

**TOWN OF ERIE
ORDINANCE NO. ____-2019**

AN ORDINANCE OF THE BOARD OF TRUSTEES OF THE TOWN OF ERIE REPEALING AND REENACTING CHAPTER 1, TITLE 9 OF THE ERIE MUNICIPAL CODE AND ADOPTING THE FOLLOWING CODES BY REFERENCE WITH AMENDMENTS: THE 2015 EDITIONS OF THE INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, INTERNATIONAL ENERGY CONSERVATION CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL EXISTING BUILDING CODE INTERNATIONAL FIRE CODE, AND THE INTERNATIONAL SWIMMING POOL AND SPA CODE, AND THE 2017 EDITION OF THE NATIONAL ELECTRIC CODE

NOW BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF ERIE, COLORADO, AS FOLLOWS:

Section 1. Chapter 1 of Title 9 of the Erie Municipal Code is repealed in its entirety and reenacted as follows:

**Chapter 1
BUILDING CODES**

9-1-1: BUILDING CODE:

A. Code Adopted: The International Building Code, 2015 Edition, (the "IBC") as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and is open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IBC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.
2. Section 101.4.3 is amended by deleting the last sentence.
3. Section 101.4.4 is replaced with the following: "101.4.4 Electrical. The National Electrical Code, 2017 Edition, shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto."
4. Section 102.6 is amended by deleting the words "the International Property Maintenance Code."
5. Section 102.6.2 is amended by deleting the words "or International Property Maintenance Code."
6. Section 103.3 is amended by deleting the last sentence.
7. Section 105.2 is amended by deleting item #2 under "Building:"

8. Section 109.2 is amended by adding the following at the end of the Section: "Such fees for each permit shall be in accordance with Erie Municipal Code § 2-10-6 and established by resolution of the Board of Trustees. The federal government, the State and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

9. Section 109.4 is replaced with the following: "109.4 Work Commencing Before Permit Issuance. Any person who commences any work requiring permits, including site and foundation excavation, on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to an additional fee equal to the amount of the permit fee required by this Code."

10. Section 109.5 is amended by adding the following at the end of the Section: "In addition to permit fees, a separate plan review fee as established by Erie Municipal Code § 2-10-6 shall be paid for each permit for the review of construction documents submitted as required by Sections 105.3 and 107. Construction document revisions submitted after completion of the initial plan review shall require an additional plan review fee as established by Erie Municipal Code § 2-10-6."

11. Section 109.6 is replaced with the following: "109.6 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

12. Section 109 is amended by adding the following: "109.7 Reinspection Fee. A reinspection fee may be assessed for each scheduled inspection or reinspection when such portion of work is not complete or when corrections are not made. A reinspection fee may be assessed when the inspection card is not posted or otherwise available on the job site, the approved plans are not readily available to the inspector, the site address is not temporarily posted, site access is not provided on the date of scheduled inspection, or work deviates from the approved plans. The reinspection fee as established by Erie Municipal Code § 2-10-6 shall be paid prior to scheduling a re-inspection."

13. Section 110.1 is amended by adding the following: "110.1.1, Inspection Record Card. Work requiring a permit shall not commence until the permit holder or their agent has posted the inspection record card in a conspicuous place on the premises and in such a position as to allow the Building Official to make necessary entries conveniently thereon regarding the inspection results of the work. The inspection record card shall be maintained on the premises by the permit

holder until all required inspections have been performed and final approval by the Building Official has been granted."

14. Section 111.1 is amended by adding the following to "Exception": Group U occupancies.

15. Section 114.4 is deleted in its entirety.

16. Section 115.3 is replaced with the following: "115.3, Unlawful Continuance. Any person who continues any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties in Erie Municipal Code § 9-1-11."

17. Section 202 is amended by adding the following definition: "SLEEPING ROOM. A habitable space within a dwelling or sleeping unit that meets the minimum area provisions of the Building Code and contains a closet or an area that is readily convertible to a closet. An adjacent area fitted with permanently affixed floor to ceiling shelving and no clothes rod may be defined as a storage room in a non-sleeping room."

18. Section 305.2.3 is replaced with the following: "305.2.3 Six or Fewer Children in a Dwelling Unit. A facility such as above within a dwelling unit having 6 or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code as adopted by the Town."

19. Section 1030.1 is amended by deleting the first exception.

20. Section 1030.2 is amended by deleting the exception.

21. Section 1511.1 is amended by adding the following after the first sentence: "A permit is required when more than one square of roof covering is to be replaced over the aggregate area of the roof. Every slope where roof covering is to be replaced shall be replaced in its entirety. The interface of different types of roof covering shall only occur at a ridge, hip or open valley. A roof covering replacement requiring a permit shall comply with the ventilation requirements of Section 1203 as applicable."

22. Section 1608.2 is replaced with the following: "1608.2, Ground Snow Loads. The ground snow load to be used in determining the design snow load for roofs shall be 30 pounds per square foot (psf). The design roof snow load shall be no less than 30 psf at any element of the roof."

23. Section 1609.3 is replaced with the following: "1609.3 Ultimate Design Wind Speed.

Allowable Stress Design Wind Speed, $V_{asd} = 110$ mph.

Ultimate Strength Design Wind Speed, V_{ult} , is determined by the Risk Category of the structure as follows: Category I, $V_{ult} = 130$ mph; Category II, $V_{ult} = 139$ mph; Category III & IV, $V_{ult} = 149$ mph."

24. Section 1612.3, is amended by inserting "Town of Erie" where indicated and "December 18, 2012 & August 15, 2019" where indicated.

25. Section 1809.5 is amended by deleting method 1 and replacing it with the following: "Extending below the Town frost depth of 30 inches below finished grade line."

26. Section 2901.1 is amended by deleting the last sentence.

27. Table 2902.1 is amended by replacing the number "15" to read "30" in footnote e. and by adding the following new footnote: "f. A drinking fountain shall not be required where only one water closet is required within the building or space."

28. Section 2902.6 is replaced with the following: "2902.6 Small Occupancies. A drinking fountain shall not be required where only one water closet is required within the building or space."

29. Section 3109 is deleted in its entirety.

9-1-2: RESIDENTIAL CODE:

A. Code Adopted: The International Residential Code, 2015 Edition (the "IRC"), including Appendices F and K, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and is open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IRC is amended as follows:

1. Section R101.1 is amended by inserting "Town of Erie" where indicated.

2. Section R102.7 is amended by deleting the words "the International Property Maintenance Code."

3. Section R105.2 is amended as follows under "Building:

1 - Replace "200 square feet" with "120 square feet."

2 - Delete in its entirety.

10 - Replace "200 square feet" to read "120 square feet."

11 - Add "Pre-fabricated ramps not more than 30 inches above grade at any point."

4. Section R106.1 is amended by deleting the first and second sentences and replacing them with the following: "Submittal documents consisting of construction documents, and other data shall be submitted in one paper set and one electronic set with each application for a permit. The foundation and structural framing plans of the construction documents shall be prepared and sealed (stamped, signed and dated) by a Colorado registered professional engineer unless otherwise exempt under C.R.S. § 12-25-303."

5. Section R108.2 is replaced with the following: "R108.2 Schedule of Permit Fees. On buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, fees for each permit shall be in accordance with Erie Municipal Code § 2-10-6 and established by resolution of the Board of Trustees. The federal government, the State of Colorado, and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

6. Section R108.4 is amended by adding new subsections R108.4.1 and R108.4.2 to read as follows: "R108.4.1 Plan Review Fee. In addition to permit fees, a separate plan review fee, as established by Erie Municipal Code § 2-10-6, shall be paid for each permit for the review of construction documents submitted as required by Sections R105.3 and R106.1. Construction document revisions submitted after completion of the initial plan review shall require an additional plan review fee. R108.4.2 Reinspection Fee. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is requested is not complete or when correction items are not addressed. In addition to the reinspection fee a one day delay in requesting a reinspection will be assessed. This subsection is not to be interpreted as requiring a reinspection fee the first time a portion of work for which an inspection is requested fails to comply with this Code, but as a means to address the practice of requesting an inspection or reinspection before the portion of work is ready for such inspection or re-inspection. A reinspection fee may be assessed when the inspection card is not posted or otherwise available on the work site, the approved plans and engineered roof truss package are not readily available to the inspector, the address of the structure is not posted in a conspicuous place and readily visible from the public right-of-way, the structure is not "dried-in", which includes installation of all windows, doors, roof shingles along with roof vents and jacks, access to the site is not provided on the date of inspection, or work deviates from the approved plans. In instances where a reinspection fee has been assessed, no additional inspections may be scheduled until the reinspection fee has been paid.

7. Section R108.5 is replaced with the following: "R108.5 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

8. Section R108.6 is replaced with the following: "R108.6 Work Commencing Before Permit Issuance. Any person who commences any work requiring permits, including site and foundation excavation, on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the

necessary permits shall be subject to an additional fee equal to the amount of the permit fee required by this Code."

9. Section R109.1.1 is replaced with the following: "R109.1.1 Foundation Inspection. Foundation systems, including without limitation excavation/soils, piers, footings, voids, footing and foundation reinforcement, concrete encased electrode (Ufer) placement/location, perimeter underdrain, damp and/or water proofing, required to be designed by a Colorado registered design professional per Section R106.1 shall be inspected by personnel working under the supervision of a Colorado licensed professional engineer. R109.1.1.1 Foundation Location Certificate. Foundation location with top of foundation elevation verification shall be submitted to the Building Division for review and approval prior to scheduling any above grade inspections. Such foundation location and top of foundation elevation verification shall be prepared and stamped by a Colorado registered professional land surveyor."

10. Section R109.1.6 is amended by adding a new Subsection R109.1.6.2 to read as follows: "R109.1.6.2 Documentation Submittal Requirements. The following documents shall be submitted to the Building Division after final inspections and prior to requesting a Certificate of Occupancy ("CO"): original permit/inspection card, front and back, with all necessary inspections, including Public Works, signed-off; Colorado licensed professional land surveyor stamped, signed and dated Improvement Location Certificate ("ILC"); Colorado licensed professional land surveyor or engineer stamped, signed and dated Final Grading Certificate that includes the statement 'final grading generally coincides with and matches grading as approved by the Town' or provide survey certification form with Final Grading Certificate; third party final energy code compliance report and insulation compliance certificate(s); Colorado licensed professional engineer stamped, signed and dated inspection observation reports/letters for excavation/soils, piers, footings, voids, footing and foundation reinforcement, concrete encased electrode (Ufer) placement/location, perimeter underdrain, damp and/or waterproofing.

11. Section R109.4 is replaced with the following: "R109.4 Approval Required. Construction or work for which a permit is required shall be subject to inspection by the Building Official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of this Code or other Town ordinances. Inspections presuming to give authority to violate this Code or of other Town ordinances. It is the duty of the permit holder or their duly authorized agent to cause the work to remain accessible and exposed for inspection purposes. The Town shall not be liable for expenses entailed in the removal or replacement of any material required to allow inspection."

12. Section R111.1 is amended by adding the following after the first sentence: "Separate utility service connections shall be provided to each property. No utility service connection shall extend across a property line."

13. Section R113.4 is deleted in its entirety.

14. Section R114.2 is replaced with the following: "R114.2 Unlawful Continuance. Any person who continues any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to the penalties prescribed in Erie Municipal Code § 9-1-11."

15. Section R202 is amended by adding the following definition: "SLEEPING ROOM. A habitable space within a dwelling unit that meets the minimum area provisions of the Residential Code and contains a closet or an area that is readily convertible to a closet. An area fitted with permanently affixed floor to ceiling shelving and no clothes rod may not be considered a closet in a non-sleeping room."

16. Table R301.2(1) is completed to read as follows:

Ground Snow Load	Wind Design				Seismic Design Category	Subject to Damage From			Winter Design Temp	Ice barrier Underlayment Required	Flood Hazard	Air Freezing Index	Mean Annual Temp
	Speed (V _{asd})	Topographic effects	Special Wind Region	Wind-Borne Debris Zone		Weathering	Frost Line Depth	Termite					
30psf	110	NO	Yes – See Wind Speed	NO	B	Severe	30 in.	Slight to Moderate	0°F	NO	12/18/2012 and 8/15/2019	979	48.8°F

17. Section R302.7 is replaced with the following: "R302.7 Under-Stair Protection. All under-stair surfaces located within any portion of the dwelling shall be protected by a minimum of ½ inch gypsum board. Stairs within the garage for access to the dwelling are not required to comply."

18. Section R308.4.6 is amended by replacing "36 inches" in the first sentence with "60 inches."

19. Section R310.1 is amended by adding the following sentence: "The emergency escape and rescue opening shall be located within a habitable space in basements without a sleeping room(s)."

20. Section R310.2.1 is amended by deleting the exception in its entirety.

21. Section R313 is deleted in its entirety.

22. Section R314.2.2 is amended by deleting exception 2 in its entirety.

23. Section R315.2.2 is amended by deleting exception 2 in its entirety.

24. Section R317.1.3 is replaced with the following: "R317.1.3 Geographical Areas. Approved naturally durable or pressure-preservative-treated wood shall be used for wood members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances when those members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering that would prevent moisture or water accumulation on the surface or at joints between members. Such members shall include horizontal and vertical members such as girders, beams, joists, decking, posts, poles and columns."

25. Section R401.1 is amended by adding the following after the first sentence: "Foundations and structural floor slabs of buildings and accessory structures over 120 square feet in floor area shall be designed by a Colorado-registered professional engineer."

26. Section R403.1.4.1 is amended by deleting exceptions 1, 2 and 3 in their entirety and replacing them with the following: "Exception: Frost protection of freestanding accessory structures with a floor area of 120 square feet or less shall not be required."

27. Section R405.2.3 is replaced with the following: "R405.2.3 Drainage System. Unless the foundation drainage system is installed to discharge into a community underdrain system, it shall discharge into a sump pit in accordance with Section P3303 and shall be capable of positive gravity or mechanical drainage to remove any accumulated water. The drainage system shall discharge not less than 5 feet from the foundation."

28. Section R610.1 is amended by deleting the second sentence and replacing it with the following: "Structural insulated panel wall construction drawings, details and specifications shall bear the seal of a Colorado-registered design professional responsible for the design."

29. Section R908.1 is amended by adding the following after the first sentence: "A permit is required when more than one square of roof covering is to be replaced over the aggregate area of the roof. Every slope where roof covering is to be replaced shall be replaced in its entirety. The interface of different types of roof covering shall only occur at a ridge, hip or open valley. A roof covering replacement requiring a permit shall comply with the ventilation requirements of Section R806 as applicable."

30. Section R908.3.1.1 is amended by deleting and replacing condition 3 to read as follows: "Where the existing roof has one or more applications of any type of roof covering material."

31. Part IV - Energy Conservation is deleted in its entirety.

32. Section M1502.4.2 is amended by replacing "12 feet" with "8 feet" in the first sentence.

33. Section M1507.3.3 is amended by deleting the exception in its entirety and replacing it with the following: "Exception: The whole-house mechanical ventilation system is permitted to operate intermittently where the system has automatic controls that enable operation for not less than 25% of each 4-hour segment and the ventilation rate prescribed in Table M1507.3.3(1) is multiplied by the factor determined in accordance with Table M1507.3.3(2)."

34. Section M1602.2 is amended by adding a new item 7 to read as follows: Return air shall be provided from each habitable story and finished basement.

35. Section G2404.3 (301.3) is amended by adding a new Subsection G2404.3.1 to read as follows: "G2404.3.1 Solid Fuel-Burning Appliances. Solid

fuel-burning appliances shall comply with the Regulations on Emissions of the State of Colorado in effect at the time of permit application for such appliance."

36. Section G2417.4.1 (406.4.1) is replaced with the following: "G2417.4.1 (406.4.1) Test Pressure. The test pressure for a low-pressure gas system shall be not less than 20 psi (138 kPa) gauge pressure. The test pressure for welded piping and for piping carrying gas at a pressure greater than 14 inches water column pressure shall be not less than 60 psi (413.7 kPa) gauge pressure."

37. Section G2417.4.2 (406.2) is amended by replacing "10 minutes" with "30 minutes."

38. Section P2503.5.1 is amended by deleting the first sentence and replacing it to read as follows: "DWV systems shall be tested upon completion of the rough piping installation by water or by air without evidence of leakage."

39. Section P2603.5 is amended by deleting the second sentence and replacing it with the following: "Water service pipe shall be installed not less than 54 inches below finished grade."

40. Section P2603.5.1 is replaced with the following: "P2603.5.1, Sewer Depth. Building sewers shall not be less than 36 inches below finished grade."

41. Section P2903.3.1 is replaced with the following: "P2903.3.1 Maximum Pressure. An approved water pressure-reducing valve conforming to ASSE 1003 or CSA B356 shall be installed to reduce the pressure on the domestic water branch main or riser at the connection to the water service pipe to not greater than 80 psi (552 kPa) static."

42. Section P2902.5.3 is amended by adding the following sentence: "Lawn irrigation systems shall be equipped with a rain sensing device."

43. Section P3005.2.4 is amended by adding a new Subsection P3005.2.4.1 to read as follows: "P3005.2.4.1 Base of Stacks. An accessible cleanout shall be provided near the base of each vertical waste or soil stack."

44. Section E3401.1 is amended by adding the following after the last sentence: "Where there is a conflict between this Part VIII of this Code and the adopted edition of the National Electrical Code ("NEC"), the NEC shall govern."

45. Section E3704.4 is amended by the adding the following after the third sentence: "The number of general-purpose outlets shall not exceed 8 on a 15-ampere circuit and 10 on a 20-ampere circuit."

46. Section E3902.5 is amended by adding the following sentence after the second sentence: "A GFCI protected receptacle shall be installed within 6 feet of the bottom of a sump pit."

9-1-3: ELECTRICAL CODE:

A. Code Adopted: The National Electric Code, 2017 Edition, (the "NEC") as published by the National Fire Protection Association, One Batterymarch Park,

Quincy, MA 02169, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The NEC is amended as follows: Section 90.5 is amended by adding the following: "(E) Unlawful Continuance. Any person who continued any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to the penalties prescribed in Erie Municipal Code § 9-1-11."

9-1-4: ENERGY CONSERVATION CODE:

A. Code Adopted: The International Energy Conservation Code, 2015 Edition, (the "IECC") as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IECC is amended as follows:

1. Section C101.1 is amended by inserting "Town of Erie" where indicated.

2. Section C108.4 is replaced with the following: " C108.4 Failure to Comply. Any person who continues work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties set forth in Erie Municipal Code Section 9-1-11."

3. Section C302.1 is amended by changing "72 degrees F (22 degrees C)" to read "70 degrees F (21 degrees C)" in the first sentence.

4. Section C401.2 is amended by deleting the second sentence under item 2 and the second sentence under item 3.

5. Section C402.5.3 is replaced with the following: "C402.5.3 Rooms Containing Fuel-Burning Appliances. Where open combustion air ducts provide combustion air to open combustion space conditioning fuel-burning appliances, the appliances and combustion air openings shall be located outside the building thermal envelope or enclosed in a room isolated from inside the thermal envelope. Such room shall be sealed and insulated in accordance with Table C402.1.3 or C402.1.4, where the walls and ceiling shall meet the minimum of the below-grade wall R-value requirement. The door into the room shall be fully gasketed. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8."

Exceptions:

a. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.

b. Fireplaces and stoves complying with Sections 901-905 of the IMC and Section 2111.13 of the IBC."

6. Section C406.1 is amended by replacing the word "shall" with the word "may" in the first sentence.

7. Section C408.3.1 is amended by deleting the first sentence and replacing it with the following: An approved agency shall provide evidence to the building owner or owner's authorized agent that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.

8. Section C503.3.1 is replaced with the following: "C503.3.1 Roof Replacement. A roof replacement where the existing roof assembly is part of the building thermal envelope containing insulation entirely above the roof deck shall require the installation of insulation to achieve a total R-value of 25."

9. Section R101.1 is amended by inserting "Town of Erie" where indicated.

10. Section R108.4 is deleted in its entirety.

11. Section R302.1 is amended by changing "72 degrees F (22 degrees C)" to read "70 degrees F (21 degrees C)" in the first sentence.

12. Section R402.4.1.2 is amended by changing "3 air changes per hour in Climate Zones 3-8" in the first sentence to read "5 air changes per hour in Climate Zones 3-8".

13. Section R402.4.4 is replaced with the following: "R402.4.4 Rooms Containing Fuel-Burning Appliances. Where open combustion air ducts provide combustion air to open combustion fuel-burning appliances, the appliances and combustion air openings shall be located outside the building thermal envelope or enclosed in a room isolated from inside the thermal envelope. Such room shall be sealed and insulated in accordance with Table R402.1.2, where the walls and ceiling shall meet not less than the basement wall R-value requirement. The door into the room shall be fully gasketed. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8.

Exceptions:

a. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.

b. Fireplaces and stoves complying with Section R402.4.2 of this Code and Section R1006 of the IRC."

14. Section R403.5.3 is amended by changing "3/4 inch" in item 1 to read "1 inch".

15. Section R503.1.1 is amended by adding a new exception 7 to read as follows: "Basement walls of the building thermal envelope shall be insulated by a minimum of R-10 continuous or R-13 cavity insulation at the time of basement alteration."

9-1-5: MECHANICAL CODE:

A. Code Adopted: The International Mechanical Code, 2015 Edition (the "IMC"), as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IMC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.

2. Section 106.5.2 is replaced with the following: "106.5.2 Fee Schedule. The fees for mechanical work shall be in accordance with Erie Municipal Code Section 2-10-6 Building Permit and Other Fees and established by resolution of the Board of Trustees. The federal government, the State and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

3. Section 106.5.3 is replaced with the following: "106.5.3 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

4. Section 108.4 is deleted in its entirety.

5. Section 108.5 is amended by deleting the last sentence and replacing it with the following: "Any person who continues any work on the mechanical system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties prescribed in Erie Municipal Code § 9-1-11."

6. Section 109 is replaced with the following: "Section 109 Means of Appeal. A person may appeal a decision of the Code Official to the Board of Appeals in accordance with Erie Municipal Code Article A, Chapter 1, Title 9."

7. Section 905.1 is amended by adding the following sentence at the end: "Solid fuel-burning appliances shall comply with the Regulations on Emissions of the State of Colorado in effect at the time of permit application for such appliance."

8. Section 1011.1 is amended by adding a new Subsection 1011.1.1 to read as follows: "1011.1.1 Certificate of Inspection. A certificate of inspection shall be obtained from the State of Colorado prior to the operation of a boiler or pressure vessel. Such certificate of inspection shall be displayed in a conspicuous

place on or near the boiler or pressure vessel. Boilers and pressure vessels shall be operated and maintained in compliance with nationally recognized standards and requirements for protection of the public."

9-1-6: PLUMBING CODE:

A. Code Adopted: The International Plumbing Code, 2015 Edition (the "IPC"), including Appendices C and E, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IPC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.

2. Section 106.6.2 is replaced with the following: "106.6.2 Fee Schedule. The fees for plumbing work shall be in accordance with Erie Municipal Code § 2-10-6 and established by resolution of the Board of Trustees. The federal government, the State of Colorado, and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

3. Section 106.6.3 is replaced with the following: "106.6.3 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

4. Section 108.4 is deleted in its entirety.

5. Section 108.5 is amended by deleting the last sentence and replacing it with the following: "Any person who continues any work on the plumbing system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to the penalties prescribed in Erie Municipal Code § 9-1-11."

6. Section 109 is replaced with the following: "Section 109 Means of Appeal. A person may appeal a decision of the Code Official to the Board of Appeals, in accordance with Erie Municipal Code Article A, Chapter 1, Title 9."

7. Section 305.4 is amended by deleting the second sentence and replacing it with the following: "Exterior water supply system piping shall be installed not less than 54 inches below grade."

8. Section 305.4.1 is replaced with the following: "305.4.1 Sewer Depth. Building sewers shall be installed not less than 36 inches below grade."

9. Section 312.1 is amended by deleting the fourth sentence and replacing it with the following: "All plumbing system piping shall be tested with either water or air."

10. Section 312.3 is amended by deleting the first sentence.

11. Table 403.1 is amended by replacing the number "15" to read "30" in footnote e and by adding a new footnote f to read as follows: "f. A drinking fountain shall not be required where only one water closet is required within the building or space."

12. Section 410.2 is replaced with the following: "410.2 Small Occupancies. A drinking fountain shall not be required where only one water closet is required within the building or space."

13. IPC Section 410.4 is amended by adding an exception to read as follows: "Exception: A water cooler or bottled water may be substituted where only one drinking fountain is required by Table 403.1."

14. Section 604.8 is amended by deleting the first sentence and replacing it with the following: "An approved water pressure-reducing valve conforming to ASSE 1003 or CSA B356 with strainer shall be installed to reduce the pressure in the building water distribution piping to not greater than 80 psi (552 kPa) static."

15. Section 608.16.5 is amended by adding the following sentence: "All lawn irrigation systems shall be equipped with a rain sensor device."

16. Section 903.1 is amended by inserting the number "6" where indicated.

17. Section 1002 is amended by adding a new Subsection 1002.11 to read as follows: "1002.11 Hair Traps. Fixtures with an intended purpose for the washing of hair, including fixtures within pet grooming facilities, shall be equipped with an approved hair trap."

9-1-7: FUEL GAS CODE:

A. Code Adopted: The International Fuel Gas Code, 2015 Edition, (the "IFGC") as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and is open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IFGC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.

2. Section 106.6.2 is replaced with the following: "106.6.2 Fee Schedule. The fees for work shall be in accordance with Erie Municipal Code § 2-

10-6 and established by resolution of the Board of Trustees. The federal government, the State of Colorado, and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

3. Section 106.6.3 is replaced with the following: "106.6.3 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

4. Section 108.4 is deleted in its entirety.

5. Section 108.5 is amended by deleting the last sentence and replacing it with the following: "Any person who continues any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties in Erie Municipal Code § 9-1-11."

6. Section 109 is replaced with the following: "Section 109 Means of Appeal. A person shall have the right to appeal a decision of the Code Official to the Board of Appeals in accordance with Erie Municipal Code Article A, Chapter 1, Title 9."

7. Section 404.12 is replaced with the following: "404.12 Minimum Burial Depth. Underground piping systems shall be installed a minimum depth of 12 inches below grade."

8. Section 406.4.1 is replaced with the following: "406.4.1 Test Pressure and Duration. The minimum test pressure for a low-pressure gas system shall be 20 pounds per square inch for 30 minutes. Low-pressure gas shall be defined as 14 inches of water column or less. The minimum test pressure for any other gas system shall be 60 pounds per square inch for 30 minutes."

9. Section 406.4.2 is deleted in its entirety.

9-1-8: EXISTING BUILDING CODE:

A. Code Adopted: The International Existing Building Code, 2015 Edition, (the "IEBC") as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IEBC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.
2. Section 101.4.2 is amended by deleting "the International Property Maintenance Code" from the first sentence.
3. Section 113.4 is deleted in its entirety.
4. Section 301.1 is amended by adding the following sentence after the third sentence: "Regardless of the compliance method applied all dwelling units that undergo a repair, alteration, addition or relocation shall install CO alarms in accordance with the applicable provisions of the IBC or IRC."
5. Section 302.2 is deleted in its entirety.
6. Section 706 is deleted in its entirety.
7. Section 1012.2.1 is amended by adding a new exception to read as follows: "Exception: Where a change of occupancy classification occurs for a grade level Group A occupancy meeting all of the following: the total floor area of the change of occupancy shall not exceed 2,500 square feet; the Code determined total occupant load of the change of occupancy shall not exceed 99; and the total floor area of the change of occupancy shall be detected throughout with an approved automatic fire alarm system."
8. Section 1301.2 is amended by deleting "and the International Property Maintenance Code" in the first sentence.
9. Section 1401.2 is amended by inserting "January 3, 1995" in the brackets.
10. Section 1401.3.2 is amended by deleting "and International Property Maintenance Code" from the sentence.

9-1-9: FIRE CODE:

A. Code Adopted: The International Fire Code, 2015 Edition (the "IFC"), including Appendices B, C, D, F, H and I, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The IFC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.
2. Section 102.7.1 is amended by adding an exception to read as follows: "Exception: When any provision from the referenced codes is agreed upon by the Fire Code Official and the Chief Building Official as being applicable and acceptable."
3. Section 109.4 is deleted in its entirety.

4. Section 111.4 is replaced with the following: "111.4 Failure to Comply. Any person who continues work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties in Erie Municipal Code § 9-1-11."

5. Section 605.11 is amended by adding new Subsections 605.11.3, 605.11.4, and 605.11.5 to read as follows: 605.11.3 Direct current (DC) Wiring. Direct current (DC) conduit, wiring and raceways shall be located below the solar array or a minimum of 24 inches below the roof sheathing. 605.11.4 Labeling. For residential applications, a label stating CAUTION SOLAR PHOTOVOLTAIC SYSTEM ON PREMISES shall be placed at or within the main electrical service disconnect. 605.11.5 Rapid Shut Down Switch. All solar systems shall have a rapid shutdown switch located at ground level in the area of the electric panel box and inverter."

6. Section 907.6.4 is amended by addition of the following sentence at the end: "The Fire Code Official shall approve the extent of zone coverage for fire alarm systems in all buildings and structures."

7. Section 1101.1 is amended by adding an exception to read as follows: "Exception: Buildings, portions thereof and life safety components therein, including the means of egress, that currently comply with the Code under it is which constructed."

8. A new Chapter 38, entitled Alcohol Beverage Production Facilities is added as follows:

CHAPTER 38 - ALCOHOL BEVERAGE PRODUCTION FACILITIES

SECTION 3801 GENERAL

3801.1 Scope. Buildings and portions thereof where ethanol mixtures are produced, stored, handled or dispensed in the production of alcohol beverages shall be regulated in accordance with this Chapter and the IBC. The intent of this Chapter is to establish minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing alcohol beverage production facilities (ABPFs) such as distilleries, breweries, and wineries, and to provide safety to fire fighters and emergency responders during emergency operations. The objective is to consolidate regulations for materials, systems, processes, and conditions most commonly found in ABPFs to facilitate compliance with the intent of this Chapter. The Fire and Building Code Officials are authorized to enforce applicable provisions of the IBC, referenced standards, and recommended practices not specifically addressed in this Chapter provided they are consistent with the intent and objective of this Chapter. Consideration shall be given to the unique materials and equipment utilized in this industry such as wooden casks (typically barrels) and high quality but as-yet, unlisted, stills.

3801.2 Referenced codes and standards. The codes and standards referenced in this Code shall be those that are listed in Chapter 80, and such codes and standards

shall be considered to be part of the requirements of this Code to the prescribed extent of each such reference and as further regulated in this Code.

3801.3 Conflicts. Unless otherwise noted, where provisions in this Chapter conflict with provisions in the IBC for ABPFs, the more restrictive provisions shall apply.

3801.4 Recommended practices. The recommended practices of NFPA 77, NFPA 497 & 499 and the Distilled Spirits Council of the United States shall be considered a part of the requirements of this Code to the prescribed extent of each such recommended practice and as further regulated in this Code.

SECTION 3802 PRODUCTION FACILITY REQUIREMENTS

3802.1 Material classification. Hazard classifications and analyses of ethanol mixtures shall account for altitude-dependent properties based on an elevation of 5,280 feet (1,609 m) above sea level. Ethanol mixtures that have no fire point when tested in accordance with ASTM D 92, Standard Test Method for Flash and Fire Points, by Cleveland Open Cup Tester and ethanol mixtures with 16% or less ABV with the remainder comprised of materials with hazards not regulated by the IBC shall not be regulated as flammable or combustible liquids. Ethanol mixtures with greater than 16% ABV and less than or equal to 34% ABV, and the remainder comprised of water and other materials with hazards not regulated by the IBC shall be classified as Flammable 1C liquids. Ethanol mixtures with greater than 34% ABV, and the remainder comprised of water and other materials with hazards not regulated by the IBC shall be classified as flammable 1B liquids.

3802.2 Occupancy classification. The occupancy classification of use areas and storage areas including grain-handling and bottling/packaging systems and processes shall be classified in accordance with Sections 3802.2.1-3802.2.3.

3802.2.1 H-2 Occupancy classification. An H-2 occupancy classification shall be assigned to buildings or portions thereof in accordance with Sections 3802.2.1.1 and 3802.2.1.2.

3802.2.1.1 Combustible dust producing operations. ABPFs or portions thereof containing equipment, systems and processes where grains are stored, transferred or milled in such a manner that the confinement conditions and dust concentrations create a fire or explosion hazard shall be in accordance with IFC Chapter 22 and IFC Chapter 50. The Fire and Building Code Officials are authorized to require technical assistance in accordance with IFC Section 104.7.2 to establish whether the building or portion thereof is required to be assigned an H-2 occupancy classification and to determine explosion and deflagration hazard reduction criteria.

3802.2.1.2 Flammable liquids. ABPFs and portions thereof with quantities of Class I Liquids in excess of the MAQs, that are stored or processed in normally open vessels or systems, or vessels or systems that are pressurized at more than 15 pounds per square inch gauge (psig; 103.4 kPa), or where a Class I Liquid is released to atmosphere at or above its

flash point temperature as part of normal operations shall be assigned an H-2 occupancy classification.

3802.2.2 H-3 Occupancy classification. ABPFs and portions thereof with quantities of Class I Liquids in excess of the MAQs, that are stored or processed in normally closed vessels or systems pressurized to 15 pounds per square inch gauge (psig; 103.4 kPa) or less, shall be classified as H-3 occupancies.

Exception: Quantities of ethanol mixtures beverages exceeding the MAQs but packaged in individual containers not exceeding 1.3 gallons (5 L) in volume shall not cause the ABPF or portion thereof to be assigned an H-3 occupancy classification.

3802.2.3 Non-high hazard occupancy classification. Control areas with Class I Liquids, combustible dust production, or other regulated hazards shall be assigned an occupancy classification in accordance with the IBC according to the fire safety and relative hazard involved.

3802.3 Hazardous materials permit application (HMPA). An HMPA in an approved format is required for all ABPFs using or storing hazardous materials. It shall contain at a minimum, an HMR, HMMP, process description, fire-safety and evacuation plans, and a storage plan.

3802.3.1 Hazardous materials report (HMR). An HMR in an approved format is required for all facilities using or storing Hazardous materials. It shall contain at a minimum, critical personnel contact information, pertinent building construction and occupancy information, and an HMIS.

3802.3.2 Hazardous materials management plan (HMMP). An HMMP in accordance with IFC Section 5001.5.1 and Appendix H shall be provided in an approved format.

3802.3.3 Process description. A process description shall be provided in an approved format. All relevant process and storage operations in all control areas and Group H Occupancies shall be identified. The quantities of all materials with regulated hazards in each area at each step of all processes shall be calculated. The maximum capacity of all Class I Liquid bulk storage vessels, processing vessels and stills shall be used in the quantity calculation. The capacities of all such vessels and stills that can be used simultaneously shall be counted as being simultaneously full.

3802.3.4 Emergency planning. Fire safety and evacuation plans in accordance with IFC Section 404, shall be prepared and maintained.

3802.3.5 Storage plan. Aisle and storage plans shall be submitted in accordance with IFC Chapter 50.

3802.3.6 Material safety data sheets. MSDS shall be readily available on the premises for hazardous materials therein.

3802.3.7 Unauthorized discharges preparation. Plans and provisions shall be made for controlling and mitigating unauthorized discharges.

3802.3.8 Personnel training and written procedures. Persons responsible for the operations in Class I Liquid storage areas or use areas shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of fire, leak, or spill.

3802.3.9 Fire department liaison. Responsible persons shall be designated and trained to be liaison personnel to the fire department. They shall aid the fire department in preplanning emergency responses and identifying the locations of hazardous materials, shall have access to MSDS and be knowledgeable in the site's emergency response procedures.

3802.4 Unauthorized discharges. When Class I Liquids are released in quantities reportable under state, federal or local regulations, the Fire Code Official shall be notified and action shall be taken in accordance with Sections 3802.4.1 and 3802.4.2.

3802.4.1 Records. Accurate records shall be kept of all unauthorized discharges of Class I Liquids by the permittee.

3802.4.2 Responsibility for cleanup. The person, firm or corporation responsible for an unauthorized discharge shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. When deemed necessary by the Fire Code Official, cleanup may be initiated by the fire department or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator or other person responsible for the unauthorized discharge.

3802.5 Construction. The construction of ABPFs shall be in accordance with Sections 3802.5.1 and 3802.5.2.

3802.5.1 General. Special detailed requirements, building heights, allowable areas, construction types, control areas, rated assemblies, finishes, means of egress, accessibility, interior environment, energy efficiency, exterior walls, roofing, structural design, fire service features, building services and systems, and fire and smoke protection shall be in accordance with the IBC for the assigned occupancy classifications and this Chapter.

3802.5.2 Floors. Floors of use areas and storage areas for Class I Liquids shall be of noncombustible construction. Floor surfacing shall not be reactive with ethanol.

3802.6 Systems, features and components. Systems, features and components shall be provided in accordance with Sections 3802.6.1-3802.6.13.

3802.6.1 Deflagration prevention by combustible concentration reduction. Atmospheric concentration of flammable vapors shall be maintained at or below 25% of the LFL, and combustible dusts at or below 25% of the MEC, in all areas of the ABPF or portion thereof where they could collect or migrate. Good housekeeping shall be exercised to prevent accumulation of combustible dust on all exposed surfaces at all levels throughout the building. Indoor storage

areas and use areas are permitted to be provided with natural ventilation where it can be shown to maintain the atmospheric concentrations at or below 25% of the LFL and MEC for the materials under consideration. Where natural ventilation is not adequate, Class I Liquid use areas, storage areas and equipment, machinery, and operations which produce or emit combustible dust, shall be provided with an approved mechanical collection and exhaust system in accordance with Sections 501, 502.1, 502.8, 502.9.5 and 503 of the IMC. Use areas and storage areas in ABPFs or portions thereof where Class I Liquid vapor concentrations cannot be maintained at or below 25% of the LFL, or confined enclosures where the concentration of combustible dust cannot be maintained at or below 25% of the MEC, shall be provided hazardous exhaust in accordance with IMC Sections 510 and 511.

3802.6.1.1 Exhaust ventilation system requirements. Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the IMC.
2. Mechanical ventilation over the storage area or use area shall be at a rate of not less than 1 cubic foot per minute per square foot [cfm/ft²; 0.00508 cms/m²] of floor area.

Exception: Areas where Class I Liquids are stored in casks are permitted to be provided with an engineered ventilation system in accordance with IMC Chapter 4. The air flow rate shall not be less than the greater of (1) that required to maintain the flammable vapor concentration in the storage area at or below 25% of the LFL; or (2) 0.06 cubic feet per minute per square foot (cfm/ft²; 0.000305 cms/m²).

3. Systems shall operate continuously unless alternative designs are approved.
4. A manual shutoff control shall be provided outside of the room in a position adjacent to the access door to the room, or in an approved location. The switch shall be a break-glass or other approved type and shall be labeled, "VENTILATION SYSTEM EMERGENCY SHUTOFF."
5. Exhaust ventilation shall be designed to consider the density of the material released. For ethanol vapor, inlet air shall be introduced, and exhaust shall be taken, from a point within 12 inches (305 mm) of the floor. For dust, inlet air shall be introduced at a point within 12 inches (305 mm) of the floor and exhaust shall be taken as close to the dust generation source as possible.
6. The location and configuration of both the inlet and exhaust air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of flammable vapors and suspended dust.
7. Exhaust air shall not be recirculated to occupied areas.

3802.6.2 Spill control and secondary containment. Spill control and secondary containment shall be provided in accordance with Sections 3802.6.2.1-3802.6.2.2.

3802.6.2.1 Indoor. Spill control and secondary containment shall be provided for H-2 and H-3 occupancies in ABPFs where:

1. The capacity of any single, normally-closed vessel or system with Class I Liquids exceeds 55 gallons (208 L);
2. The aggregate capacity of multiple normally closed vessels or systems with Class I Liquids exceeds 1,000 gallons (3,785 L); or
3. Class I Liquids are dispensed into or from a normally open vessel or system exceeding a 5.3-gallon (20 L) capacity.

3802.6.2.1.1 Design. The drainage system shall be in accordance with the IPC and the following:

1. All portions of the drainage system including floors shall be liquid-tight and constructed of noncombustible materials compatible with ethanol. Exception: Where approved by the Fire and Building Code Officials, and in compliance with federal, state, and local government agencies' regulations and permits, floors of buildings or portions thereof used for the bulk storage of Class I Liquids are permitted to be exposed earth. Combustible materials such as tilled organic matter are permitted to be mixed with the dirt provided the mixture is non-combustible.
2. The drains and drainage system capacity shall be sized to carry the volumetric flow of water discharged from the automatic sprinkler system without backing up at the drains or pooling to a depth greater than ¼-inch (6.5mm). The sprinkler coverage area used to calculate the required volumetric flow is permitted to be based on the smaller of (a) the remote area in accordance with NFPA 13 – provided it is located in the area served by the drains – or (b) the area of the building or portion thereof served by the drains. Exception: When released onto the ground within a fire area, the volumetric flow of water is permitted to be reduced to account for the percolation into the soil. An engineering analysis shall be provided to establish the reduction.
3. Floors shall slope to drains. Impermeable curbs and floor slope shall be designed to prevent spilled Class I Liquids and water discharged from the automatic sprinkler system from flowing to adjoining areas. Floor slope shall not be less than 2%.

Exceptions:

1. Floors in existing buildings with less than 2% slope are permitted to be used provided they are made liquid-tight and floor sinks are installed as necessary to preclude water discharged from the automatic sprinkler system from pooling in low spots. These drains shall be installed in addition to the drains required in Item 2 of this Section.

2. Where trench drains or a combination of impermeable curbs and trench drains surround the sprinkler coverage area, the floors shall slope to the drains at a rate of not less than 1%. Where a combination of impermeable curbs and trench drains is used, no less than 50% of the perimeter shall be protected by trench drains.

3. Drainage systems shall terminate in an approved secondary containment reservoir designed to contain a spill from the largest vessel in the area served by the drains plus the volumetric flow of water calculated in Item 2 above for a period of 20 minutes. An approved automatic monitoring method shall be provided to detect material in the reservoir. Monitoring devices shall be connected to an approved visual and audible alarm. Reservoir capacity to accommodate the required secondary containment volume shall be maintained at all times. Exception: Release of Class I Liquids and fire protection water directly into a sanitary or stormwater drainage system, onto the ground, or a combination thereof is permitted when in compliance with federal, state, and local governmental agencies' regulations and permits.

3802.6.2.2 Outdoor. Secondary containment for outdoor storage areas shall be in accordance with IFC Chapter 50.

3802.6.3 Occupant and property protection. Occupant and property protection shall be provided in accordance with Sections 3802.6.3.1-3802.6.3.4.

3802.6.3.1 Automatic sprinklers. An automatic sprinkler system shall be installed throughout ABPF H-2 and H-3 fire areas in accordance with Sections 3802.6.3.1.1-3802.6.3.1.3.

3802.6.3.1.1 Flammable liquids. Sprinkler discharge criteria for Class I Liquid use areas and storage areas in ABPFs or portions thereof shall be in accordance with NFPA 30 but shall not be less than that required in accordance with NFPA 13 for Ordinary Hazard Group 2 with a minimum design area of 3,000 square feet (279 m²). Exception: H-2 and H-3 occupancies with storage of Class I Liquids in casks shall be protected by a sprinkler system designed for Extra Hazard 2 in accordance with NFPA 13, or by an approved engineered design.

3802.6.3.1.2 Combustible dust producing operations. Automatic sprinkler protection criteria for H-2/Combustible Dust Producing Operations shall be determined in accordance with Section 3802.2.1.1.

3802.6.3.1.3 Non-high hazard occupancies. Sprinkler discharge criteria for ABPFs or portions thereof not classified as a division of the high-hazard occupancy classification and where Class I Liquids are not present in quantities or conditions required to be regulated by NFPA 30 or this Chapter, shall be in accordance with NFPA 13.

3802.6.3.2 Sprinkler system supervision and alarms. Automatic sprinkler systems shall be electrically supervised in accordance with IFC Section 903.4. Audible and visible occupant notification upon activation of

water flow shall be provided in accordance with IFC Section 907.5, throughout all areas in ABPFs with automatic sprinkler protection.

3802.6.3.3 Emergency alarm. In addition to automatic sprinkler system flow detection and all fire safety functions required by other sections of this code, an approved manual fire alarm system in accordance with Sections 3802.6.3.3.1-3802.6.3.3.3 shall be provided in H-2 and H-3 occupancies in ABPFs.

3802.6.3.3.1 Initiation. Manual fire alarm boxes shall be installed in accordance with IFC Section 907.4.2 outside of each interior exit or exit access door in the fire barrier walls separating the H-2 or H-3 occupancies, and in the exterior walls surrounding the H-2 or H-3 occupancies. Exception: On exterior walls of H-2 or H-3 occupancies, fire alarm boxes are permitted to be installed inside of each interior exit, exit access, or exit discharge door in the exterior wall. Manual fire alarm boxes shall be installed at not more than 150-foot (45,720 mm) intervals along corridors, interior exit stairways or ramps, or exit passageways where Class I Liquids are transported.

3802.6.3.3.2 Notification. Emergency alarm audible and visible occupant notification shall be provided in accordance with IFC Section 907.5 throughout fire areas containing H-2 or H-3 occupancies.

3802.6.3.3.3 Annunciation. The emergency alarm system shall be monitored and annunciated as a separate zone at the Fire Alarm Control Panel (FACP). A separate emergency alarm panel is required when prescribed by other sections of the IBC for regulated hazards other than, or in addition to, Class I Liquids or combustible dust production in the manufacture of ethanol mixtures. When the emergency alarm system is activated, information shall be communicated to the supervising station that the zone in alarm contains flammable liquids or combustible dust, or both.

3802.6.3.4 Portable fire extinguishers. A minimum of one approved portable fire extinguisher complying with IFC Section 906 having a rating of not less than 20-B shall be located not less than 10 feet (3,048 mm) or more than 50 feet (15,240 mm) from any Class I Liquid storage area or use area or combustible dust production area.

3802.6.4 Electrical. Electrical wiring, equipment and systems shall be installed and maintained in ABPFs in accordance with NFPA 70 (NEC) and IFC Section 605 and Sections 3802.6.4.1-3802.6.4.4.

3802.6.4.1 Classified electrical equipment. Classified electrical equipment per NFPA 70 (NEC) shall be installed in accordance with IFC Section 5703.1.1 in areas of ABPFs or portions thereof where it cannot be justified during design review, and subsequently demonstrated to the Fire Code Official on annual inspections, that an atmospheric concentration at or below 25% of the LFL or MEC can be maintained. A classified area

shall not be required to extend beyond an unpierced floor, roof or other solid partition that prevents the migration of liquids, vapors and dust.

3802.6.4.1.1 Stills. Electrical equipment attached to or part of stills in H-2 or H-3 occupancies shall be Class I, Division 1 in accordance with NFPA 70 (NEC).

3802.6.4.1.2 Electric motors. Electric motors located 8 feet (2,438 mm) or less from any edge of equipment where Class I Liquid vapor/air mixtures could exist under normal operations and 3 feet (914 mm) or less above the floor or grade level within 25 feet (7,620 mm) horizontally from any equipment with Class I Liquids shall be considered Class I, Division 2 in accordance with NFPA 70 (NEC).

3802.6.4.1.3 Other applications. The Fire Code Official may determine the extent of the Class I electrical equipment and wiring location when a condition is not specifically covered by this Chapter, IFC Section 5703.1.1 or NFPA 70 (NEC).

3802.6.4.1.4 Industrial trucks. Powered industrial trucks used in areas designated as classified electrical locations in accordance with Section 3802.6.4.1 shall be listed and labeled for use in the intended environment in accordance with NFPA 505.

3802.6.4.2 Grounding. Equipment used for grain or Class I Liquids shall be electrically connected in accordance with NFPA 70 (NEC) and NFPA 77, and Sections 3802.6.4.2.1 and 3802.6.4.2.2 to prevent the accumulation of static electricity and sparking.

3802.6.4.2.1 Conveyance equipment. All conveyance equipment including that used for grain or Class I Liquid transfer and shall be electrically connected by bond wires, ground cables, piping or similar means to a static grounding system. Conveyor belts shall be electrically conductive and equipped with static eliminators. Nozzles and vessels used for the transfer of Class I Liquids shall be electrically interconnected by:

1. Metallic floor plates on which vessels stand while filling, when such floor plates are electrically connected to the fill stem; or
2. Where the fill stem is bonded to the container during filling by means of a bond wire.

Exceptions:

- a. Vats or casks without internal metal or plastic components that could hold a potential difference.
- b. Equipment used in post bottling operations, such as packaging and box storage shall be grounded in accordance with standards applicable to that equipment and industry practice.

3802.6.4.2.2 Storage equipment. Plastic and metal grain storage bins or silos and Class I Liquid stationary tanks that are drawn down and refilled on a regular basis or are otherwise subjected to processes that could create an electric potential difference and sparking, shall be grounded.

3802.6.4.3 Lightning protection. Lightning protection in accordance with NFPA 780 shall be provided on ABPFs with an H-2 occupancy; on miscellaneous structures with a combustible dust production hazard due to the storage, handling, or processing of grains; and on ABPFs with an H-2 occupancy and a still having a 750 gallon (2839L) or larger capacity, or aggregate bulk storage of Class I Flammable Liquids of 7,800 gallons (29,526L) or greater.

3802.6.4.4 Standby or emergency power. Where mechanical ventilation, treatment systems, limit controls, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with NFPA 70 (NEC) and IFC Section 604.1. Exception: Subject to the Fire and Building Code Officials, standby power for mechanical ventilation and limit control systems shall not be required where an approved fail-safe engineered system is installed.

3802.6.5 Location of stills and vessels. Stills and vessels in Class I Liquid use areas shall be located with respect to the lot lines of adjoining property, which can be built on in accordance with IFC Tables 5703.4(1) and 5703.4(2).

Exceptions:

1. Where the exterior wall facing the adjoining lot line is without openings, has a fire-resistance rating of not less than 2 hours, and the ABPF is protected throughout with an automatic sprinkler system in accordance with Section 3802.6.3.1, the Fire and Building Code Officials are authorized to reduce the minimum separation distances to not less than 1 foot (305 mm), or the minimum separation distances required by other provisions of the IBC, whichever is greater.
2. Where the capacity of the largest still or vessel within the minimum separation distance is 250 gallons (946 L) or less, the aggregate volume of all stills and vessels within the minimum separation distance is 750 gallons (2839 L) or less, the normal operating pressure of all vessels within the minimum separation distance is 2.5 psig (17.2 kPa) or less, and the ABPF is protected throughout with an automatic sprinkler system in accordance with Section 3803.6.3.1, the minimum separation distance to a lot line is permitted to be 1 foot (305 mm), or the minimum separation distances required by other provisions of the IBC, whichever is greater.

3802.6.6 Security. Class I Liquid use areas and storage areas shall be secured against unauthorized entry and safeguarded in a manner approved by the Fire Code Official.

3802.6.7 Protection from vehicles. Bollards in accordance with IFC Section 312 or other approved means shall be provided to protect all vessels, stills, and piping which handle Class I Liquids and are subject to vehicular, including industrial truck, damage.

3802.6.8 Labeling and signage. When a permit is required in accordance with Section 105, visible hazard identification markings, labels, signs and placards shall be placed on vessels and process piping used for Class I Liquids, and in Class I Liquid storage areas, use areas and combustible dust production areas, and at the entrances thereto in accordance with applicable federal, state, and standards regulations, Sections 3802.6.8.1-3802.6.8.6, IFC Chapters 50 and 57 and NFPA 704, or as approved. Content shall be in English, symbols permitted by this Code and referenced standards, or both. Placards shall be in accordance with NFPA 704. The Fire Code Official may require additional signs and placards at specific entrances and locations. Markings, labels, signs, and placards shall not be obscured or removed. Exception: Casks are not required to be labeled.

3802.6.8.1 Warning signs. Warning signs shall be of a durable material, have a yellow background with black or red text or symbols, and shall convey the danger being identified. Warning sign text shall not be less than 3 inches (76 mm) in height with a 5/8-inch (15 mm) stroke.

3802.6.8.2 Information signs. Information signs shall be of a durable material, have a blue background with white or red text or symbols, or a white background with blue text, and shall convey the information required. Information sign text shall not be less than 3 inches (76 mm) in height with a 5/8 inch (15 mm) stroke. Exception: Where otherwise specified by applicable regulations or standards.

3802.6.8.3 Location. Placards shall be located in accordance with NFPA 704 and shall be provided on the outside of each interior exit or exit access door in the fire barrier walls separating the H-2 or H-3 occupancies, and in the exterior walls surrounding the H-2 or H-3 occupancies.

3802.6.8.4 Piping. Piping and tubing conveying Class I, II, or III flammable or combustible liquids between vessels including heat transfer fluids shall be identified in accordance with ASME A13.1 to indicate the material conveyed.

3802.6.8.5 Individual containers, packages and cartons. Individual containers, intermediate bulk containers, packages and cartons shall be conspicuously identified in accordance with federal regulations and applicable state laws.

3802.6.8.6 Tank marking. Every tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design. Stationary tanks more than 100 gallons (379 L) in capacity used for the storage of Class I Liquids shall bear a warning sign and placard in accordance with Section 3803.6.8 corresponding to the material therein.

Exception: Vats.

3802.6.9 Sources of ignition. Control of sources of ignition shall be in accordance with Sections 3802.6.8.1 and 3802.6.8.2.

3802.6.9.1 Smoking. Smoking areas shall be in accordance with IFC Section 310 and shall be prohibited in Class I Liquid storage areas or use areas and in combustible dust production areas. "No Smoking" warning signs in accordance with IFC Sections 310.3 shall be provided in such areas and at all entrances to them. Exception: Where designated smoking areas within ABPFs are permitted. Designated smoking areas shall be separated from Class I Liquid storage areas and use areas and combustible dust production areas by a minimum of 25 feet (7620 mm) and shall be clearly identified with information signs in accordance with Section 3802.6.8.

3802.6.9.2 Open flames. Open flames including barrel charring operations, and devices operating at temperatures above 680 °F (360 °C) are prohibited throughout fire areas containing Class I Liquid storage areas or use areas or combustible dust production areas. Exceptions:

1. Areas designated as smoking.
2. Areas where hot work permits have been issued in accordance with this Section 105.
3. Listed and labeled gas fired or electric unit heaters installed in accordance with the IMC, IFGC and NFPA 70 (NEC), located more than 8 feet (2,438 mm) from any edge of equipment where Class I Liquid vapor/air mixtures could exist under normal operations and more than 3 feet (914 mm) above the floor or grade level within 25 feet (7,620 mm) horizontally from any equipment with Class I Liquids.

3802.6.10 Separation of incompatible materials. Incompatible materials shall be separated in accordance with IFC Section 5003.9.8.

3802.6.11 Seismic protection. All equipment in ABPFs including machinery, racks, piping, and stationary tanks shall be braced and anchored in accordance with the seismic design requirements of the IBC for the seismic zone in which the ABPF is located.

3802.6.12 Protection from corrosion. Machinery, piping, tank, process vessel, and container materials exposed to Class I Liquids shall be protected in accordance with Sections 3802.6.12.1 and 3802.6.12.2.

3802.6.12.1 Protection from external corrosion and galvanic action. Where subject to external corrosion or galvanic action, machinery, piping, tank, process vessel, and container holding or conveying Class I Liquids shall be fabricated from noncorrosive materials or provided with corrosion protection. Dissimilar metallic parts subject to galvanic action shall not be joined.

3802.6.12.2 Chemical protection. Machinery, piping, tank, process vessel, and container materials used for Class I Liquids shall be protected from all chemicals to which they are exposed including ethanol. Clean-in-place (CIPs) fittings shall be compatible with the cleaning agents used on the vessels and piping to which they are attached. Tank lining shall be in accordance with Section 3803.1.2.6.

3802.6.13 Limit controls. Limit controls shall be provided in accordance with Sections 3802.6.13.1-3802.6.13.3.

3802.6.13.1 Pressure control. Machinery, piping, tanks, vessels, and stills containing or conveying Class I Liquids shall be designed for the pressures they will be subjected to in accordance with applicable standards. Machinery, piping, tanks, containers, processing vessels, and stills containing or conveying Class I Liquids that can generate pressures exceeding design limits because of exposure fires or internal reaction shall have an approved means to relieve excessive positive and negative internal pressure. Vents provided to relieve excessive positive pressure shall discharge to an approved location.

3802.6.13.2 High-liquid-level control. Stationary tanks and process vessels with Class I Liquids having a capacity greater than 500 gallons (1893 L) shall be equipped with a device or other means to prevent overflow into the building including without limitation a float valve, preset meter on the fill line, valve actuated by the weight of the tank's contents, low-head pump incapable of producing overflow, or a liquid-tight overflow pipe at least one pipe size larger than the fill pipe and discharging by gravity back to an approved location. Exception: Liquid-level sight gauges or other manual means approved by the Fire Code Official to determine fill level are permitted in ABPFs where the use area or storage area is small enough that the stationary tank or process vessel is effectively under constant observation during filling operations.

3802.6.13.3 Low-liquid-level control. Approved safeguards shall be provided to prevent a low-liquid level in stationary tanks, processing vessels and stills from creating a hazardous condition, including without limitation overheating.

3802.6.14 Handling and transportation. Containers, portable tanks, and casks holding more than 5 gallons (19 L) of Class I Liquids being transported in a corridor or enclosed exit shall be on a cart or truck in accordance with IFC Sections 5003.10.2 and 5003.10.3.

SECTION 3803 EQUIPMENT

3803.1 General. Equipment utilized for the production, storage, dispensing, blending or handling of Class I Liquids shall be listed or approved and shall be in accordance with Sections 3803.1.1-3803.1.4.2.

3803.1.1 Piping systems. Piping systems for conveying Class I Liquids including piping, tubing, valves, pumps, and fittings shall be designed,

installed, and maintained in accordance with Sections 3803.1.1.1-3803.1. 1.7, IFC Section 5703.6 and ASME B31. The use of other standards is permitted when approved.

3803.1.1.1 Component design and construction. Piping, tubing, hoses, valves, fittings and related components conveying Class I Liquids shall be in accordance with the following:

1. Piping, tubing, hoses, valves, pumps, fittings and related components shall be designed and fabricated from materials of adequate strength and durability to withstand the structural and environmental conditions to which they are subjected.
2. Piping, tubing, hoses, valves, pumps, fittings and related components used in liquid transfer operations shall be approved or listed for the intended use.
3. Where provided, in-line flame arresters in piping systems shall be installed and maintained in accordance with their listing or API 2028.
4. Where Class I Liquids are carried in piping pressurized above 15 pounds per square inch gauge (psig; 103 kPa), an approved means of leak detection shall be provided.

Exception: Piping for overpressure relief devices.

3803.1.1.2 Piping supports. Piping systems shall be substantially supported and protected against physical damage and excessive stresses arising from seismic activity, settlement, vibration, expansion and contraction. Piping supports shall be protected against exposure to fire by:

1. Draining spilled liquid away from the piping support system at a minimum slope of not less than 2%;
2. Providing protection with a fire-resistance rating of not less than 2 hours; or
3. Other approved methods.

3803.1.1.3 Pipe joints. Pipe joints shall be in accordance with IFC Sections 5703.6.9 and 5703.6.10.

Exception: Where located in concealed spaces within buildings, joints in piping systems used to convey Class I liquids shall be welded.

3803.1.1.4 Valves. Piping systems with and without pumps shall contain a sufficient number of manual-control, auto-control, and check valves to protect the ABPF and properly control the flow of Class I Liquids; in normal operation, in the event of physical damage, or the condition of fire exposure, and shall be in accordance with the following:

1. Readily accessible manual valves, automatic remotely-activated fail-safe emergency shutoff valves, or excess flow control shall be installed on gravity-fed supply piping and tubing and in systems pressurized above

15 pounds per square inch gauge (psig; 103 kPa) as close to the source as practical.

2. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be clearly visible and readily accessible. Information signage in accordance with Section 3803.6.8 shall be provided identifying the emergency shutoff valves and controls.

3. Backflow prevention or check valves shall be provided when backflow could create a hazardous condition or cause an unauthorized discharge.

3803.1.1.5 Pumps. Solid or liquid fueled pumps are not permitted in Class I Liquid use areas or storage areas. Exception: Fire pumps separated from the Class I Liquid use areas and storage areas by 2-hour fire-resistance rated fire barriers in accordance with IBC Section 707. Positive-displacement pumps shall be provided with pressure relief discharging back to the vessel, pump suction or other approved location, or shall be provided with interlocks to prevent over-pressure.

3803.1.1.6 Pressurized transfer systems. Gases introduced to provide for transfer of Class I Liquids shall be inert. Controls, including pressure relief devices, shall be provided to limit the pressure so the maximum working pressure of vessels cannot be exceeded. Where devices operating through pressure within a tank, intermediate bulk container, or container are utilized, the tank, intermediate bulk container, or container shall be a pressure vessel approved for the intended use.

3803.1.1.7 Maintenance. Piping and appurtenances shall be maintained in a safe operating condition and in accordance with their applicable listings and standards. Damage to piping or appurtenances shall be repaired using materials having equal or greater strength and fire resistance or the equipment shall be replaced, taken out of service, repaired or disposed of in an approved manner. The repair, alteration or reconstruction, including welding, cutting and hot tapping of piping that has been placed in service, shall be in accordance with NFPA 30.

3803.1.2 Vessels. The design and construction of vessels used in ABPFs for Class I Liquids shall comply with the applicable Sections 3803.1.2.1-3803.1.2.13.4 and NFPA 30, or shall be of an approved type. Pressure vessels shall comply with the ASME Boiler and Pressure Vessel Code.

3803.1.2.1 Underground storage of Class I Liquids. Underground storage of Class I Liquids in tanks shall comply with IFC Chapters 50 and 57. Vaults shall be in accordance with IFC Chapter 57. Underground storage of Class I Liquids in other vessels is prohibited.

3803.1.2.2 Outdoor storage of Class I liquids. Outdoor storage shall be in accordance with IFC Chapters 50 and 57.

3803.1.2.3 Tank vehicles and tank cars. Tank vehicles and tank cars shall not be used as storage or processing vessels.

3803.1.2.4 Design of supports. The supporting structure for stationary tanks and portable tanks with capacity greater than 660 gallons (2,498 L) shall be designed in accordance with the IBC and NFPA 30.

3803.1.2.5 Locations subject to flooding. Where a portable tank or intermediate bulk container with capacity in excess of 660 gallons (2498 L), or a stationary tank is located in an area where it is subject to a rise in the water table, flooding or accumulation of water from fire suppression operations, uplift protection shall be provided in accordance with NFPA 30, Sections 22.14 and 23.14.

3803.1.2.6 Tank lining. Steel stationary tanks and steel portable tanks with capacity greater than 660 gallons (2498 L) are permitted to be lined only for the purpose of protecting the interior from corrosion or providing compatibility with a material to be stored. Only those liquids tested for compatibility with the lining material are permitted to be stored in lined tanks.

3803.1.2.7 Manual drainage. Manual drainage control valves shall be provided on stationary tanks and portable tanks with capacity greater than 660 gallons (2498 L). Manual drainage control valves on stationary tanks shall be located at approved locations remote from the tanks to ensure their operation in a fire condition.

3803.1.2.8 Connections. Filling and emptying connections to vessels shall be provided with liquid-tight caps, covers, plugs, or valves which shall be closed when not in use. Connections located below normal Class I Liquid levels in stationary tanks with capacity of 500 gallons (1893 L) or more shall be provided with internal or external isolation valves located as close as practical to the shell of the tank.

3803.1.2.9 Materials used in tank construction. The materials used in tank construction shall be in accordance with NFPA 30.

3803.1.2.10 Separation between adjacent tanks. The separation between stationary tanks containing Class I Liquids shall be in accordance with NFPA 30, Table 22.4.2.1.

Exceptions:

1. Where a group of no more than 4 stationary tanks are aligned in a single row, the minimum separation distance between tanks is permitted to be reduced to 18 inches (457 mm), provided no single tank is over 960 gallons (3634 L) and clear access of 3 feet (914 mm) is provided around the group.
2. Where stationary tanks are in the drainage path of Class I Liquids, and are compacted in 3 or more rows or in an irregular pattern, the Fire Code Official may require greater separation than specified in NFPA 30, Table

22.4.2.1 or other means to make tanks in the interior of the pattern accessible for emergency response including firefighting purposes.

3803.1.2.11 Maintenance. Vessels and their appurtenances shall be maintained in a safe operating condition in accordance with their listings, applicable standards, and industry practice. Damage and malfunctions shall be repaired using materials having equal or greater strength and fire resistance. Vessels leaking Class I Liquids shall be promptly emptied, repaired and returned to service. Stationary tanks not returned to service shall be abandoned in accordance with IFC Section 5704.2.13, or removed in accordance with Section 5704.2.14.

3803.1.2.12 Vent lines. Portable tanks with a storage capacity of 660 gallons (2498 L) or more and stationary tanks shall be provided with normal and emergency vents in accordance with Sections 3803.1.2.12.1-3803.1.2.12.5 to relieve positive and negative pressures such as those created from filling and draining. Vent lines shall not be used for purposes other than venting unless approved.

3803.1.2.12.1 Installation of vent piping. Vent pipes shall be designed, sized, constructed and installed in accordance with IFC Sections 5703.6, 5704.2.7.3 and 5704.2.7.4. Vent pipes shall be installed to drain toward the tank without sags or traps in which liquid can collect. Vent pipes shall be protected from physical damage and vibration.

3803.1.2.12.2 Vent-line flame arresters and pressure-vacuum vents. Normal vents shall be equipped with vent-line flame arresters and pressure-vacuum vents in accordance with IFC Section 5704.2.7.3.2.

3803.1.2.12.3 Vent pipe outlets. To facilitate atmospheric dispersion, vent outlets shall be located so vapors are released at a safe point outside of buildings, directed upward or horizontally away from adjacent walls so vapors will not be trapped by eaves or other obstructions. Vent outlets shall not be less than 12 feet (3658 mm) above the finished ground level and shall not be less than 5 feet (1524 mm) from building openings or lot lines of properties that can be built upon.

3803.1.2.12.4 Manifolding. Subject to the approval of the Fire Code Official, vent pipes are permitted to be manifolded only for special purposes such as vapor recovery, vapor conservation or air pollution control. Manifolded vent pipes shall be adequately sized to prevent system pressure limits from being exceeded when manifolded tanks are subject to the same fire exposure.

3803.1.2.12.5 Emergency venting. Tanks shall be equipped with additional venting that will relieve rapid overpressure due to fire. Emergency vents shall not discharge inside buildings. The venting shall be installed and maintained in accordance with NFPA 30, 22.7.

3803.1.2.13 Vessel openings other than vents. Vessel openings other than vents shall comply with Sections 3803.1.2.13.1-3803.1.2.13.4

3803.1.2.13.1 Filling and emptying connections. Filling and emptying connections to stationary tanks shall be properly identified in accordance with Section 3804.6.8.

3803.1.2.13.2 Fill pipes and discharge lines. For top-loaded stationary tanks and portable tanks with capacity greater than 660 gallons (2498 L), a metallic fill pipe shall be designed and installed to minimize the generation of static electricity by terminating the pipe within 6 inches (152 mm) of the bottom of the tank. It shall be installed in a manner which avoids excessive vibration.

3803.1.2.13.3 Manual gauging. Vessel openings for manual gauging, if independent of the fill pipe, shall be provided with a liquid-tight cap, cover, or plug. Covers shall be kept closed when not gauging. Such openings shall be protected against liquid overflow and possible vapor release by means of a spring-loaded check valve or other approved device.

3803.1.2.13.4 Protection against vapor release. Tank openings provided for purposes of vapor recovery shall be protected against possible vapor release by means of a spring-loaded check valve or dry-break connection, or other approved vapor-tight device. Openings designed for combined fill and vapor recovery shall be protected against vapor release.

Exceptions:

1. Where the opening is a pipe connected to a vapor processing system.
2. Where connection of the liquid delivery line to the fill pipe simultaneously connects the vapor recovery line.

3803.1.3 Stairs, platforms and walkways. Stairs, platforms and walkways installed to facilitate access to vessels, storage, pipes, and process equipment shall be noncombustible and designed and constructed in accordance with NFPA 30 and the IBC.

3803.1.4 Testing. Equipment, devices and systems shall be tested in accordance with Sections 3803.1.4.1-3803.1.4.4.2.

3803.1.4.1 Piping systems. Before being covered, enclosed or placed in use, piping shall be hydrostatically tested to 150% of the maximum anticipated pressure of the system, or pneumatically tested to 110% of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gauge (psig; 34.5 kPa) at the highest point of the system. This test shall be maintained for a sufficient time period to complete visual inspection of joints and connections. For a minimum of 10 minutes, there shall be no leakage or permanent distortion. Storage tanks shall be tested

independently from the piping. Exception: Piping tested in accordance with the applicable section of ASME B31.9.

3803.1.4.1.1 Existing piping. Existing piping shall be tested in accordance with this section when the Fire Code Official has reasonable cause to believe a leak exists. Piping used for Class I Liquids shall not be tested pneumatically. Exception: Vapor-recovery piping is permitted to be tested using an inert gas.

3803.1.4.2 Tanks. Prior to being placed into service, tanks shall be tested in accordance with NFPA 30, 21.5.

3803.1.4.3 Safety systems. Automatic sprinkler systems, automatic sprinkler system monitoring, fire alarm systems, all limit controls, and all other fire- and life-safety systems shall pass the commissioning or acceptance tests in accordance with their respective design, installation, and testing standards prior to occupancy and use of the facility. Emergency alarms and limit-control monitoring shall be tested as for fire alarm systems in accordance with NFPA 72.

3803.1.4.4 Periodic testing. Equipment and safety systems shall be periodically tested in accordance with Sections 3803.1.4.4.1 and 3803.1.4.4.2. Written records of the tests conducted or maintenance performed shall be maintained in accordance with IFC Section 107.

Exceptions:

1. Periodic testing shall not be required when approved written documentation is provided substantiating testing will damage the equipment, device or system and the equipment, device or system is maintained as specified by the respective manufacturer.
2. Periodic testing shall not be required when the equipment and systems are utilized routinely as part of normal operations and maintained in good operating condition.
3. Periodic testing shall not be required for equipment, devices and systems that fail in a fail-safe manner.
4. Periodic testing shall not be required for equipment, devices and systems that self-diagnose and report trouble. Records of the self-diagnosis and trouble reporting shall be made available to the Fire Code Official.
5. Periodic testing shall not be required if system activation occurs during the required test cycle for the components activated during the test cycle.
6. Approved maintenance in accordance with IFC Section 5003.6 that is performed not less than annually or in accordance with an approved schedule shall be permitted to meet the testing requirements set forth in IFC Sections 5003.2.9.1 and 5003.2.9.2.

3803.1.4.4.1 Equipment. The following equipment shall be tested periodically: piping; and limit controls required by Section 3804.6.13.

3803.1.4.4.1.1 Testing frequency. The equipment listed in Section 3803.1.4.4.1 shall be tested at one of the frequencies listed below:

1. Not less than annually;
2. In accordance with the approved manufacturer's requirements;
3. In accordance with approved recognized industry standards; or
4. In accordance with an approved schedule.

3803.1.4.4.2 Safety systems. Safety systems listed in Section 3803.1.4.3 shall be periodically tested in accordance with their design, installation and testing standards. Emergency alarms and limit-control monitoring shall be tested as for fire alarm systems in accordance with NFPA 72.

3803.2 Storage and use areas. Storage and process operations shall be in accordance with the IBC and Sections 3803.2.1-3803.2.3.3.

3803.2.1 Storage areas. Storage of Class I Liquids shall be in accordance with Sections 3803.2.1.1-3803.2.1.4, IFC Chapter 32 and NFPA Chapter 30.

3803.2.1.1 General. Storage of vessels in closely packed piles, on pallets, in racks, or on shelves shall be in accordance with Sections 3803.2.1.1.1-3803.2.1.1.3.

3803.2.1.1.1 Basement storage. Storage in excess of the MAQs is prohibited in basements.

3803.2.1.1.2 Limited combustible storage. Limited quantities of Class I-IV commodities are permitted to be stored in the same non-separated area, room, or building as Class I Liquids provided the combustibles, other than those used for packaging the Class I Liquids, are separated from the Class I Liquids in storage by a minimum of 8 feet (2438 mm) horizontally either by open aisles, open racks, or racks filled with noncombustible commodities.

3803.2.1.1.3 Shelf storage. Shelving shall be of substantial construction, and shall be braced and anchored in accordance with the seismic design requirements of the IBC for the seismic zone in which the ABPF is located. Shelving, chocks, scuff boards, floor overlay and similar installations shall be of noncombustible construction or of wood not less than a 1-inch (25 mm) nominal thickness; treatments, coatings and construction materials shall be compatible with ethanol. Shelves shall be provided with a lip or guard when used for the storage of individual containers or casks. **Exception:** Storage in flammable liquid storage cabinets specifically designed for such use.

3803.2.1.1.4 Separation and aisles. Aisles shall be provided in storage areas such that all storage vessels are located no more than 20 feet (6,096 mm) horizontally from a main aisle or access aisle. Main aisles shall be a minimum of 8 feet (2,438 mm) wide in high piled combustible storage areas and a minimum of 4 feet wide in non-high piled combustible storage areas. Access aisles shall be a minimum of 4 feet (1,219 mm) wide in high piled combustible storage areas and a minimum of 44 inches (1,118 mm) wide in non-high piled combustible storage areas. Aisles utilized for manual stocking, separation between piles, separation between adjacent rows of racks, and separation between racks and adjacent pile storage shall be main aisles or access aisles. Aisles utilized for mechanical stocking shall be main aisles. All piles including palletized storage shall border a main aisle on a minimum of one side or end. Additional aisles shall be provided for access to doors, required windows and ventilation openings, standpipe connections, fire extinguishers, mechanical equipment and switches. Such aisles shall be a minimum of 3 feet (914 mm) in width. A single aisle is permitted to serve multiple functions provided its minimum width is the largest of the widths required for the functions served.

3803.2.1.1.5 Material handling equipment. Material handling equipment shall be suitable to manipulate vessels at the highest tier level.

3803.2.1.1.6 Housekeeping. Storage shall be maintained in an orderly manner.

3803.2.1.1.7 Dunnage, scuff boards, floor overlay. Dunnage, scuff boards, floor overlay and similar installations shall be of noncombustible construction or of wood not less than a 1 inch (25 mm) nominal thickness.

3803.2.1.1.8 High piled combustible storage. Storage of vessels in closely packed piles, on pallets, in racks, or on shelves, where the top of storage is greater than 6 feet (1829 mm) in height, shall be considered high piled combustible storage. Where applicable requirements in IFC Chapter 32 are in conflict with those in Section 3803.2.1, the more restrictive shall govern.

3803.2.1.2 Pile storage. Pile storage including palletized storage shall be in accordance with Sections 3803.2.1.2.1-3803.2.1.2.2.

3803.2.1.2.1 Stabilizing and supports. Intermediate bulk containers, containers, and portable tanks shall be stored in accordance with NFPA 30. Horizontally oriented casks stored in piles shall be supported by stackable racks or cradles of substantial construction designed for that purpose. Lateral bracing shall be provided for horizontally oriented casks stored in piles where the height of the pile exceeds 3 times the least dimension of the base

rack or cradle. Storage height of horizontally oriented casks in this configuration shall not exceed the lesser of the rack manufacturer's recommendations or industry standards. Configurations must be stable against overturning in accordance with the seismic design requirements of the IBC for the seismic zone in which the ABPF is located.

3803.2.1.2.2 Palletized storage. Palletized storage shall be in accordance with Sections 3803.2.1.2.2.1 and 3803.2.1.2.2.2.

3803.2.1.2.2.1 Stabilizing and supports. Casks stacked vertically for storage shall be separated by pallets or other dunnage that spreads the weight of the casks on the tier above over the casks on the tier below. A lower tier shall not have less than 4 casks and shall not have an empty cask when a tier above has a cask that is not empty. No more than 2 tiers of casks are permitted to be stacked vertically in this configuration.

Exceptions:

1. Where the collapse strength of the casks on the lowest tier is not exceeded, palletized storage of vertically oriented casks are permitted to be stacked to a height of 4 tiers where the casks are bound together in square pattern groups of no less than 4, by a steel band or other approved binding.
2. Where the collapse strength of the casks on the lowest tier is not exceeded, palletized storage of vertically oriented casks are permitted to be stacked to a height of 6 tiers where the casks are bound together in a square pattern in groups of no less than nine, by a steel band or other approved binding.
3. Where the collapse strength of the casks on the lowest tier is not exceeded, an engineered overturning analysis shall be provided demonstrating stability in accordance with the seismic design requirements of the IBC for the seismic zone in which the ABPF is located for storage configurations other than permitted in Exceptions 1 and 2.

3803.2.1.2.2.2 Idle Combustible pallets. Storage of idle wood pallets shall be limited to a maximum pile size of 2,500 square feet (232 m²) and to a maximum storage height of 6 feet (1,829 mm). Storage of idle plastic pallets shall be in accordance with IFC Section 3206.4.1.1 and as limited by the capacity of the automatic sprinkler system in accordance with NFPA 13. Pallet storage shall be separated from liquid storage by aisles that are a minimum of 8 feet (2,438 mm) wide.

3803.2.1.3 Portable tank, intermediate bulk container, and container storage. Portable tanks and intermediate bulk containers stored over one tier in height shall be designed to nest securely

without dunnage. Stacked containers shall be separated by pallets or dunnage to provide stability and to prevent excessive stress to container walls. The storage height and configuration shall be in accordance with NFPA 30.

3803.2.2 Grain storage. Grain storage shall be in accordance with Section 3802.2.1.1.

3803.2.3 Use areas. Use areas for Class I Liquids in amounts exceeding the MAQ shall be in accordance with Sections 3803.2.3.1-3803.2.3.3.

3803.2.3.1 General. Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate or path. Where failure of an automatic control could result in a dangerous condition or reaction, the automatic control shall be fail-safe. Use areas with Class I Liquids in excess of the MAQs are prohibited in basements.

3803.2.3.2 Non-listed appliances. Stills where internal operating vapor pressures normally exceed 2.5 psig (103.4 kPa) or could potentially exceed 2.5 psig (103.4 kPa) due to failures in operating methods such as clogged head packing or other materials held on column plates shall be provided with a listed pressure relief valve piped to discharge to the exterior in an approved location. Exception: Stills listed for operation above 2.5 psig (103.4 kPa) and, where approved, stills constructed in accordance with the ASME Boiler and Pressure Vessel Code.

3803.2.3.3 Class I Liquid transfer. Class I liquids shall be transferred by one of the following methods:

1. From safety cans in accordance with NFPA 30.
2. Through an approved closed piping system.
3. From vessels by an approved pump taking suction through an opening in the top of the vessel.
4. By gravity from a tank, intermediate bulk container, or container through an approved self-closing or automatic-closing valve.
5. Approved engineered liquid transfer systems.

Exception: Liquids transferred into and from containers not exceeding a 5.3-gallon (20 L) capacity.

9. A new Chapter 39 Marijuana Operations is added to the IFC as follows:

CHAPTER 39 - MARIJUANA OPERATIONS

SECTION 3901 GENERAL

3901.1 Scope. This Chapter shall apply to all occupancies regulated by the IBC engaging in marijuana (cannabis and extract derivatives) sales locations, growing,

processing, extraction or testing. These occupancies shall comply with this Chapter and other applicable provisions of this Code.

3901.2 Permits. Permits shall be required as set forth in IFC Section 105 and in accordance with Mountain View Fire Protection District policy.

SECTION 3902 EXTRACTION OPERATIONS

3902.1 Construction requirements.

3902.1.1 Location. Extraction processes shall be performed in a room dedicated to the extraction process.

3902.1.2 Egress. Exit doors from extraction rooms utilizing hazardous materials shall swing in the direction of egress and be self-closing. Panic hardware shall be provided on doors in liquefied petroleum gas (LPG) extraction rooms. Where latching door hardware is provided on extraction rooms utilizing hazardous materials, panic hardware shall be provided.

3902.1.3 Extraction rooms. Extraction room shall be fully enclosed. The floor, ceiling, and walls of extraction rooms shall be constructed in accordance with the IBC and be continuous, non-combustible, and smooth. Rooms designed in accordance with Section 3902.4.1.1 shall be constructed to permit the free passage of exhaust air from all parts of the room.

Exceptions:

1. Enclosed booths constructed in accordance with IFC Sections 2404.3.2.1-2404.3.2.3.
2. CO₂ extraction rooms and extraction rooms containing processes not utilizing hazardous materials.

3902.1.4 Openings and penetrations. Openings and penetrations into extraction rooms utilizing hazardous materials shall only be provided for egress, mechanical, electrical, or plumbing systems serving the extraction room. Penetrations into LPG extraction rooms shall be sealed vapor tight. Non-operable glazing is permitted where glazing does not interfere with required exhaust systems.

3902.1.5 Extraction room illumination. Luminaires inside the extraction room shall comply with Section 3902.2.2. Luminaires attached to the walls or ceilings of an extraction room or booth, but outside of any classified area and separated from the flammable vapor areas by vapor-tight glass panels, shall be suitable for use in ordinary hazard locations. Such luminaires shall be serviced from outside the flammable vapor areas.

3902.1.6 Fire protection. Extraction rooms, booths, or hoods, including ductwork where required for hazardous exhaust systems, shall be protected by an approved automatic fire extinguishing system complying with IFC Chapter 9 where any of the following exist:

1. Extraction processes utilizing LPG or off gassing LPG from spent plant material or oil.
2. Vapors are released exceeding 25% of the lower flammable limit from flammable liquid extraction processes or flammable liquid post oil processing.

3902.2 Sources of ignition. Extraction or post oil processing operations which use flammable liquids or liquefied petroleum gas (LPG) shall comply with Sections 3902.2.1-3902.2.3

3902.2.1 Open flame and sparks. Smoking, open flames and direct fired heating devices are prohibited in areas where flammable vapors exist.

3902.2.2 Electrical equipment. Electrical equipment installed in rooms designed in accordance with Section 3902.4.1.1, hoods, or booths containing LPG extraction processes shall be in accordance with NFPA 70 (NEC) as a Class I Division I location. Areas adjacent to classified locations shall be in accordance with NFPA 70 (NEC). Electrical equipment installed in areas of flammable liquid extractions or post oil processing shall be in accordance with IFC Chapter 50 and NFPA 70 (NEC). Exception: Subject to approval of the Fire Code Official, rooms or booths containing LPG extraction equipment that is not normally opened within the room or booth for oil or plant material retrieval, and frequent leakage in the closed system does not occur, may be considered a Class I Division II location.

3902.2.3 Grounding and bonding. Precautions shall be taken within LPG extraction rooms to minimize the possibility of ignition by static electrical sparks through static bonding and grounding of extraction equipment, ducts, and piping installed in accordance with NFPA 70 (NEC).

3902.3 Equipment. Extraction process equipment utilizing hazardous materials shall be listed or approved.

3902.4 Exhaust required. Extraction and post oil processing, utilizing LPG or flammable liquids shall be provided with an exhaust system in accordance with Section 3902.4.1 or 3902.4.2. The exhaust system shall be in operation at all times when extractions or post oil processing is being performed and until LPG is off gassed from oil and/or plant material removed from LPG extraction equipment. Fans shall be of the type approved for use when flammable or explosive vapors are present in accordance with IMC Section 503. Capture and containment air velocity shall be provided across booths, hoods, or exhausted enclosures to capture and convey emissions to the exhaust system and shall be no less than 75 fpm.

3902.4.1 Exhaust for LPG extraction processes. A hazardous exhaust system engineered in accordance with the IBC shall be provided for LPG extraction processes including LPG degassing from processed plant material or oil removed from extraction equipment.

3902.4.1.1 Exhausted enclosure. Where the extraction room is used as the exhausted enclosure, the exhaust system shall be designed to provide capture and containment air velocity across all areas of the enclosure.

3902.4.1.2 Electrical interlocks. The exhaust system shall be interlocked with the room power, such that when the exhaust system is not operating, power and lighting will be disabled.

3902.4.2 Exhaust for flammable liquid extraction processes. A hazardous exhaust system in accordance with the IMC shall be provided for flammable liquid extraction processes.

Exceptions:

1. Distillation process with less than 5 gallons of flammable liquid performed under a chemical fume hood I installed in accordance with the IMC unless a hazardous exhaust system is required by the IMC.
2. Solvent distillation units in compliance with IFC Section 5705.4

3902.5 Gas detection. A continuous gas detection system shall be provided within rooms, booths or hoods, containing CO₂ or LPG extraction processes. Actuation of the gas detection system shall initiate a local alarm within the room. CO₂ gas detection systems shall alarm at 5000 ppm. LPG gas detection systems shall alarm at no greater than 20% of the LFL. Portable LPG gas detection shall be utilized by the extraction system operator to verify local hydrocarbon levels, including system leaks.

3902.6 CO₂ extraction equipment process discharge. CO₂ discharges shall be piped to the exterior.

3902.7 Refrigeration and cooling equipment. Refrigerators, freezers, and other cooling equipment used to store or process flammable liquids shall be in accordance with NFPA 45 and applicable provisions of the IMC.

SECTION 3903 MARIJUANA GROWING OPERATIONS

3903.1 CO₂ Enrichment systems. CO₂ enrichment systems shall comply with IFC Sections 5309 or 5310.

10. A new Section 5309 is added to the IFC as follows:

SECTION 5309 CARBON DIOXIDE (CO₂) GAS ENRICHMENT SYSTEMS USING ON-SITE SUPPLY TANKS OR CYLINDERS IN PLANT GROWING (HUSBANDRY) APPLICATIONS

5309.1 General. CO₂ enrichment systems with more than 100 pounds (45.4 kg) of CO₂ or any system using any amount of CO₂ below grade used in plant growing (husbandry) applications shall comply with Sections 5309.2-5309.8.

5309.2 Permits. Permits shall be required in accordance with IFC Section 105 and in accordance with Mountain View Fire Protection District policy.

5309.3 Equipment. The storage, use, and handling of CO₂ shall be in accordance with IFC Chapter 53 and the applicable requirements of NFPA 55, Chapter 13. All equipment utilized in compressed gas systems shall be compatible with the intended gas and use.

5309.3.1 Containers, cylinders and tanks. Gas storage containers, cylinders and tanks shall be designed, fabricated, tested and labeled with manufactures' specifications and shall be maintained in accordance with the regulations of DOTn 49 CFR, Parts 100-185 or the ASME Boiler and Pressure Vessel Code, Section VIII.

5309.3.1.1 Location. Location of gas storage containers, cylinders and tanks, inside or outside the building, shall be at an approved location.

5309.3.1.2 Security. Gas storage containers, cylinders and tanks shall be secured in an approved manner to prevent overturning. Containers, cylinders and tanks located outside shall be secured and safeguarded against tampering and protected from physical damage if exposed to vehicle traffic.

5309.3.1.3 Design and construction. Bulk tank installations over 2,000 pounds will require an engineered foundation and construction permit in accordance with the IBC.

5309.3.2 Piping systems. Piping, tubing, fittings, valves and pressure regulating devices shall be designed and installed in accordance with approved standards and manufacturers' recommendations.

5309.3.2.1 Piping, tubing and hoses. Piping, tubing and hose materials shall be compatible with CO₂ and rated for the temperatures and pressures encountered in the system. All hoses and tubing used in CO₂ service shall be designed for a bursting pressure of at least 4 times their design pressure. PVC/ABS and other types of rigid plastic piping are not approved materials. Acceptable piping for CO₂ shall be as follows:

1. Stainless steel A269 grade, which is either seamless or welded drawn over mandrel.
2. Copper K grade, hard drawn seamless.
3. Copper ACR grade (1/2 inch outside diameter or less) annealed seamless.
4. Plastic/polymer materials rated for use with CO₂.
5. Additional approved piping, tubing and hoses found in the Compressed Gas Association (CGA) standards for CO₂.

5310.3.2.1.1 Support. Gas piping shall not be attached or supported by any electrical light supports or wiring.

5309.3.2.1.2 Identification. Markings for CO₂ piping systems shall consist of the content's name and direction-of-flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at not less than every 20 feet or fraction thereof throughout the piping run.

5309.3.2.2 Fittings, joints and connections. Fittings, joints and connections shall be subject to the approval of the Fire and Building Departments.

5309.3.2.2.1 Fittings and joints between gas supply containers and automatic shutoff valve. Joints and fittings on the supply piping or tubing between the CO₂ supply source and the automatic system shutoff valve shall be threaded, compression or welded.

5309.3.2.2.2 Unused connections. Unused piping or tubing connected to the supply system shall be capped or plugged. A closed valve will not be allowed in lieu of a cap or plug.

5309.3.2.2.3 Concealed connections. All fittings and joints shall be exposed and located adjacent to the supply source or points of use and shall be protected by a detector.

5309.3.2.3 Valves. Piping systems shall be provided with valves in accordance with Sections 5309.3.2.3.1-5309.3.2.3.4.

5309.3.2.3.1 Pressure relief valves. Pressure relief valves shall be provided and piped to the outdoors.

5309.3.2.3.2 System shutoff valve. An automatic system shutoff valve shall be provided as near to the supply pressure regulator as possible and shall be designed to fail to a closed condition closing on loss of electrical power to the valve and gas detection. Additional automatic shutoff valves may be provided at each point of use. Automatic shutoff valves shall be designed and located so that all phases (gas, liquid and solid) of CO₂ will not interfere with the operation of the device.

5309.3.2.3.3 Appliance shutoff valves. Each appliance shall be provided with a shutoff valve within 3 feet of the appliance. All shutoff valves shall be capable of being locked or tagged in the closed position for servicing.

5309.3.2.3.4 Accessibility and identification. Valves and controls shall be readily accessible at all times. Normal and emergency system shut-off valves shall be clearly identified. All valves shall be designed or marked to indicate clearly whether it is open or closed.

5309.3.3 Venting. Venting of gases shall be directed to an approved location outside the building. Insulated liquid CO₂ systems shall have pressure relief devices vented in accordance with NFPA 55.

5309.4 Protection from damage. CO₂ systems shall be installed so the storage tanks, cylinders, piping and fittings are protected from damage by occupants or equipment during normal facility operations.

5309.5 Required protection. Where CO2 storage tanks, cylinders, piping and equipment are located indoors, rooms or areas containing CO2 storage tanks, cylinders, piping and fittings and grow room/areas where CO2 is released and can collect shall be provided with an emergency alarm system in accordance with Section 5309.5.1.

5309.5.1 Emergency alarm system. An emergency alarm system shall comply with all of the following:

1. Continuous gas detection shall be provided to monitor areas where CO2 can accumulate. Detection equipment shall be provided to indicate CO2 levels in each grow cultivation area/room and interior CO2 storage location.
2. Detectors shall be listed or approved devices, permanently mounted, installed at a height of no more than 48 inches above the floor or as approved by the Fire Code Official, directly connected to the building electrical supply and/or fire alarm system, protected from accidental disconnection or damage and located within manufacturer's specified detection range for each point of use and storage location. Auto calibrating and self "zeroing" devices are not permitted unless they can be zeroed and spanned.
3. Activation of the emergency alarm system shall initiate amber strobes and audible horns provided in the vicinity of each interior storage container, cylinder or tank and at each point of release. Additional amber strobes and audible horns shall be placed at the entrances to below grade locations and confined spaces. The notification devices shall be rated a minimum of 80cd for a visible effect and 75 dBA for an audible effect and shall be mounted in accordance with NFPA 72 requirements. Audible visual devices shall be provided inside an interior storage room/area, outside the room/area at each entrance and inside grow cultivation room/areas.
4. Local alarm set points shall be set at 5,000 ppm – Latching Alarm, visual and audible notification in approved locations at room or area in alarm, activation of automatic system shut off valve, evacuate the room in alarm and contact a qualified service company to investigate and address the condition and reset of the emergency alarm to be conducted by qualified personnel.
5. Signage shall be required adjacent to each horn/strobe as follows: Storage area/room: "DO NOT ENTER WHEN LIGHT IS FLASHING - CARBON DIOXIDE LEAK DETECTED", grow cultivation room/area dispensing: "FLASHING LIGHT MEANS CARBON DIOXIDE LEAK DETECTED – EVACUATE ROOM", the sign shall have a minimum 1-inch block lettering with a minimum 1/4 -inch stroke. The sign shall be on a contrasting surface of black on yellow and shall be of durable construction, Signage on entrance doors to grow cultivation and storage rooms: Signage shall be provided at entrance doors to each grow cultivation room/area and at each entrance to storage rooms/areas and NFPA 704 placards for simple asphyxiates shall also be provided at the exterior main entrance and at each entrance to storage rooms/areas.

6. A minimum of one portable CO2 meter shall be in use during business hours.

5309.6 Transfilling. Filling and transfilling of gases between storage containers, cylinders and tanks and delivery vehicles shall be performed by qualified personnel using equipment and operating procedures in accordance with CGA P-1. Interior storage containers, cylinders and tanks shall be filled via remote fill ports on the exterior of the building at grade level. Exterior remote fill ports shall be fitted with a vent line to the outside. Delivery personnel shall have access to interior storage areas to inspect valves and piping prior to initiating filling operations.

5309.7 Inspection and testing. All piping installations shall be visually inspected, calibrated, and pressure tested to determine that the materials, design, fabrication and installation practices comply with the requirements of this code.

5309.7.1 Records. A written record of all required inspections, testing, calibration, and maintenance shall be maintained in a log book on the premises containing the 3 most current years of records and be available for review by fire inspection personnel.

5309.7.2 Required inspections and testing. All piping installations shall be tested and inspected in accordance with Sections 5309.7.2.1-5309.7.2.5, as approved by the Fire Code Official.

5309.7.2.1 Acceptance testing. Appliances and equipment shall not be placed in operation until after the piping system has been checked for leakage and detectors, notification devices and automatic shutoff valves have been tested by a qualified service company. All piping installations shall be visually inspected and pressure tested prior to initial operation. The test pressure downstream of the pressure regulator shall be not less than 110% of the operating pressure. Joints shall be checked with a bubble-forming solution. Acceptance testing is required to be witnessed by the Fire Code Official. Provide an inspection report to the Fire Code Official for the piping and joint visual inspection and pressure test.

5309.7.2.2 Daily inspections. All detectors and alarms shall be visibly inspected daily. These inspections are permitted to be conducted by trained employees.

5309.7.2.3 Monthly inspections. All storage vessels, piping, and appurtenances shall be visibly inspected monthly. These inspections are permitted to be conducted by trained employees.

5309.7.2.4 Semi-annual inspections. Systems shall be visually inspected, gas detectors calibrated in accordance with manufacturer specification, alarms tested, and tested for leaks semi-annually by a qualified service company.

5309.7.2.5 Alterations and repair. In the event alterations, repairs or additions are made, the affected piping shall be retested in accordance with Section 5309.7.2.1.

5309.7.3 Reserved.

5309.7.4 Calibration. Detectors shall be checked for accuracy, calibrated to a reference gas concentration, and span reset per manufacturers' recommendations.

5309.7.5 Pressure testing. Pipe joints shall be exposed for examination during the test.

5309.7.5.1 Test medium. The test medium shall be air, nitrogen, CO₂ or an inert gas.

5309.7.5.2 Section testing. Piping systems shall be permitted to be tested as a complete unit or in sections. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve-closing mechanism, is designed to safely withstand the test pressure.

5309.7.5.3 Regulators and valve assemblies. Regulator and valve assemblies fabricated independently of the piping systems in which they are to be installed shall be permitted to be tested with inert gas or air at the time of fabrication. Test records shall be maintained in accordance with Section 5309.7.1.

5309.7.5.4 Test preparation. All joints and fittings shall be exposed for examination during and after the test.

5309.7.5.4.1 Pipe clearing. Prior to testing, the interior of the pipe shall be cleared of all foreign material.

5309.7.5.4.2 Appliance and equipment isolation. Appliances and equipment that are not to be included in the test shall be isolated from the piping by closing the appliance shutoff valve.

5309.7.5.4.3 Test pressure measurement. Test pressure shall be measured with a pressure-measuring device designed and calibrated to read, record or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than 5 times the test pressure.

5309.7.5.4.4 Test pressure. The test pressures shall be as specified in Section 5309.7.2.1. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50% of the specified minimum yield strength of the pipe or tubing. Pressures shall be adjusted smoothly and slowly to avoid pressure spikes.

5309.7.5.5 Test duration. The test duration shall be not less than 10 minutes.

5309.7.5.6 Visual inspection and cleaning. After testing is complete and the pressure is reduced to at or below operating pressure, all joints shall be cleaned of bubble-forming solution and visually inspected.

5309.7.5.7 Detection of leaks and defects. The piping system shall withstand the test pressure specified without showing any evidence of leakage or other defects. Any reduction of test pressures as indicated by pressure gauges shall be deemed to indicate the presence of a leak.

5309.7.5.8 Corrections. Where leakage or other defects are located, the affected portion of the piping system shall be repaired or replaced and retested.

5309.8 Training. All employees shall receive annual training in hazard identification, physical properties, inspections, and emergency procedures. Training records shall be maintained on site and be available to inspectors upon request.

11. A new Section 5310 is added to the IFC to read as follows:

SECTION 5310 CARBON DIOXIDE (CO₂) GAS ENRICHMENT SYSTEMS USING A NATURAL GAS BURNER IN PLANT GROWING (HUSBANDRY) APPLICATIONS

5310.1 General. Natural gas burners that are utilized to generate CO₂ in plant growing (husbandry) applications shall comply with Sections 5310.2-5310.6. A mechanical exhaust system shall be provided as required by the IMC.

5310.2 Permits. Permits shall be required in accordance with IFC Section 105 and Mountain View Fire Protection District policy.

5310.3 Equipment. Natural gas burners shall be listed, labeled and installed in accordance with the manufacturer's installation instructions. Piping systems, combustion and ventilation air and venting for natural gas appliances shall be designed and installed in accordance with approved standards, the IFGC and manufacturer's recommendations.

5310.4 Required protection. Where natural gas burners are located indoors for CO₂ enrichment, grow room/areas shall be provided with an emergency alarm system in accordance with Section 5310.4.1 and CO detection in accordance with Section 5310.4.2.

5310.4.1 Emergency alarm system. An emergency alarm system shall comply with all of the following:

1. Continuous gas detection shall be provided to monitor areas where CO₂ can accumulate. Detection equipment shall be provided to indicate CO₂ levels in each grow cultivation area/room.
2. Detectors shall be Listed or approved devices, permanently mounted, installed at a height of no more than 48 inches above the floor or as approved by the Fire Code Official, directly connected to the building electrical supply or fire alarm system, protected from accidental disconnection or damage and

located within manufacturer's specified detection range for each point of release. Auto calibrating and self "zeroing" devices are not permitted unless they can be zeroed and spanned.

3. Activation of the emergency alarm system shall initiate amber strobes and audible horns provided in each room/area where CO₂ can accumulate. Additional amber strobes and audible horns shall be placed at the entrances to below grade locations. The notification devices shall be rated a minimum of 80cd for a visible effect and 75 dBA for an audible effect and shall be mounted in accordance with NFPA 72 requirements. Notification devices shall be provided inside grow cultivation room/areas.

4. Local alarm set points shall be set at 5000 ppm and result in a latching alarm that forces the following actions:

a. Visual and audible notification in approved locations at room or area in alarm.

b. Activation of the automatic natural gas control valves to each burner to a closed position stopping the generation of CO₂.

c. Evacuate the room in alarm and contact a qualified service company.

d. Reset of emergency alarm to be conducted by qualified personnel.

5. Signage will be required adjacent to each horn/strobe as follows: Entrance to below grade location: "DO NOT ENTER WHEN LIGHT IS FLASHING – CARBON DIOXIDE LEAK DETECTED", Grow cultivation room/area dispensing: "FLASHING LIGHT MEANS CARBON DIOXIDE LEAK DETECTED – EVACUATE ROOM", The sign shall have a minimum 1-inch block lettering with a minimum ¼-inch stroke. The sign shall be on a contrasting surface of black on yellow and shall be of durable construction and Signage at entrance doors: Signage shall be provided at entrance doors to each grow cultivation room/area, NFPA 704 placards for simple asphyxiates shall also be provided at the exterior main entrance.

6. All CO₂ burner systems shall shut down in the event of a loss of electrical power to the CO₂ detectors.

7. A minimum of one portable CO₂ meter shall be in use during business hours.

5310.4.2 Carbon monoxide (CO) detection. CO gas detection shall be provided to monitor products of combustion continuously. Detectors shall be listed or approved devices, permanently mounted, installed per manufacturer's recommendations and directions, directly connected to the building electrical supply and fire alarm system and protected from accidental disconnection or damage. CO detection shall be set at 35 ppm and upon activation shall initiate the following: close the automatic valve to each burner; activate the mechanical exhaust system; all CO₂ burner systems shall shut down in the event of a loss

of electrical power to the CO detectors; and a minimum of one portable CO meter shall be in use during business hours.

5310.5 Inspection and testing. All detectors, alarms and CO₂ burners must be visually inspected, calibrated, and tested to determine that the materials, design, fabrication and installation practices comply with the requirements of this code.

5310.5.1 Records. A written record of all required inspections, testing, calibration, and maintenance shall be maintained in a log book on the premises containing the 3 most current years of records and be available for review by fire inspection personnel.

5310.5.2 Required inspections and testing. All detectors, alarms and CO₂ burner equipment shall be tested and inspected in accordance with Sections 5310.5.2.1-5310.5.2.6, as approved by the Fire Code Official.

5310.5.2.1 Acceptance testing. Appliances and equipment shall not be placed in operation until after the detectors, notification devices, automatic gas control valves and mechanical exhaust system have been tested by a qualified service company. Acceptance testing is required to be witnessed by Fire Code Official.

5310.5.2.2 Daily inspections. All detectors and alarms shall be visibly inspected daily. These inspections are permitted to be conducted by trained employees.

5310.5.2.3 Monthly inspections. All CO₂ burners and appurtenances shall be visibly inspected monthly. These inspections are permitted to be conducted by trained employees.

5310.5.2.4 Semi-annual inspections. Systems shall be visually inspected and gas detectors calibrated in accordance with manufacturer specification semi-annually by a qualified service company.

5310.5.2.5 Annual testing. All detectors, alarms, gas control valves and mechanical exhaust systems shall be tested annually by a qualified service company.

5310.5.2.6 Alterations and repair. If alterations, repairs or additions are made, the affected equipment shall be retested in accordance with Section 5310.5.2.1.

5310.5.3 Reserved.

5310.5.4 Calibration. Detectors shall be checked for accuracy, calibrated to a reference gas concentration, and span reset.

5310.6 Training. All employees shall receive annual training in hazard identification, physical properties, inspections, and emergency procedures. Training records shall be maintained on site and be available to inspectors upon request.

9-1-10: SWIMMING POOL AND SPA CODE:

A. Code Adopted: The International Swimming Pool and Spa Code, 2015 Edition, (the "ISPSC") as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478, a copy of which is on file and is open for inspection in the office of the Town Clerk, is hereby adopted by reference with the amendments set forth herein.

B. Amendments: The ISPSC is amended as follows:

1. Section 101.1 is amended by inserting "Town of Erie" where indicated.

2. Section 105.6.1 is amended by adding the following at the end of the Section: The additional fee shall be equal to the fee amount of the permit required by this code.

3. Section 105.6.2 is replaced with the following: "105.6.2 Fee Schedule. Such fee for each permit shall be in accordance with Erie Municipal Code § 2-10-6 Building Permit and Other Fees and established by resolution of the Board of Trustees. The federal government, the State and the Town and all agencies and departments thereof shall be exempt from payment of fees for work performed on buildings or structures owned wholly by such agencies or departments and devoted to governmental use."

4. Section 105.6.3 is replaced with the following: "105.6.3 Fee Refunds. The Building Official may authorize the following fee refunds: the full amount of any fee hereunder which was erroneously paid or collected; not more than 80% of the permit fee when no work has been done under a permit issued in accordance with this Code; not more than 80% of the plan review fee when an application for a permit is withdrawn or cancelled before any plan review effort has been expended. The Building Official shall not authorize the refunding of any fees except upon written application filed by the original permittee not later than 90 days after the date of payment."

5. Section 107.4 is deleted in its entirety.

6. Section 107.5 is amended by deleting the last sentence and replacing it with the following: "Any person who continues any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to the penalties prescribed in Erie Municipal Code § 9-1-11."

7. Section 108 is replaced with the following: "Section 108 Means of Appeal. A person shall have the right to appeal a decision of the Code Official to the Board of Appeals, in accordance with Erie Municipal Code Article A, Chapter 1, Title 9."

8. Section 305.1 is amended by deleting Exception 2 in its entirety.

9. Section 320.1 is replaced with the following: "320.1 Backwash Water or Draining Water. Backwash water and draining water shall be

dechlorinated prior to discharging slowly by pump to the sanitary sewer, or into an approved disposal system on the premise, or shall be disposed of by other means approved by the local authority. Direct connections shall not be made between the end of the backwash line and the disposal system. Drains shall discharge through an air gap."

9-1-11: VIOLATION; PENALTIES:

- A. It is unlawful for any person to violate any provision of this Chapter.
- B. Violations of this Chapter shall be subject to the penalties set forth in Erie Municipal Code § 1-4-4. Each day that the violation continues shall be considered a separate offense.
- C. In addition to any and all other remedies, the Town may institute an appropriate action for injunction, mandamus or abatement to prevent, enjoin, abate or remove any unlawful erection, construction, reconstruction, alteration, remodeling or use.

Section 2. Severability. If any article, section, paragraph, sentence, clause, or phrase of this Ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this Ordinance. The Board of Trustees hereby declares that it would have passed this Ordinance and each part or parts hereof irrespective of the fact that any one, or part, or parts be declared unconstitutional or invalid.

Section 3. Safety. The Board of Trustees finds that the adoption of this Ordinance is necessary for the protection of the public health, safety and welfare.

Section 4. Effective Date. This Ordinance shall take effect 30 days after publication following adoption.

INTRODUCED, READ, PASSED AND ORDERED PUBLISHED this 10th day of December, 2019.

Jennifer Carroll, Mayor

ATTEST:

Jessica Koenig, Town Clerk