

Failing Retaining Wall Endangered Residence

The Challenge

A sloping property in Tiburon was experiencing deep-seated movement that threatened the house. This landslide needed to be stopped before significant structural damage occurred along with loss of property value.



Track Drilling For Soldier Beams

Action:

The repair consisted of installing a soldier beam wall with tiebacks at the rear of the property. Piers were drilled down through the slide and into bedrock. Steel beams were then placed in the piers and filled with concrete. The top 6ft. portion of the slide was restrained with pressure treated wood placed between the beams. Tiebacks were also installed near the top of the beams. The portion of the slide below grade was halted by a bridging effect between the steel beams.

The Tiebacks were necessary because the beams needed to be restrained at both the top and bottom in order to resist the slide forces.



Small tieback rig frame



Soldier beam steel and double corrosion protected tiebacks with post-grout tubes.



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Results:

The slide has been stopped and the house and grounds are secure. Property values have been restored.



Cut-to-size pressure-treated lagging starting to be installed



Grouting tiebacks with grout hopper in background