

RESIDENTIAL UNDERPINNING

Specialty Support for Settling Homes

We know from our 20 years of experience on hundreds of projects that we can install an underpinning system that economically addresses your settlement issue, safely and permanently.



Most homes are supported by firm, competent soil that safely supports the foundations. However, hidden weak soils occasionally underlay some foundations and the home experiences settlement. Fortunately, methods are available to safely and permanently stabilize these homes.

Why Settlement Occurs

Whatever the size or type of the building, foundations settle for the same reasons. The soils on which a structure is founded may be too weak or compressible to support the building's weight. Competent soils may be weakened or ravel into leaking underground utilities. Or a foundation might be underlain by buried debris which decomposes or consolidates over time. In some regions sinkholes can cause a building to settle as the soils ravel into an underlying void. In other regions, buildings shift when soils expand and contract as they become wet or dry. One of these subsurface conditions is likely the cause of any foundation settlement problem.

Why Select Underpinning

There are a number of techniques to remediate settlement problems, including grouting and underpinning, which are sometimes used in conjunction. Grouting techniques typically aim to stabilize sinkhole conditions or improve the bearing soils so they will no longer cause settlement. However, improving poor soils is not always possible or economical. This is typically when underpinning is selected. Underpinning techniques bypass the problem soils by using high-strength steel piers (or pins) to transfer the building's load down to underlying competent soils or bedrock.

Underpinning offers an economical solution that is fast, non-invasive, clean, and virtually free of vibration and noise. The work can be performed in tight spaces, both inside and outside, with minimal disturbance to the surrounding area. In many cases a home may be raised, closing cracks and correcting other structural problems caused by the settlement. Underpinning won't impact the aesthetics of your home because the completed system is completely below ground level.

Underpinning Installation...

1. After exposing the foundation at the pier location, the footer is prepared for the bracket.



2. The bracket is positioned tightly against the bottom of the foundation and securely bolted in place.



3. The pier is hydraulically advanced to the required depth while the home is monitored for movement.



4. After the foundation is stabilized and leveled, the pier is locked in place on the bracket, trimmed, and covered with the excavated soils.



The excavation for the pier is typically not much larger than the bracket, and therefore is performed by hand.

Once the bracket is secured to the foundation, a hydraulic jack is attached to the bracket. The jack then advances a steel pier down to the competent bearing layer. In some instances the home can be re-leveled to near its original elevation by continued jacking.

During installation and leveling, the house will experience minor movements. Generally, several weeks are allowed to pass before cosmetic repairs are made. This allows the home to fully adjust to its new foundation.

Quality Control

Each pier and bracket is manufactured in a state-of-the-art facility with rigid quality controls. Materials are galvanized for full corrosion protection ensuring that they will last. Each pier is installed with a calibrated hydraulic jack, which allows for continuous monitoring of the force on the pier during installation. This method of installation assures that the pier will safely support the weight of the home. All parameters are documented during installation.

“When Hayward Baker has underpinned your home you will be confident that your foundation has been stabilized.”



Residence, Holiday, FL

This 30-year old, one story masonry block home exhibited cracks on its interior and exterior walls, and asphalt driveway. The structural evaluation determined that the damage was the result of uneven foundation settlement. The geotechnical investigation concluded that sinkhole activity was to blame.

HBI stabilized the sinkhole conditions beneath the house by injecting grout to stabilize the bedrock surface at a depth of about 50 feet. The affected footings were then underpinned with 11 piers installed to the surface of the stabilized bedrock.

Residence, Tampa, FL

The east end of this one story masonry block wall and frame residence experienced interior and exterior cracking. The geotechnical exploration revealed that underlying debris (rubble fill) and organics extending up to 8 feet beneath the existing grade were causing settlement.

HBI designed and implemented an underpinning program consisting of 12 piers installed to an average depth of 10 feet to support the exterior walls of the residence’s east end. Any debris large enough to obstruct the installation of the piers was predrilled to ensure that the pier passed through and reached the competent bearing strata.



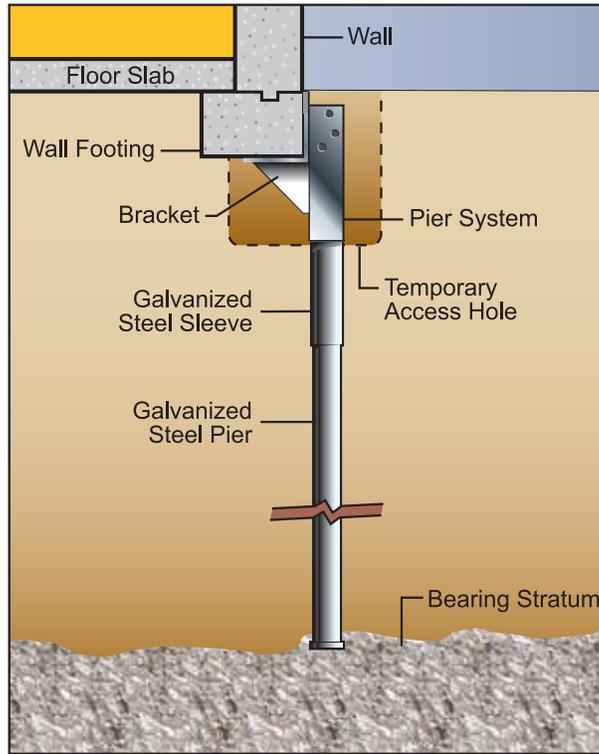
Residence, Tampa, FL

This 20-year old, one story masonry block home with stucco façade suffered interior and exterior cracking. The geotechnical investigation of the property attributed this distress to bearing soils loosened by deep sinkhole activity.

HBI first performed a subsurface grouting program to stabilize the deep sinkhole conditions, and then installed 40 piers to an average depth of 40 feet around the home’s perimeter to extend the loads of the house to the stabilized bearing strata.

Advantages of Hayward Baker's Underpinning System

- ◆ Economical
- ◆ Clean
- ◆ Non-invasive
- ◆ Aesthetically friendly (hidden below ground)
- ◆ Virtually free of vibration and noise
- ◆ Installable in tight spaces, inside and outside
- ◆ Minimal disturbance to the surrounding area
- ◆ Often can re-level settled structures and close cracks



Why Choose Hayward Baker to Perform Your Underpinning?

Hayward Baker realizes that a foundation problem is a stressful situation for a homeowner. We will work on your home in a professional and courteous manner, explain the process before we begin, and keep you informed as the work progresses. We use specialized lightweight, low-noise equipment to complete the work as quickly and quietly as possible with the least impact to you, your home and your yard. We only use quality materials, to ensure a permanent solution. Hayward Baker brings the same care and quality to your home as we bring to all foundation projects. When Hayward Baker has completed the underpinning you will be confident that your foundation has been stabilized.

Hayward Baker is well-known throughout the world for quality foundation construction. Our Residential Division offers our decades of experience to homeowners who are experiencing the same settlement issues faced by owners of small and large structures alike. Whether a single family home, or a high-rise office building, the principles are the same when it comes to stabilizing the foundation.

As America's largest geotechnical contractor, Hayward Baker has the resources to resolve your settlement problem. Our network of offices means an expert is always available for consultation. Hayward Baker is committed to providing the most economical solution that permanently stabilizes your home.

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