



# FIRE DEPARTMENT

## MEMORANDUM

**Date:** 7-15-25

**To:** Board of Building Inspection

**From:** Derek Henson, Division Chief of Fire Prevention and Public Education

**Subject:** Shed Slab Position Statement

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The issue before the Board at the 2025 meeting is a shed that is 120 square feet in size that is required to be built on a slab per City of Appleton ordinance 4-141, Garages and Accessory Buildings. This section reads as follows:

(a) **Unattached.** Unattached one- or 2-family accessory buildings shall be constructed on concrete slabs and shall conform to UDC and American Concrete Institute (ACI) standards. No concrete slab shall be required for accessory buildings where the structure does not exceed one hundred (100) square feet in area and the building is securely anchored. Accessory buildings less than fifty (50) square feet are exempt from permits, however must comply with all zoning ordinance standards. Unattached accessory buildings shall maintain a fire separation distance that meets UDC standards. All one- or 2-family unattached buildings with overhead doors shall have at least one exit door that is a minimum of 32" in width. The overhead door shall not be used as an exit door. Accessory buildings that are 150 square feet or larger are considered a garage for the purposes of this section.

Currently, this shed is built on concrete pavers that are 12 inch by 18 inch in size. The permit for the shed shows a 96 square foot shed, whereas the actual shed size is 120 square feet. The City of Appleton Inspections Division issued a Notice of Noncompliance which prompted the variance application that is before this board. The variance requested is a different interpretation of the ordinance.

There are three key questions that require answers to provide a proper position for this issue. First, is the interpretation of the ordinance correct? Second, why are concrete slabs required for sheds that exceed 100 square feet? Third, are there any equivalencies that exist that can be provided in lieu of the required concrete slab?

First, without further information from the applicant, the interpretation of the ordinance appears correct. The ordinance requires concrete slabs for accessory structures, which a shed is considered. There are two exceptions for this requirement. A shed that does not exceed 100 square feet does not require a concrete slab if it is anchored appropriately. A shed less than 50 square feet is exempt from permit requirements if all zoning ordinance standards are met. The shed in question is 120 square feet, so is not subject to either of these exceptions and is required to have a concrete slab per the adopted ordinance.



## FIRE DEPARTMENT

Next, concrete slabs are required for sheds over 100 square feet for two main reasons. First, the slab serves as an anchor for the shed when properly attached. A 10 foot by 12 foot by 4 inch concrete slab with a density of 150 lbs/cubic foot weighs over 6,000 pounds. The weight, along with the weight of the shed and contents, provide for resistance to wind loads, including uplift and horizontal loads. Second, concrete slabs provide a stable durable foundation for the shed. Concrete slabs provide a level, durable, stable foundation that helps ensure the shed will have good longevity.

Finally, equivalencies can be examined for concrete slabs for sheds exceeding 100 square feet. For anchoring, systems exist that can provide appropriate anchoring of the shed. These systems are used widely in mobile home installation and hurricane resistant areas. The Uniform Dwelling Code, section SPS 321.02(1)(c), requires that structures are designed to withstand a horizontal or uplift pressure of 20 pounds per square foot acting over the surface area, or the wind loads determined in accordance with ASCE 7-05, *Minimum Design Loads for Buildings and Other Structures*. Engaging an engineer to design an anchoring system in accordance with SPS 321.02(1)(c) is an acceptable alternative for the anchoring portion. However, this does not address the stable foundation for the shed and does nothing to ensure the appropriate durability and longevity of the shed. For this, there is no replacement for a concrete slab for a shed this size.

After examining the issue at hand, and without further information or explanatory material, the only reasonable conclusion is to deny this request for variance. The ordinance referenced in the Notice of Noncompliance is interpreted and applied correctly in this instance. The shed does not meet the exemptions listed in the ordinance for construction without a concrete slab. There are no equivalencies that exist that provide the same benefits as a concrete slab for a shed of this size.