

DOCKETED	
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Project Title:	Compass Energy Storage Project
TN #:	264934
Document Title:	Roger E. Bütow- Supporting historical docs to deny pause petition
Description:	Roger E. Bütow- Supporting historical docs to deny pause petition
Filer:	Renee Longman
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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Docketed Date:	7/21/2025

Oso Creek Restoration

Presented By:

Ziad Mazboudi

PE, F.ASCE, LEED AP, CPSWQ, CPESC, QSD/QSP

Tory R. Walker

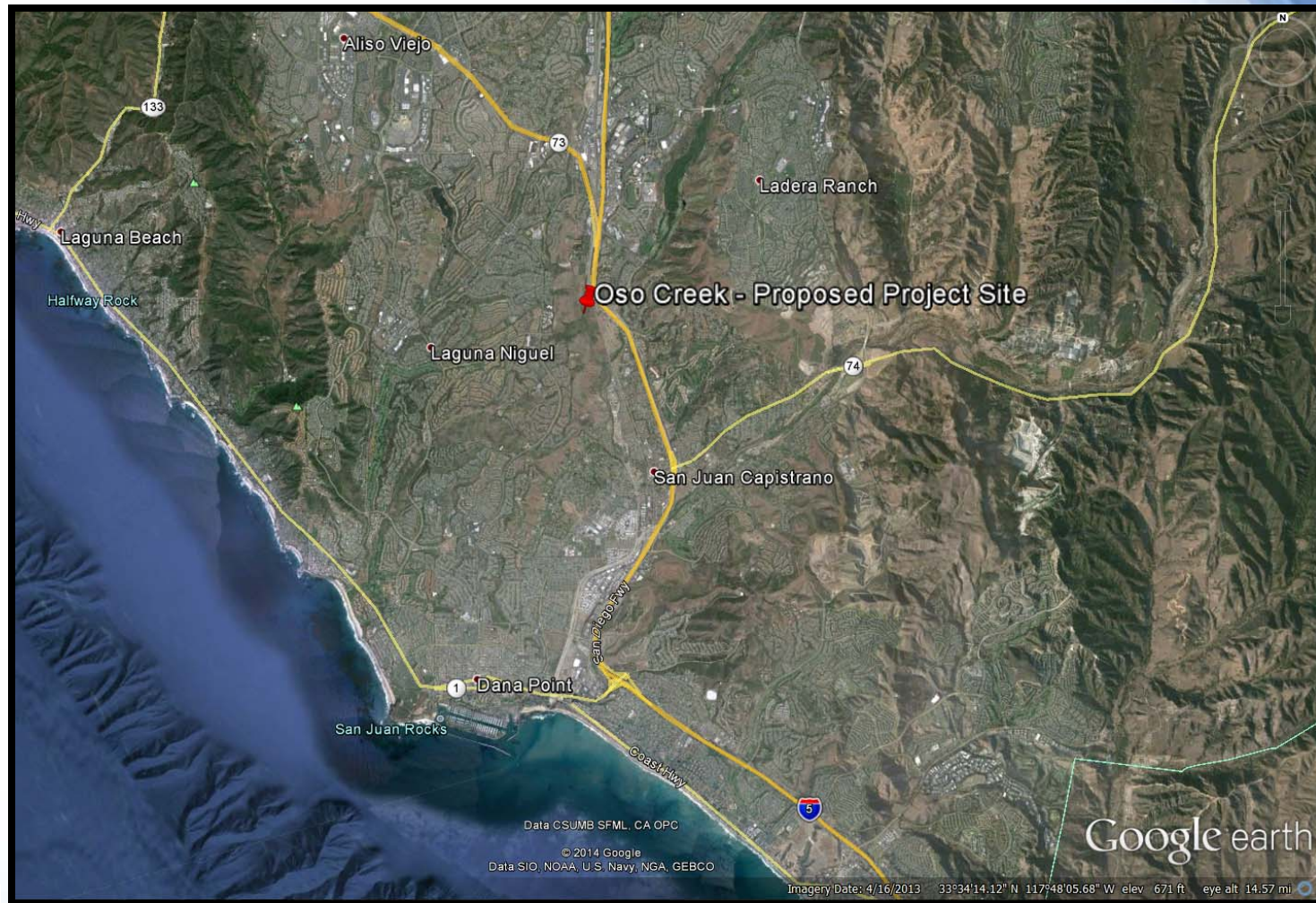
PE, CFM, LEED GA



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June 5, 2014

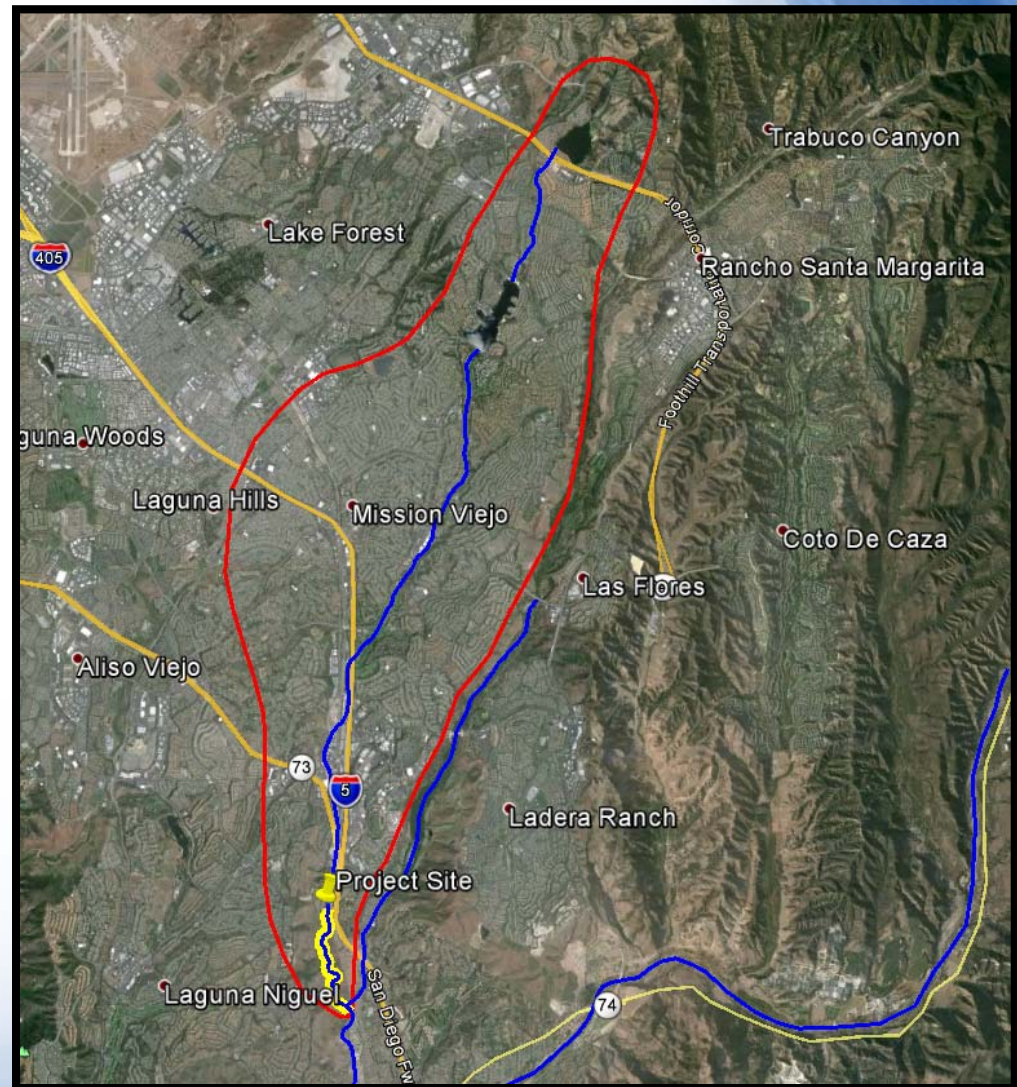
Project Vicinity



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Oso Creek Watershed

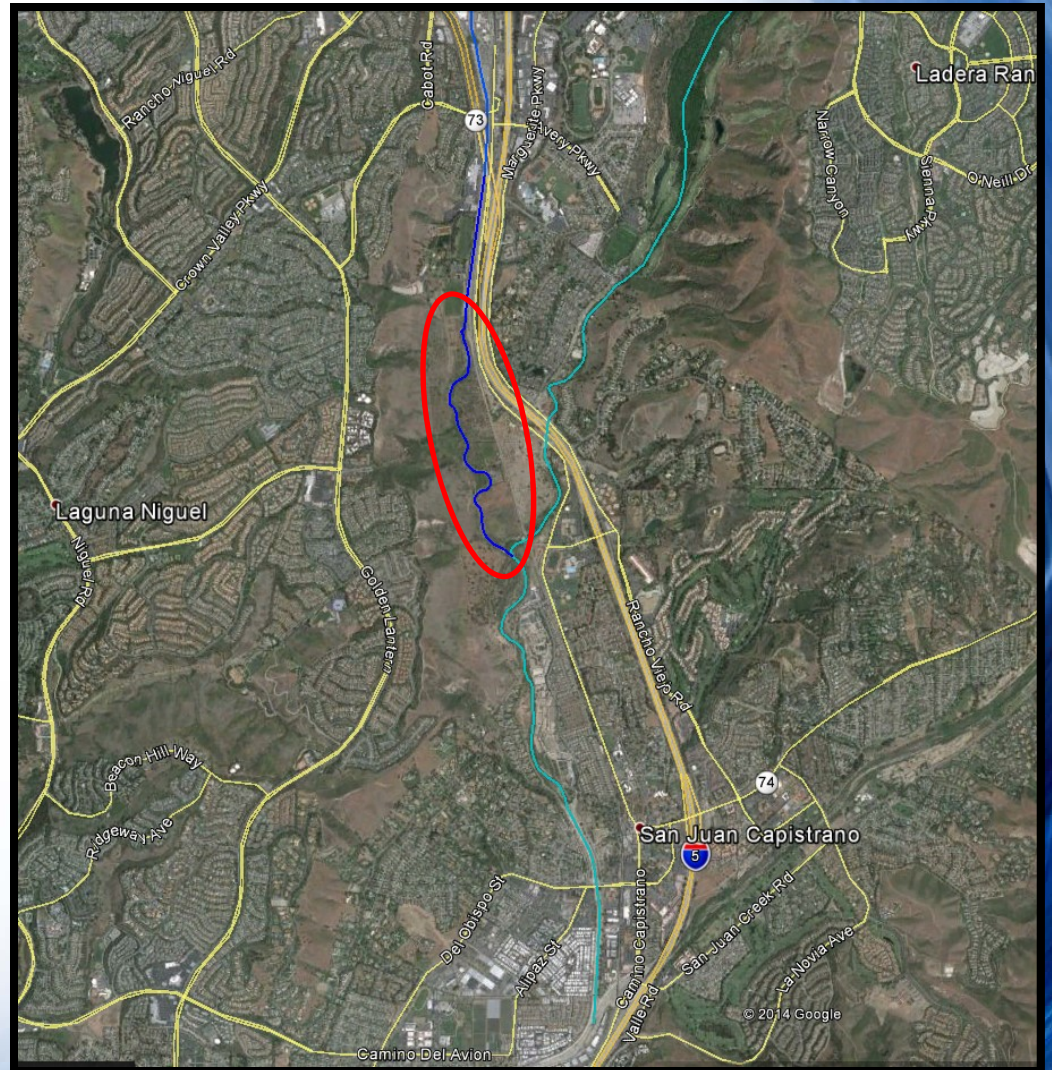
- Watershed area is 20 sq. miles, creek is 13.5 miles long
- From Upper Oso Reservoir, through Mission Viejo, to North San Juan Capistrano
- Tributary to Trabuco Creek
- Watershed is highly urbanized, creek is mostly hardened



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Impaired Area Reach

- End of hardened channel to Trabuco Creek
- Within City of San Juan Capistrano
- Both public and private property
- Vital infrastructure (roads, railroad, water, sewer)
- Land use historically agriculture



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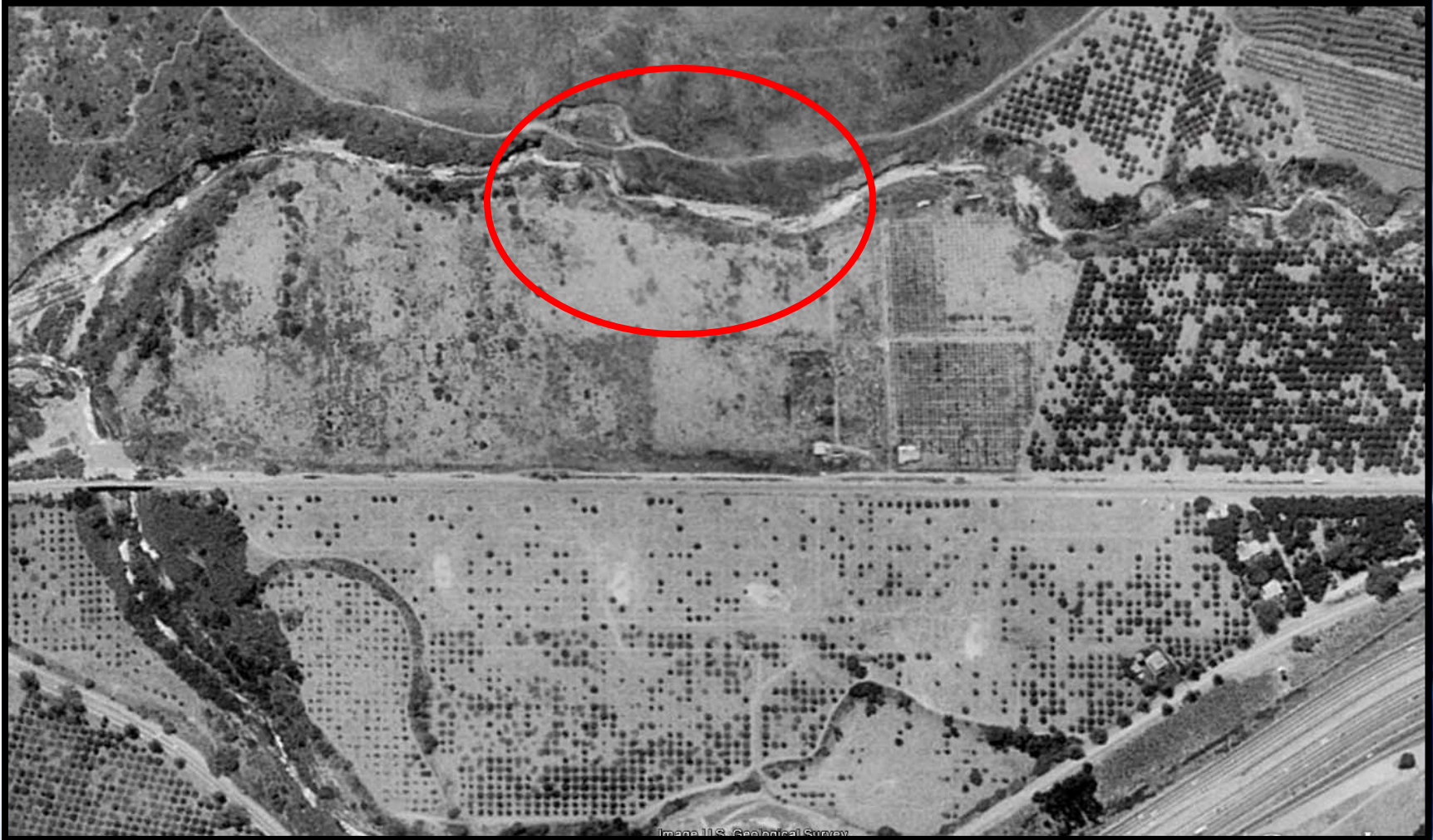
Area Issues

- Active erosion due to upstream hydromodification (development)
- Sedimentation downstream
- Trabuco Creek is critical habitat for Steelhead Trout
- Loss of natural creek functions
- Decreased flood capacity downstream
- Development of private land infeasible
- Threat to existing infrastructure



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May 1994



June 2002



June 2004



April 2005



November 2009



March 2011



Issues to Identify in Master Plan

- Stabilization of creek bed and banks
- Re-establishment of natural creek functions
- Potential groundwater replenishment
- Protection of adjacent and downstream properties
- Downstream flood capacity preserved
- Protection of existing infrastructure, such as railroad and sewer lines



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Stabilization of Creek Bed and Banks



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Re-Establishment of Natural Creek Functions





Groundwater Replenishment



Protection of Property





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Downstream Flood Capacity Preserved

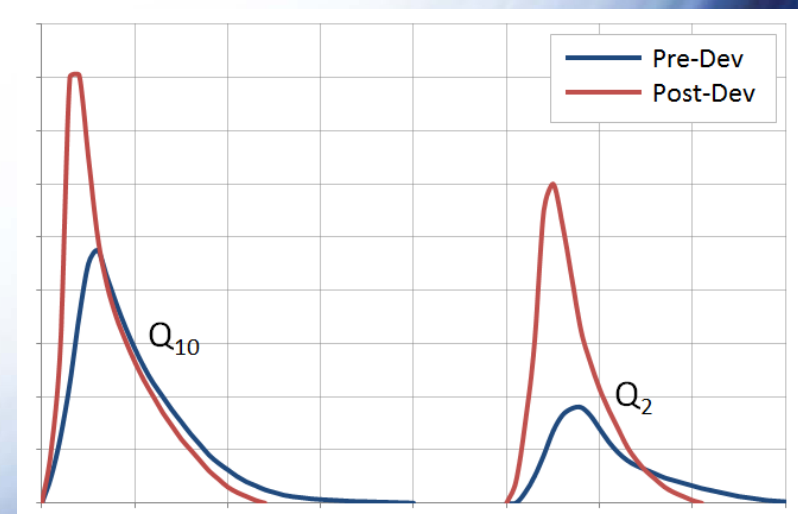


Trabuco Creek at San Juan Creek

Effects of Urbanization on Hydrology

(Peak, Volume, Duration)

- Disruption of natural water balance
- Increased flood peaks
- Increased stormwater runoff
- More frequent flooding
- Increased bankfull flows



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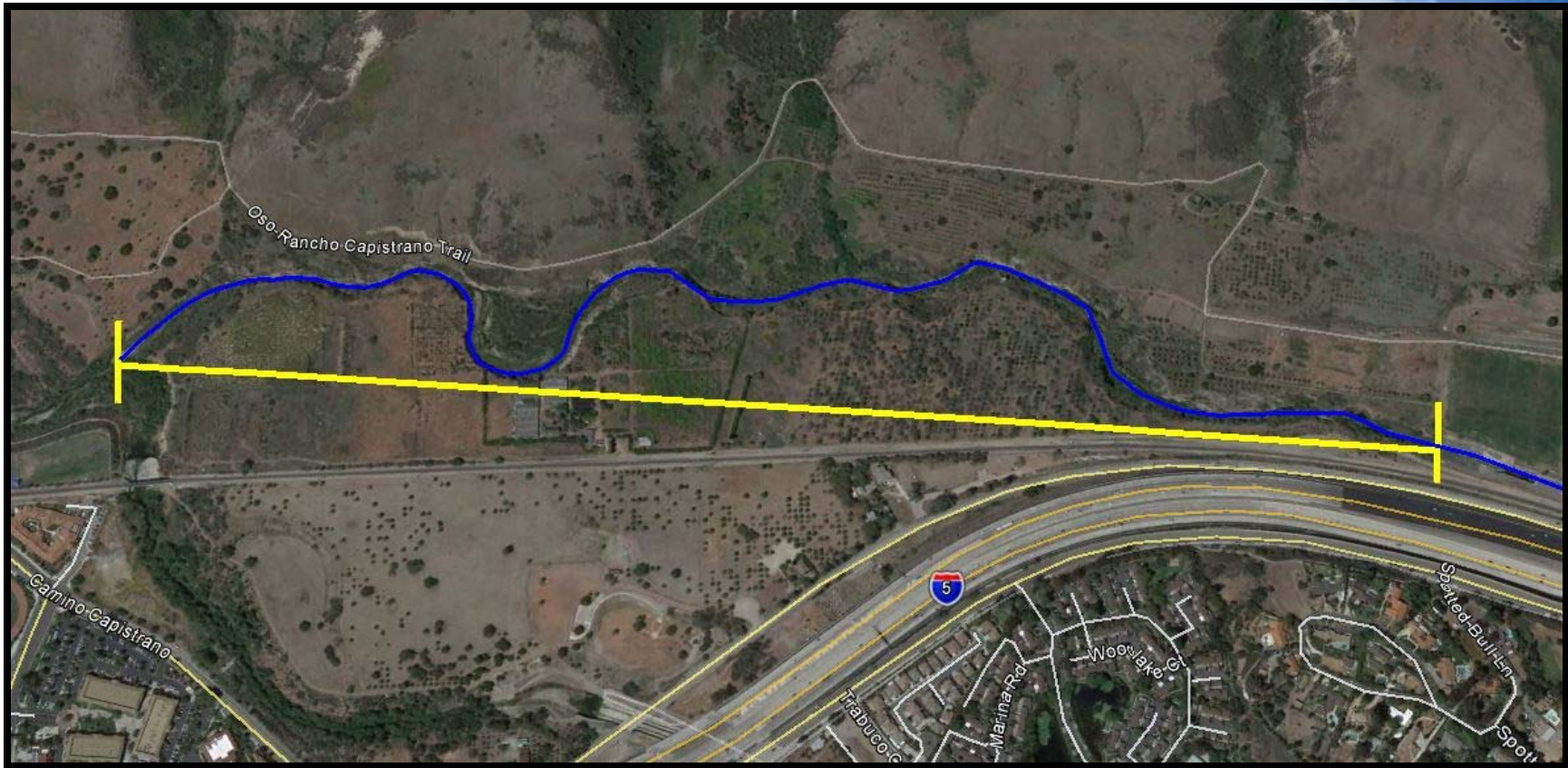


Oso Creek Today



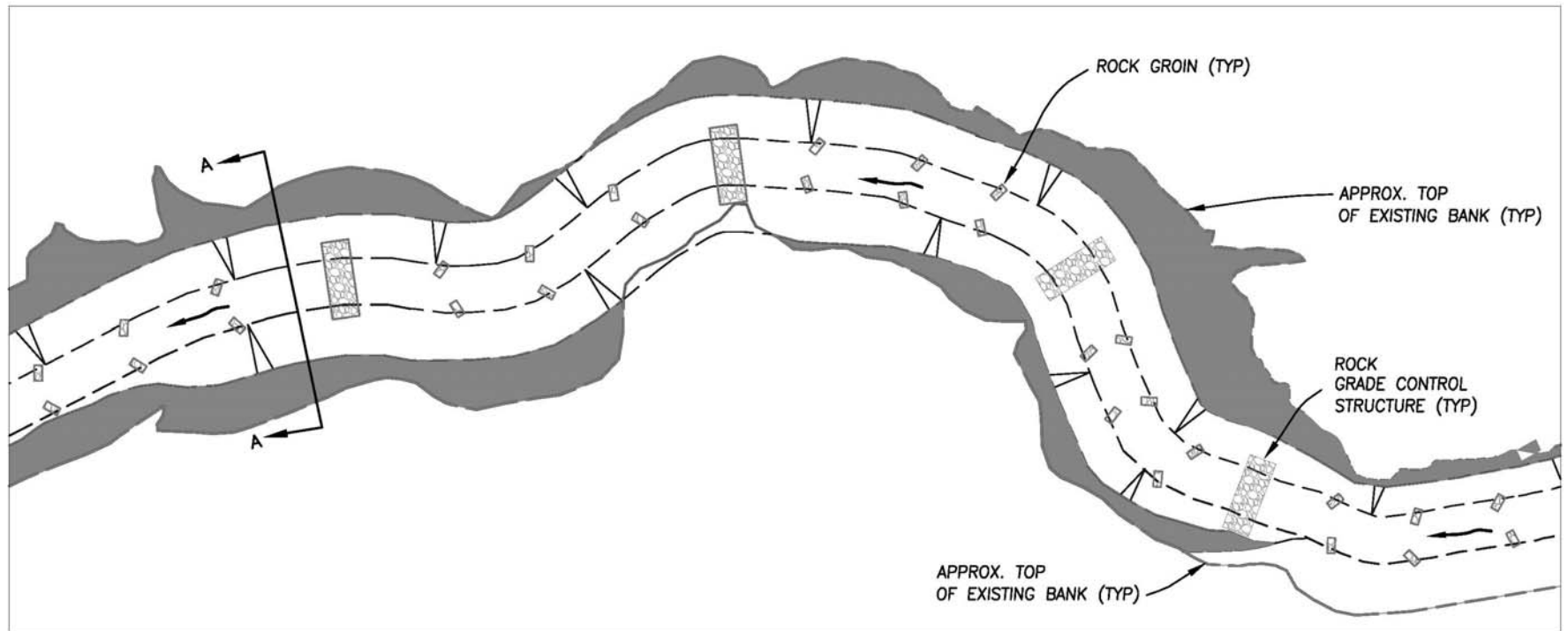
Oso Creek Tomorrow?

Project Reach



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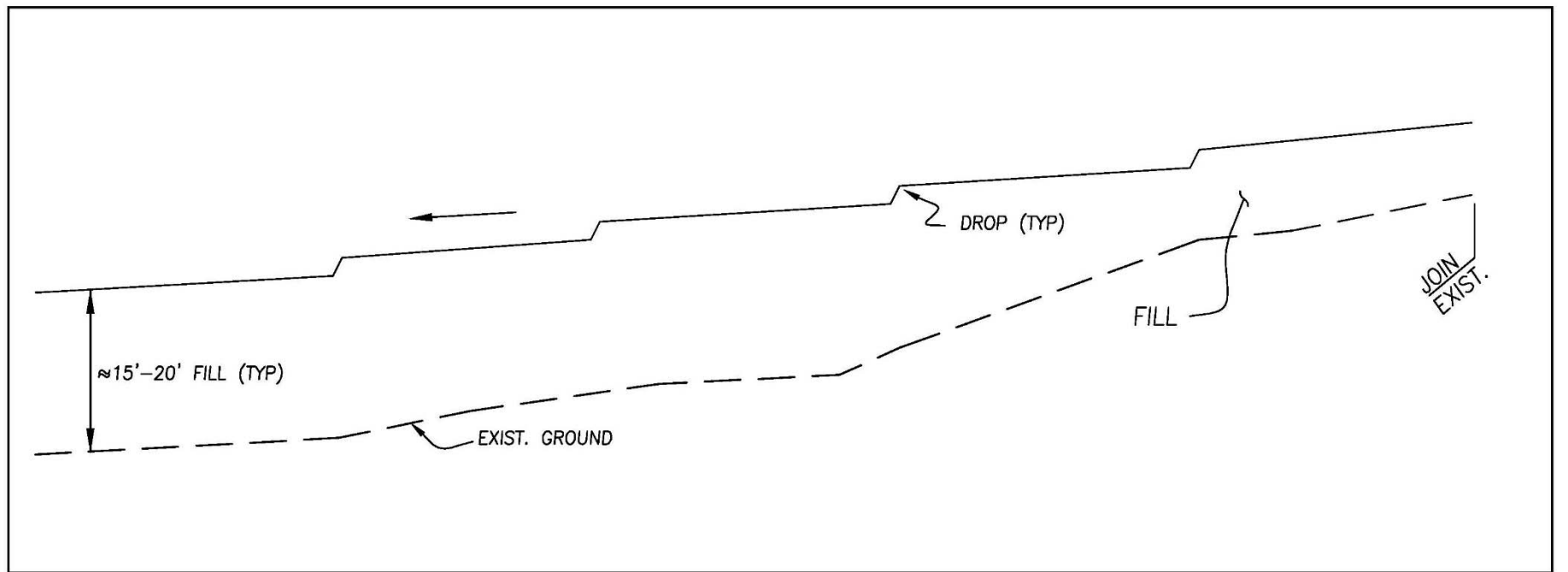
Conceptual Design – Typical Plan View



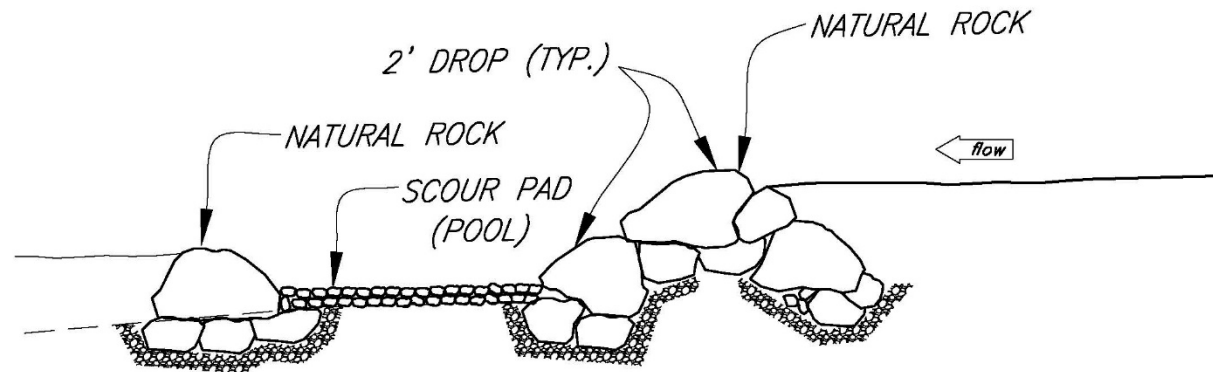
- Re-establishment of natural creek
- Creek bed stabilization (grade control)
- Creek bank stabilization (rock groins)

Conceptual Design – Typical Profile

Re-establishment of Natural Creek



Creek Bed Stabilization (Natural Rock Grade Control)



TYPICAL RIFFLE AND POOL ROCK GRADE CONTROL



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Grade Control Benefits

Benefits of Grade Control:

- Reduces velocity
- Reduces bed and bank erosion
- Promotes sediment buildup
- Protects existing infrastructure



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Grade Control Benefits

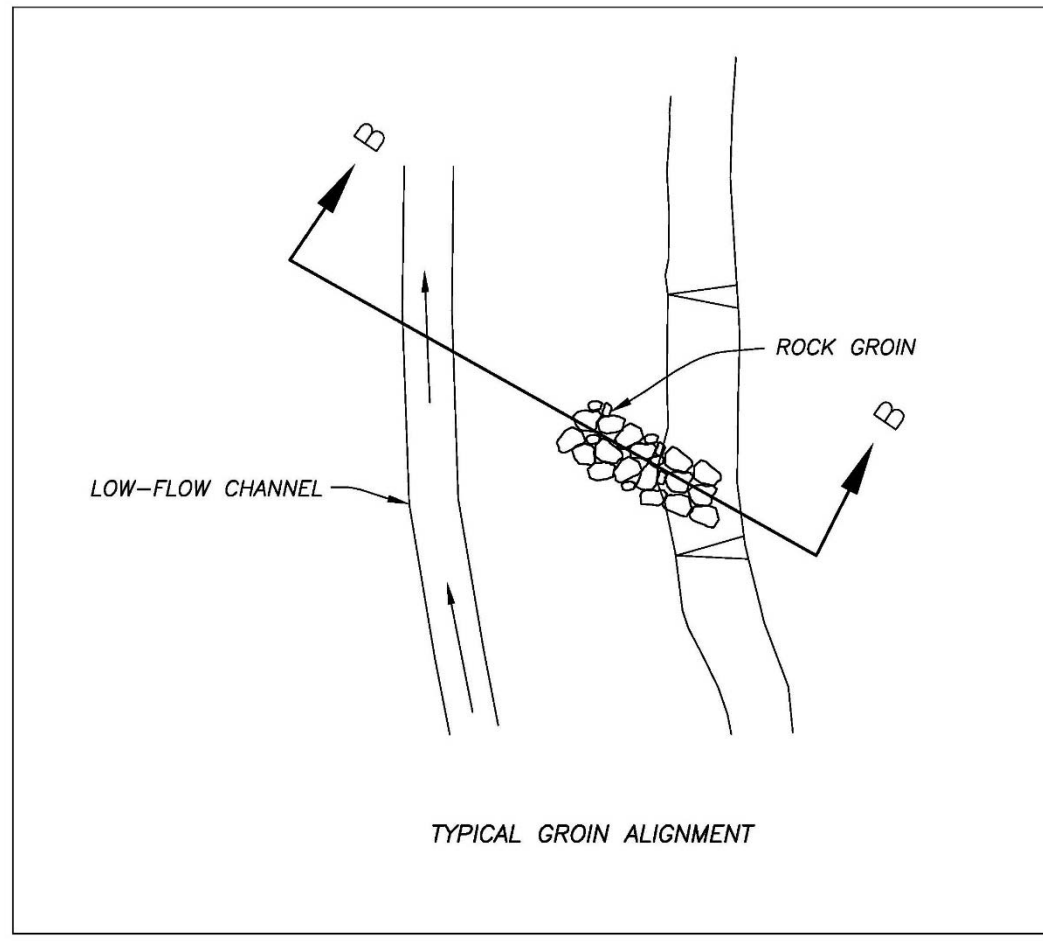
Benefits of Grade Control:

- Enhances aquatic biology with riffle pool stream profile
- Replenishes groundwater
- Restores bed and bank vegetation
- Natural attenuation of peak flows



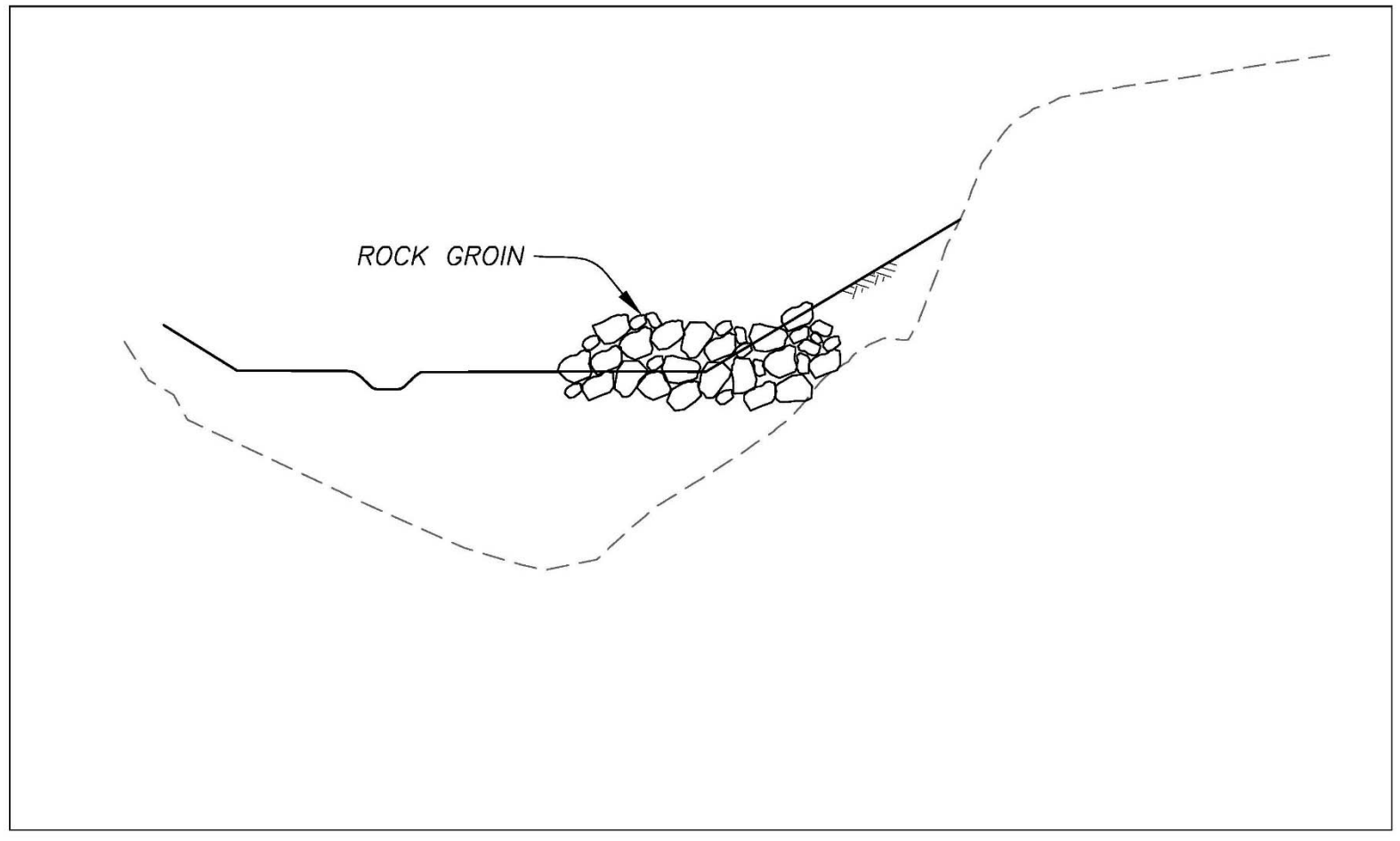
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Creek Bank Stabilization (Rock Groin Plan View)



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Creek Bank Stabilization (Rock Groin – Cross Section)



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Rock Groin Benefits

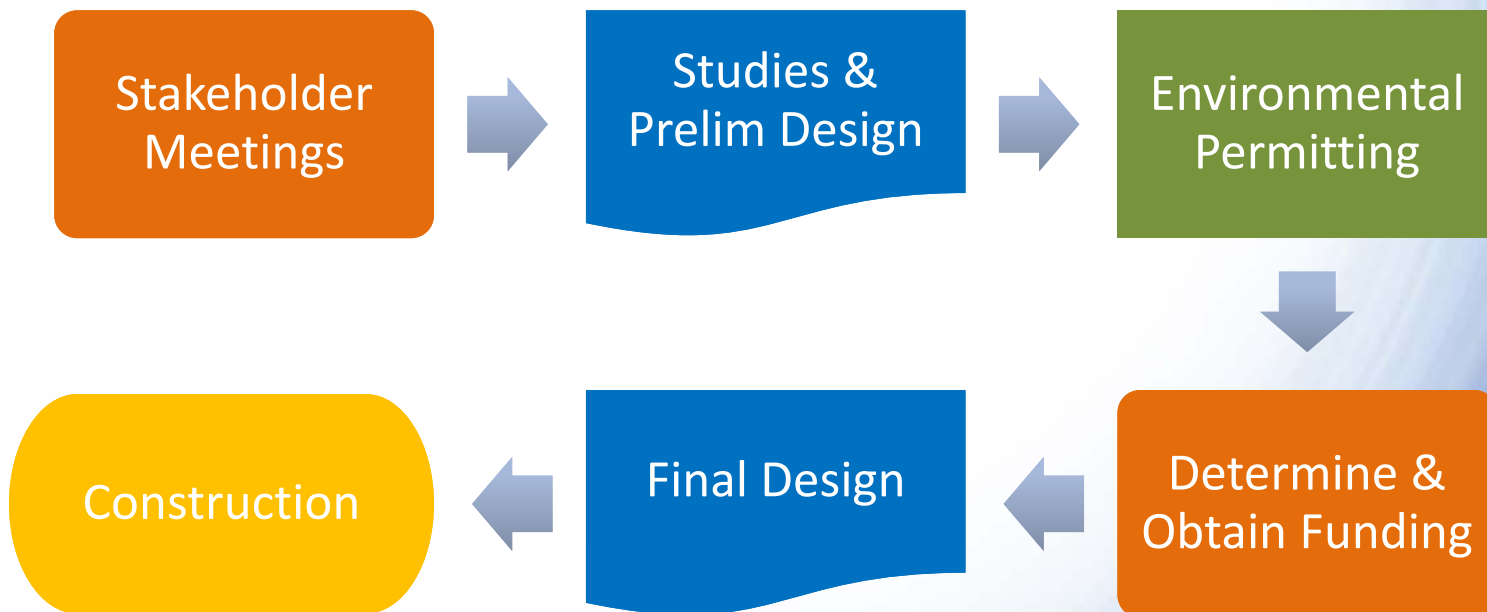
Benefits of Rock Groins:

- Reduces velocity and bank erosion
- Allows for habitat variation
- Preserves low flow channel
- Stabilizes channel bank



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Where do we go from here?



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QUESTIONS?

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CALIFORNIA

Creek Repairs One-Sided, Church Says : Project: Schuller Ministries says the work only stabilizes part of Oso Creek, putting a retreat that it owns at risk in a storm.

By **LEN HALL**

March 19, 1993 12 AM PT

TIMES STAFF WRITER

SAN JUAN CAPISTRANO — Officials of the powerful Schuller Ministries claim that repair work along the storm-ravaged Oso Creek threatens to devastate the church's picturesque Rancho Capistrano, especially if more rain

arrives soon.

Victor Andrews, a spokesman for Schuller Ministries, which also owns Garden Grove's Crystal Cathedral, said the project has actually worsened the creek's severe erosion problems and helped wash out about 10 acres at the religious retreat during the recent storm. The \$400,000 project is being carried out by the Atchison, Topeka & Santa Fe Railway Co. and the Moulton Niguel Water District.

"We have a potential disaster sitting here now," Andrews said.

Repairs began last month after storms hit the creek, exposing two sewer lines and pushing water to within 10 feet of the railroad tracks, on which 18 Amtrak runs are made daily. Two freight trains also use the tracks daily.

With help from the railroad company, 50 carloads of material were shipped to the site and 3,500 tons of rock were brought in over the past few weeks to shore up the creek side along the tracks.

But Schuller Ministries, a politically active international organization, is complaining that

the repairs are stabilizing only one side of the deep creek while leaving the ranch side unprotected and exposed to the creek's drainage problems.

Further, it claimed that although most repair work is being done along the creek, crews have gone on the 170-acre ranch without consent from ministry officials.

"This work has been done in total disregard for the other property owners here," Andrews said.

Jack Foley, general manager of the Moulton Niguel Water District, said the storms forced the district and the railroad company to act immediately to control the flooding and keep the tracks open.

"We had to move quickly and take immediate steps to save the railroad tracks," he said. "We know this is only an intermediate step, but we had no choice."

Along with the danger to the railroad tracks and the sewer lines, four 90-foot power poles had to be relocated because they were in harm's way. If the work had not been done quickly, there was a danger of 8 million gallons a day of

raw sewage spilling into the creek, said Carlo Habash, the water district's director of engineering.

"We had a problem and we had to take care of it," Habash said, adding that the district hopes to get federal money to pay for the project. "My response to (Schuller Ministries) is that if they have a problem, they should take care of it."

Herb Nakasone, director of flood control programs for the county's Environmental Management Agency, said the effects of the project will not be known until the creek swells again.

"I don't think it will necessarily exacerbate problems on the (Schuller) side," Nakasone said. "One really doesn't know how the water is going to react in this kind of situation. The water was moving toward the railroad side, so obviously that's its natural course."

Erosion problems at Oso Creek and the neighboring citrus, avocado and persimmon ranches have plagued the adjacent landowners and the city of San Juan Capistrano for decades.

Heavy rain can turn the usually quiet creek into a surging river and three men have been swept to their deaths in the creek during storms since the 1930s.

Runoff from residential and commercial development in Mission Viejo and other communities upstream has intensified the damage in recent years, county flood control officials acknowledge.

The creek gathers force as it winds down from its tributaries in the twin Saddleback peaks, through man-made Lake Mission Viejo and, after running for miles along the blacktopped developments and cement-lined flood control channels, dumps out into unprotected Rancho Capistrano and other creek-side properties.

The flow has turned the formerly small creek bed into a monstrous canyon, up to 80 feet deep in places. Citrus trees that only months ago were part of lined ranch groves are now lying at the creek bottom and officials agree that valuable ranch land is being washed away.

Most of the erosion is occurring on the former Bathgate Ranch, a 75-acre spread that Schuller Ministries purchased from the Bathgate family

in 1988. But ministry spokesman Andrews said all the landowners upstream and downstream should share the burden of fixing the problems.

“I don’t want to sue anybody, but we are going to do whatever it takes to save this ranch,” Andrews said, adding that ranch engineers have designed a \$10-million creek-lining project that would protect the adjacent properties.

“But it will take a coalition of property owners, the city of San Juan Capistrano, the U.S. Army Corps of Engineers and the county flood control officials to do it right,” he said.

Andrews blames the county for the lack of progress on the construction of a basin along the creek upstream in Laguna Hills to catch creek overflow before it gets to San Juan Capistrano.

That project, called the Galvan Basin, has been funded but is undergoing a lengthy environmental review, Nakasone said.

Nakasone said the county is working with San Juan Capistrano on a comprehensive plan for relining several creeks within city limits, not

just Oso Creek. He said the Schuller Ministries are experiencing problems shared by people all over the county because of the unusual rainfall during the past two months.

“It’s a very tough kind of a situation with no easy answers,” Nakasone said.

“It is hard to tell people in Southern California we get large creek flows that do create a lot of destruction, even in improved, lined channels,” he said. “People who have lived there for years understand the creek’s destructive force. I think the ministry has only recognized recently how serious the flooding can occur.”

More to Read

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