

# RETAINING WALL REINFORCEMENT WITH CARBON FIBER

WOODLAND HILLS, CA

## Project Background:

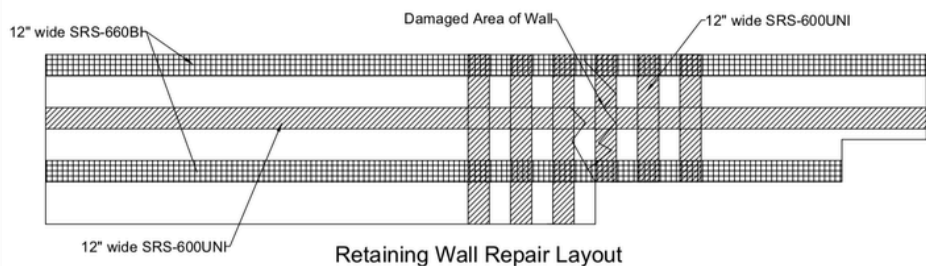
Ram Jack SoCal was called out by a homeowner as part of a real estate transaction that required addressing concerns about the structural integrity of an existing retaining wall. During site preparation—which included removing vegetation and loose soil to inspect the wall—additional structural cracks were uncovered, along with evidence of soil erosion behind and beneath a portion of the wall. These conditions called for carbon fiber reinforcement and the installation of a new footing to ensure long-term structural stability.

## Solution:

Reinforced CFRP Layout + New Footing Installation SRS updated the repair plan to address the expanded scope of damage.

## The final layout included:

- Vertical 12" SRS-600UNI unidirectional straps for vertical and horizontal strength
- A central 12" SRS-600UNI horizontal strap for added support
- 12" SRS-660BI bidirectional straps at the top, bottom, and ends for anchorage and lateral reinforcement



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# CARBON FIBER STRENGTHENING SYSTEMS

## The Repair Process:

Before CFRP installation, all cracks were sealed with a non-compressible material and the wall surface was ground and leveled for optimal adhesion. Once the CFRP system was installed and the final layer of epoxy applied, sand was broadcast onto the surface to create a mechanical bond for the aesthetic coating to follow. This step helps ensure long-term durability and a clean, uniform finish.

Additional 12" SRS-660BI straps were used at the contractor's discretion for localized crack repairs. To stabilize the compromised section of wall, a new footing was poured beneath the affected area.



## Design Considerations:

The strap layout was engineered to restore both vertical and lateral integrity to the wall. Unidirectional and bidirectional systems were combined to manage multidirectional stress and prevent future displacement or shear failures.

## Results:

The hybrid system provided strength where it was needed most—without the need for full structural replacement. This high-performance carbon fiber solution delivered efficient reinforcement and long-term durability for the property owner.



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