Water agencies must also demonstrate compliance with their established water use targets, pursuant to SB X7-7. The calculated water use targets for Cal Water and Livermore Municipal Water are 158 GPCD and 192 GPCD, respectively. The actual 2020 demands for Cal Water and Livermore Municipal Water were 143 GPCD (Cal Water 2021) and 190 GPCD (City of Livermore 2021), respectively. Thus, both the City and SSCWD successfully met the 2020 targets.

Water Supply Reliability

Most of the water supplies for Cal Water and Livermore Municipal Water are purchased from Zone 7 Water Agency. Zone 7 Water Agency has evaluated the reliability of its supplies in the 2020 UWMP and in the 2020 Tri-Valley Municipal and Industrial Water Demand Study. The Water Demand Study developed a forecasting model based on the land use projected at buildout for each city in the Zone 7 Water Agency service area.

The Zone 7 Water Agency 2020 UWMP provides projections on supply and demand for normal years, single dry years, and multiple dry years for the Tri-Valley area, which includes Cal Water and Livermore Municipal Water's service areas. As shown in Table 3.17-3, *Zone 7 Water Agency Projected Supply and Demand for Years 2025-2045*, Zone 7 Water Agency anticipates that it will meet all the Tri-Valley water demands over the next 20 years, with surpluses during both normal and drought conditions. In addition, Zone 7 Water Agency is investigating future water supply projects to increase supplies and reliability. These projects include the Bay Area regional desalination project, the Delta conveyance project, potable reuse, the Sites Reservoir, and SWP transfers (Zone 7 Water Agency 2021a).

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Table 3.17-3 Zone 7 Water Agency Projected Supply and Demand for Years 2025-2045

	AFY				
	2025	2030	2035	2040	2045
Normal Year					
Supply Total	76,700	90,700	84,700	83,200	83,200
Demand Total	50,300	52,800	53,800	55,300	55,300
<i>Surplus</i>	<i>26,400</i>	<i>37,900</i>	<i>30,900</i>	<i>27,900</i>	<i>27,900</i>
Single Dry Year					
Supply Total	65,600	92,100	94,200	92,500	92,300
Demand Total	50,300	52,800	53,800	55,300	55,300
<i>Surplus</i>	<i>15,300</i>	<i>39,300</i>	<i>40,400</i>	<i>37,200</i>	<i>37,000</i>
Multiple Dry Years					
First Year					
Supply Total	89,200	116,600	118,500	117,100	116,800
Demand Total	50,300	52,800	53,800	55,300	55,300
<i>Surplus</i>	<i>38,900</i>	<i>63,800</i>	<i>64,700</i>	<i>61,800</i>	<i>61,500</i>
Second Year					
Supply Total	74,800	105,800	108,000	106,600	106,800
Demand Total	51,700	53,360	54,200	55,300	55,300
<i>Surplus</i>	<i>23,100</i>	<i>52,440</i>	<i>53,800</i>	<i>51,300</i>	<i>51,500</i>
Third Year					
Supply Total	69,100	100,600	102,700	102,300	102,300
Demand Total	52,000	53,520	54,400	55,300	55,300
<i>Surplus</i>	<i>17,100</i>	<i>47,080</i>	<i>48,300</i>	<i>47,000</i>	<i>47,000</i>
Fourth Year					
Supply Total	63,600	96,700	99,500	98,900	99,200
Demand Total	52,250	53,580	54,700	55,300	55,300
<i>Surplus</i>	<i>11,350</i>	<i>43,120</i>	<i>44,800</i>	<i>43,600</i>	<i>43,900</i>
Fifth Year					
Supply Total	58,200	94,100	96,500	95,900	96,100
Demand Total	52,500	53,740	55,000	55,300	55,300
<i>Surplus</i>	<i>5,700</i>	<i>40,360</i>	<i>41,500</i>	<i>40,600</i>	<i>40,800</i>

Source: Zone 7 Water Agency 2021a.

Note: AFY = acre-feet per year

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The 2020 UWMPs for Cal Water and Livermore Municipal Water also provide projections of water demand and supply under normal and drought conditions. The 2020 Cal Water UWMP summarizes projected water demand and supplies for customers in Livermore, as shown in Table 3.17-4, *Cal Water Projected Supply and Demand for Years 2025-2045*. These projections account for anticipated water-reduction efforts (i.e., increased appliance water efficiency, more efficient plumbing codes, and conservation and customer assistance programs).

Table 3.17-4 Cal Water Projected Supply and Demand for Years 2025–2045

	AFY				
	2025	2030	2035	2040	2045
Normal Year					
Supply Total	9,333	9,361	9,515	9,555	9,632
Demand Total	9,333	9,361	9,515	9,555	9,632
<i>Surplus</i>	0	0	0	0	0
Single Dry Year					
Supply Total	9,635	9,660	9,818	9,859	9,938
Demand Total	9,635	9,660	9,818	9,859	9,938
<i>Surplus</i>	0	0	0	0	0
Multiple Dry Years					
First Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
<i>Surplus</i>	0	0	0	0	0
Second Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
<i>Surplus</i>	0	0	0	0	0
Third Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
<i>Surplus</i>	0	0	0	0	0
Fourth Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
<i>Surplus</i>	0	0	0	0	0

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Table 3.17-4 Cal Water Projected Supply and Demand for Years 2025–2045

	AFY				
	2025	2030	2035	2040	2045
Fifth Year					
Supply Total	9,822	9,846	10,006	10,047	10,128
Demand Total	9,822	9,846	10,006	10,047	10,128
<i>Surplus</i>	0	0	0	0	0

Source: Cal Water 2021.

Note: AFY = acre-feet per year

Cal Water projects that the service population will increase by 14 percent between 2020 and 2045, but that water demand will only increase by less than 1 percent during this same time (Cal Water 2021). Cal Water anticipates there will be sufficient supply to meet their projected demands (Cal Water 2021). In addition, Cal Water is not currently using their full allotment for groundwater pumping of 3,069 AFY. Cal Water only used 1,066 AFY in 2020. As needed in the future, Cal Water can use their full groundwater pumping quota and supplement the rest with potable water from Zone 7 Water Agency. Under contract with Cal Water, Zone 7 Water Agency will provide the necessary amount of water to meet demand under all conditions.

Livermore Municipal Water also provides water supply and demand for its service area in the 2020 UWMP, as shown in Table 3.17-5, *Livermore Municipal Water Projected Supply and Demand (2025-2045)*. The population projections in the 2020 UWMP are based on Zone 7 Water Agency’s Water Demand Study and assume that buildout occurs with a 54 percent increase in the service population by 2040, at which point the City’s population becomes stable. The 2020 UWMP accounts for growth in the Isabel Neighborhood Specific Plan and the areas within the South Livermore Valley Specific Plan that are within Livermore Municipal Water’s service area. The projections do not account for the use of recycled water in Zone 1, which could provide an additional 2,056 AF of water by 2040. The results provided in Table 3.17-5 indicate that Livermore Municipal Water has sufficient water supplies to meet the water demands during normal and drought conditions through 2045.

Table 3.17-5 Livermore Municipal Water Projected Supply and Demand (2025–2045)

	AFY ¹				
	2025	2030	2035	2040	2045
Normal Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
<i>Surplus</i>	0	0	0	0	0

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Table 3.17-5 Livermore Municipal Water Projected Supply and Demand (2025–2045)

	AFY ¹				
	2025	2030	2035	2040	2045
Single Dry Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
<i>Surplus</i>	0	0	0	0	0
Multiple Dry Years					
First Year					
Supply Total	8,335	8,556	8,780	9,001	9,001
Demand Total	8,335	8,556	8,780	9,001	9,001
<i>Surplus</i>	0	0	0	0	0
Second Year					
Supply Total	8,378	8,602	8,823	9,001	9,001
Demand Total	8,378	8,602	8,823	9,001	9,001
<i>Surplus</i>	0	0	0	0	0
Third Year					
Supply Total	8,424	8,645	8,869	9,001	9,001
Demand Total	8,424	8,645	8,869	9,001	9,001
<i>Surplus</i>	0	0	0	0	0
Fourth Year					
Supply Total	8,467	8,691	8,912	9,001	9,001
Demand Total	8,467	8,691	8,912	9,001	9,001
<i>Surplus</i>	0	0	0	0	0
Fifth Year					
Supply Total	8,513	8,734	8,958	9,001	9,001
Demand Total	8,513	8,734	8,958	9,001	9,001
<i>Surplus</i>	0	0	0	0	0

Source: Kennedy Jenks 2021.

Note: AFY = acre-feet per year

1. Converted from million gallons to acre-feet.

WASTEWATER

Wastewater Collection System

The City of Livermore's wastewater collection system consists of over 300 miles of gravity sewer pipes, three miles of force main, 7,220 cleanouts and manholes, and about 30,000 sewer service connections (City of Livermore 2022a). The wastewater collection system is shown on Figure 3.17-2, *Wastewater System*.

The collection pipes consist primarily of vitrified clay pipe (VCP) and polyvinyl chloride pipe (PVC), which comprise over 90 percent of the pipes in the sewer system. The pipes range in size from 4 inches to 60 inches, with the primary size being 8 inches in diameter. The average age of the pipes in the system is 29 years, which is well below the average for the Bay Area of 46 years and, when combined with a robust maintenance program, results in fewer SSOs than the Bay Area average (San Francisco Bay RWQCB 2025).

The approximately 30,000 sewer connections consist of about 3,000 permitted laterals, which typically contain a two-way cleanout near the curb. The City's wastewater system also includes two siphons and four lift stations with horsepower ratings ranging from 8 to 44. All lift stations have redundant pumps, and three have on-site backup power generators (City of Livermore 2025c).

The wastewater generated within the City Limit is collected and then routed for treatment at the Livermore Water Reclamation Plant (LWRP), which is owned and maintained by the City's Water Resources Division. The treated wastewater that is not recycled is sent through the Livermore Amador Valley Water Management Agency (LAVWMA) pipeline and the East Bay Discharger's Authority (EBDA) system for dechlorination prior to discharge into San Francisco Bay via an outfall and diffuser. A portion of the effluent is treated to tertiary recycled water standards and used as recycled water within the City.

Wastewater Treatment Plant

The LWRP provides wastewater treatment for City residents, local businesses, industry, and a few areas outside of the City Limit, including Sandia National Laboratory and the Ruby Hills development on the border of Pleasanton and Livermore. The LWRP treated an average of 5.7 million gallons per day (MGD) of wastewater in 2024 (City of Livermore 2025c). The LWRP, which was originally constructed in 1958, completed many expansions with the latest in July 1993 with a rated capacity of 8.5 MGD average dry weather flow. The LWRP treatment process consists of screening, grit removal, pre-aeration, primary clarification, activated sludge aeration, secondary clarification, and sodium hypochlorite disinfection. The LWRP also has an emergency storage basin with a capacity of 13 million gallons. The treated effluent is transported to the LAVWMA Export and Storage Facilities and is combined with the Dublin San Ramon Services District's treated effluent before being pumped through the LAVWMA pipeline to the EBDA

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pipeline for dechlorination at EBDA's Marina Dechlorination Facility. The effluent is then discharged via pipeline into the San Francisco Bay via an outfall and diffuser. The LWRP can also provide tertiary treatment for up to 6.0 MGD of recycled water, which is used as process water at the plant and for irrigation, fire protection, and fire suppression in Zone 1 of the City's water service area.

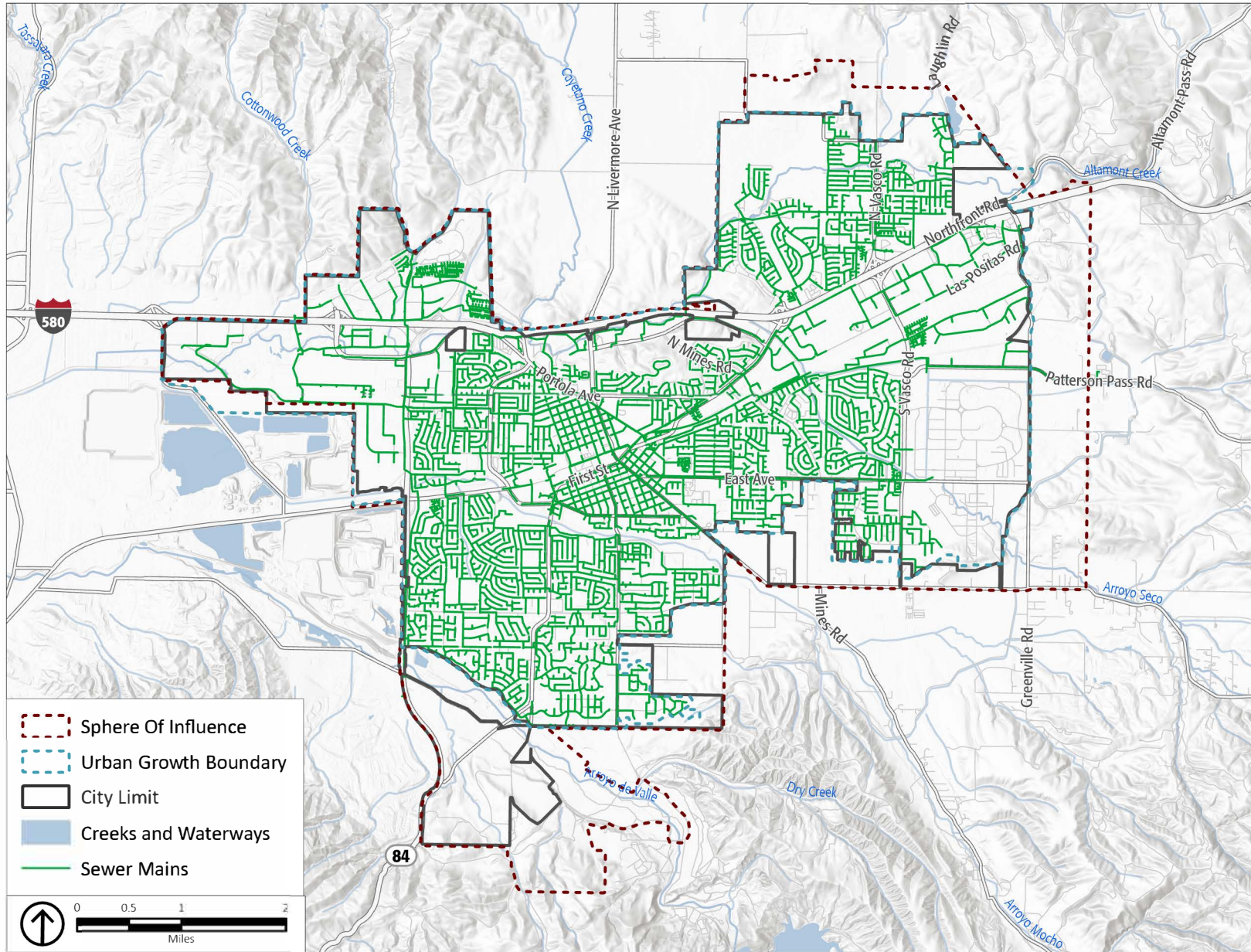
Sewer Capacity and Wastewater Treatment System Assessment

In general, the City's sewer system is sized appropriately and can accommodate sewage flows. The sewer collection pipes are relatively new and in better condition than most of the other districts within the Bay Area. As a result, there is not a significant issue with infiltration/inflow, and the SSO rate is well below Bay Area averages (San Francisco Bay RWQCB 2025). The City performs routine cleaning and maintenance on its collection system four days per week, which covers the entire collection system every three years. The entire collection system is inspected at a rate that covers the entire system every ten years. For hotspot areas and areas prone to frequent blockages, the City performs cleaning as frequently as monthly. When recurring deficiencies or problem areas are noticed, they are documented and discussed for inclusion in the CIP.

The City maintains a CIP that incorporates the findings of the Sewer Master Plan, Sewer Asset Management Plan, and staff observations. The hydraulic model is used to identify capacity deficiencies; video inspections and the Asset Management Plan are used to identify rehabilitation projects. Typically, the City budgets up to \$600,000 each year to replace deteriorated pipes. Upcoming or in-progress projects include the Springtown trunkline replacement, upsizing and replacing existing sewer pipes along South S Street and Holmes Street, sanitary sewer replacement and improvements Phase 2, and airport lift station improvements (City of Livermore 2025c).

The LWRP recently completed the Primary and Secondary Treatment Improvements Project, which included modifications to the influent pump station, primary effluent pump station, primary clarifiers, secondary clarifier No. 2 and odor control system. A new ultraviolet (UV) disinfection system is anticipated to be completed in 2026. The SCADA server was recently replaced, and the SCADA network upgrade is scheduled for completion by spring 2026 (City of Livermore 2025a).

The allocated peak wet weather capacity in the LAVWMA system increased from 8.728 MGD to 12.4 MGD in 2005 after Livermore voters approved participation in the LAVWMA expansion project. Since then, LAVWMA has completed major expansion projects, including a wastewater pump station at the LWRP and construction of a new export pipeline between the Pleasanton pump station and the EBDA system. The expanded capacity ensures that the City has adequate wastewater disposal capacity to meet future needs (City of Livermore 2022b).



Source: City of Livermore, 2022.

Figure 3.17-2
Wastewater System

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Proactive planning, aggressive line cleaning, recurring video inspection, proactive treatment plant operations and maintenance, and dedicated funding for repairs have resulted in a minimum of service interruptions within the Livermore wastewater service area (City of Livermore 2019).

STORMWATER INFRASTRUCTURE

Existing Stormwater System

The City of Livermore's storm drainage system covers 26 square miles and includes more than 200 miles of storm drain pipelines and three pump stations. The pump stations are not used to discharge runoff to creeks but are used to drain roadway underpasses with discharge into the adjacent storm drain systems. The storm drain piping is generally concrete, with some corrugated metal pipes. The average age of the storm drain pipelines is around 40 years compared to an estimated service life of 100 years. Overall, the storm drain infrastructure is relatively new and in good condition (City of Livermore 2019).

There are a few ditches or open channels within existing developed areas, such as the Granada Channel, which flows through a residential development and into Arroyo Mocho. Most of the drainage reaches are relatively short. Several new detention basins were constructed during the development of new subdivisions to maintain runoff levels to pre-development conditions and protect habitat for sensitive species.

Zone 7 Water Agency is responsible for regional flood protection for 427 square miles of eastern Alameda County and currently owns and maintains approximately 37 miles of natural streams and flood control channels. Zone 7 Water Agency owns and maintains approximately one-third of the creeks in the Livermore-Amador Valley. The City of Livermore owns and maintains approximately one-third of the channels and arroyos in the City Limits. The remaining one-third are owned by other agencies, districts, and private owners (City of Livermore 2019).

Zone 7 Water Agency's Development Impact Fee Program, funded by developer fees, provides revenue for new improvements to the existing system to accommodate growth. Zone 7 Water Agency flood control maintenance activities include routine maintenance and emergency repairs. Funding for flood control maintenance is obtained from local property taxes (City of Livermore 2019).

Of the City-owned creeks, approximately one-third are concrete-lined or engineered earth channels. The remaining creeks are natural arroyos with shallow banks and dense vegetation or are incised and sparsely vegetated with steep banks. A major cost of maintaining and improving the capacity of the creeks and arroyos is the environmental documentation and permitting process, as well as mitigation and monitoring required by environmental resource agencies. The City developed an SMP to allow for ease of permitting annual maintenance projects and obtained permits from the United States Army Corps of Engineers, California Department of Fish

and Wildlife, and RWQCB to expedite maintenance projects and repair damage from storm events (City of Livermore 2019).

The City of Livermore also has an ongoing maintenance program for storm drainpipes and inlets, which includes catch basin cleaning, line repairs, and maintenance of three pump stations. The documentation of routine inspections and creek maintenance are formalized as part of the City's asset management program. The maintenance program is partially funded through the City's Stormwater Management and Control Program by utility fees charged to businesses and residents on their property taxes. The remainder of the maintenance is funded by the City's general fund (City of Livermore 2019). Developers pay separate storm drainage fees to cover the cost of any infrastructure necessary to connect new developments to the existing storm drain system.

The 2022 SDMP identified improvements to the storm drain system to reduce flooding from the 10-year storm event to a depth of 0.5 foot and listed future projects as high, moderate, and low priority. Most of the identified projects involve upsizing existing storm drains to larger diameters and the installation of a new pump station at Las Positas Road near Mines Road to pump from the storm drain collection system into Arroyo Las Positas (City of Livermore 2022a). The stormwater system is shown in Figure 3.17-3, *Stormwater System*.

The SDMP also evaluated the existing creek system based on flood depths during a 100-year storm event. There are several problem areas that experience flooding on a regular basis. The City is awaiting final approval from FEMA to design and build a debris basin upstream of the Collier Canyon Road culverts. Arroyo Las Positas enters the Las Positas Golf Course at Airway Boulevard and overflows its banks during storm events, causing damage to the golf course. The City currently has a grant to design and improve the reach of Arroyo Las Positas through the golf course to mitigate this flood risk. Arroyo Las Positas crosses under Heather Lane and Bluebell Drive in the Springtown area. The culverts are undersized, which causes flooding in the adjacent neighborhood. Replacement and upsizing of these culverts as well as the construction of floodwalls are included in planned capital improvements (City of Livermore 2022a).

Capital Improvement Initiatives

The City has identified a five-year program for storm drain projects to address existing drainage problems, maintenance work along the arroyos, and new storm drain infrastructure needed with new development (City of Livermore 2025d). These projects include:

- Storm damage repairs to Cottonwood Creek
- Collier Canyon culvert, drainage, and road improvement
- Altamont Creek mitigation
- Arroyo Las Positas desilting through Las Positas Golf Course and golf course damage repairs

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- Storm drain trash capture projects to complete the last phase of the City's Stormwater Trash Reduction Plan
- Stream maintenance by contractors
- Storm drains for ponding areas
- Golf course clubhouse parking lot drainage improvements
- Springtown flood protection
- Storm damage repairs and debris removal from 2023 winter storm event.

Stormwater user fees and general fund moneys are used to fund projects that fix existing deficiencies. Storm drain connection fees fund projects required to improve the system due to increased runoff from new development. The City is pursuing additional grant funding for storm system projects. FEMA funding has been obtained to repair storm damage and FEMA grants have been obtained to construct projects that reduce the risk of future flooding. Proposed improvements are consistent with the SDMP, the City's asset management program, current General Plan, and the Tri-Valley Hazard Mitigation Plan.

SOLID WASTE

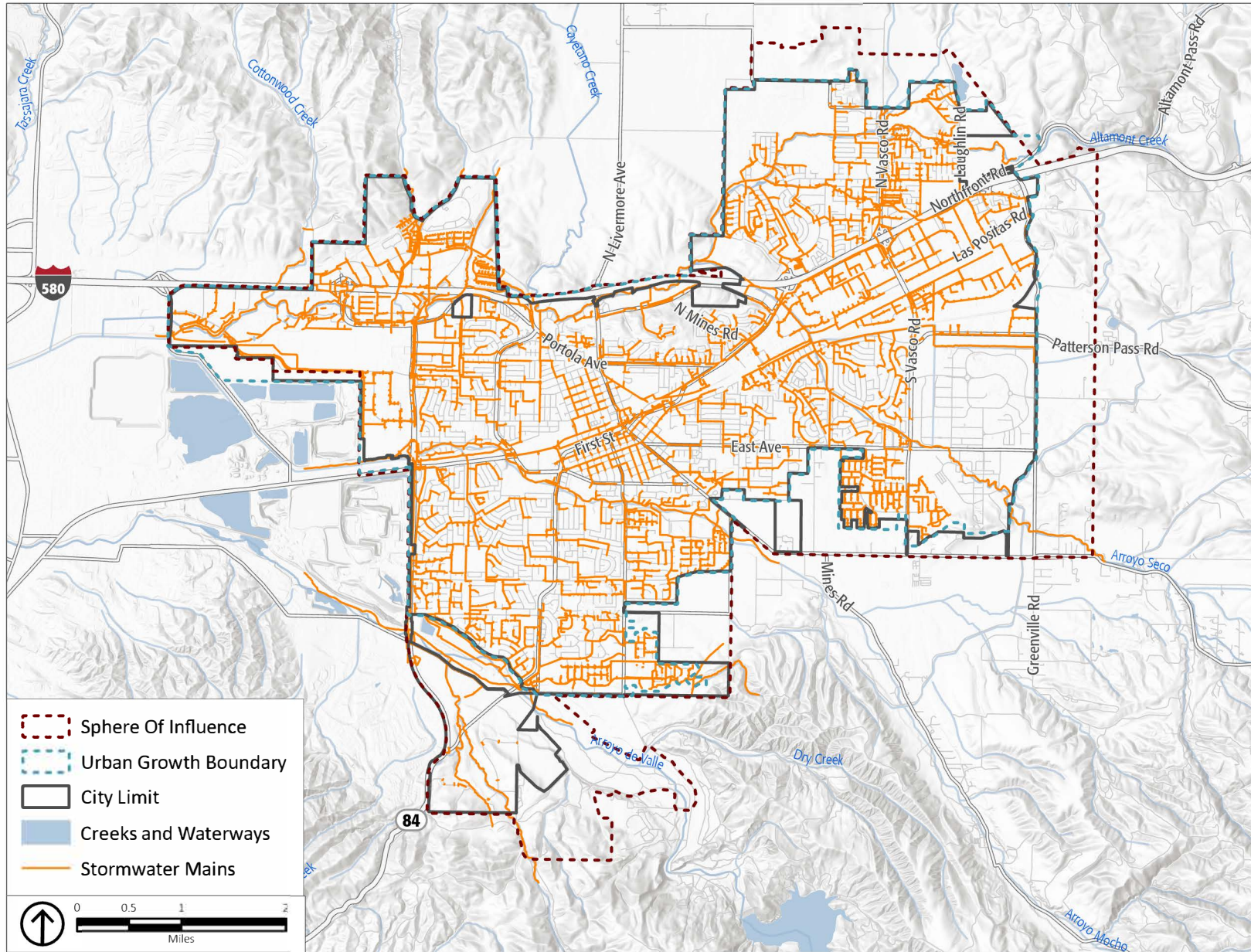
Solid Waste Collection

Curbside garbage, recycling, and organics collection services are provided under a franchise agreement with Livermore Sanitation, Inc., the City's designated solid waste hauler.¹ Service with Livermore Sanitation is mandatory for all residential and commercial properties, and it includes weekly collection of garbage, recyclables, and organic materials carts; additional services such as on-call bulky item pickups are also offered. Residents must subscribe to these services through the franchise hauler (City of Livermore 2025h; Livermore Sanitation Inc. 2025).

For materials that cannot go into regular carts (such as household hazardous waste), the City partners with Alameda County Household Hazardous Waste programs, which provide free drop-off and safe disposal of paints, batteries, motor oil, pesticides, fluorescent bulbs, and other hazardous items at County facilities in Livermore (Livermore Recycles 2025).

Livermore Sanitation is responsible for the collection and transportation of solid waste and delivers collected materials to permitted regional processing and disposal facilities, including the Republic Services Vasco Road Landfill, located at 4001 North Vasco Road, where municipal solid waste is accepted for final disposal (City of Livermore 2025g).

¹ Waste Connections US, Inc. (WCI/Waste Connections) recently acquired Livermore Sanitation, Inc. (LSI), and will continue to be known as and operate as Livermore Sanitation, Inc. (City of Livermore 2025f).



Source: City of Livermore, 2022.

Figure 3.17-3
Stormwater System

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Construction and Demolition Diversion Requirements and Local Processing

Construction and Demolition (C&D) diversion is the process of diverting debris generated from construction, remodeling, and demolition projects away from landfills through recycling, reuse, or salvage. In California at least 65 percent of all C&D debris must be diverted from disposal, and 100 percent of inert materials such as concrete, asphalt, bricks, and uncontaminated soil, must be recycled or reused. C&D diversion requirements are implemented through compliance with state CALGreen standards (StopWaste 2025). As mentioned in Section 8.08.580, Construction and demolition site solid waste, it is the duty of the owner, agent, or contractor in charge of any construction or demolition site to have adequate containers on the site for the disposal of solid waste and to make appropriate arrangements for the collection of solid waste by franchise (Livermore Sanitation) or for transportation of such material to an authorized facility for final disposition.

Landfills

Solid waste is collected by Livermore Sanitation, the City's franchised solid waste hauler, and transported to permitted regional disposal and processing facilities. According to the most recent CalRecycle data, the primary disposal facility for municipal solid waste from the EIR Study Area is the Republic Services Vasco Road Landfill at 4001 North Vasco Road in unincorporated Alameda County, approximately 2 miles northeast of Livermore. The Vasco Road Landfill is a Class III municipal refuse disposal site owned and operated by Republic Services that accepts residential, commercial, and municipal solid waste for final disposal, with a permitted maximum intake of 2,518 tons per day (TPD) under its Solid Waste Facility Permit (City of Livermore 2025b; CalRecycle 2025a). The Vasco Road Landfill accepts approximately 81 percent of the solid waste collected from the city (CalRecycle 2025b).

In addition, the Altamont Landfill accepts waste for disposal from the nine Bay Area counties (Alameda, Marin, Sonoma, Napa, Solano, Contra Costa, San Mateo, San Francisco, and Santa Clara). The Altamont Landfill can accept unlimited tons for disposal from Alameda and San Francisco Counties and up to 25,000 tons annually of sludges, inert waste, and special waste from the other seven Bay Area counties. There are no specific tonnage or origin limits on non-disposal tonnage such as alternative daily cover reuse, recycling, or transfer materials (WM 2025). In 2019, the latest date on record at CalRecycle, approximately 10,170 tons (or 13 percent of the city's solid waste) was transported to Altamont Landfill (CalRecycle 2025b). Table 3.17-6, *Landfills Servicing the EIR Study Area*, provides information on landfill capacity.

Table 3.17-6 Landfills Serving the EIR Study Area

Landfill Name/Location	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (TPD)	Estimated Closing Year	Average Daily Disposal Rate (TPD) ¹	Residual Disposal Capacity (TPD) ²
Republic Services Vasco Road Landfill 4001 N Vasco Rd Livermore, CA 94551	11,560,000	2,518	2051	500	2,018
Altamont Landfill & Resource Recovery 10840 Altamont Pass Rd Livermore, CA 94551	52,300,000	11,150	2060	3,111	8,389

Source: CalRecycle 2025a, 2025c, 2025d.

Notes: TPD = tons per day

1. Disposal rates for 2024 were used as the disposal rates for 2025 are not fully available. Average daily disposal rate determined by dividing the 2024 annual total by 312 disposal days per year (facilities open 6 days per week).
2. The residual daily disposal capacity is the difference between the maximum permitted daily capacity and the 2024 daily disposal rate.

In Alameda County, the Vasco Road Landfill and other county landfills such as the Altamont Landfill collectively provide sufficient capacity to satisfy the county’s AB 939 15-year capacity requirement. Counties periodically report remaining landfill capacity in their integrated waste management planning documentation to CalRecycle and other regulatory bodies to demonstrate compliance with state diversion and capacity requirements (Alameda County Waste Management Authority 2022).

Solid Waste Diversion and Recycling

Compliance with AB 939 is measured by comparing the CalRecycle target disposal rates for residents and employees to actual disposal rates. The latest reported 2024 target disposal rates for Livermore were 8.3 pounds per day (PPD) for residents and 18.1 PPD for employees. The actual disposal rates were 5.3 PPD for residents and 7.8 PPD for employees. Therefore, the solid waste diversion goals for the City of Livermore have been met (CalRecycle 2025e).

ENERGY INFRASTRUCTURE

Electricity

Electric service within the EIR Study Area is provided through Ava Energy and PG&E, with Ava Energy supplying electricity generation and PG&E responsible for transmission, distribution, billing, and emergency response.

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Ava Community Energy

Electricity generation for residential, commercial, and municipal customers in the EIR Study Area is provided by Ava Energy, a local, not-for-profit Community Choice Energy (CCE) provider. Ava Energy was formed in 2016 pursuant to state law that allows cities and counties to aggregate electricity demand to procure power on behalf of their communities. Ava Energy began providing electricity generation service to commercial and municipal customers in June 2018, followed by residential customers in November 2018. Ava Energy's electricity generation service replaces PG&E's generation service for participating customers, while PG&E continues to deliver electricity over its existing transmission and distribution infrastructure (Ava 2025a).

Within its service area, Ava Energy is the default electricity generation provider. Ava offers customers a choice of electricity service plans with varying rates and renewable energy content. Ava's Bright Choice plan provides electricity from a mix of sources and is planned to be carbon-free by 2030. The Renewable 100 plan supplies electricity from 100 percent renewable resources, such as wind and solar. Participation in Ava Energy is automatic for eligible customers; however, customers may opt out and continue receiving electricity generation service from PG&E (Ava 2025c).

As of 2025, Ava Energy reports a participation rate of approximately 91 percent, serving 33,456 total accounts, including 6,964 solar accounts, within Livermore. Of participating in customers in the City, approximately 97 percent are enrolled in the Bright Choice plan, and 3 percent are enrolled in the Renewable 100 plan (Ava 2025b).

PG&E

PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. PG&E's service territory is 70,000 square miles, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada to the Pacific Ocean (PG&E 2025b).

PG&E's distribution system includes 106,681 circuit miles of electric distribution lines (PG&E 2025b). Total electricity consumption in PG&E's service area was 75,338 gigawatt-hours (GWh) in 2024 (CEC 2025a). Sources of electricity sold by PG&E in 2024 include the following (PG&E 2025a):

- 23 percent renewable—geothermal, biopower, small hydroelectric, solar, and wind power
- 63 percent nuclear
- 12 percent large hydroelectric
- 1 percent natural gas

Natural Gas

Natural gas service in the EIR Study Area is also provided by PG&E. The natural gas system includes approximately 50,000 miles of natural gas pipelines, including 6,700 miles of transmission pipelines and 42,000 miles of distribution pipelines (PG&E 2025c). The transmission pipelines move natural gas from compressor stations and storage facilities to regulator stations. At the regulator station, the pressure in the pipeline is reduced before gas enters the distribution system, which consists of smaller diameter pipelines that deliver gas to residences and businesses. PG&E has approximately 4.5 million natural gas customer accounts (PG&E 2024).

California's demand for natural gas is forecasted to decline through 2040. This is primarily due to the goal of reducing greenhouse gas emissions and the ordinances of some cities for new construction to be all-electric. Total natural gas consumption in PG&E's service area was 11,967 million therms in 2023 (CEC 2025c).

OTHER UTILITIES: TELECOMMUNICATIONS

Numerous telecommunications and internet service providers serve the EIR Study Area, offering a range of technologies including cable, fiber, digital subscriber line (DSL), fixed-wireless, and satellite services. Major providers include Comcast/Xfinity and AT&T, which together provide broadband service to most homes and businesses in the EIR Study Area. Available providers include Comcast/Xfinity, AT&T (including fiber and DSL services), Dish Network, Zayo, and Astound, among others (Alameda Local Agency Formation Commission 2024).

Comcast/Xfinity provides high-speed cable broadband, with service widely available to residents and businesses (Xfinity 2025). AT&T offers both traditional internet and fiber-based broadband service with varying speeds, including fiber optic plans in portions of Livermore (AT&T 2025). In addition to these primary carriers, other smaller or specialized providers (e.g., Earthlink fiber, fixed wireless, satellite broadband) contribute to overall connectivity options (Best Neighborhood 2025).

Primarily private companies provide telecommunications infrastructure rather than a publicly owned broadband network, which can result in differing levels of service availability across the EIR Study Area (Alameda Local Agency Formation Commission 2024).

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3.17.3 Standards for Analysis

SIGNIFICANCE CRITERIA

Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines states that the proposed Project would result in a significant impact related to public services if it would:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- e) Comply with federal, state, and local statutes and regulations related to solid waste.

3.17.4 Project Impact Analysis

-
- a) **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**
-

Less than significant. This section evaluates the potential for the proposed Project to require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, energy, or other facilities.

Water

The proposed Project is a general plan update. A general plan is not considered a project under SB 610 that requires preparation of a WSA. Instead, a general plan relies on information prepared by the water supplier in the current UWMP to demonstrate that the proposed population increase would not create a water demand that would exceed the supply in normal, dry, and multiple dry years, as discussed in the following paragraphs. Future projects accommodated under the proposed Project that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA.

The current and projected water demands from the applicable 2020 UWMPs are provided in Tables 3.17-2 through 3.17-5. Most of the population and employment increases that would occur with the implementation of the proposed Project were incorporated into the 2020 UWMPs. The 2025 UWMPs are currently being prepared and will account for the buildout projections of the proposed Project. In addition, ongoing active and passive conservation measures will continue to reduce per capita water demands, even as the population increases.

Most of the new development would be in areas of the EIR Study Area that are connected to the existing water distribution network. Future projects would be required to fully comply with the requirements of CALGreen, California Plumbing Code, and the City's MWELo, as applicable, which are more stringent than the requirements in place when existing buildings were constructed. Only 4 percent of the current residences were built after 2010, when the CALGreen Building Code was first implemented and the installation of water-conserving plumbing fixtures and fittings was mandated. Therefore, it is assumed that new construction would achieve a reduction in water usage rates of 20 percent through compliance with these regulations.

Over 90 percent of the water supplies for the EIR Study Area are obtained by purchases of treated water from Zone 7 Water Agency. Zone 7 Water Agency operates two water treatment plants: Del Valley Water Treatment Plant and Patterson Pass Water Treatment Plant to supply water to the Tri-Valley area. These treatment plants have a combined capacity of approximately 65 MGD. The Patterson Pass Water Treatment Plant recently completed an expansion that doubled its capacity from 12 to 24 MGD. The Zone 7 Water Agency 2020 UWMP projects a water demand of 55,300 AFY in 2045, which is equivalent to 49 MGD. Therefore, Zone 7 Water Agency has a remaining capacity of 16 MGD, and no new water treatment plants would be required to accommodate the proposed Project (Zone 7 Water Agency 2021a).

Water Demand Analysis

Implementation of the proposed Project would result in 16,610 new housing units and 5,608,650 new square feet of non-residential development. Since there are two water purveyors within the EIR Study Area with different water demand factors, the following analysis is based on the buildout projections within each water purveyor's service area.

Cal Water

The proposed Project would result in approximately 3,820 new housing units and 949,922 square feet of new non-residential land use in the Cal Water service area. The water demand for these additional housing units was calculated using water use factors of 197 gallons per day per dwelling unit (GPD/DU) for single-family residential and 99 GPD/DU for multi-family residential, based on Cal Water's WSA Water Factor Tool and WSAs prepared by Cal Water for similar Cal Water service areas. The water use factor of accessory dwelling units (ADU) was assumed to be 70.5 GPD/DU, which is based on the target indoor water demand of 47 GPCD by 2040 and 1.5

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people per ADU. It assumes no outdoor water usage for ADUs, since they would be constructed on an existing single-family or multi-family parcel where outdoor use is already counted.

The non-residential water demand for the commercial/institutional land use category used a water demand factor of 0.097 gallons per day per square foot (GPD/SF) for 949,922 square feet of new non-residential land uses. The irrigation demand for non-residential land use was assumed to be 10 percent of the total demand, and the distribution system losses were assumed to be 5 percent, as per the 2020 UWMP. The projected increase in water demand for the Cal Water service area is provided in Table 3.17-7, *Projected Water Demand in Cal Water Service Area (2045)*.

Table 3.17-7 Projected Water Demand in Cal Water Service Area (2045)

Category	Number (DU or SF)	Water Use Factor (GPD/DU or GPD/SF)	Increase in Water Demand (AFY)
Single-Family	159	197	35
Multi-Family	3,059	99	339
Accessory Dwelling Units	602	70.5	48
Non-Residential Land Use	949,922	0.097	103
Irrigation Demand for Non-Residential Land Use	-	-	10.3
Distribution System Losses	-	-	27
TOTAL			562

Source: Cal Water 2021; PlaceWorks 2025.

Notes: DU = dwelling unit; SF = square feet; GPD = gallons per day; AFY = acre-feet per year

As shown in Table 3.17-7, the increase in water demand associated with implementation of the proposed Project is estimated to be 562 AFY. Although Cal Water provided population growth projections in their 2020 UWMP, the projections did not account for the total projected growth associated with the proposed Project (approximately 1,706 additional people were not included in the 2020 UWMP assumptions for 2045). However, Cal Water is in the process of preparing the 2025 UMWP, which is expected to be completed in June 2026 and will provide new population projections.

According to the 2020 UWMP, the population within Cal Water’s service area is projected to increase by 14 percent between 2020 and 2045 but the total water demand is expected to increase by less than 1 percent (Cal Water 2021). This is due to future water savings and a decrease in per capita water demand with the application of appliance standards and plumbing codes, conservation programs, and increases in the cost of water service. The water demand calculations provided in Table 3.17-7 are conservative and include these future water savings.

Additionally, Cal Water is not currently using its full allotment of 3,068 AFY for groundwater pumping and used only 1,066 AFY in 2020. In the future, Cal Water can use its full groundwater pumping quota and supplement the rest with potable water from Zone 7 Water Agency. Alternatively, Cal Water can keep its current groundwater pumping rate, and Zone 7 Water Agency is obligated under contract to provide the necessary amount of water to meet Cal Water's demands under normal and drought conditions. Furthermore, Cal Water will update its UWMP every five years to account for increases in population and water demand. Therefore, there is sufficient water supply to meet the water demand in Cal Water's service area under the proposed Project.

Livermore Municipal Water

The proposed Project would result in approximately 12,792 new housing units and 4,658,728 square feet of new non-residential uses in the Livermore Municipal Water service area. The projected water demand in the Livermore Municipal Water service area used water demand factors obtained from the Public Works Department (City of Livermore 2025b). Zone 1 in the service area will be provided with recycled water for irrigation. Therefore, the calculations for Zone 1 used an indoor water demand factor of 120 GPD/DU, and the outdoor irrigation for the zone is assumed to be provided by recycled water. Zones 2 and 3 would not have recycled water available for use and the water demand factors for residential include outdoor water use. The water use factors are 215 GPD/DU for single-family residential and 139 GPD/DU for multi-family residential. The water use factor for ADUs was assumed to be 67.5 GPD/DU, which is calculated as 45 GPCD and 1.5 people per ADU (City of Livermore 2025i). It assumes no outdoor water usage for each ADU, since they would be constructed on an existing single-family or multi-family parcel where outdoor use is already accounted.

The non-residential water demand for the commercial/institutional land use category used a water demand factor of 0.028 GPD/SF for 4,658,728 square feet of new non-residential land uses (City of Livermore 2025i). The irrigation demand for non-residential land use in Zones 2 and 3 was assumed to be 10 percent of the total demand, and the distribution system losses were assumed to be nine percent, as per Livermore Department of Public Works. The projected increase in water demand for the Livermore Municipal Water service area is provided in Table 3.17-8, *Projected Water Demand in Livermore Municipal Water Service Area (2045)*.

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Table 3.17-8 Projected Water Demand in Livermore Municipal Water Service Area (2045)

Category	Number (DU or SF)	Water Use Factor (GPD/DU or GPD/SF)	Increase in Water Demand (AFY)
ZONE 1 – With Recycled Water			
Single-Family ¹	1,144	120	154
Multi-Family ¹	4,574	120	615
Non-Residential Land Use	1,787,196	0.028	56
Net New Potable Water Demand	-	-	825
Distribution System Losses	-	-	74
Outdoor Irrigation – Recycled Water ²	-	-	448
TOTAL – ZONE 1			1,347
Zones 2 and 3 – No Recycled Water			
Single-Family	290	215	70
Multi-Family	6,784	139	1,056
Accessory Dwelling Units	187	67.5	14
Non-Residential Land Use	4,658,728	0.028	146
Irrigation Demand – Non-Residential	-	-	15
Distribution Losses	-	-	117
TOTAL – Zones 2 and 3			1,386
GRAND TOTAL			2,733

Source: Livermore 2025i; PlaceWorks 2025

Notes: DU = dwelling unit; SF = square feet; GPD = gallons per day; AFY = acre-feet per year

1. Water demand factors for Zone 1 are for indoor water demand; outdoor irrigation is calculated separately.
2. Outdoor irrigation demand using recycled water provided by Public Works Department.

As shown in Table 3.17-8, the increase in water demand associated with implementation of the proposed Project in Livermore Municipal Water’s service area is estimated to be 2,733 AFY. This includes 448 AFY of recycled water. The increase in water demand with implementation of the proposed Project added to the existing water demand of 8,728 AFY in 2020 is greater than the projected water demand of 9,004 AFY in year 2045 in the 2020 UWMP. However, Livermore Municipal Water is in the process of preparing the 2025 UMWP, which is expected to be completed in June 2026 and will include the new housing units and non-residential development projections for the proposed General Plan 2045.

Water Supply

Zone 7 Water Agency is under contract with its water retailers to provide sufficient water to meet their demands under normal and drought conditions. As shown in Zone 7 Water Agency's 2020 UWMP (Table 3.17-3), Zone 7 Water Agency has a surplus of water available in 2045 ranging from 27,900 to 61,500 AFY. The potable water demand difference from the City's 2020 UWMP projection and 2045 GP estimate is 1,889 AFY. This number is very low compared to the water surplus from Zone 7 Water Agency 2020 UWMP, which indicates that demand will be met (Zone 7 Water Agency 2021a). The Water Reclamation Plant can provide up to 6 MGD of recycled water, which will cover all future recycled water demand in Zone 1.

The two water treatment plants (Del Valle Water Treatment Plant and Patterson Pass Water Treatment Plant), operated by Zone 7 Water Agency, provide over 80 percent of the potable water to the EIR Study Area, have a total current capacity of 65 MGD. With a projected water demand of 55,300 AFY in 2045, which is equivalent to 49 MGD, the treatment plants have a remaining capacity of 16 MGD, which is more than sufficient to meet the future demands of its water retailers, including Cal Water and Livermore Municipal Water. Both Cal Water and Livermore Municipal Water have capital improvement projects to monitor and upgrade their water distribution systems to accommodate future development. Funding mechanisms are also in place to ensure adequate water infrastructure at buildout. The City annually updates its Master Fee Schedule, which includes service charges and connection fees that support construction, reconstruction, maintenance, and operation of the City's water distribution infrastructure. Collectively, these adopted plans and fee programs ensure that necessary water distribution improvements are implemented to serve new development. Therefore, no new or expanded water treatment facilities would be needed to meet the projected water demand.

In addition, the water demand calculations provided in Table 3.17-8 do not account for reductions in future water demand with new development that are required to implement water-efficient requirements specified in CALGreen and California Plumbing Codes and the MWELo requirements for water-efficient landscaping. Also, future development that meets the criteria under the California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies.

Furthermore, the Infrastructure (INF) Element of the proposed General Plan 2045 contains the following goals and policies that are designed to ensure adequate supplies, infrastructure, and facilities:

- **Goal INF-1:** Improve infrastructure using a fiscally and environmentally sustainable approach that responds to changing conditions.
 - **Policy INF-1.1: Asset Management.** Deliver and maintain high-quality infrastructure while managing individual assets to improve safety and minimize the life cycle cost associated with each asset.

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- **Policy INF-1.2: Infrastructure Climate Adaptations.** Incorporate climate change risks, such as the impacts of drought, increasing storm events, and groundwater changes, in the infrastructure improvements planning process.
- **Policy INF-1.3: Citywide Infrastructure.** Maintain an accurate understanding of the replacement and operation costs, improvement timing, and risks of the City's assets.
- **Policy INF-1.4: Infrastructure Master Plans.** Develop and update master plans to assess infrastructure and to develop a Capital Improvement Program for necessary improvements and inform operations.
- **Policy INF-1.5: Infrastructure Improvement Coordination.** Coordinate water distribution system, wastewater collection, stormwater routing improvements, and/or utility undergrounding with roadway improvements to maximize implementation efficiency, reduce costs, and minimize disturbance due to construction activity.
- **Policy INF-1.6: Infrastructure Improvements Outreach.** Keep the community informed of planned infrastructure improvements and future infrastructure needs. Use outreach and engagement methods that connect with a broad representation of community members.
- **Policy INF-1.7: Infrastructure Development Fees.** Review and update, as necessary, ordinances, policy procedures, and/or fee programs establishing the requirements and mechanisms for collecting financial contributions from new development to improve infrastructure.
- **Policy INF-1.8: Infrastructure Improvement Decision Process.** Deliver a consistent and transparent decision-making process for infrastructure improvement prioritization. Use guiding principles, such as resiliency, environmental sustainability, equity, safety, and fiscal responsibility to guide the prioritization of infrastructure improvements.
- **Goal INF-2: Provide sufficient water supplies and facilities that meet current and future needs in an efficient and sustainable manner.**
 - **Policy INF-2.1: Potable Water.** Ensure the availability of potable water for the city's residents and businesses.
 - **Policy INF-2.2: Water Efficiency.** Increase water efficiency in all new development and existing building stock.
 - **Policy INF-2.3: Water Supply Conservation Improvements.** Participate in regional programs and projects that target the improvement and conservation of the region's groundwater and surface water supply.
 - **Policy INF-2.4: Recycled Water.** Use and expand the use of recycled water for appropriate uses, where and when available.
 - **Policy INF-2.5: On-Site Water Reuse.** Allow on-site stormwater capture and greywater reuse in commercial and residential settings.

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- **Policy INF-2.6: Water Service Connection.** Require structures with plumbing in city limits to connect to the water system, unless distance from the public water system or other factors indicate a need for an exemption.
- **Policy INF-2.7: Water Service Area.** Approve extensions of water service, storage, and the distribution system within or adjacent to the City-approved service area consistent with the Urban Growth Boundary and Out of Area Service Agreement Policies.
- **Policy INF-2.8: Water Availability Development Conditions.** Condition the approval of new development on the availability of sufficient water supply, storage, and pressure requirements from the City or other water purveyors.
- **Policy INF-2.9: Water Infrastructure Development Requirements.** Require new development projects to be responsible for constructing an adequate potable water distribution system and paying water connection fees to construct additional necessary storage, pumping, and distribution facilities.

Specifically, proposed Policies INF-2.6, INF-2.8, and INF-2.9 require new development projects to in the City Limit to connect to the water system and be responsible for constructing adequate potable water distribution system and paying water connection fees to construct additional necessary storage, pumping, and distribution facilities and require the City to condition the approval of new development on the availability of sufficient water supply, storage, and pressure requirements from the City or other water purveyors.

Compliance with the City’s requirements for new construction and water-efficient landscaping and implementation of the proposed 2045 General Plan goals and policies would ensure that no new or expanded water distribution or infrastructure beyond what is already planned or under construction would be required to accommodate the proposed Project.

Wastewater

A wastewater generation factor was obtained from the City’s Public Works Department and was estimated to be 59 GPCD. Table 3.17-9, *Projected Wastewater Demand (2045)*, provides an estimate of the amount of additional wastewater generated by the proposed Project.

Table 3.17-9 Projected Wastewater Demand (2045)

Category	Number of People	Wastewater Generation Factor (GPCD)	Wastewater Demand (MGD)
Population Increase	43,820	59	2.6
Current Wastewater Flow Rate	-	-	5.7
Wastewater Flow Rate in 2045	--		8.3

Source: Livermore 2025b; PlaceWorks 2025.

Notes: GPCD = gallons per capita per day; MGD = million gallons per day

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As shown in Table 3.17-9, the projected increase in wastewater flow rates is estimated to be 2.6 MGD. Adding this increase to the current flow rate of 5.7 MGD would result in a total flow rate of 8.3 MGD in 2045.

The LWRP currently has a permitted capacity of 8.5 MGD average dry weather flow. Expansion of the treatment plant is allowed if certain conditions can be met.

Implementation of the proposed Project would not require the construction or expansion of the LWRP or the City's sewer collection system beyond what is already planned or under construction. Wastewater generation rates have continued to decrease over time due to the implementation of water conservation efforts and low-flow plumbing fixtures as well as compliance with the CALGreen building code requirements for new construction. Future development would be required to adhere to the LMC requirements, CALGreen, and California Plumbing Code requirements for new construction. The City of Livermore also imposes annual sewer service charges to residents as part of the annual property tax bill, and non-residential land uses pay a monthly fee. In addition, all future development is required to pay sewer connection fees prior to the issuance of building permits. The collected fees are used to continually upgrade components of the wastewater collection and treatment systems through the CIP program.

Additionally, the proposed General Plan 2045 goals and policies related to infrastructure improvements previously identified above, in addition to the following goal and policies from the Infrastructure (INF) Element, are designed to minimize impacts related to wastewater facilities:

- **Goal INF-3:** Plan, manage, and develop wastewater collection, treatment, and disposal systems in ways that are safe, sanitary, resilient to climate change, and financially sound.
 - **Policy INF-3.1: Wastewater System Connections.** Require structures with plumbing within the city limits to connect to the public wastewater collection system area consistent with the Urban Growth Boundary.
 - **Policy INF-3.2: Wastewater System Capacity.** Approve new development on the condition of availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development area.
 - **Policy INF-3.3: Septic Tanks.** Allow septic tanks only in agricultural zones if approved by Zone 7 and the Alameda County Health Department.
 - **Policy INF-3.4: South Livermore Sewer Extension.** Coordinate with Alameda County and Zone 7 on the extension of sewer service to the South Livermore Valley to protect groundwater quality and enable long-term land use goals, consistent with the Urban Growth Boundary and climate-resilient infrastructure planning.
 - **Policy INF-3.5: Sewer Main Location.** Locate sewer mains to minimize the impacts to the environment and nearby infrastructure.

- **Policy INF-3.6: Equitable Access to Services.** Ensure that all neighborhoods, including underserved and rural areas, have equitable access to reliable and safe wastewater services, consistent with the City’s Urban Growth Boundary and environmental justice goals.
- **Policy INF-3.7: Inflow and Infiltration Reduction.** Implement programs to identify and reduce inflow and infiltration in the wastewater collection system to maintain system capacity, reduce treatment costs, and protect water quality.
- **Policy INF-3.8: Emergency Preparedness and Resilience.** Ensure that wastewater infrastructure is designed and maintained to withstand natural disasters, including flooding and seismic events, and develop contingency plans for emergency operations.
- **Policy INF-3.9: Monitoring and Compliance.** Maintain a robust monitoring and reporting program to ensure compliance with all State and federal wastewater discharge regulations, including those set by the Regional Water Quality Control Board.
- **Policy INF-3.10: Public Education and Outreach Support.** Implement public education initiatives to reduce improper disposal of fats, oils, grease (FOG), pharmaceuticals, and hazardous materials into the wastewater system.

Specifically, proposed Policy INF-3.1 would require new development projects to in the City Limit to connect to the public wastewater system. Proposed Policy 3.2 would require the City to condition the approval of new development on the availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development areas.

The City currently complies with the statutory requirements listed in Section 3.17.1, *Regulatory Framework*, including requirements in the LMC, and those requirements ensure that the City would continue to comply with State and federal regulatory requirements related to wastewater. All new development would be required to pay a fair share of the City’s planned sewer system improvements. Therefore, future development would not result in insufficient wastewater collection or treatment facilities.

Stormwater

The Livermore 2022 Storm Drainage Master Plan describes the improvements that are planned to accommodate future growth within the EIR Study Area. Some of the existing storm drains would need to be upsized and new detention basins built to accommodate future development.

Future development that involves the creation and/or replacement of 2,500 square feet or more of impervious surfaces would trigger the implementation of site design measures to reduce stormwater runoff, per the Alameda Countywide Clean Water Program. Regulated projects that create or replace 5,000 square feet or more of impervious surface would be required to implement site design, source control, and stormwater treatment and runoff

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measures using specific numeric sizing criteria based on the volume and flow rate of stormwater that is generated.

In addition, all future development that involves the disturbance of one acre or more of land would be subject to NPDES construction permit requirements, including preparation of a SWPPP, which includes BMPs to limit stormwater discharges from the site. The Phase II Small MS4 permit also requires an erosion and sediment control plan to be submitted prior to the City issuing a grading or building permit. Each project undergoes review by City personnel to ensure that the regulatory requirements for temporary on-site stormwater runoff retention have been met. Future development would also be subject to storm drain connection fees, which would be used to fund new storm drain infrastructure within the EIR Study Area. The construction of new stormwater facilities through the CIP and storm drain connection and user fees, implementation of best management practices and on-site stormwater control measures, and preparation of the required documents and review by the City would serve to minimize any potential impacts associated with stormwater and ensure that runoff would not inundate downstream storm drainage facilities such that new or expanded facilities, beyond what is already planned or under construction, would be required.

Furthermore, the proposed General Plan 2045 goals and policies related to infrastructure improvements previously identified above, in addition to the following goal and policies from the Infrastructure (INF) Element, are designed to minimize impacts related to stormwater facilities:

- **Goal INF-4:** Collect and convey stormwater in ways that are safe, sanitary, environmentally acceptable and financially sustainable.
 - **Policy INF-4.1: Storm Drainage Design.** Design public storm drainage improvements to carry appropriate design-year flows to accommodate large storm events, including those exacerbated by climate change, and plan for future buildout.
 - **Policy INF-4.2: Storm Drainage Studies.** Require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems. Projects must include plans for detention and drainage facilities to prevent increased flood risk.
 - **Policy INF-4.3: Impervious Surfaces.** Minimize impervious surfaces in new development and integrate green infrastructure to assist in stormwater management.
 - **Policy INF-4.4: Green Stormwater Infrastructure on City Property.** Install green infrastructure and other natural stormwater management infrastructure on City property and at City facilities, as appropriate.
 - **Policy INF-4.5: Stream Modifications.** Allow stream modifications when necessary to contain flood flows. Modifications shall enhance and/or restore creek natural habitat while providing stormwater management.

- **Policy INF-4.6: Regional Flood Protection and Stormwater Maintenance Coordination.** Collaborate with Zone 7 and other responsible agencies to maintain and improve the regional flood protection system, including the upkeep of creeks, arroyos, and other stormwater infrastructure under their jurisdiction.

Specifically, proposed Policy INF-4.2 and INF-4.3 would require new development and major redevelopment projects to evaluate how stormwater runoff will affect local and regional drainage and flood systems and minimize impervious surfaces and integrate green infrastructure to assist in stormwater management. Proposed Policy INF-4.1 would require the City to design public storm drainage improvements to carry appropriate design-year flows to accommodate large storm events.

Compliance with State, federal, and local regulatory requirements related to stormwater would result in maximizing infiltration of naturally occurring rainwater to improve surface and subsurface water quality, minimizing impervious surfaces, and implementing stormwater runoff requirements. In addition, future development would be required to pay a fair share of the City's storm drainage improvement costs. Compliance with City requirements and policies would ensure that runoff would not inundate downstream storm drainage facilities such that new or expanded facilities would be required.

Other Utilities

Section 3.6, *Energy*, analyzes the proposed Project's potential impacts associated with wasteful or inefficient energy usage. This section focuses on the infrastructure systems associated with electricity, natural gas, and telecommunication facilities.

Electricity and Natural Gas

As shown in Table 3.6-3, *Year 2045 Forecast Electricity Consumption*, in Section 3.6, *Energy*, electricity use in the EIR Study Area would increase by 142,543,682 kWh per year; however, the per-person electricity use would decrease by approximately 86 kWh per year. PG&E's planning area is forecast to experience an estimated 166,709 GWh of annual electricity demand in 2040 (CEC 2026). In comparison, the forecast electricity usage for the EIR Study Area would be less than 0.5 percent of PG&E's projected electricity supply in the future.

As shown in Table 3.6-4, *2045 Forecast Natural Gas Consumption in the EIR Study Area*, in Section 3.6, *Energy*, natural gas use in the EIR Study Area would increase by 7,718,899 therms annually. As a result, the per service population natural gas consumption is estimated to increase by approximately 5 therms per person per year in 2045 due to the increase in development and population growth in the EIR Study Area. In comparison to PG&E's total service area natural gas consumption of 11,967 million therms in 2023, the forecast natural gas consumption for the EIR Study Area would be approximately less than 0.1 percent of PG&E's natural gas supply.

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In addition, future development would be required to comply with the current and future updates to the California Energy Code and the latest CALGreen Code, which would contribute to reducing energy demands. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations, which would ensure the use of efficient electricity and natural gas consumption. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings.

Moreover, the Open Space and Conservation (OS) Element of the proposed General Plan 2045 Project contains the following goals and policies that are designed to improve energy infrastructure and reduce electricity and natural gas consumption:

- **Goal OS-7:** Make Livermore strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.
 - **Policy OS-7.1: Climate Action Plan Updates.** Update the Livermore Climate Action Plan (CAP) at least every five years, maintaining the CAP as a Qualified Greenhouse Gas (GHG) Reduction Strategy under the Guidelines for the California Environmental Quality Act as laid out by the State and Bay Area Air Quality Management District. The CAP shall include an inventory of the level of GHG emissions within the city for a recent year, in comparison to a 2005 baseline, and shall set out specific policies and actions to be undertaken by the City to reduce GHG emissions to a level that meets or exceeds State GHG reduction targets. The policies and actions will include incentives, actions, and requirements to reduce the city's GHG emissions, the GHG emissions of the private sector, and actions that the City will take in concert with public agencies, the private sector, and other stakeholders to reduce GHG emissions. Updates to the CAP will include a public and stakeholder engagement process.
 - **Policy OS-7.2: Climate Action Plan Implementation.** Continue to implement the Climate Action Plan (CAP). Identify key City staff and partner agencies responsible for implementing CAP strategies and actions. Integrate CAP strategies and actions into annual department workplans and budget. Continue to identify and pursue funding mechanisms for CAP implementation.
- **Goal OS-8:** Promote a clean, reliable, and equitable energy system by increasing energy efficiency, expanding the use of renewable and carbon-free energy sources, and reducing greenhouse gas emissions from buildings, transportation, and infrastructure.
 - **Policy OS-8.1: Climate Action Plan Implementation.** Implement Climate Action Plan strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions.
 - **Policy OS-8.2: Per-Capita Energy Use.** Reduce per-capita energy use.
 - **Policy OS-8.3: Clean and Resilient Energy for Public Facilities.** Ensure City facilities and operations use clean, reliable, and resilient energy sources that reduce emissions and support long-term sustainability. Prioritize energy systems that improve efficiency and maintain essential services during power disruptions.

- **Policy OS-8.4: Sustainable Energy through Electrification.** Develop strategies and standards to advance sustainable energy by requiring efficient, all-electric appliances in new buildings, where feasible. Encourage property owners to transition existing buildings to electric appliances over time through partnerships, incentives, and public education that promotes clean energy.
- **Policy OS-8.5: Energy-Efficient Development Decisions.** Consider the energy efficiency of proposed development when making land use and development review decisions.
- **Policy OS-8.6: Solar Access.** Consider solar access, siting structures to maximize natural heating and cooling, and landscaping during the design review process to aid passive cooling protection from prevailing winds and maximize year-round solar access.

These policies would reduce electricity and natural gas consumption for future development projects. Specifically, proposed Policy OS-8.1 would require implementation of the CAP strategies to improve energy efficiency and conservation, promote carbon-free energy sources, and reduce energy-related greenhouse gas emissions. Proposed Policy OS-8.5 would require the City to consider the energy efficiency of proposed development when making land use and development review decisions.

In addition, each of the utility providers prepares long-range plans to accommodate projected growth in their service areas. For example, PG&E provides annual sustainability reports that outline strategies to accommodate future growth and ensure reliability of electrical and natural gas service. These planning efforts consider growth projections, such as growth anticipated as part of the proposed Project. Implementation of the proposed Project would not result in unplanned growth (see Section 3.14, *Population and Housing*, for more information), and much of that growth would be infill, served by existing utility infrastructure. As such, the utility providers take into consideration all future growth projections in their planning efforts, and future development would not be expected to require or result in new or expanded electricity or natural gas infrastructure beyond what is already planned or under construction.

Telecommunications

The EIR Study Area is served by multiple private telecommunications providers offering cable, fiber, DSL, fixed-wireless, and satellite services. Major providers include Comcast/Xfinity and AT&T, which deliver broadband to most homes and businesses, while additional providers such as Dish Network, Zayo, Astound, and Earthlink supplement connectivity. The City does not operate its own broadband network, so service availability can vary across neighborhoods.

Existing telecommunications infrastructure is designed to accommodate increases in population and development. Most new connections would utilize existing networks, and projected additional demand under the proposed Project represents a small fraction of the overall system capacity. The presence of multiple providers and service technologies allows for distributed

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demand and network redundancy. As a result, implementation of the proposed Project would not require the construction or expansion of major telecommunications facilities.

Summary

In summary, compliance with existing federal, state, and local regulatory requirements, including the proposed General Plan 2045 goals and policies would ensure that the proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities beyond what has already been planned. Therefore, impacts would be **less than significant**.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than significant. The analysis in impact discussion (a) indicates that both Cal Water and Livermore Municipal Water have sufficient water supplies available during normal years and a five-year drought period to accommodate future development. Over 80 percent of the total water supply for Cal Water and Livermore Municipal Water is purchased from Zone 7 Water Agency under contract, and Zone 7 Water Agency is required to supply all of the water needed by the four water retailers in its service area under normal and drought conditions.

Future development would be required to implement the water-efficient requirements specified in the CALGreen and California Plumbing Codes and the MWELO requirements for water efficient landscaping. Future projects that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies.

In addition, residential, commercial, and industrial water usage can be expected to decrease in the future as a result of the implementation of water conservation practices through the extensive programs offered by Cal Water and Livermore Municipal Water. For example, according to Cal Water's 2020 UWMP, the population within Cal Water's service area is projected to increase by 14 percent between 2020 and 2045, but the total water demand is expected to increase by less than 1 percent (Cal Water 2021a). In the case of water shortages, Cal Water and Livermore Municipal Water would implement their WSCPs, as outlined in the 2020 UWMPs.

Furthermore, the same proposed General Plan 2045 goals and policies from the Infrastructure (INF) Element identified above under the "Water" subheading in impact discussion (a) would also serve to reduce water demand. Specifically, proposed Policy INF-2.2 would require

increased water efficiency in all new development and existing building stock and proposed Policy INF-2.4 and INF-2.5 promote recycling and reusing water where appropriate.

In summary, implementation of proposed Project would not result in a shortage of water supplies. Compliance with the LMC requirements for new construction and adherence to the proposed General Plan 2045 goals and policies would reduce water demand. Therefore, impacts would be **less than significant**.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than significant. As described under impact discussion (a), the LWRP is currently permitted to treat up to 8.5 MGD. The wastewater flows under the proposed Project are estimated to be 8.3 MGD in 2045. Therefore, the LWRP currently has sufficient capacity to accommodate the increase in wastewater flows in addition to existing wastewater demand. The LWRP is in process of upgrading to remove nutrients from wastewater. The facility upgrade will serve both current residents and future development.

Future projects under the proposed Project would be required to comply with the latest CALGreen and California Plumbing Code and implement active and passive water conservation measures. This would reduce wastewater discharge rates below what was calculated in Table 3.17-9, which are conservative estimates that do not fully consider water conservation measures that would be required for new construction. Also, future development would undergo City approval and be required to comply with the LMC requirements.

Furthermore, the same proposed General Plan 2045 goals and policies from the Infrastructure (INF) Element identified under the "Wastewater" subheading in impact discussion (a) would also serve to ensure that wastewater treatment capacity keeps pace with new development. Specifically, proposed Policy 3.2 would require the City to condition the approval of new development on the availability of adequate long-term capacity of wastewater treatment, conveyance, and disposal sufficient to serve the proposed development areas.

With continued compliance with all applicable regulations, wastewater generated by the proposed Project would not exceed the capacity of LWRP. In addition, implementation of the proposed General Plan 2045 goals and policies would further reduce demand. Therefore, the proposed Project would not result in a determination by the wastewater treatment provider that there is not adequate capacity to serve the EIR Study Area in addition to the demands of other wastewater dischargers. Impacts would be **less than significant**.

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d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than significant. With implementation of the proposed Project, the service population is anticipated to increase by approximately 43,820 residents and 6,110 employees. This increase in population and employment would result in more solid waste generation.

Table 3.17-10, *Solid Waste Generation (2045)*, provides an estimate of the amount of solid waste that would be generated under the proposed Project.

Table 3.17-10 Solid Waste Generation (2045)

	Residents	Employees
Increase in Residents and Employees	43,820	6,110
Per capita waste generation rate (PPD)	5.3	7.8
Waste Generation (PPD)	232,246	47,658
Waste Generation (TPY)	36,230	7,435
Waste Generation (TPY) – Total	43,665	
Waste Generation (TPD) – Total	139.9	

Sources: CalRecycle 2025a, 2025b, 2025c, 2025d.

Note: PPD = pounds per day; TPY = tons per year; TPD = tons per day.

As shown in Table 3.17-10, implementation of the proposed Project would generate an additional 36,230 tons per year (TPY) of solid waste from residents and 7,435 TPY from employees. This would result in a net increase of 43,665 TPY, which equates to a disposal rate of approximately 140 TPD (assuming 312 disposal days per year).

As provided in Table 3.17-6, the Vasco Road Landfill, which accepts approximately 81 percent of solid landfill waste, has excess daily capacity of 2,018 TPD. Therefore, this landfill can accommodate an additional 140 TPD. Additionally, approximately 19 percent of this waste would be distributed to other landfills that accept solid waste from the EIR Study Area (such as Altamont Landfill and Resource Recovery) (CalRecycle 2025b).

In addition, the amount of solid waste generated by residents in the EIR Study Area is expected to decrease over time with continued implementation of recycling program. Also, new development would be required to comply with Division 4.4 of the CALGreen Code, which requires that at least 65 percent of nonhazardous construction and demolition waste from residential and nonresidential operations be recycled and/or salvaged for reuse. New development and redevelopment would also need to comply with the requirements of AB 341 that mandates recycling for commercial and multi-family residential land uses.

In addition, the Infrastructure (INF) Element of the proposed General Plan 2045 contains the following goal and policies that are designed to reduce solid waste generation by promoting diversion and recycling:

- **Goal INF-5:** Reduce the generation of solid waste, increase the diversion of materials from landfills, and support efficient, environmentally responsible solid waste collection, recycling, composting, and disposal systems.
 - **Policy INF-5.1: Waste Management.** Implement an integrated approach to solid waste management that prioritizes waste reduction, reuse, recycling, composting, and environmentally responsible disposal that minimizes landfill use, conserves resources, and protects public health.
 - **Policy INF-5.2: State and County Diversion and Recycling Requirements.** Meet or exceed State and County waste diversion and recycling requirements and implement efforts that will aid in minimizing waste.
 - **Policy INF-5.3: Methane Reduction.** Work with public and private waste disposal entities to reduce methane emissions released from waste disposal and increase methane recovery for energy production from other sources.
 - **Policy INF-5.4: Organics Diversion.** Divert organic waste from landfills, including food scraps and yard trimmings, through composting and anaerobic digestion.
 - **Policy INF-5.5: Source Reduction and Recycling Programs.** Implement source reduction and recycling programs to minimize waste at the point of manufacture or use.
 - **Policy INF-5.6: Equitable Access to Waste Services.** Ensure all residents and businesses, including those in underserved areas, have equitable access to reliable and affordable solid waste, recycling, and organics collection services.
 - **Policy INF-5.7: City Use of Recycled Materials.** Increase City operations that purchase equipment and supplies that can be recycled rather than sent to landfills.
 - **Policy INF-5.8: Public Facility Waste Management.** Implement best practices for waste reduction, recycling, and composting, at City-owned facilities to serve as models for sustainable waste management.
 - **Policy INF-5.9: Waste Bin Storage.** Require new multifamily, commercial, and office development to have a dedicated storage room for landfill waste, recycling, and organic waste bins. The storage room must be sufficient for enough bins to meet the needs of all residential units and nonresidential spaces in the development.
 - **Policy INF-5.10: Business Recycling.** Work to expand recycling and reduce waste generated by Livermore businesses.

Specifically, proposed Policy INF-5.2 would require the City to meet or exceed State and County waste diversion and recycling requirements and implement efforts that will aid in minimizing waste.

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With continued compliance with the applicable regulations, leading to increased recycling and waste diversion, and implementation of the proposed 2045 General Plan goals and policies, the proposed Project would not generate solid waste in excess of local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, this impact is **less than significant**.

e) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Less than significant. As discussed above, the Vasco Road Landfill and Altamont Landfill together provide sufficient permitted capacity to meet the County's AB 939 requirement to maintain a minimum of 15 years of available landfill capacity. Compliance with AB 1826 would be achieved through organic waste recycling and surplus food recovery programs, including the donation of edible food to local food banks. LMC Chapter 8.08 establishes local requirements for organics recycling for residential, commercial, and institutional uses. Future development would be required to comply with Division 4.4 of the most current CALGreen Code, which requires that a minimum of 65 percent of nonhazardous construction and demolition debris from nonresidential construction be recycled and/or salvaged for reuse. New development and redevelopment would also be required to comply with AB 341, which mandates recycling for residential, commercial, and multifamily land uses. Furthermore, the INF Element of the proposed General Plan 2045 contains goals and policies that require local planning and development decisions to reduce solid waste generation by promoting diversion and recycling. The same proposed General Plan 2045 goals and policies identified under impact discussion (d) would also ensure compliance with federal, state, and local statutes and regulations related to solid waste, and impacts would be **less than significant**.

3.17.5 Cumulative Impact Analysis

The following discussion considers the proposed Project's projected growth combined with the other growth in the region that would occur over the life of the proposed Project that would result in increased demand for sewer service, water service, storm water/drainage infrastructure, solid waste disposal services, and energy providers and associated utility infrastructure.

Would the project have a cumulative effect related to utilities and service systems?

Less than significant.

Water

The cumulative water impact analysis includes the service area of Zone 7 Water Agency, which serves the Tri-Valley region as the region's water wholesaler. Zone 7 Water Agency serves four water retailers within its service area: Cal Water, Livermore Municipal Water, the City of Pleasanton, and Dublin San Ramon Services District. Future projects within these areas would result in increases in water demand.

In addition to its UWMP, Zone 7 Water Agency prepared a detailed study and forecasting model to determine future water demand within its service area, in coordination with the four water retailers (Zone 7 Water Agency 2021b). The results from both studies indicated that Zone 7 Water Agency will have the capability to serve all the water retailers within its service area with sufficient water supplies during normal conditions as well as single-dry years and multiple-dry years (Zone 7 Water Agency 2021a).

In addition, projects within the entire Zone 7 Water Agency service area that meet the SB 610 criteria, such as residential projects with more than 500 dwelling units, would be required to prepare WSAs. Each jurisdiction would review such projects for the adequacy of water supply, and the four water retailers and Zone 7 Water Agency would update their UWMPs every five years to ensure that there are adequate water supplies for existing and future residents and customers. All new development in cities within Zone 7 Water Agency's service area would be required to conserve water and implement water efficiency measures, per the CALGreen Building Code and the MWELo irrigation requirements. Water supply deficits in dry years would be met by implementing the WSCPs and other water conservation efforts.

Wastewater

The cumulative wastewater impact analysis covers the service area of LWRP, which includes the City of Livermore as well as Sandia National Laboratory and Ruby Hills development. Implementation of the proposed Project is expected to increase wastewater flow rates by 2.6 MGD. Added to the existing demand of 5.7 MGD, this would result in wastewater flow rates of 8.3 MGD by 2045. The LWRP currently has a permitted capacity of 8.5 MGD. Therefore, the proposed Project would not exceed the capacity of the LWRP.

Future development within the LWRP service area would be required to comply with all applicable regulations and ordinances. Project applicants would be required to pay wastewater connection fees and annual sewer service charges for residents or monthly service charges for non-residential development. These fees would fund continued improvements to the wastewater collection and treatment system.

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Stormwater Infrastructure

The cumulative stormwater impact analysis encompasses the subwatersheds within the EIR Study Area: Arroyo Las Positas Watershed, Arroyo Mocho Watershed, Arroyo del Valle Watershed, and Chain of Lakes Watershed (see Figure 3.10-1, *Regional Subwatersheds*, in Section 3.10, *Hydrology and Water Quality*). As described under impact discussion (a), future development would increase the extent of impervious surfaces and contribute to increasing stormwater runoff that enters the County's storm drainage system.

Future development within the subwatersheds would be required to comply with the LMC requirements and the applicable BMPs for different land use types. All future development would be required to comply with the requirements of the regional MS4 permit, as well as the Alameda County's LID measures and hydromodification requirements as applicable. These measures would minimize the amount of stormwater runoff from new development and redevelopment sites within the four subwatersheds.

Solid Waste

The cumulative solid waste impact analysis includes the service areas of the Vasco Road Landfill and the Altamont Landfill which serve the EIR Study Area. These facilities receive waste from multiple jurisdictions in Alameda County. Therefore, cumulative impacts result from the combined effects of growth in the EIR Study Area and projected development in surrounding incorporated and unincorporated areas of Alameda County.

Implementation of the proposed Project would contribute incrementally to regional solid waste generation. However, as discussed under impact discussion (d), existing landfill facilities serving the EIR Study Area have sufficient permitted and remaining capacity to accommodate the solid waste generated under proposed Project. In addition, waste generated within Alameda County is managed through a regional system, and a portion of the County's solid waste may be transported to other permitted landfills, further dispersing cumulative demand. Cumulative solid waste impacts would also be reduced by ongoing and future increases in waste diversion. State mandates, including AB 939, AB 341, AB 1826, and SB 1383, require expanded recycling, organics diversion, and waste reduction programs that are expected to decrease the amount of waste disposed of in landfills over time.

Other Utilities

The cumulative impacts analysis for other utilities includes the service areas for Ava Energy (for electricity generation) and PG&E (for natural gas and electricity infrastructure). Other projects within the service areas would increase electricity and natural gas demands. The cumulative impacts of energy consumption and efficiency are provided in Section 3.6, *Energy*. All future projects developed within the Ava Energy and PG&E service areas would implement the requirements of the California Energy Code and CALGreen Building Code. New buildings would

also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations. Counties and cities review project design plans against these codes and ensure compliance before issuing construction permits. These measures would reduce the overall consumption of electricity and natural gas.

The EIR Study Area is also served by multiple private telecommunications providers. As determined under the “Other Utilities” subheading in impact discussion (a), the energy and telecommunications service providers that serve the EIR Study Area indicate that they have the capacity to accommodate future increases in population within their existing service areas without requiring significant changes to current infrastructure.

Summary

All cumulative projects would be required to comply with existing federal, state, and other local regulatory requirements. Compliance with these regulations would ensure cumulative impacts with respect to utilities and service systems would be **less than significant**.

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