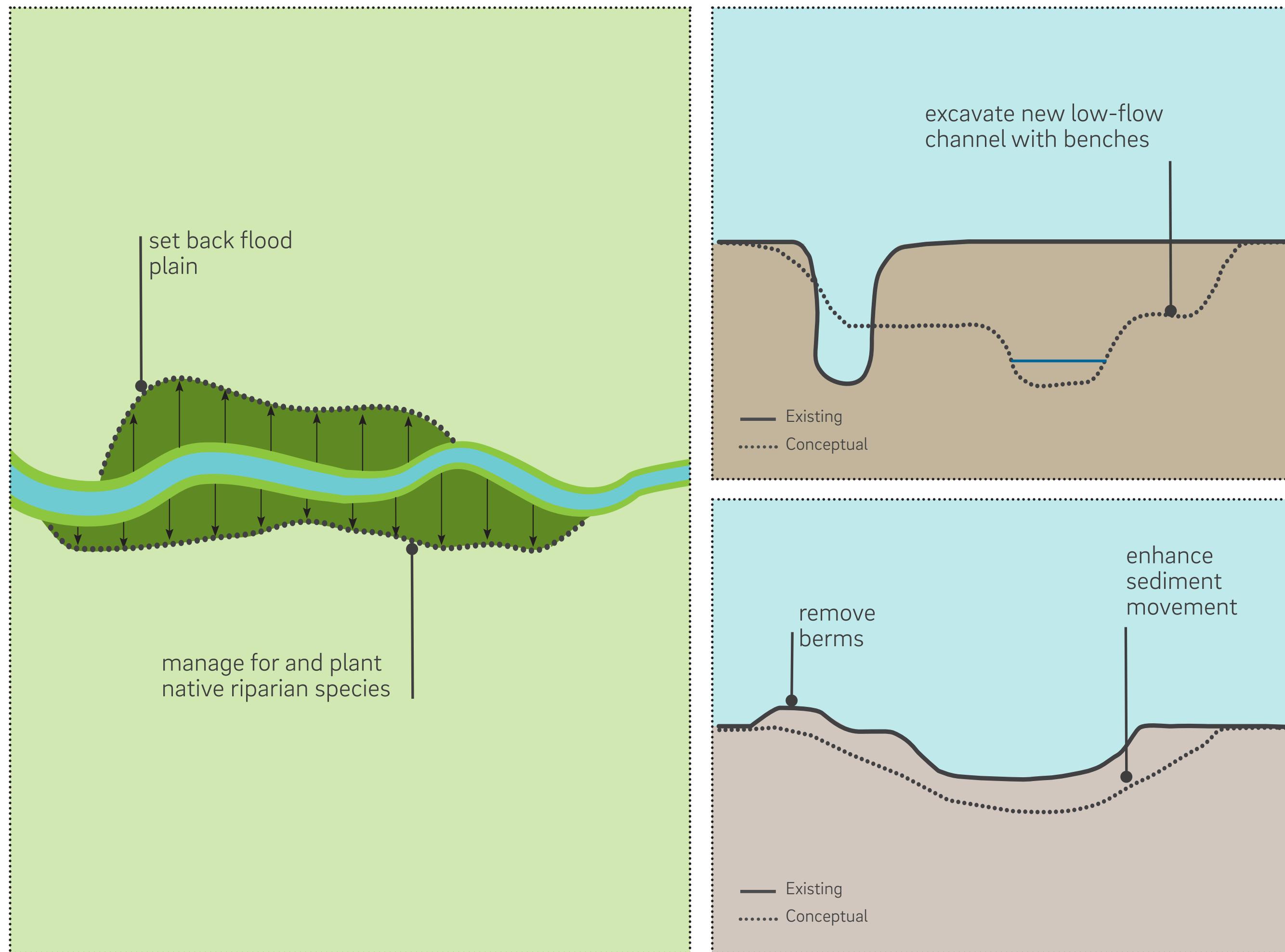


Upper Penitencia Creek Community Meeting

TYPICAL CONCEPT: RIPARIAN ENHANCEMENTS



Description

Expand Floodplain

- Excavate flood benches
- Set back levees

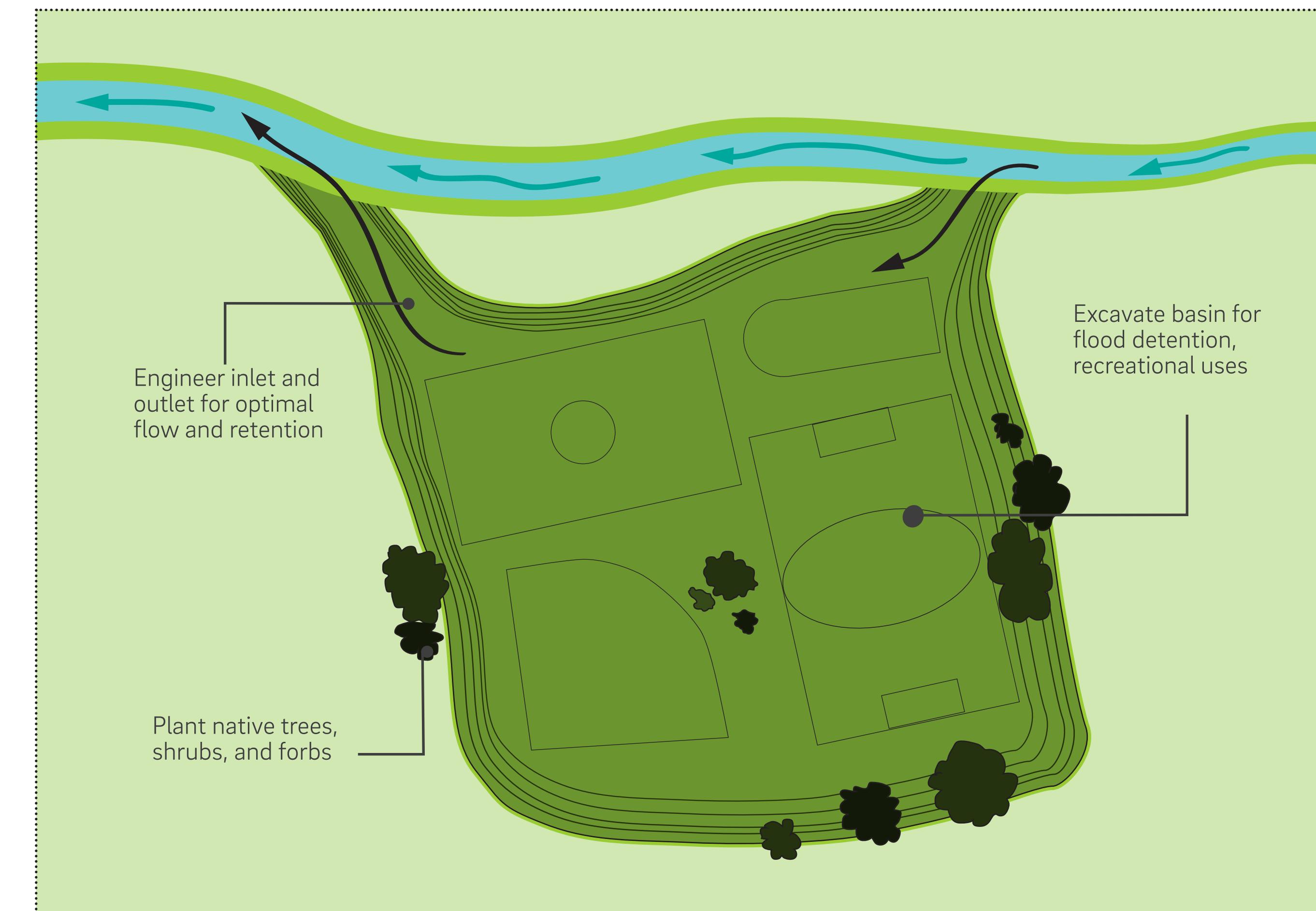
Enhance Riparian Habitat

- Create or improve willow, sycamore, oak savanna; including shrub layer
- Manage non-native species such as eucalyptus

Key Benefits

- Utilizes open spaces for flood protection
- Preserves and enhances riparian vegetation
- Preserves and enhances recreation uses by completing trail system and providing informational signage
- Enhances sediment movement to benefit fishery habitat

TYPICAL CONCEPT: OFF-CHANNEL DETENTION & RECREATION



Description

Create Basin

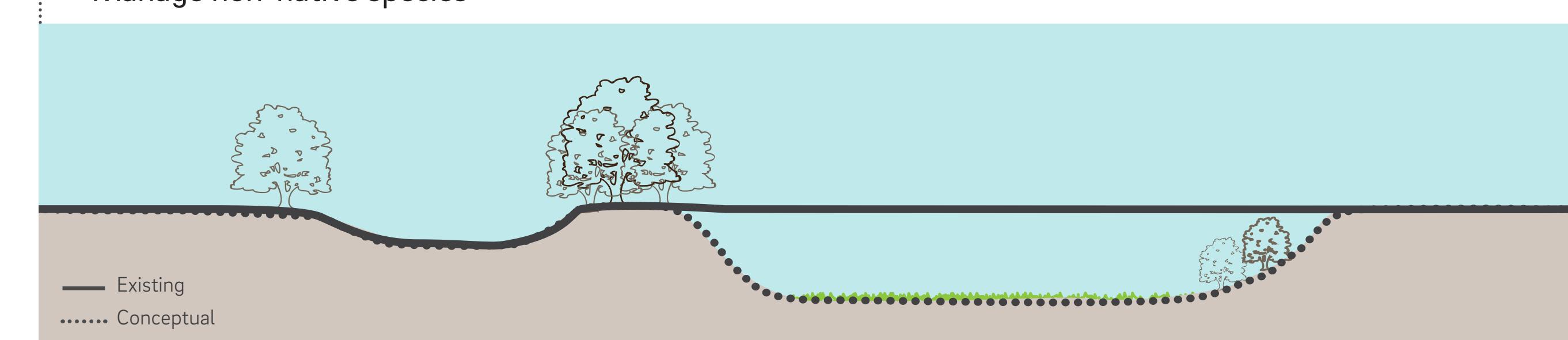
- Below existing grade, with engineered side slopes
- Opportunity for sports field development

Enhance Habitat

- Plant native trees and shrubs where possible
- Manage non-native species

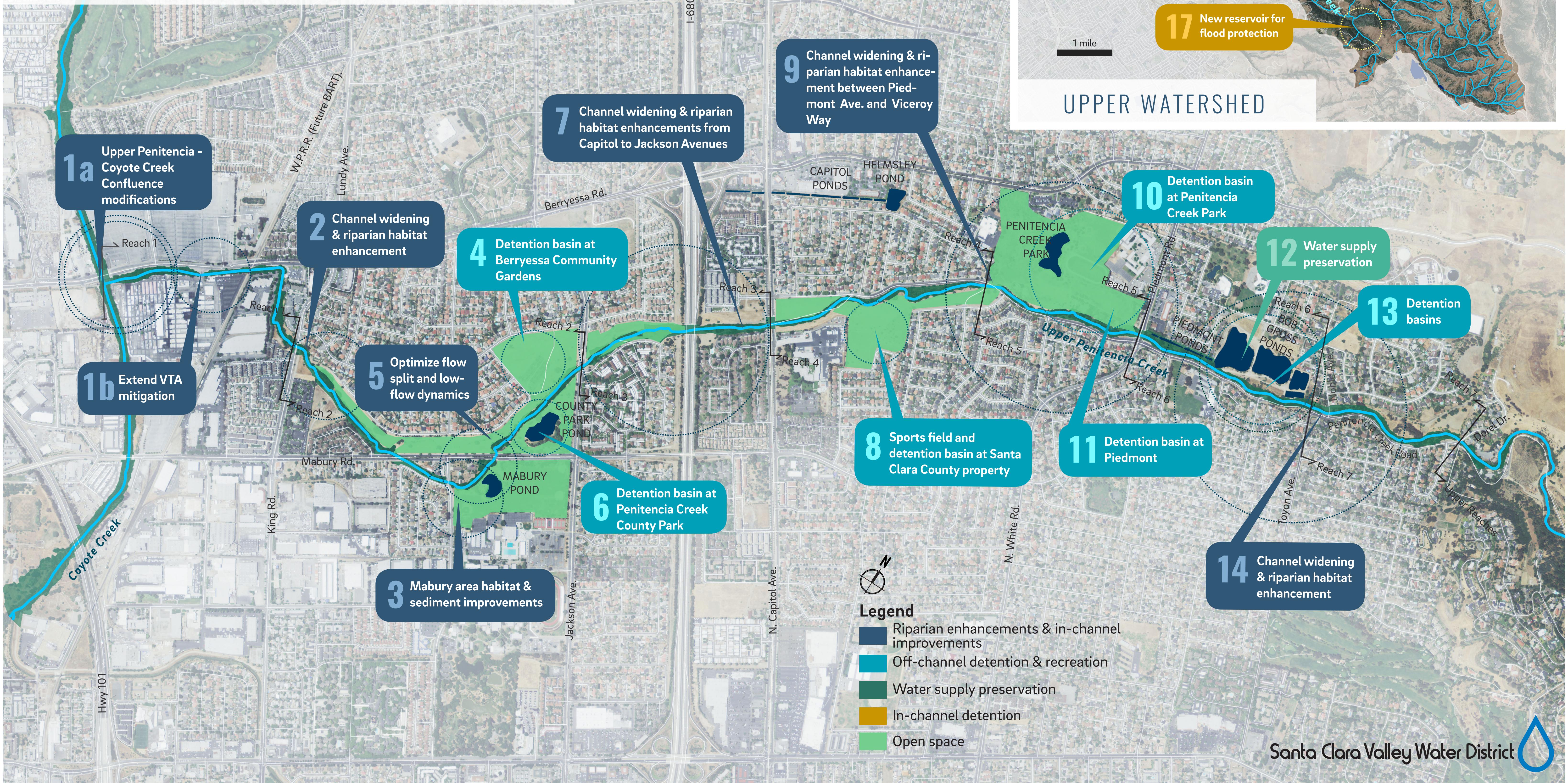
Key Benefits

- Flood risk reduction
- Provide temporary flood storage and infiltration
- Possible to create a sports field amenity for the community and schools
- Possible to enhance habitat within basin

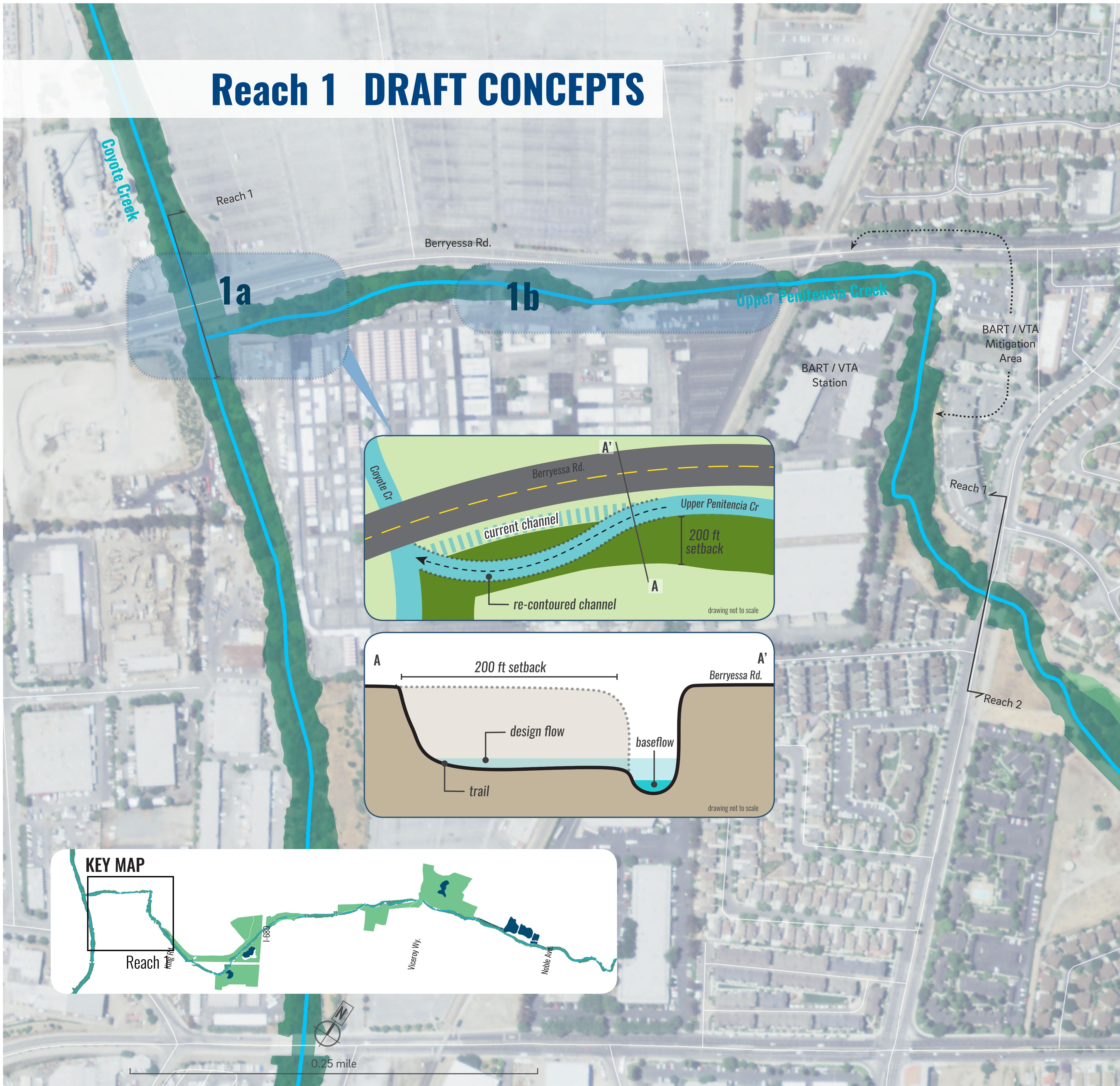


LANDSCAPE STRATEGY CONCEPTS OVERVIEW

PRELIMINARY DRAFT



Reach 1 DRAFT CONCEPTS



1a Confluence modifications: Redesign channel at confluence with Coyote Creek

Channel Modifications

Widen the channel within a ~200 ft setback area, incorporating a more sinuous, compound channel form, incorporating a low-flow channel and high flow bench; remove in-channel concrete and fill to provide enhanced flood protection to proposed development near the confluence with Coyote Creek; investigate possibility of rebuilding bridge over Coyote Creek just downstream of confluence to improve flow and sediment transport capacity.

Stream Habitat Improvements

Within the confluence setback area, create or improve perennial stream habitat with native willows, sycamores and oaks, including a shrub layer; manage non-native species such as eucalyptus (*Eucalyptus globulus*) and giant reed (*Arundo donax*) to provide improvements in connectivity for sediments, water flow, and wildlife between Upper Penitencia and Coyote Creeks.

Pedestrian Trail Extension

Connect Coyote Creek and Upper Penitencia Creek trails within setback area to provide enhanced recreational opportunities. Consider limiting trail to one side of creek to provide wildlife corridor on the opposite side.

1b Extend habitat improvements: Extend stream mitigation design

Modeled on the successful upstream BART / VTA mitigation, continue channel improvements to downstream areas to enhance aquatic and riparian habitat and water quality.



Santa Clara Valley Water District

Reach 2 DRAFT CONCEPTS

2 Channel widening and riparian habitat enhancements

Channel widening

To address sediment aggradation in this reach, expand floodplain area within a wider setback and consider expanding openings under bridges (including partnering with the City of San José on redevelopment of King Rd bridge). These actions would improve flow and sediment transport during flood events, improve passage for migrating steelhead and other fish, and enhance in-channel terrestrial wildlife migration and dispersal.

Near-channel vegetation enhancement

Improvements to the riparian zone should include enhancement of sycamore habitat and additions to the shrub layer, with benefits to terrestrial and aquatic wildlife. These improvements can take place in the context of managing vegetation for flood conveyance.

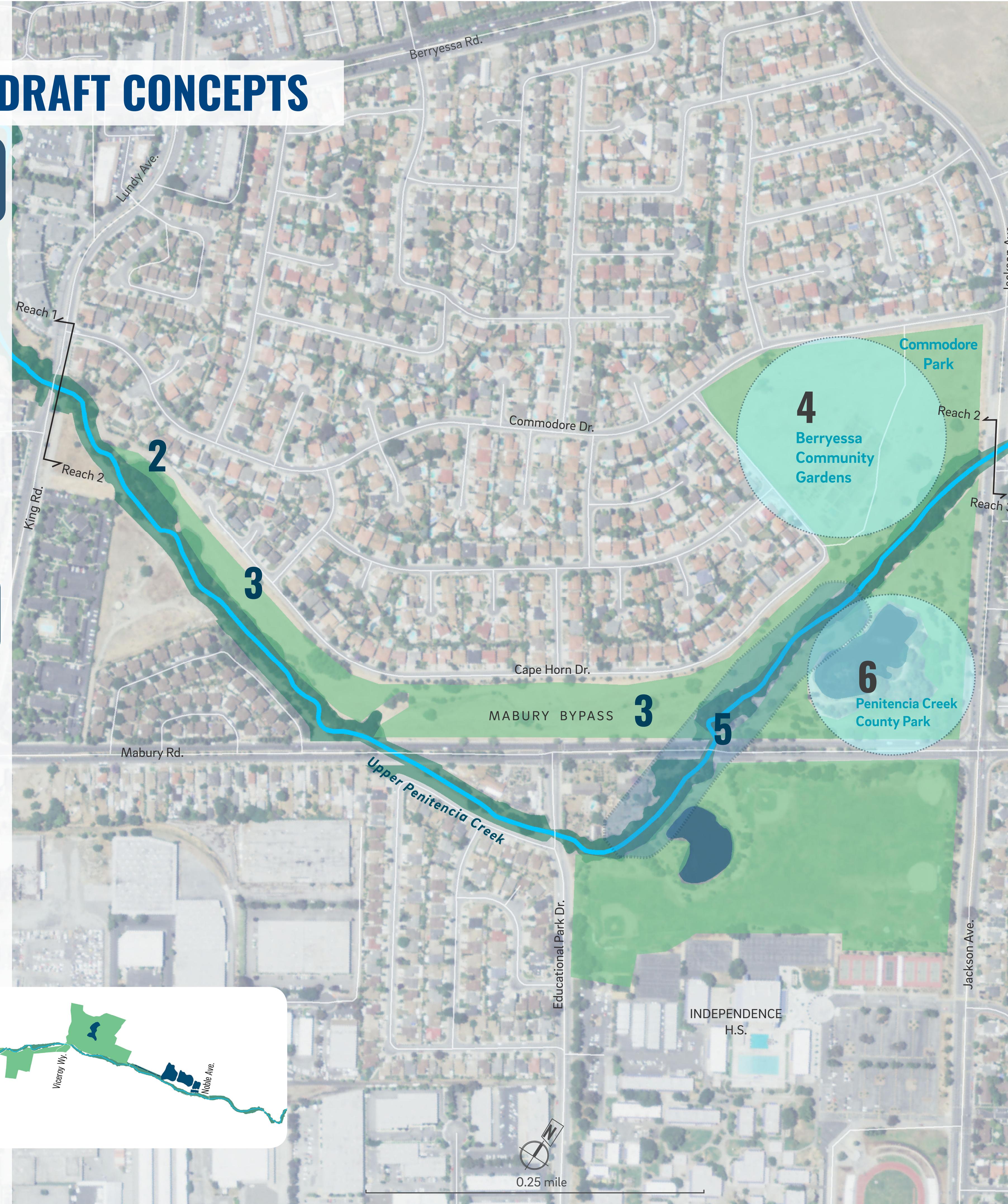
3 Mabury area habitat and sediment improvements

Promote California sycamore cover

Within open spaces between King Rd and Jackson Ave, increase proportion of native canopy and understory cover within the riparian zone to promote native wildlife diversity and improve wildlife habitat. Plant California sycamores and native shrubs such as elderberry and coyote bush as part of this effort.

Design sediment management strategy

Implement a strategy that focuses on local sediment reuse instead of hauling sediment elsewhere to decrease sediment disposal costs and increase sediment available for local in-channel habitat restoration and maintenance.



4 & 6 Multi-use flood detention basins

Flood detention basins could be engineered to work together, filling and draining sequentially as flood stages rise and fall. Potential fish stranding as floods recede can be addressed by connecting basins to the channel.

Berryessa Community Gardens

Working with partners and landowners, engineer a flood detention basin that also serves desired recreational uses.

Penitencia Creek County Park

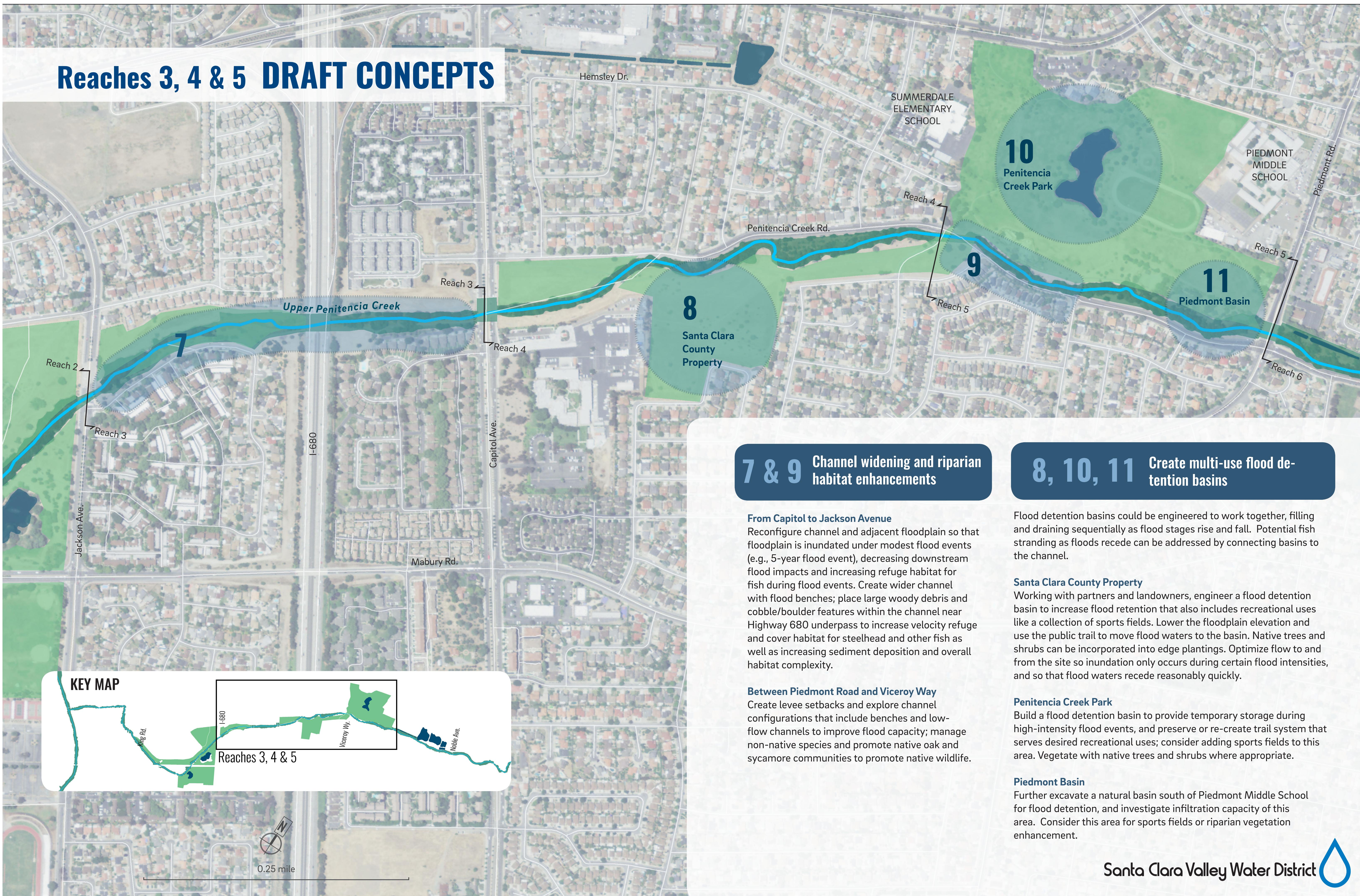
Lower floodplain around the existing pond to increase flood detention capacity, improve the connective pipe that fills this pond, and provide a sediment settling basin. Construct berm surrounding the park boundary to provide flood protection to the surrounding area.

5 Optimize flow split and low-flow dynamics

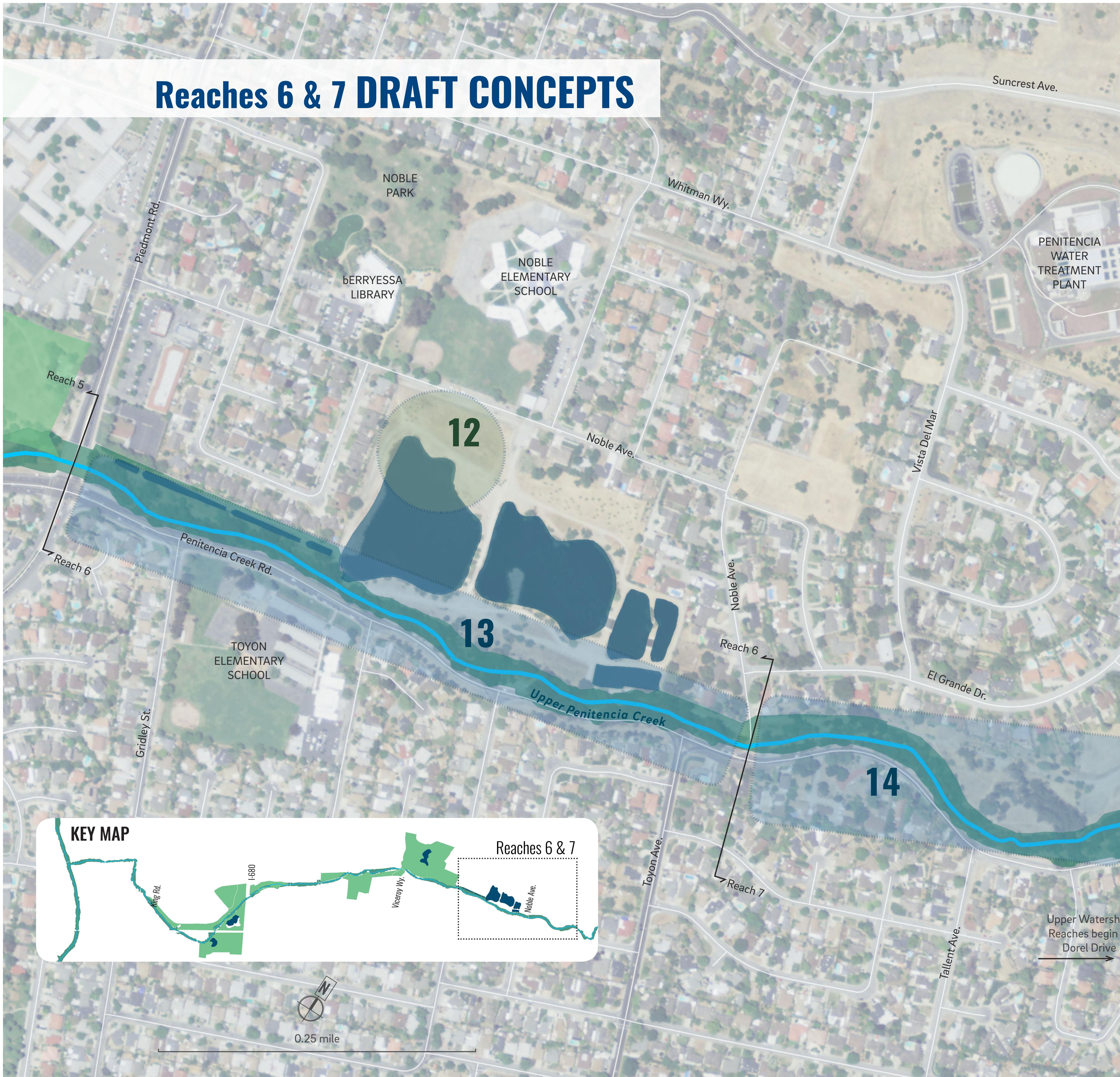
Flow split and low-flow dynamics

This reach accumulates sediment and has an engineered weir separating Upper Penitencia Creek from the Mabury Bypass (a secondary, high flow channel). Establishing a low flow connection from the Creek to the Bypass and planting riparian vegetation along both channels could improve dry season aquatic habitat conditions and increase riparian habitat for native wildlife. Removing the earthen berms that prevent flows from entering the open space area and that cause the channels to fill with sediment could improve flow conditions through the reach. Consider different designs for the channel split to increase flood conveyance.

Reaches 3, 4 & 5 DRAFT CONCEPTS



Reaches 6 & 7 DRAFT CONCEPTS



12

Flood storage enhancement and water supply mitigation at Bob Gross Ponds

13

Bob Gross Ponds Habitat Improvements

14

Channel Widening and Riparian Habitat Enhancements

Along approximately half a mile, expand channel width and excavate a lower-flow channel, designing a flood bench to flood at the 10-year storm interval. This flood bench can be planted with native species, and vegetation in the surrounding area can be managed to promote native species. Monitoring of the channel for fish and wildlife use will be important as the channel evolves through flood events.

Restore the stream to a riffle-pool configuration by removing an inoperable concrete fish ladder, and widen the stream channel by eliminating the Noble diversion channel to benefit native fish. Investigate increasing the flow and sediment transport capacity under an aging bridge at Noble Ave, working with partners and landowners.

Santa Clara Valley Water District