



Sustainability & Resiliency

Sustainability is a core principle that shaped the vision for the Berryessa BART Urban Village (BBUV) Plan. This principle emerged as one of the key community values expressed during the community outreach process for the creation of this Plan. Additionally, the proximity of this Urban Village to the Berryessa/North San José BART station, a major regional transit hub, is an ideal opportunity to reduce greenhouse gas emissions that accompany strong land use and transportation integration.

INTRODUCTION

The BBUV Plan is uniquely positioned to support the City's sustainability and greenhouse gas (GHG) reduction goals.

This chapter highlights the importance of sustainability as a community value and its potential to significantly contribute to the City's environmental goals. The chapter outlines sustainability-focused policies pertaining to energy, water, waste, building materials, environmental quality, ecosystem protection, and community resilience, and establishes a framework that references other sustainability-related policies in other chapters of the BBUV Plan.

SUSTAINABILITY POLICY OVERVIEW

Sustainability is a core concept of the Envision San José 2040 General Plan. Past efforts such as the 2007 Green Vision and Green Building Ordinance set the precedent for the importance of sustainability in San José. More recent policies such as Climate Smart San José, the Greenhouse Gas Reduction Strategy update, the Energy and Water Building Performance Ordinance, the 2019 Building Reach Code Initiative, and the Green Stormwater Infrastructure Plan support the sustainability policies included in the BBUV Plan.

Envision San José 2040 General Plan

The Envision San José 2040 General Plan (General Plan) was adopted in 2011 as the City's road map to guide the City's continued growth through 2040. The General Plan includes 12 major strategies that inform the Plan's goals, policies, and implementation actions. Major Strategy #7, Measurable Sustainability / Environmental Stewardship, calls for minimizing impacts on resources consumption, reducing the City's contribution to global warming, and preservation and enhancement of the natural environment. The General Plan is committed to innovation in environmental leadership and supporting other environmental plans and policies, including the Post-Construction Urban Runoff and Hydromodification Management policies, the Riparian Corridor Policy, and the Habitat Conservation Plan. Overall, the General Plan sets ambitious environmental goals and establishes annual measurement of environmental indicators to advance the City's sustainability goals.

Climate Smart San José

Climate Smart San José (Climate Smart) was adopted in 2018 and replaced the Green Vision. Climate Smart outlines how the City of San José will achieve ambitious GHG reduction goals consistent with the targets of the Paris Climate Agreement, which are more stringent than those set in the General Plan (See Figure 6-1).

Charting the Path to Paris

Keeping Global Temperature Rise this Century Below 2°C

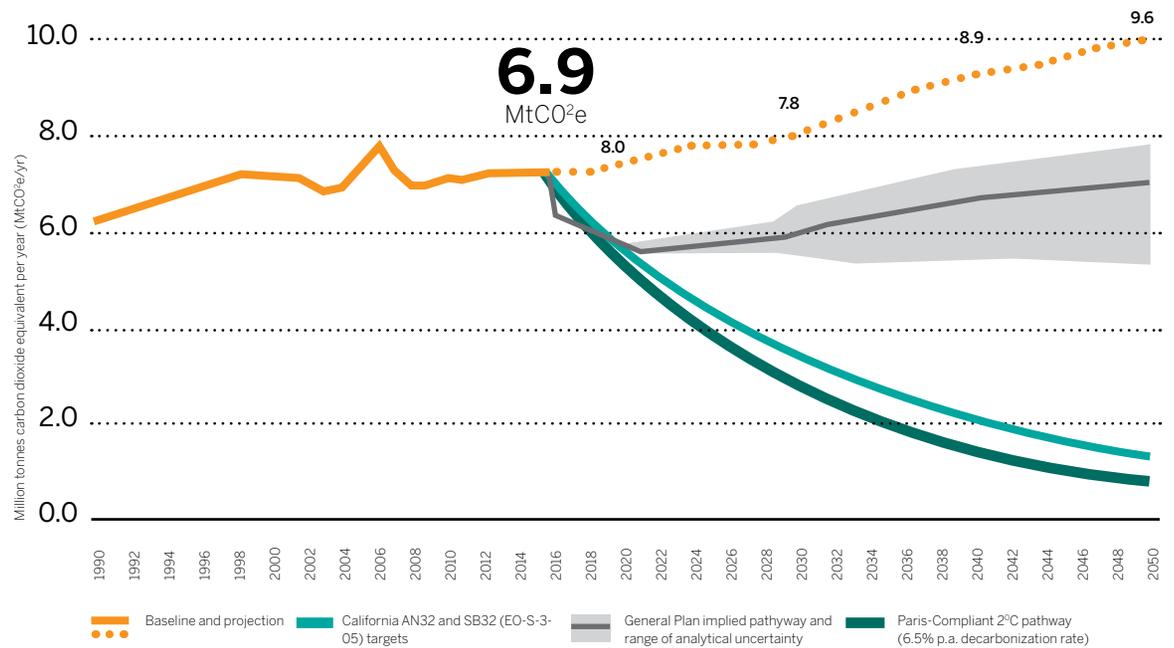


Figure 6-1: Projections under different climate approaches. (Source: Climate Smart San José)

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The Nine Strategies of Climate Smart San Jose



Figure 6-2: Climate Smart San José Pillars and Strategies.
(Source: Climate Smart San José)

Because sustainability policies that exist in the General Plan would not, on their own, be able to achieve the Climate Smart GHG reduction targets, Climate Smart San José identifies additional measures to achieve these goals. As shown in Figure 6-2, Climate Smart San José groups nine key strategies into three pillars:

- Pillar 1: A Sustainable & Climate Smart City
- Pillar 2: A Vibrant City of Connected & Focused Growth

Pillar 3: An Economically Inclusive City of Opportunity

The strategies are centered on improving the quality of life of San José residents by 2050, with policies established around three well-known dimensions of sustainable development: social sustainability, economic sustainability, and environmental sustainability. For the BBUV Plan, framing sustainability policy around Climate Smart ensures consistency with the City's General Plan.

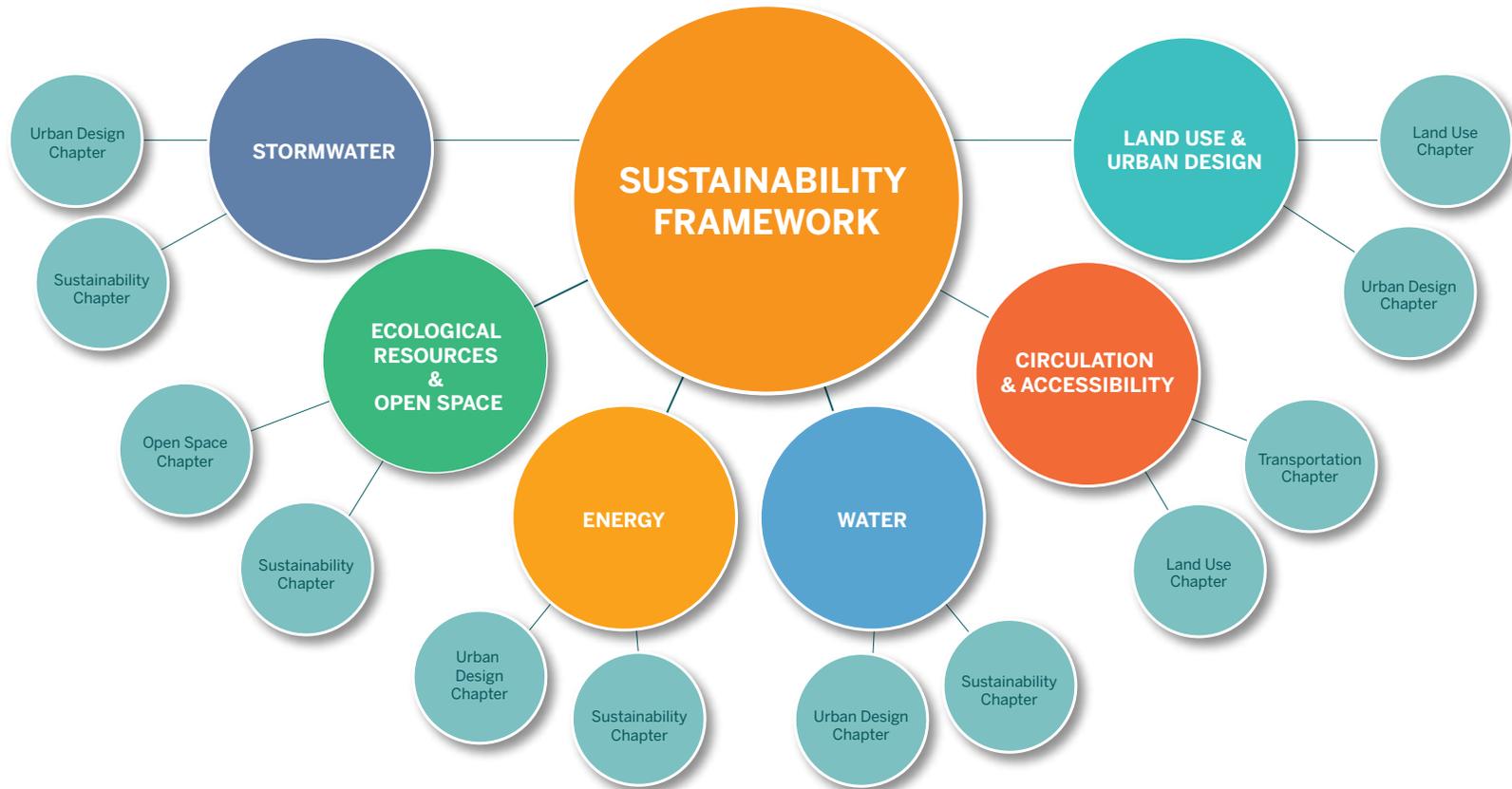


Figure 6-3 :BBUV Sustainability Framework

While Climate Smart San José provides direction for sustainability through nine high-level strategies, existing City implementation policies are in the process of being updated to support its goals. The BBUV Plan Sustainability Framework outlines the various topics addressed through sustainability-driven policies

from this chapter and sustainability-related policies from other chapters (shown in Figure 6-3). This Framework guides the sustainability vision of the BBUV and direction on how it should be implemented.

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LAND USE AND URBAN DESIGN

The BBUV land use plan concentrates future development intensities adjacent to the BART station. High commercial and residential densities support transit ridership and foster social interaction as well as pedestrian activity. The BBUV land use plan also distributes land equally between commercial and residential uses, and fosters opportunities for vertical mixed-use with ground-floor commercial where it is most desired and feasible. Creating local jobs makes it possible for the City's residents to work close to where they live, thus reducing transportation induced GHG emissions. Sustainable policies pertaining to land use and urban design can be found in Chapter 3: Land Use and Chapter 4: Urban Design.

CIRCULATION AND ACCESSIBILITY

According to the 2017 Inventory of Community Greenhouse Gas Emissions published in April 2019, transportation and mobile sources¹ account for approximately 63 percent of GHG emissions in San José and new development should foster alternative transportation to alleviate transportation's contribution to GHG emissions. This chapter outlines policies related to electric vehicle infrastructure to further reduce transportation-based GHG emissions.

The circulation pattern of the BBUV reflects a bicycle- and pedestrian-oriented environment, dominated by walkable streets, blocks, and an interconnected trail network along Coyote Creek and Penitencia Creek, all of which ensures full accessibility to the BART station. With a transportation network that is fully integrated with the urban design and land use plan, the circulation plan is conducive to reducing transportation-based GHG emissions. Chapter 6: Transportation & Circulation contains sustainable policies related to transportation and Chapter 3: Land Use include policies that foster a sustainable transportation network.

ECOLOGICAL RESOURCES AND OPEN SPACE

The protection and enhancement of Coyote Creek and Penitencia Creek is vital to support the region's watershed function and San José's native habitat for local species, as well as to reduce the risk of flooding to the communities living close to the creeks. The goals and policies in this Sustainability chapter pertain to bolstering the riparian corridor and open spaces in the BBUV to preserve the natural assets of the area, while preserving spaces sufficiently wide and configured for trail development. Both Chapter 5: Open Space and Placemaking and this chapter include policies regarding preserving ecological resources that complement the policies laid out in this chapter.

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ENERGY

Energy consumption accounts for approximately 31 percent² of all GHG emissions in San José according to the 2017 Inventory of Community Greenhouse Gas Emissions. Chapter 4: Urban Design includes policies for building design that may result in energy consumption reduction. The energy polices set in this chapter are focused on the built environment, including both public realm infrastructure and private development energy use and emphasize the concept of Zero Net Carbon (ZNC) development and reducing the BBUV overall carbon footprint.

WATER

Water efficiency and conservation policies for indoor and outdoor water consumption ensure a more sustainable use of potable water resources. Chapter 4: Urban Design includes policies for building design that may result in water use efficiency. The water efficiency polices set in this chapter are focused on reducing potable water use for new developments, minimizing water use for landscaping, and increasing the use of recycled water.

STORMWATER

Sustainable management of stormwater in the BBUV is essential to preserve and enhance the quality of our creeks and Bay. The BBUV is characterized by the confluence of Penitencia Creek and Coyote Creek and its policies can have a direct impact on their riparian habitat and water quality. Chapter 4: Urban Design; Chapter 5: Open Space and Placemaking; and Chapter 6: Circulation and Streetscape include policies for site design that may result in stormwater management benefits. The policies set in this chapter are focused on implementing features to reduce stormwater runoff pollution and the risk of flooding.

¹ Mobile source emissions consist of six sub-sources: on-road vehicles (93% contribution), trains/heavy rail (<1% contribution), light rail (<1% contribution), public buses (<1% contribution), City and County airport in-boundary flights (<1% contribution), and off-road equipment (5% contribution).

² Energy consumption consists of three sub-sources: residential energy (43% contribution), commercial energy (35% contribution), and industrial energy (22% contribution).

Sustainability Goals and Policies

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The Sustainability Framework outlines goals and policies that go beyond or that are not controlled by existing City documents and is designed to complement the existing sustainability efforts in the City. The Goals, Policies, and Guidelines in the chapter focus on: energy, electric vehicles, water, solid waste, and ecological resources. Where feasible and applicable, sustainability indicators and metrics are proposed to inform the policies of this chapter.

ENERGY



OVERALL GOAL:

Strive for carbon neutrality from energy consumption in the built environment by 2030.

Carbon-neutral development will be instrumental in achieving the goals of Climate Smart and the General Plan to combat climate change and limit the amount of emitted carbon. Energy consumption is the second largest contributor to GHG emissions in San José, and the policies that reduce energy use and encourage renewable energy sources support the City's goal of reducing carbon emissions.

Goal SU-1:

All new buildings should reduce overall energy use and greenhouse gas emissions by 2040.

Policy SU-1.1: All new development shall meet or exceed the City's Building Reach Code³.

Policy SU-1.2: Incorporate "passive solar" design strategies, such as solar orientation and daylighting, where feasible.

Policy SU-1.3: Discourage the use of natural gas as an energy source.

³ As of June 2019, buildings over 7 stories and over 15,000 square feet have not been modeled as part of the City's Building Reach Code. These buildings, though not modeled, will also be subject to the City's Building Reach Code.



Goal SU-2:

Promote district energy infrastructure to facilitate development of Zero Net Carbon (ZNC) buildings that are energy intensive such as high-rise multifamily and mid-to-high rise commercial buildings.

Policy SU-2.1: All new development projects that include two or more buildings should study district cooling and heating to facilitate the performance of Zero Net Carbon (ZNC) buildings. All district energy systems should be powered by carbon- and greenhouse gas-free energy from San Jose Clean Energy.

Policy SU-2.2: All multi-block developments should consider district energy systems and supportive “Distributed Energy Resources” to facilitate the construction of Zero Net Carbon (ZNC) mid-to-high-rise non-residential buildings.

Policy SU-2.3: All multi-block projects should study district energy resiliency strategies, capable of meeting basic energy needs of residents and commercial users, using the 7-hour emergency preparedness metric used by the California Governor’s Office of Emergency Services (Cal OES).

Policy SU-2.4: All new development should obtain LEED® certification or GreenPoint rating.

Goal SU-3:

Reduce overall building energy use and promote energy efficiency to reduce greenhouse gas emissions from existing buildings by 2040.

Policy SU-3.1: All development, regardless of size, should track energy performance consistent with the Energy and Water Building Performance Ordinance.

Policy SU-3.2: All retrofits including commercial and residential buildings should reduce overall energy consumption and discourage the use of natural gas as an energy source

Policy SU-3.3: Renovation of projects greater than 20,000 square feet should be 100% powered by electricity from carbon- and greenhouse gas-free energy sources provided by San Jose Clean Energy.

Policy SU-3.4: All retrofits should install energy-efficient equipment and fixtures including lighting, ventilation, heating and cooling systems, water heating, and kitchen appliances according to the Energy and Water Building Performance Ordinance.

Policy SU-3.5: All retrofits should improve energy efficiency to existing buildings to the benchmarks and within the time frame outlined in the Energy and Water Building Performance Ordinance.



ELECTRIC VEHICLES



OVERALL GOAL:

Optimize electric vehicle charging infrastructure and reduce overall fuel use.

Mobile source emissions are the largest contributor to GHG emissions in San José, with approximately 93 percent of those emissions originating from on-road vehicles. While land use and circulation policies focus on fostering alternative transportation modes (including the optimal use of the trail system for such purpose), these policies also address the upward trend of clean energy vehicles which also reduce GHG emissions.

Goal SU-4:

All new development shall strive to provide Electric Vehicle Charging Infrastructure (EVCI) above the City's Energy Reach Code.

Policy SU-4.1: All new residential development in each of the four Districts shall have at least 80% of the total parking stalls provided as "Electric Vehicle (EV)-capable," with at least 20% "Electric Vehicle Charging Infrastructure (EVCI)-ready" (above the City's Energy Reach Code).

Policy SU-4.2: All new commercial development in each of the four Districts shall have at least 50% of the total parking stalls provided as "Electric Vehicle (EV)-capable," with at least 20% "Electric Vehicle Charging Infrastructure (EVCI)-ready" (above the City's Energy Reach Code).

	2019 Base Code	San Jose Reach Energy Code	Berryessa BART Policies
Single Family	1 EV Ready	1 EV Ready	N/A
Multifamily	3% for 17 or more spaces	10% of total parking spaces must have EVSE, 10% must be EV ready, and 70% must be EV capable.	20% of total parking spaces must have EVSE, 10% must be EV ready, and 70% must be EV capable.
Office	4-10% spaces EV Ready		
	10% of total parking spaces must have EVSE, 0% must be EV ready, and 40% must be EV capable	20% of total parking spaces must have EVSE, 10% must be EV ready, and 50% must be EV capable	
All Other			
Non-Res	4-10% spaces EV Ready	10% spaces EVSE, 40% spaces EV Capable (with reserved capacity)	N/A



WATER



OVERALL GOAL:

Strive to reduce 50% of potable water use for new and existing buildings in the BBUV by 2040.

San José is within the Mediterranean cool-summer climate region under the Köppen System Classification, and its sheltered location along the interior of San Francisco Bay means that it gets less rain than other local areas of the same classification⁴. Most of the rainfall occurs during the winter months, while the summer months are dry. This creates a climate that has long dry spells, with intense periods of rain that could lead to flooding.

Embracing the California climate means building an urban landscape, in both homes and public places that take climate into consideration. This means conserving the water we have during periods of drought and being able to accommodate significant amounts of precipitation in short periods of time. The following policies will help reach water focused goals while creating an attractive and enjoyable place.

Goal SU-5:

Reduce overall potable water use from new buildings by 2040.

Policy SU-5.1: Encourage the use of low-flow plumbing fixtures such as aerators for faucets, reduced-flow shower heads, and high-efficiency toilet and urinal flush valves in new development.

Policy SU-5.2: Innovative indoor water recycling techniques are encouraged, including rainwater capture systems, dual plumbing, and greywater/black water recapture/reuse systems.

Policy SU-5.3: All new commercial developments over 20,000 square feet should use recycled water for toilets, urinals, irrigation and/or cooling systems.

Goal SU-6:

Reduce overall potable water use from existing buildings by 2040.

Policy SU-6.1: New and retrofitted residential or non-residential development shall comply with San Jose Municipal Code Section 17.85.410.

Policy SU-6.2: New and retrofitted residential or non-residential development should achieve at least two or more of the listed Energy Standards and Water Standards required under San Jose Municipal Code Section 17.85.410 (B).

Policy SU-6.3: All existing building retrofits should repair plumbing leaks and replace inefficient plumbing fixtures including toilets, urinals, faucets, and showerheads with high-efficiency fixtures and fittings.

Policy SU-6.4: Design, install, and maintain efficient irrigation systems and utilize low water-use plantings for all private and public development.

Goal SU-7:

Eliminate potable water use for all outdoor and landscape irrigation purposes, unless intended for food, by 2040.

Policy SU-7.1: Use native or drought-tolerant plant species that require low water usage and maintenance for landscaped areas.

Policy SU-7.2: Encourage the design and use of natural drainage such as bioretention in landscaped areas to filter surface water runoff.

Policy SU-7.3: For landscaped areas, utilize a timed drip irrigation system to water plants effectively without wasting water.

Policy SU-7.4: Encourage the use of gray water for outdoor landscaping irrigation, where available and where feasible.

Policy SU-7.5: Encourage the use of technology to limit water usage, such as smart water meters that monitor water usage and rain sensors that override automatic landscape watering systems.

Policy SU-7.6: All sites that utilize gray water shall have clear public health noticing.



SOLID WASTE



OVERALL GOAL:

Divert 75% of construction and operational waste generated in the BBUV area to recycling or composting facilities by 2040.

Solid waste can be another source of GHG emissions; however, in San José, solid waste is a relatively small contributor to GHG emissions. Although waste is only a small impact on GHG emissions, waste has other negative impacts to the environment. Pollution of the environment is a major concern in the BBUV, particularly since the riparian corridors are rich in biodiversity. Waste should be reduced and managed sustainably within the BBUV.

Goal SU-8:

Use sustainable building materials for all construction to minimize construction waste.

Policy SU-8.1: Strive to divert and reuse 10% more than the requirements listed in the Construction & Demolition Diversion (CDD) Program of construction debris from all new development and retrofits from landfills.

Policy SU-8.2: Encourage deconstruction of existing buildings over demolition and reuse of the salvaged material.

Policy SU-8.3: Encourage the use of recycled building materials during construction for all new and retrofitted development, with the maximum recycled content threshold established in the appropriate green building rating system.

Goal SU-9:

Provide opportunities to sort and collect waste generated on private and public land to divert them to the appropriate waste channels.

Policy SU-9.1: All public and private rights-of-way shall have dedicated areas for waste collection and clear signage to sort waste appropriately.

Policy SU-9.2: All plant and tree waste shall be separated from the other waste and 100% of the plant and tree waste shall be composted.

Policy SU-9.3: For development projects, require the installation of full trash capture devices (e.g., hydrodynamic separators) to prevent trash originating from the Urban Village from passing through the storm sewer system to local waterways.

Guideline SU-9.4: New developments are encouraged to explore the implementation of “waste-to-energy” strategies to reduce on-site waste and generate energy, provided that environmental benefits offset the costs.

Guideline SU-9.5: New developments are encouraged to explore retrofits of existing multi-unit buildings by installing mechanized diverters in existing waste chutes.

ECOSYSTEM PROTECTION & COMMUNITY RESILIENCE



OVERALL GOAL:

Restore, maintain, and protect Penitencia Creek and Coyote Creek, including its riparian corridor sensitive areas to promote biodiversity, while creating an environmentally resilient community with vibrant recreational spaces for all current and future generations living in and visiting the Berryessa BART Urban Village to enjoy.

Penitencia Creek and Coyote Creek are two valuable natural assets to protect, preserve, and restore in the BBUV. Not only are they rich in biodiversity, but they also offer recreational open space opportunities. Both creeks provide habitat for endangered and protected species – Central California Coast steelhead, Western pond turtle, California red-legged frog, California tiger salamander, and nesting raptors and other bird species covered by the Migratory Bird Treaty Act and/or California Fish and Game Code. Also, areas along the Penitencia Creek and Coyote Creek historically have had a higher risk of flooding, especially where the two creeks converge. This Plan includes policies to reduce stormwater runoff pollution and flooding, bolster the riparian corridor, and ensure the resilience of new development.

Goal SU-10:

Restore and preserve the ecosystem of the Coyote Creek and Penitencia Creek riparian corridor.

Policy SU-10.1: Ensure that new development adjacent to the Coyote Creek and Penitencia Creek riparian corridor is consistent with the provisions of the City's Riparian Corridor Policy Study and the Riparian Corridor Protection and Bird-Safe Design City Council Policy, while recognizing that this plan supports more intensive urban development adjacent to the riparian corridor.

Policy SU-10.2: Development should enable and support habitat connectivity by preserving and creating connected green spaces, streetscapes, and architecture to reduce habitat fragmentation and disruption of water flow.

Policy SU-10.3: The restoration of areas within the riparian corridor, whether previously developed or undeveloped, is highly encouraged.

Policy SU-10.4: Use a diverse array of native plants that would support native habitat and biodiversity of flora and fauna.



Goal SU-11:

Reduce polluted stormwater runoff to improve water quality in Coyote Creek and Penitencia Creek and to support additional benefits, such as climate resiliency, reduced runoff to the storm sewer system, and neighborhood beautification.

Policy SU-11.1: Manage stormwater runoff in compliance with Provision C.3 of the Municipal Regional Stormwater Permit and the City's Post-Construction Urban Runoff (6-29) and Hydromodification Management (8-14) Policies.

Policy SU-11.2: All private development shall strive to capture, treat, or reuse 100% of stormwater runoff on-site using Low Impact Development (LID) principles and Green Stormwater Infrastructure (GSI).

Policy SU-11.3: New development should incorporate GSI into the public right-of-way (such as along sidewalks, in medians, bulb-outs, parks and plazas) as part of public improvements to the maximum extent practicable.

Policy SU-11.4: In-lieu of achieving 100% on-site stormwater management, stormwater should be treated at the nearest centralized/regional stormwater treatment facility outside the boundaries of the Urban Village, if feasible and permitted by regulatory authorities applicable resource agencies.

Policy SU-11.5: Encourage private-public facility partnerships and investments in GSI where feasible and beneficial for both parties.

Policy SU-11.6: Reduce impervious surfaces throughout the Urban Village where feasible through site design techniques, such as pervious pavement, green roofs, and landscaping.

Policy SU-11.7: Encourage the use of water permeable paving surfaces in paved areas (i.e. pedestrian, bicycle, vehicle (parking) areas, etc. to increase natural percolation and on-site drainage of stormwater.

Policy SU-11.8: Promote the use of LID and GSI elements for individual developments to slow run-off speeds and increase filtration at the source, including green roofs, rain gardens, bioretention areas, flow-through planter boxes, storm-water tree filters with bioretention soils, and pervious pavement roadside parking.

Policy SU-11.9: Refer to stormwater management guidance documents such as the Santa Clara Valley Urban Runoff Pollution Prevention Program's C.3 Stormwater Handbook and GSI Handbook, as well as the City's GSI Maintenance Field Guide for proper design and maintenance of GSI to ensure their long-term function and appearance.

Policy SU-11.10: Require an established Business Improvement District to fund litter removal and street cleaning.

Goal SU-12:

Minimize vulnerability of property and life to flooding along Coyote Creek and Penitencia Creek from extreme storm events⁵.

Policy SU-12.1: Identify flooding risks from major storm and flooding events and design ground-floor uses to address the potential risk of property damage.

Policy SU-12.2: Collaborate with the Santa Clara Valley Water District to pursue improvements that would reduce the footprint of the area designated as Special Flood Hazard Areas from within the Urban Village boundary, including areas adjacent to the Coyote Creek and Penitencia Creek.

Policy SU-12.3: Ensure that development along Coyote Creek and Penitencia Creek accommodate flood channel improvement projects led by the Santa Clara Valley Water District.

Policy SU-12.4: Maintain stormwater and drainage facilities to remove debris before storm events to prevent clogging and potential ponding of surface water.

Policy SU-12.5: Private and public streets shall be cleared of debris regularly to maximize stormwater runoff infrastructure.

Action SU-1: Plan for excess rain events and include overflow drains, backup infiltration, and underdrains. Plan drainage route to prevent storm-water from coming in contact with pollutants and develop facilities to remove any pollutants before excess storm-water enters the sewer system.

⁵ "Extreme storm event" refers here as the 100-year design storm event, which is the metric used by Valley Water for flood management design and control purposes (Source: Valley Water, 2019)