



# Flood Mitigation and Capacity Improvements for Sycamore Creek



## BACKGROUND

Sycamore Creek in Santa Barbara, California, has historically been prone to flooding, particularly during heavy winter rains. Within the City limits, the creek flows through densely populated residential areas, increasing the risk of damage to private property and public infrastructure.

While much of the lower watershed lies within a historic floodplain, urbanization and changing climate patterns have heightened the creek's tendency to overflow during intense rainfall. These floods have caused significant damage to homes, roads, and public infrastructure.

## OBJECTIVE

To mitigate flooding risks in Sycamore Creek, it is essential to implement comprehensive flood management strategies that include improved storm water infrastructure, natural waterway restoration, and community preparedness measures.

## PROPOSED SOLUTIONS

The goal is to reduce flooding risks while protecting the natural environment and ensuring the long-term safety and resilience of the Santa Barbara community. The recommended stream capacity for Sycamore Creek is 3,000 cubic feet per second (cfs), aligning with the future capacity of the existing US Highway 101 bridge, which represents approximately a 50-year flood event. Achieving this capacity will require significant engineering and construction efforts.

## Sycamore Creek Watershed Key Facts

Watershed Size:	2,600 acres
Highest Elevation:	2,400 feet
10-Year Flow:	1,897 cfs
100-Year Flow:	3,306 cfs
Capacity at Hutash St Bridge:	1,200 cfs
Capacity at HWY 101:	2,080 cfs ( <i>current</i> ) 3,000 cfs ( <i>future</i> )
Capacity at Zoo Bridge:	1,100 cfs
Cabrillo Blvd. Bridge:	3,000 cfs

## KEY ISSUES

**Flooding Risk:** Current capacity of creek channel and bridges is insufficient for heavy storms, causing overbank flooding that impacts nearby properties and City infrastructure.

**Public Safety:** Flooding and debris flows in low-lying and steep areas pose risks to life and property.

**Infrastructure Vulnerability:** Roads, bridges, and storm drains in the watershed are often overwhelmed during floods.

**Climate Change:** Intensifying storms and rising sea levels are expected to increase flooding frequency and severity.

## FLOOD CONTROL INFRASTRUCTURE

Construct or enhance retention basins, green infrastructure, storm drains, and natural drainage systems to better manage storm water runoff and reduce peak flow rates during heavy rains.

## ENVIRONMENTAL RESTORATION

Restore natural floodplain areas and riparian buffers to improve water absorption and infiltration, reducing runoff velocities and peak flow rates.

## COMMUNITY RESILIENCE

Implement public awareness campaigns and emergency response plans to prepare residents and businesses for future flood events.

Visit [SantaBarbaraCA.gov/Prepare](https://SantaBarbaraCA.gov/Prepare) to learn more.

## CAPACITY IMPROVEMENT

Best engineering practices dictate that capacity improvement projects be completed from downstream to upstream to avoid unintended flood impacts. Without addressing downstream capacity improvements first, the effectiveness of upstream projects is limited and unlikely to attract grant funding or other financial support.



Sycamore Creek Path

## COMPLETED PROJECTS

The following bridge and creek widening/channel improvement projects have been completed as of December 2024:

Location	Previous	Current
Montecito St & Yanonali St	1,400 cfs	3,000 cfs
Quinientos St	6,000 cfs	6,000 cfs
Cacique St & Soledad St	2,500 cfs	3,000 cfs
Punta Gorda St	1,400 cfs	3,000 cfs



Quinientos St Bridge Replacement, Completed in 2020

## NEXT STEPS

The City of Santa Barbara continues to collaborate with agencies, including the County of Santa Barbara Flood Control and Water Conservation District, to develop an implementation plan for recommended creek capacity improvements. The projected cost of these improvements exceeds \$100 million in 2024 dollars. All agencies must work together to identify and secure funding for design and construction.

## FUTURE BRIDGE REPLACEMENTS

Replacement of six existing undersized bridges is necessary to increase creek capacity:

Location	Current
Por la Mar Circle (South)	1,800 cfs
Por la Mar Circle (North)	1,500 cfs
Zoo Bridge	1,100 cfs
Union Pacific Railroad Bridge	2,400 cfs
Hutash St Bridge	1,200 cfs
Carpinteria St Bridge	2,600 cfs

## FUTURE CREEK WIDENING AND CHANNEL IMPROVEMENTS

Widening of the creek channel and bank stabilization is necessary at the following locations:

Channel Reach	Current
Cabrillo Blvd to HWY 101	1,300-1,800 cfs
Hutash St to Cacique St	1,200 cfs