



City of Sioux Falls Building Services Anchoring of Storage Buildings Requirements

When storage buildings are placed on a property, the building code requires that they are anchored to prevent overturning in high wind. A building inspector verifies that accessory storage buildings and sheds are anchored or tied down, even for small sheds less than 200 square feet in size.

Sheds on concrete slabs

The minimum requirement for anchoring sheds and storage buildings on a concrete slab is 1/2 inch anchor bolts embedded 7 inches into the concrete. The anchor bolts need to be installed at least 4 inches from the corner and must be spaced no more

than 6 feet apart. A diagram of this type of shed anchoring is below in Figure 1.

Sheds on the ground

When a shed is simply placed on the ground, each corner must be anchored into the ground. A common type of anchor is a conventional mobile home anchor. A diagram of a common screw auger anchor is below in Figure 2.

Anchors are installed to a depth of 4 to 5 feet, depending on soil conditions. Soils have different holding strengths. For example a 6-inch diameter screw auger in stiff clay may withstand a pulling force of 4,450 pounds.

The same sized screw auger in sandy soil may withstand a pulling force of 2,500 pounds.

If soil conditions are such that the specified resistance cannot be obtained or the anchors selected cannot sustain the pulling force from strong winds, then stronger anchors or more tie downs may be required. To minimize the possibility of a horizontal shift caused by strong winds, several measures can be taken including: the installation of extra protection on vertical anchors, using inclined anchors or diagonally pre-loading anchors (see Figure 3).

If you have questions concerning anchoring, please call 367-8248. ■

Figure 1

Anchoring a Shed

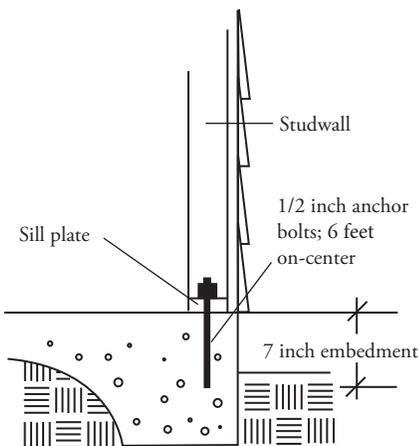


Figure 2

Screw Auger

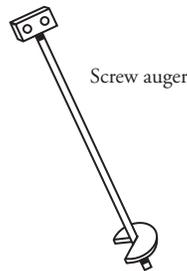
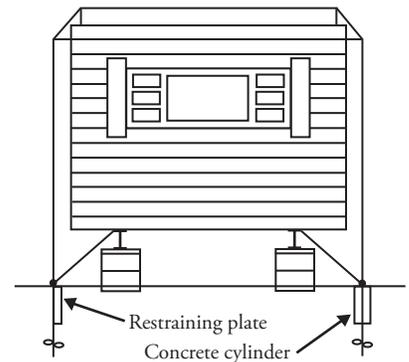


Figure 3

Extra Protection on Vertical Anchor



A vertical anchor can be made more resistant to horizontal displacement by installing a steel plate next to it or by casting a concrete cylinder around the upper portion of the rod.