

6.5 Furniture, Fixtures, Equipment and Contents

6.5.5 *Miscellaneous Furniture, Fixtures and Equipment*

6.5.5.1 File Cabinets

Sheet metal file cabinets are often tall, narrow and heavily loaded. These cabinets frequently overturn in earthquakes; the time required to pick up and reorganize files may be significant business expense and result in lost productivity.

Typical Causes of Damage

- Unanchored file cabinets can slide, tip, or overturn. Drawers may slide open increasing the chance that the cabinet will overturn; contents may fall and get scrambled.
- Overturned cabinets may block doors and exit corridors.

DAMAGE EXAMPLES



Figure 6.5.5.1-1 Failure of file cabinets in the 1994 magnitude-6.7 Northridge Earthquake (Photo courtesy of Wiss, Janney, Elstner Associates).



Figure 6.5.5.1-2 Tipped filing cabinets and other office equipment at the Lawrence Livermore Lab, California (NGDC, 2009).



Figure 6.5.5.1-3 Unanchored cabinets toppled in the 1994 Northridge Earthquake (Photo courtesy of Wiss, Janney, Elstner)

Seismic Mitigation Considerations

- ASCE 7–10, *Minimum Design Loads for Buildings and Other Structures* (ASCE, 2010), requires that permanent floor supported cabinets or shelving over 6 ft tall be treated as architectural components. This requirement does not apply to wall mounted items with both base and wall anchorage.
- Do not locate cabinets where their failure would block a door or exit corridor; note some school districts do not allow file cabinets within 6 feet of a doorway. Do not locate where they could fall and break a window or glass partition.
- File cabinets should be anchored to the floor or wall. Where cabinets or shelving are anchored to a partition, check that the partition, bracing and attachment to the structure above are adequate for the imposed loading.
- Adjacent freestanding file cabinets should be anchored together and to the floor. Gang multiple units together to create a more stable arrangement.
- Provide strong drawer latches to prevent the drawers from sliding open. Fluids and files don't mix; do not place flower vases or other breakable fluid containers on top of file cabinets.
- There are many acceptable ways to reliably protect file cabinets from earthquake damage. The following details illustrate measures that can protect loaded cabinets up to 6 ft tall in severe ground shaking at the highest locations within a building; engineering may be required for floor-supported items taller than 6 feet. Alternate less robust details may be developed for less severe loading conditions.

MITIGATION DETAILS

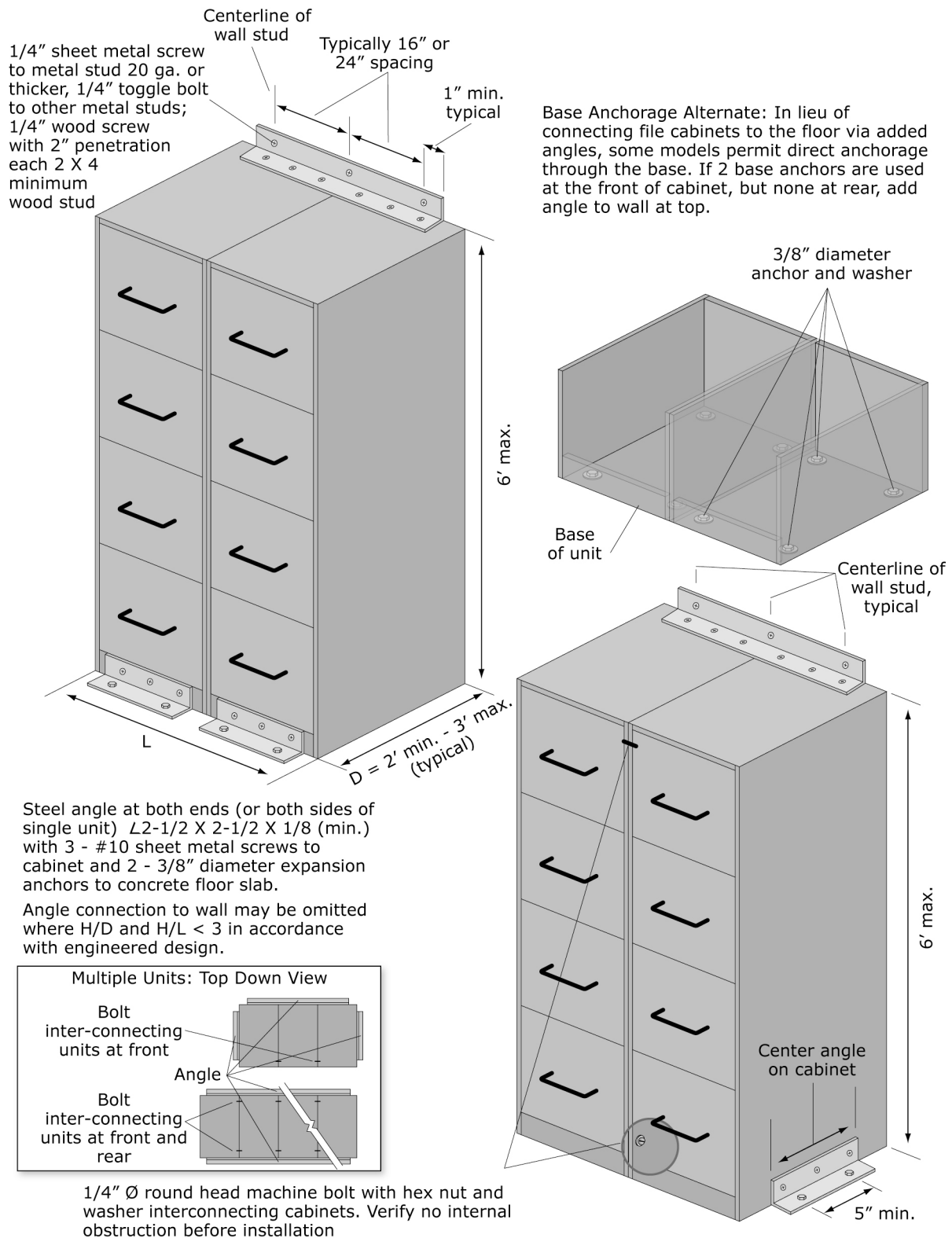


Figure 6.5.5.1-4 Wall-mounted file cabinets (NE).

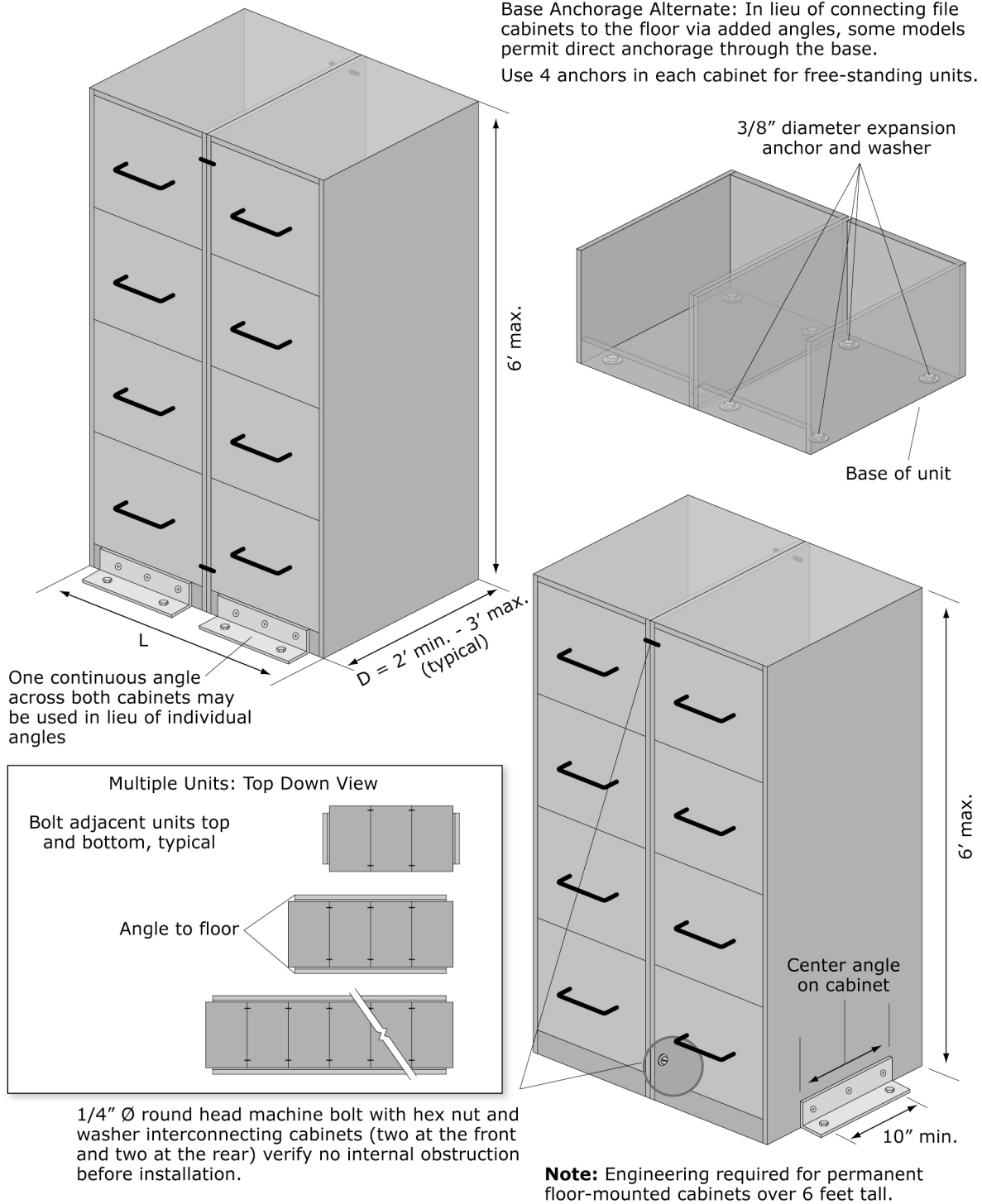


Figure 6.5.5.1-5 Base-anchored file cabinets (NE).

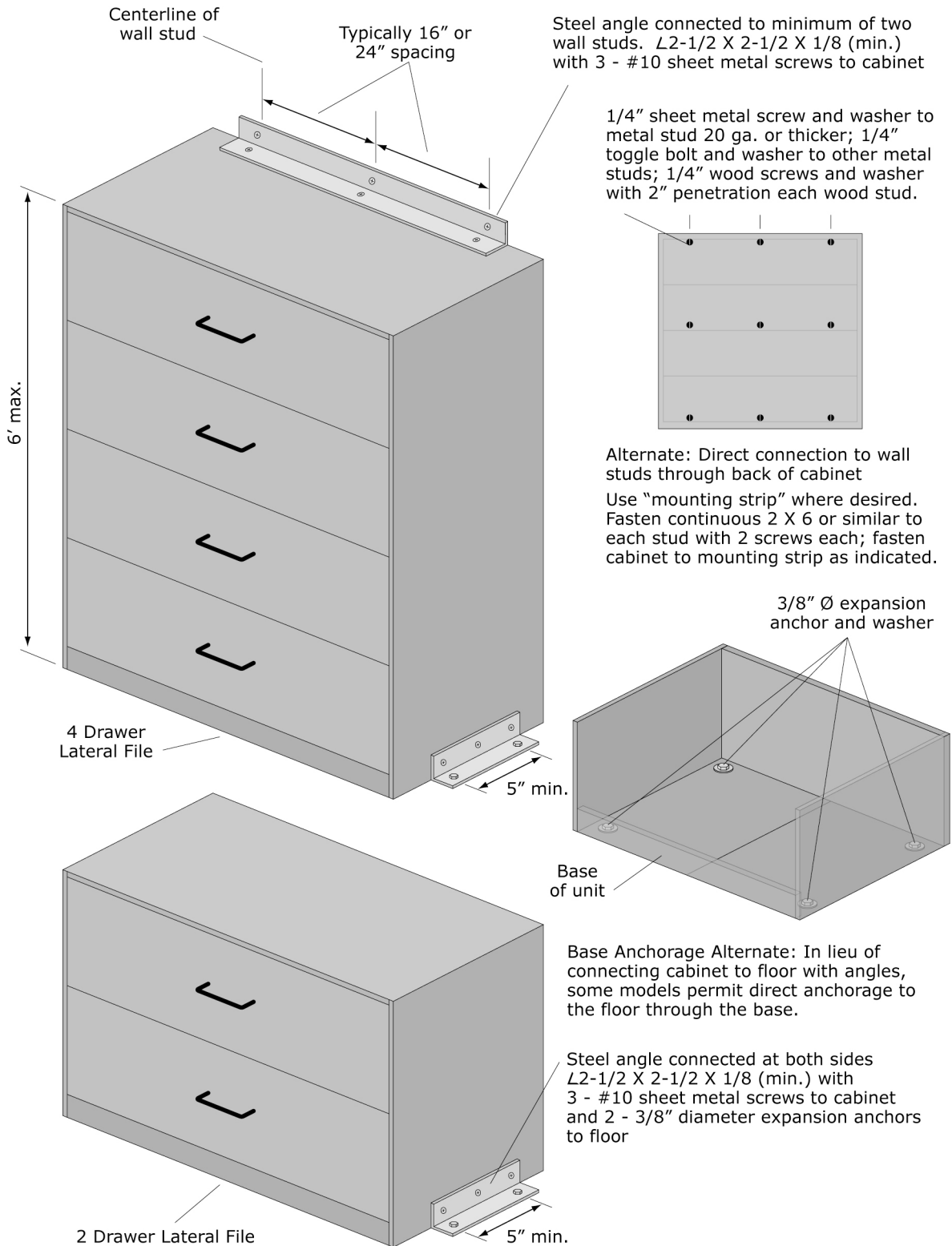


Figure 6.5.5.1-6 Wall-mounted and base-anchored lateral file cabinets (NE).