

CHANCE[®]

UNDERPINNING ANCHORING REPORT

A CASE HISTORY

Project: Fairview High School Underpinning Boulder, CO	Geotechnical Engineer: Keith Ferguson G.E.I. Consultants Englewood, CO	Structural Engineer: Jim VanLier Sellards & Grigg Lakewood, CO	Underpinning Contractor: D & B Drilling Wheat Ridge, CO
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Job Description:

The structural engineering firm determined that the roof at Fairview High School in Boulder needed to be upgraded for snow loading. Trusses were designed to handle the maximum snow loading anticipated. Consequently, 69 anchors were needed to support the columns holding the trusses in place. Because of the limited access inside the building, it was concluded that Chance HELICAL PIER[®] Foundation Systems anchors would cause the least amount of disturbance and be the most cost-effective alternate to cast-in-place or auger-cast concrete piles since no spoils would have to be removed. Chance SS5 anchors with either a single 6" or 8" helix were required to carry a load of 30 Kips. Each column required two or three Chance anchors. Special brackets were designed to allow attachment of the columns to the Chance anchors without the use of concrete.

A portable anchor installer developed by D & B Drilling with a maximum installation capacity of 5,000 ft.-lb. was used to install the Chance anchors. This unit incorporates a Sweeney torque multiplier powered by either a hydraulic motor or an electric core drill. Chance anchors were installed from 5' to 15' into the very competent rocky soils.



Mechanical connection of column to two Chance anchors required.

(Additional lateral bracing not shown in this photo.)