Case Study 551-3

ATLAS RESISTANCE PIERS

Damaged Foundation Drains Cause 1-1/2 Inch Settlement of New House

Snowmass Village, Colorado

Installed by:

Stabilization Technology
Grand Junction, Colorado

DAMAGED DRAIN LINE CAUSE SETTLEMENT!

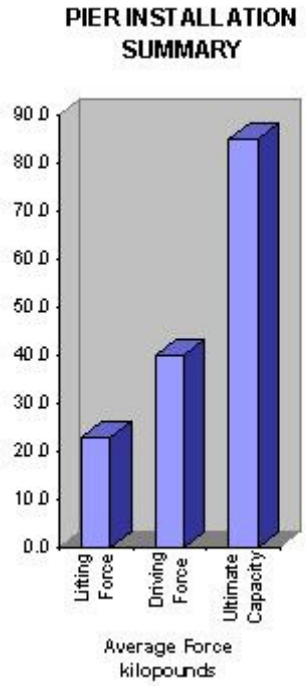


Description of the Structure: The custom built split level residential structure is of wood frame construction with wood siding, wood floor and composition shingle roof. The foundation is a concrete stem wall on a concrete footing.

Cause of the Problem: During final grading, the contractor crushed the foundation drain lines near the entry. Water was trapped adjacent to the footing. As a result, water saturated the soil and caused the footing to settle at the front wing of the house.

Soil Description: No soil information was available. The house is situated on a sloping lot. The garage is at grade level and the living areas are split above and below grade. The rear of the structure has a "walk-out" basement. Based upon the pier installation records, the soil profile consisted of fill soil and 10 to 15 feet of clay over a very dense stratum or rock layer.

PROJECT SUMMARY	
Repaired By:	Stabilization Technology, Grand Junction, Colorado
Average Drive Force:	40,000 pounds
Average Lift Force:	23,000 pounds
Number of Piers:	3 ATLAS AP2S-3500 2-Piece Piers
Average Depth:	22 Feet
Average Factor of Safety:	1.74 : 1 Working F.S. 3.70 : 1 Ultimate F.S.





QUICKLY INSTALLED!

After excavation, the footing was notched to place the structural load directly over the **ATLAS RESISTANCE PIERS.** Then the pier pipe was driven vertically to a suitable bearing stratum and tested to an average force of 40,000 pounds before the structure was restored.

The photograph above shows pier number 1 being driven at the front corner of the structure. Piers 2 and 3 have already been installed.



SUCCESS!

Once all of the **ATLAS RESISTANCE PIERS** were driven to a suitable load bearing stratum and tested, the structure was gently and evenly lifted using multiple hydraulic rams, a manifold assembly, and a hand pump.

The photo at right shows the project after lifting and prior to backfill.

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