

**193C—1.5(542B) Licensed professional engineers and building construction.**

**1.5(1) Purpose.** This rule is intended to provide guidance to licensed professional engineers, other design professionals, unlicensed persons engaged in various aspects of building construction, building officials, owners, and others on when the services of a licensed professional engineer are required or not in connection with new building construction and alterations to existing structures.

**1.5(2) General guidelines.** Given the wide range of buildings covered by this rule and the unique issues that may arise with respect to specific buildings, it is not possible to establish definitive criteria that will universally resolve when building construction or alterations will or will not implicate the practice of professional engineering, as defined in Iowa Code sections 542B.2(8) and 542B.27(1). For example, while the construction of a single-family residence would not generally necessitate the services of a licensed professional engineer, unique or unconventional features of a particular site or design may necessitate complex structural calculations or other services that fall within the definition of professional engineering. As a result, this rule should be interpreted as providing only general guidelines on when a licensed professional engineer is necessary.

**1.5(3) Applicability.** The board will consider the guidelines provided in this rule when enforcing Iowa Code chapter 542B, including when determining whether an unlicensed person has engaged in the practice of professional engineering. This rule is not intended to constrain building officials or other public officials in their enforcement of other laws, rules, regulations or ordinances. A building code official, for example, may require that certain documents be prepared by a licensed professional engineer or that certain construction inspections be performed by a licensed professional engineer whether or not the guidelines in this rule would so require. This rule only addresses the practice of professional engineering and does not address the practice of architecture. Similar guidelines with respect to the practice of architecture may be found at 193B—Chapter 5.

**1.5(4) Definitions.** The definitions set forth in rule 193B—5.1(544A) apply to this rule.

**1.5(5) Guidelines for new construction.** The following matrix describes by building type and use when the services of a licensed professional engineer are required in connection with new building construction:

<b>BUILDINGS NEW CONSTRUCTION</b>			
<b>Building Use Type</b>	<b>Description</b>	<b>Engineer Required</b>	<b>Engineer May Not Be Required</b>
Agricultural Use	Facilities for private use only and individually owned and operated facilities including grain elevators and feed mills		X
	Corporate-owned facilities or publicly owned facilities including grain elevators and feed mills	X	
Churches and accessory buildings whether attached or separate	One or two stories in height, up to a maximum of 2,000 square feet in gross floor area		X
	Any number of stories in height, greater than 2,000 square feet in gross floor area	X	
	More than two stories in height	X	
Commercial Use	One story in height, up to a maximum of 10,000 square feet in gross floor area		X
	One story in height, greater than 10,000 square feet in gross floor area	X	
	Two stories in height, up to a maximum of 6,000 square feet in gross floor area		X
	Two stories in height, greater than 6,000 square feet in gross floor area	X	
	More than two stories in height	X	
Detached Residential Use	One, two or three stories in height, containing 12 or fewer family dwelling units		X
	More than 12 family dwelling units	X	

BUILDINGS NEW CONSTRUCTION			
Building Use Type	Description	Engineer Required	Engineer May Not Be Required
	More than three stories in height	X	
	Outbuildings in connection with detached residential buildings		X
Educational Use		X	
Governmental Use	When the occupancy is of another building use type listed herein, those provisions shall apply	X	
Industrial Use		X	
Institutional Use		X	
Light Industrial Use			X
Places of assembly		X	
Warehouse Use	One story in height, up to a maximum of 10,000 square feet in gross floor area		X
	One story in height, greater than 10,000 square feet in gross floor area	X	
	More than one story in height	X	
Factory-Built Buildings	One or two stories in height, up to a maximum of 20,000 square feet in gross floor area		X
	One or two stories in height, greater than 20,000 square feet in gross floor area	X	
	More than two stories in height	X	
	More than 20,000 square feet in gross floor area	X	

**1.5(6)** *Guidelines for alterations to existing buildings.* The following matrix describes by alteration type when the services of a licensed professional engineer are required in connection with alterations to existing buildings:

ALTERATIONS TO EXISTING BUILDINGS			
Alteration Type	Description	Engineer Required	Engineer May Not Be Required
Structural alterations to exempt buildings under Iowa Code section 544A.18	Modifications that change the structural members, means of egress, handicap accessible path, fire resistivity or other life safety concerns		X
Structural alterations to buildings that are not exempt	Modifications that change the structural members, means of egress, handicap accessible path, fire resistivity or other life safety concerns	X	
Nonstructural alteration	That does not modify means of egress, handicap accessible path, fire resistivity or other life safety concerns		X
	That maintains the previous type of use		X
Nonstructural alteration that changes the use of the building from any other use to:	A place of assembly of people or public gathering	X	
	Governmental use	X	
	Educational use	X	
	Hazardous use	X	
	A place of residence exempted	and is one, two or three stories in height and contains not more than 12 family dwelling units	X

<b>ALTERATIONS TO EXISTING BUILDINGS</b>			
<b>Alteration Type</b>	<b>Description</b>	<b>Engineer Required</b>	<b>Engineer May Not Be Required</b>
	A place of residence not exempted otherwise	and is more than three stories in height and containing more than 12 family dwelling units	X X
Nonstructural alterations that change the use of the building from industrial or warehouse to:	Commercial or office use	and is one story in height and not greater than a maximum of 10,000 square feet in gross floor area	
		and is one story in height and greater than 10,000 square feet in gross floor area	X
		and is two stories in height and not greater than a maximum of 6,000 square feet in gross floor area	
		and is two stories in height and greater than 6,000 square feet in gross floor area	X
		and is more than two stories in height	X
		and is greater than 10,000 square feet of gross floor area	X
Nonstructural alterations to:	Agricultural Use	Including grain elevators and feed mills	
	Churches and Accessory Building Uses	One or two stories in height, up to a maximum of 2,000 square feet in gross floor area	
		Any number of stories in height, greater than 2,000 square feet in gross floor area	X
		More than two stories in height	X
	Commercial Use	One story in height, up to a maximum of 10,000 square feet in gross floor area	
		One story in height, greater than 10,000 square feet in gross floor area	X
		Two stories in height, up to a maximum of 6,000 square feet in gross floor area	
		Two stories in height, greater than 6,000 square feet in gross floor area	X
		More than two stories in height	X
	Detached Residential Buildings	One, two or three stories in height, containing 12 or fewer family dwelling units	
		More than 12 family dwelling units	X
		More than three stories in height	X
		Outbuildings in connection with detached residential buildings	
	Educational Use		X
	Governmental Use	When the occupancy is of another building use type listed herein, those provisions shall apply	X
	Industrial Use		X
	Institutional Use		X
	Light Industrial Use		
	Places of Assembly		X
	Warehouse Use	One story in height, up to a maximum of 10,000 square feet in gross floor area	

ALTERATIONS TO EXISTING BUILDINGS			
Alteration Type	Description	Engineer Required	Engineer May Not Be Required
	One story in height, greater than 10,000 square feet in gross floor area	X	
	More than one story in height	X	
	Factory-Built Buildings		X
	One or two stories in height, up to a maximum of 20,000 square feet of gross floor area		
	One or two stories in height, greater than 20,000 square feet in gross floor area	X	
	More than two stories in height	X	
	More than 20,000 square feet in gross floor area	X	

**1.5(7)** *Architectural exceptions do not apply.* The statutory exemptions in Iowa Code section 544A.18 do not apply to the practice of engineering. The construction of a building that falls within an exception in Iowa Code section 544A.18 may necessitate the services of an engineer if, for example:

- a. There are structural elements that do not fall within building code definitions of conventional light frame construction,
- b. The use of certain structural materials, members or components requires special inspections by engineers, or
- c. HVAC, plumbing or electrical systems exceed certain building code standards. However, the matrix guidelines in this rule are generally compatible with the exceptions in Iowa Code section 544A.18 because the construction of buildings that fall outside the exceptions in Iowa Code section 544A.18 generally does implicate the practice of professional engineering in such disciplines as structural, electrical or mechanical engineering.

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