



AGENDA
Building Code Review Board
Commissions Room
Arlington Heights Village Hall
33 S. Arlington Heights Rd., AH 60005
July 29, 2026
6:00 PM

- I. CALL TO ORDER
 - II. ROLL CALL OF MEMBERS
 - III. APPROVAL OF MINUTES
 - A. BCRB 2024-11-06 Meeting Minutes
 - IV. REPORTS
 - V. OLD BUSINESS
 - VI. NEW BUSINESS
 - A. 2024 I-Code Adoption and Proposed Amendment Review
 - VII. OTHER BUSINESS
 - VIII. PUBLIC COMMENT
- Anyone wishing to speak on a subject not on the Agenda may speak at this time. Please limit your comments to three minutes.
- IX. ADJOURNMENT

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VILLAGE OF ARLINGTON HEIGHTS

INC. 1887

Date: June 30th, 2026

To: Building Code Review Board

From: Ron Weber, Director of Building & Life Safety

Subject: Draft BCRB November 6th, 2024, Meeting Minutes

Building Code Review Board (BCRB) Meeting Minutes: November 6th, 2024

BCRB Members Present:

1. Carl Baldassarra, Chair Pro Tem
2. Scott Smith
3. Trustee Jim Tinaglia
4. Michal Wiski

Village Administration Present:

1. Ron Weber, Director of Building and Life Safety
2. Patty LeVee, Administrative Assistant

Public Present:

1. Eric Schmitt and Joe Hassel, Presbyterian Homes Expansion Project at The Moorings

The meeting was called to order at 6:05 p.m.

Approval of Minutes

- BCRB Member Trustee Jim Tinaglia moved to approve the minutes of the July 24th, 2023, BCRB meeting.
Seconded by BCRB Member Scott Smith.
Motion carried unanimously.
-

New Business

A. Chapter 27-102 Text Amendments: Aerial Fire Apparatus Access Roads

Director Ron Weber presented a proposed amendment adopting an exception from the 2024 edition of the International Fire Code (IFC), allowing noncombustible, fully sprinklered buildings with enclosed stairways and standpipes to be exempt from an aerial apparatus access road. According to the prior Director of Building and Life Safety Jorge Torres, the exception had previously been reviewed with Fire Chief Harris and Division Chief Roberts, who supported its adoption.

- Smith moved to approve the amendment.
Seconded by Tinaglia.
Motion carried unanimously.

Item B. Chapter 27-102 Text Amendments: Authority Having Jurisdiction (AHJ)

Weber recommended revisions to align references to the AHJ, noting inconsistencies where some sections identify the Fire Chief and others the Fire Code Official. Harris and Roberts support standardizing the Fire Code Official as the AHJ, with continued collaboration on decisions.

- Tinaglia moved to approve the amendment.

Seconded by Smith.

Motion carried unanimously.

C. Chapter 23-302 Text Amendments: Certificate of Occupancy

Weber proposed removing redundant Certificate of Occupancy requirements that duplicate information already contained in permit documents and the e-permitting system. Eliminating these items would streamline the CO process and reduce issuance delays.

Tinaglia summarized support for the update and discussed prior practices requiring architects' confirmation letters before CO issuance. He suggested reinstating this requirement to ensure design compliance with minimal staff impact. Weber agreed the approach was beneficial based on comparable discussions in other municipalities.

- BCRB Member Michal Wiski moved to approve the amendment.

Seconded by Tinaglia.

Motion carried unanimously.

D. Chapter 23-302 and 27-102 Text Amendments: Code Discrepancies

Weber outlined discrepancies between local amendments to the International Building Code (IBC) and IFC related to Chapter 9 (Sections 903–908). He recommended removing conflicting IBC amendments and referencing the IFC amendments for consistency. The BCRB discussed implications for designers and confirmed that the reference language would ensure requirements remain clear and accessible.

- Smith moved to adopt the five proposed changes in Item D.

Seconded by Tinaglia.

Motion carried unanimously.

E. Chapter 23-702 Text Amendment: Removal of Incorrect Code Reference

Weber stated that Section 23-702 references an Existing Building Code section that does not exist and recommended removing the amendment. The BCRB agreed the provision was unnecessary.

- Tinaglia moved to remove the amendment.

Seconded by Smith.

Motion carried unanimously.

Other Business

Chair Carl Baldassarra asked about the next code update. Weber estimated at least two years, noting a new Illinois law requiring municipalities to remain within three code cycles of current edition.

Adjournment

- Smith moved to adjourn.

Seconded by Tinaglia.

Motion carried unanimously.

Meeting adjourned at 6:50 p.m.

CC: Alex Kang, Deputy Director and BCRB Liaison
Esmeralda Rojas, Administrative Assistant



VILLAGE OF
ARLINGTON HEIGHTS
— INC. 1887 —

Building Code Review Board
7/29/2026

Item: 2024 I-Code Adoption and Proposed Amendment Review
Department: Building & Life Safety

Item Description:

The Building & Life Safety Department has completed a comprehensive review of the 2024 International Codes (I-Codes) and the 2023 NFPA 70 National Electrical Code (NEC) and is recommending the adoption of these updated model codes with amendments tailored to the operational needs and construction practices of the Village of Arlington Heights.

The proposed amendments are intended to preserve the nationally recognized technical standards established by the model codes while addressing local conditions, enhancing public safety, improving code administration, and providing greater clarity and consistency for the design and construction community.

The proposed amendments were developed through a detailed technical review by the Building & Life Safety Department and include recommendations from building inspectors, plans examiners, fire inspectors and the Fire Department. Each amendment was evaluated to ensure that it addresses a demonstrated local need, improves code enforcement, enhances public safety, or provides greater consistency in permit review and inspections.

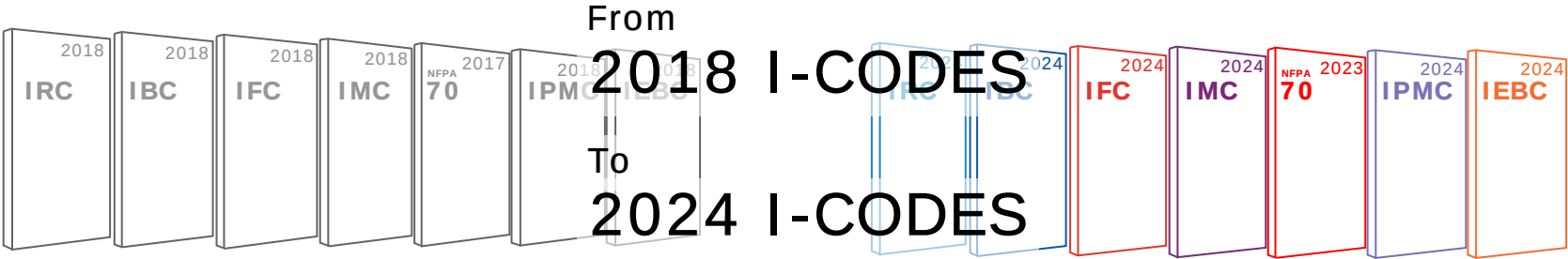
Recommendation:

1. Approval of the adoption of the 2024 I-Codes and the 2023 NFPA70 National Electrical Code (NEC)
2. Approval of the proposed amendment to Chapter 23 and 27 of the Village ordinance.

ATTACHMENTS:

1. BLS - BCRB Part I - 2024 I-Codes Significant Changes
2. BLS - BCRB Part II - Proposed Amendment

Significant Changes



BUILDING & LIFE
SAFETY DEPARTMENT

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EXECUTIVE SUMMARY

The Village of Arlington Heights is currently working on transitioning from the ICC 2018 International Codes to the 2024 International Codes, along with the 2023 NFPA 70 National Electrical Code (NEC), with implementation anticipated at the beginning of 2027.

The 2024 code cycle reflects significant changes in building safety, energy efficiency, sustainability, accessibility, and emerging technologies. Many of the updates address evolving construction practices, increased use of electric vehicles and lithium-ion battery systems, renewable energy integration, occupiable rooftop spaces, and enhanced fire and life-safety requirements.

The most notable topics of the 2024 code cycle include:

1. Enhanced fire and life-safety provisions for lithium-ion batteries, energy storage systems, and powered micromobility devices.
2. Expanded electric vehicle charging infrastructure and electrical safety requirements.
3. Improved accessibility provisions for existing and new buildings.
4. Enhanced construction site safety requirements and fire protection measures.
5. New requirements for occupiable roofs, including egress, and accessibility.
6. Updated structural, wind, snow, and climatic design criteria based on current engineering standards.
7. Increased focus on building performance, resiliency, and sustainability.

Overall, the 2024 codes are expected to improve public safety, building performance, emergency response capabilities, accessibility, and energy efficiency while supporting emerging technologies and evolving construction practices.

The Building and Life Safety Department anticipates moderate impacts to project design, plan review, inspections, and construction costs. However, these impacts are expected to be offset by improved building performance, reduced energy consumption, enhanced occupant safety, and greater consistency with current industry standards.

This report highlights significant changes that may affect development, permitting, plan review, inspections, and ongoing construction operations within the Village of Arlington Heights.

This report is the result of outstanding teamwork and the extra dedication demonstrated by the Building and Life Safety Department. We would like to extend sincere appreciation and special thanks to Alex K, Alex Z, Brian, Chris, Cindy, Dan, Fred, Jake, Jamie, John, Nick, Ron, and Yasmin (listed in alphabetical order) for their valuable contributions, collaboration, and commitment throughout this effort. The successful completion of this report reflects the professionalism, expertise, and teamwork of our Building and Life Safety Department. Thank you all for your hard work and support.

WHAT THIS MEANS FOR ARLINGTON HEIGHTS?

Building codes are continually updated with 3 years cycle to reflect advancements in construction practices, lessons learned from building failures and fire events, emerging technologies, evolving industry standards, and changing collective needs. The transition from the 2018 I-Codes to the 2024 I-Codes represents one of the most significant code updates in recent years, with a strong emphasis on life safety, resiliency, sustainability, accessibility, and energy efficiency.

The adoption of the 2024 I-Codes, and the 2023 NFPA 70 National Electrical Code (NEC) will provide numerous benefits to the Village of Arlington Heights, its residents, businesses, and development community.

PUBLIC SAFETY

The updated codes strengthen fire and life-safety requirements for buildings and occupants. New provisions address emerging risks associated with lithium-ion batteries, energy storage systems, electric vehicle charging infrastructure, powered micromobility devices, and construction site safety. These updates enhance protection for building occupants, emergency responders, and the community.

SUPPORT FOR EMERGING TECHNOLOGIES

The construction industry continues to evolve with the increased use of electric vehicles, battery energy storage systems, renewable energy technologies, smart building controls, and mass timber construction. The 2024 codes provide a modern regulatory framework that addresses these technologies while maintaining appropriate safety standards.

BUILDING RESILIENCY

The 2024 codes improve building performance and resilience through updated structural design criteria, enhanced fire-resistance requirements, improved weather protection measures, and strengthened safety provisions for both new and existing buildings. These changes help buildings better withstand environmental hazards and extend their service life.

ACCESSIBILITY

The updated codes expand accessibility requirements for both new construction and existing buildings. Enhanced provisions for accessible routes, means of egress, occupiable roofs, elevators, and building access improve usability and inclusiveness for individuals of all abilities.

CONSISTENCY WITH NATIONAL AND STATE STANDARDS

Adoption of the latest code editions aligns the Village with current nationally recognized model codes, state requirements, and industry best practices. This consistency promotes uniformity in design, construction, plan review, inspections, and code enforcement while reducing uncertainty for architects, engineers, contractors, and property owners.

LONG-TERM COMMUNITY BENEFITS

While some code changes may increase initial construction costs, the long-term benefits include improved occupant safety, reduced maintenance costs, lower energy consumption, enhanced building performance, greater accessibility, and increased property value. These improvements contribute to a safer, more resilient, and sustainable built environment throughout the Village of Arlington Heights.

The Building and Life Safety Department believes that adopting the 2024 I-Codes will position the Village to effectively address future development challenges while continuing to protect the health, safety, and welfare of the community.



TOP 5 SIGNIFICANT CHANGES

1. LITHIUM-ION BATTERY AND ENERGY STORAGE SYSTEM SAFETY (IFC)

New provisions address lithium-ion battery storage, testing, charging operations, energy storage systems (ESS), and powered micromobility devices. These changes respond to increased fire risks associated with battery technologies.

Impact:

- a. Enhanced fire protection requirements
- b. Additional permitting and review considerations
- c. New inspection requirements

2. ELECTRIC VEHICLE CHARGING INFRASTRUCTURE (IRC / NFPA 70)

The IRC and NFPA70 (NEC) include expanded requirements for EV charging systems, disconnecting means, labeling, and safety controls.

Impact:

- a. Increased EV charger installations
- b. Additional electrical review requirements
- c. Enhanced emergency responder safety

3. OCCUPIABLE ROOFS NOW IMPACT BUILDING CLASSIFICATION (IBC)

The 2024 IBC recognizes occupiable roofs as occupied spaces for purposes of high-rise determination, egress calculations, and accessibility requirements. Rooftop amenities may now trigger additional life-safety and construction requirements.

Impact:

- a. Increased design requirements
- b. Additional egress considerations

4. MASS TIMBER AND TYPE IV CONSTRUCTION EXPANSION (IBC)

The IBC expands provisions for Type IV construction, including new building height allowances and expanded use of mass timber construction.

Impact:

- a. Increased design flexibility
- b. Additional construction opportunities
- c. Enhanced sustainability options

5. AIR BARRIER AND BUILDING ENVELOPE PERFORMANCE (IRC)

New requirements strengthen air barrier documentation, testing, and installation requirements to reduce energy loss and improve building performance.

Impact:

- a. Increased design documentation
- b. Enhanced inspection requirements
- c. Improved energy efficiency

IMPLEMENTATION ROADMAP

The successful adoption and implementation of the 2024 I-Codes will require coordinated efforts among the Building and Life Safety Department, Building Code Review Board, Village Board, and community stakeholders. The following schedule outlines the recommended actions necessary to ensure a smooth transition and successful adoption, with implementation effective 1/1/2027.

	Phase 1		Phase 2				Phase 3			Phase 4		Phase 5	Phase 6			
Task	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27	
Summary of Significant Changes (BLS Internal Activity)	4/30															
- BLS Review of Summary of Significant Changes			6/15													
- BLS Update of Proposed Village Amendment					7/15											
- BLS Report Creation for BCRB Meeting					7/15											
Building Code Review Board Meetings						7/30										
Village Board Meetings							8/30									
Update status to the Stakeholders								9/9								
Filing with Village Clerk											11/30					
Notification to IL Building Commission (CDB)											11/30					
Public Announcement											12/31					
2024 I-Code Adoption Effective													1/1			
Post-Adoption Discussion with Stakeholders														3/10		

Report (BLS Internal Activity)

- BLS Update of Proposed Village Amendment: 7/15/2026
- BLS Report Creation for BCRB Meeting: 7/15/2026

Meetings

- Building Code Review Board: 7/29/2026
- Village Board: August 2026

Public Engagement

- Update status to the Stakeholders: 9/9/2026
- Public Announcement: 10/1/2026
- Filing with Village Clerk: 11/30/2026
- Notification to IL Building Commission (CDB): 11/30/2026
- 2024 I-Code Adoption Effective: 1/1/2027
- Post-Adoption Discussion with Stakeholders: 3/10/2027

IRC (International Residential Code) Summary of Change

IRC - 1/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
	Chapter 3 - Building Planning						
IRC #1	Climatic and Geographic Design Criteria	Table R301.2(4)	Table R301.2(1)	Weathering Probability Map for Concrete revised to 107 mph. 2024 IRC provided a shift to the ASCE 7-22 standard for determining the ground snow loads. Ultimate design wind speed maps were updated and the wind zones have been simplified into three distinct categories: Zone 1, Zone 2, and Zone 3. The Height and Exposure Adjustment Coefficients (Table R301.2(3)) for structure heights between 40 and 60 feet in Exposure Category B have been reduced by 2% to 3%.	Designer	L	M
IRC #2	Fire Protection - Exterior Walls	R302.1 Table R302.1(2)	R302.1 Table R302.1(2)	Added language- Where lot lines do not exist between townhouses, an imaginary lot line is now required to be assumed for the purpose of measuring the fire separation distance. This specifically addresses interior corners where there is no existing or possible future structure, altering how fire separation is calculated. Fire separation and requirements of Section R302.1 shall not apply to walls separating townhouse units that are required by Section R302.2.	Designer Owner	L	M
IRC #3	Fire-resistance rating	-	R302.3.2	Vertical and horizontal assemblies separating units shall have a fire-resistance rating of 1 hour, or a fire-resistance rating of 0.5 hour in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904. Fire-resistance rating in accordance with ASTM E119 or UL 26, or analytical method in accordance with Section 703.2.2 of the International Building Code.	Designer	M	M
IRC #4	Shared Accessory Rooms	-	R302.3.6	Shared accessory rooms shall be separated from each individual dwelling unit in accordance with Table R302.3.6. Openings between the shared accessory room and dwelling unit shall comply with Section R302.3.6.1. Attachment of gypsum board shall comply with Table R702.3.5. 1. Accessory rooms must be separate from both dwelling units - from dwelling units and attics: 1/2-inch gypsum board minimum 2. Similar to the way garages are treated in the IRC - habitable room above with 5/8-inch Type X gypsum board or equal 3. Structures supporting floor/ceiling assemblies used for separation required by this section - 1/2-inch gypsum board minimum 4. Intended for laundry, storage rooms, and similar spaces	Designer Owner	L	M
IRC #5	Sleeping lofts	-	R315	New section and subsections added to provide the maximum area requirements for sleeping lofts along with a definition as a portion of the story below. Exceptions: 1. The sleeping loft has a depth of less than 3 feet. 2. The sleeping loft has a floor area of less than 35 square feet. 3. The sleeping loft is not provided with a permanent means of egress. Limitations: Loft floor area must be less than 70 square feet Ceiling Height: Ceiling height not exceed 7 feet for more than 50% of floor area. Minimum ceiling height is 3 feet. Loft area: The aggregate area of a loft is limited to 1/3 of the floor area below with the exception to maximize the area to 2/3 of the floor area below if adding fire sprinklers in accordance to Section P2904. Egress: Must comply with a means of egress in Section R318.	Designer Owner Reviewer Inspector	M	H



IRC - Continued

IRC - 2/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
★ IRC #6	EV Charging systems Automotive Lifts	-	R317.6 R317.7 R317.7.1	EV Charging stations and automotive lift requirements are added to the IRC to address installation of the equipment. EV charging station must be installed per NEC, listed and labeled per UL 2202 with supply equipment listed and labeled per UL 2594. Automotive lifts must be listed and labeled per ALI ALCTV EV Charging stations and automotive lift requirements are added to the IRC to address installation of the equipment. Installation per ANSI/ALI ALCTV = Automotive Lift Institute. Automotive lifts shall not be installed within the habitable space of a dwelling unit.	Designer Owner	M	H
IRC #7	Building-Integrated photovoltaic (BIPV) systems	-	R329.6.4	Building-integrated photovoltaic (BIPV) systems should be marked from below to identify hazardous area for emergency responders.	Designer Owner	L	M
	Chapter 4 - Foundations						
IRC #8	Soil Tests	R401.4	R401.4	Lots with poor soils, a geotechnical report is required to include the site class. Where the seismic design category in accordance with Section R301.2.2.1 is C or greater and where soil testing is performed, the geotechnical report shall include the determination of the site class and the short-period spectral response acceleration, SDS, in accordance with Section 1613 of the International Building Code. The seismic design category shall be assigned in accordance with Table R301.2.2.1.1.	Designer Owner Contractor	L	H
	Chapter 5 - Floors						
IRC #9	Floor Framing Supporting Guards	-	R502.11	Additional details for bracing a floor when attaching a guard: 1. Blocking for joists perpendicular to the floor edge. 2. Blocking for joists parallel to the floor edge. 3. Blocking added between floor joists. 4. Prohibits the use of I-joists and trusses as edge framing members. Prescriptive options are included for conventional and timber edge framing. Floor trusses and I-joists used as edge members supporting guards shall specifically consider the guard loads in their design to close the gap regarding lateral load resistance for staircases and balconies.	Designer Reviewer Inspector	L	M
	Chapter 7 - Wall Covering						
★ IRC #10	Water-resistance Barrier	R703.2	R703.2	Where WRB Serves as Air barrier it must also comply with Energy Provisions. Allow Foam Plastics to be used as WRB. Also adds exception for detached unconditioned accessory structures. Need to change reference to Ch 11 to WSEC-R. Exceptions: WRB not required in unconditioned detached accessory structures with met requirements. 1. Exterior wall covering is limited to siding that is attached direct to studs. 2. Exterior walls are uninsulated. 3. Interior side of exterior walls has no wall covering or wall finishes.	Designer Reviewer Inspector	M	M
IRC #11	Listing required - BIPV Systems for exterior wall coverings and fenestration	-	R705.1	In addition to complying with other provisions of this code, building-integrated photovoltaic (BIPV) systems used as exterior wall coverings or fenestration shall be listed and labeled in accordance with UL 1703 or both UL 61730-1 and UL 61730-2.	Designer Owner	L	M

IRC - Continued

IRC - 3/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
	Chapter 10 - Chimneys and Fireplaces						
IRC #12	Fireplace clearance	R1001.11	R1001.11	Added language - The airspace shall not be filled, except "for noncombustible material or" to provide fireblocking in accordance with Section R1001.12. Exception 3 updated with change in dimensions. 3. Exposed combustible trim and the edges of sheathing materials such as wood siding, flooring and gypsum board shall be permitted to abut the masonry fireplace sidewalls and hearth extension in accordance with Figure R1001.11, provided that such combustible trim or sheathing is not less than 8 inches (203 mm) from the inside surface of the nearest firebox lining. Added- Where the fireplace opening is 6 square feet (0.6 m ²) or larger, such combustible trim or sheathing shall be permitted to abut the masonry fireplace sidewalls and hearth extension provided that such combustible trim or sheathing is not less than 12 inches (305 mm) from the inside surface of the nearest firebox lining.	Designer Reviewer Inspector	L	M
IRC #13	Chimney clearances	R1003.18	R1003.18	Exceptions updated. Exception 2 revised - combustible materials shall not be in contact with the masonry or concrete wall less than 8 inches (from 12 inches) from the inside surface of the nearest flue lining. Exception 3. Exposed material to Combustible materials shall be permitted to abut the masonry chimney side walls, in accordance with Figure R1003.18, provided such combustible material is not less than 8 inches (203 mm) from the inside surface of the nearest flue lining.	Designer Reviewer Inspector	L	M
	Chapter 13 - General Mechanical System Requirements						
IRC #14	Refrigeration system listing	M1411.2	M1411.2	Refrigeration systems using Group A2L refrigerants shall be listed and labeled to UL/CSA 60335-2-40. Refrigeration systems using Group A1 refrigerants shall be listed to UL/CSA 60335-2-40 or UL 1995. The equipment shall be installed in accordance with the listing.	Designer Contractor Reviewer	L	M
	Chapter 15 - Exhaust Systems						
IRC #15	Makeup air	-	M1502.6	Addition of clothes dryer make-up air minimum. - Installations exhausting more than 200 CFM (0.09 m ³ /s) shall be provided with makeup air.	Designer Owner Contractor	M	M

IBC (International Building Code) Summary of Change

IBC - 1/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
	Occupiable Roofs						
IBC #1	High Rise Definition Change	202	202	High-Rise definition changed, revised so that height is now measured to Highest Floor or to 'Occupied Roof'. Previously, roof was not included in definition (so only highest occupied floor mattered). Now, 2024 IBC considers the roof as an occupiable floor because the roof has occupants like any other story in the building.	Designer Owner Reviewer	H	H
★ IBC #2	Occupiable Roof As Story	1006.3.1	1006.3.1	Section 1006.3.1 revised to require 'occupiable roof' to be considered a story for the purpose of calculating exiting requirements based on occupant load.	Designer Owner	H	H
IBC #3	Elevator for Accessible Means of Egress - Occupiable Roofs	1009.2.1	1009.2.1	Section 1009.2.1 Scoping provisions changed. Accessible, 'occupiable' roof must also be served by accessible means of egress elevator. Requirements added in 2021, but clarified to 'occupiable' in 2024.	Designer Owner	H	H
IBC #4	Fire Service Access Elevator Lobby Not Required at Occupiable Roof	3007.6.2	3007.6.2	Enclosed Fire Service Access Elevator Lobby is no longer required to be provided at an Occupiable Roofs under 2024.	Designer Owner	M	M
	Use Groups - ESS and Li-Ion						
IBC #5	Use Group B - Li Battery R&D	304.1	304.1	Added Lithium-ion or lithium metal battery testing, research and development to list of acknowledged uses under Group B. IFC Section 1207 already addresses the moderate hazard concerns associated with this type of facility, Group B classification is sufficient. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Reviewer	L	H
IBC #6	Use Group F-1 - ESS	306.2	306.2	Added Manufacturing of Energy storage systems (ESS) and Equipment Containing Lithium-Ion or Lithium Metal Batteries to list of recognized F-1 facilities. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Reviewer	L	H
IBC #7	Use Group F-1 - Li-Battery	306.2	306.2	Revised entry to now include 'Lithium-Ion Batteries' to list of recognized F-1 facilities. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Reviewer	L	H
IBC #8	Use Group S-1 - Lithium Ion Batteries	311.2	311.2	Added Vehicle repair garages for vehicles powered by lithium-ion or lithium metal batteries to list of acknowledged use under Group S-1. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Reviewer	L	H
	Use Groups - Beverage						
IBC #9	Use Group F-1 - Beverage Production	306.2	306.2	Increased Group F-1 threshold for beverage alcohol content from 16% to 20%. Group F-2 applies if beverage alcohol content is 20% or less. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Owner Reviewer	L (Relief)	L (Relief)
IBC #10	Use Group F-2 - Beverage Production	306.3	306.3	Increased Group F-2 threshold for beverage alcohol content from 16% to 20%. Group F-1 applies if alcohol content exceeds 20%. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Owner Reviewer	L (Relief)	L (Relief)
IBC #11	Use Group S-1 - Beverage Storage	311.2	311.2	Increased Group S-1 threshold for beverage alcohol content from 16% to 20%. Group S-2 applies if beverage alcohol content is 20% or less. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Owner Reviewer	L (Relief)	L (Relief)
IBC #12	Use Group S-2 - Beverage Storage	311.3	311.3	Increased Group S-2 threshold for beverage alcohol content from 16% to 20%. Group S-1 applies if alcohol content exceeds 20%. Also see related updates under Section 903.2 and 907.2 for Sprinklers and Fire Alarms.	Designer Owner Reviewer	L (Relief)	L (Relief)



IBC - Continued

IBC - 2/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
	Construction Types & Separations						
★ IBC #13	Construction Type IV Expanded - Building Height	504.3 (Table)	504.3 (Table)	New Construction Types IV-A, IV-B, IV-C added. New building height (in feet) criteria added to address new Construction Types.	Designer Reviewer	M	M
IBC #14	Incidental Use Table	509 (Table)	509.1 (Table)	Sprinkler protection now required in addition to 1HR fire-resistant separation, for various 'I' Use Groups. Allowances for storage rooms now reduced to 50sf; waste and linen now reduced to 8.67cf (all to meet CMF standards)	Designer Reviewer	M	M
IBC #15	Horizontal Separations	510.2	510.2	Section 510.2, condition 4 revised. Restriction on occupant loads Group A occupancy above separation has been eliminated (no longer limited to 300 occupants). Still no restriction on occupant loads for Group B, M R or S above horizontal separation.	Designer Reviewer	M (Relief)	M (Relief)
IBC #16	Stairway Construction	1011.7	1011.7	Interior exit stairways compliant with Section 510.2 are exempt. Where an interior exit stairway is located in a building utilizing the horizontal building separation allowance, it is now permissible for the stairways to be constructed of combustible materials throughout, including in the Type IA portion of the building, provided two conditions are met. 1) The upper building is classified as Type III, IV or V construction and 2) the stairway located in the lower building is enclosed by a minimum 3-hour fire-resistance-rated shaft enclosure. Where the upper building is of noncombustible construction (Type I or II), the entire stairway must be constructed of noncombustible materials.	Designer Reviewer	M (Relief)	M (Relief)
	Fire Protection						
IBC #17	Protection of Primary Structural Members	704.3	704.2	Protection of primary structural frame now covered under Section 704.2. Primary structural members (other than columns) supporting more than 2 floors must still be completely encased (as previously required), however if supporting less than 2 floors (or just one floor and a roof, or a wall that is no more than 2 stories high) it can now be enclosed within a rated assembly (where the rated assembly provides the required fire-resistance rating).	Designer Reviewer	M (Relief)	M (Relief)
IBC #18	Protection of Secondary Structural Members	704.4	704.4	Secondary structural members which are required to be protected may now also be protected by the membrane of a fire-resistance rated assembly (wall or horizontal), so long as the assembly provides the required fire-rating.	Designer Reviewer	M (Relief)	M (Relief)
IBC #19	Secondary Attachments to Structural Members	-	704.5.1	Section 704.5.1 replaced Section 704.6.1. Now clarifies that ANY structural steel members (not just secondary members) having a direct connection to a primary or secondary structural member must be protected with the same fire-resistive material and thickness as required for the structural member it connects to. Note: Section 704.6.1 was new to 2021 IBC	Designer Reviewer	M	M
IBC #20	Fire Barrier Joints	707.8	707.8	Fire barrier joints must now be provided at intersections between fire barriers and all other fire-resistance-rated wall assemblies (not just between other fire barriers). Previously required between fire barriers and rated roofs/floors or between fire barriers and exterior walls, but not necessarily between fire barriers and interior, fire-rated wall assemblies.	Designer Reviewer Contractor Inspector	M	M



IBC - Continued

IBC - 3/3

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
	Egress and Entry						
IBC #21	Egress Through Intervening Spaces	1016.2	1016.2	When exiting through intervening space, the code previously prohibited exiting through Group H occupancy. Can now egress through Group H occupancy intervening space as long as you are not egressing through a higher hazard in that intervening space. The clarification also implies that egress through intervening S or F occupancies must be limited to accessory use scenarios if intervening spaces are of higher hazard. Any Group H occupancy can egress through another Group H occupancy (regardless of accessory use) as long as the intervening space is not more hazardous Group H occupancy.	Designer Reviewer	L (Relief)	L (Relief)
IBC #22	Group H-5 Exit Access Travel Distance	-	1017.2.3	Allowable Exit Access Travel Distance Increased from 200 to 300ft in fabrication areas of H-5 Occupancies - based on width of space, area of space, height of space, supply vent rate. This is based on a study commissioned by Semiconductor Industry, which considered fire risk associated with group H-5 Occupancy is similar to Group B occupancy.	Designer Reviewer	M (Relief)	M (Relief)
IBC #23	Power-Operated Doors at Public Entrances	1105.1.1 (Table)	1105.1.1 (Table)	Table 1105.1.1 clarified. When occupancy exceeds certain amount (based on occupancy) then power-operated doors are to be provided in specified amounts. Power operated doors were not strictly required until 2021 IBC but if required, was easy to miss the requirement.	Designer Reviewer	M	M
	Water Supply For Fire Protection						
IBC #24	Water Supply For Fire Protection	3313	3313	Prior to Commencement of vertical construction of any Type III, IV or V Construction projects, the required fire flow shall be provided on site.	Designer Contractor	M	M

IFC (International Fire Code) Summary of Change

IFC - 1/1

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
★ IFC #1	Lithium-Ion and Lithium Metal Battery Storage Construction requirements	-	320 320.4.2.2	Indoor storage areas for lithium-ion and lithium metal batteries in multi use buildings, they shall be separated by 2-hour rated fire barriers or horizontal assemblies	Designer Owner	M	H
IFC #2	Powered Micromobility Devices	-	322	This section establishes safety requirements for the indoor charging of powered micromobility devices utilizing lithium-ion or lithium-metal batteries. Devices must be listed and labeled in accordance with UL 2272 or UL 2849, as applicable. Where approved, indoor charging is permitted only when the following conditions are met: 1. Only listed devices utilizing listed charging equipment shall be permitted to be charged. 2. Is provided with sufficient electrical receptacles to allow the charging equipment for each device to be directly connected to a receptacle. Extension cords and relocatable power taps shall not be used. 3. Storage of combustible materials, combustible waste or hazardous materials shall not be permitted. 4. The charging operation shall not be conducted in or obstruct any required means of egress. 5. Removable storage batteries shall not be stacked or charged in an enclosed cabinet unless the cabinet is specially designed and approved for such purpose. 6. A minimum distance of 18 inches shall be maintained between each removable storage battery during charging operations unless each battery is isolated from neighboring batteries by an approved fire-resistant material. 7. A minimum of 18 inches shall be maintained between the location of the battery on each powered micromobility device during charging operations. 8. The indoor room or area shall be protected by a fire alarm system utilizing air-aspirating smoke detectors or radiant energy-sensing fire detection.	Designer Owner	M	H
IFC #3	Standpipes for stages	-	905.3.2	Standpipes no longer required for Stages greater than 1,000SF	Designer	-	M
IFC #4	Hose connections group A1 and A2	-	905.5.1	No longer required on each side of any stage	Designer	-	M
IFC #5	Storage of Distilled Spirits and Wine	-	4001	A new section has been introduced regarding the storage of distilled spirits and wine, including requirements for fire safety precautions, storage conditions, fire protection systems, fire protection device layout diagrams, wooden barrel storage, and required signage.	Designer Owner Reviewer Inspector	M	M
IFC #6	Temporary Heating & Cooking Operations	-	4101	This new section establishes requirement on the Mobile food trucks, LP gas storage, refueling of LP gas, cooking operations, operations/maintenance. Portable fuel fired heating supplies, outdoor gas heating, etc.	Designer Owner Reviewer Inspector	M	M
IFC #7	Outdoor rooftop storage	-	5003.13	A new section has been introduced regarding the outdoor rooftop storage of hazardous materials.	Designer Owner Reviewer Inspector	M	M



IMC (International Mechanical Code) Summary of Change

IMC - 1/1

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
IMC #1	Outdoor air local exhaust rates	403.3.1 403.3.2 403.3.2.1	403.3.1 403.3.2 403.3.2.1	Language limiting applicability to buildings three stories or less above grade has been removed. Ventilation requirements are now standardized for long-term dwelling units regardless of building height. The minimum continuous outdoor airflow rate equation has been revised, which may result in a 30–50% increase in required ventilation per dwelling unit.	Designer	M	M
IMC #2	Outdoor air for dwelling units.	-	403.3.2.1 Exception 2	Balanced ventilation systems may allow a 30% reduction when specific balancing criteria are met: 1. A ducted system provides ventilation to each bedroom and at least one of the following rooms: living room, dining room, or kitchen. 2. The whole-house ventilation system is a balanced system.	Designer Owner Contractor	M	M
IMC #3	Operation manicure pedicure	-	502.20.1	The exhaust system serving manicure and pedicure stations shall be equipped with controls that operate continuously whenever the space is occupied.	Designer Owner Reviewer	M	M
IMC #4	Commercial kitchen hood Exception	507.1	507.1 Exception S	A new exception permits the use of smoker ovens and other cooking appliances with integral exhaust systems, including wood-fired ovens (UL 2162), electric cooking appliances (UL 197), and dishwashers (UL 921), provided they are listed, tested for the intended application, and installed in accordance with the manufacturer's instructions and Chapter 5 requirements. Spaces not required to have Type II hoods shall be provided with an exhaust rate of 0.7 CFM per square foot. Each appliance shall be considered equivalent to a minimum of 100 square feet for ventilation calculations.	Designer Owner	L	M
IMC #5	Machinery room means of egress	-	1106.4.3	Machinery rooms over 1,000 sq. ft. must have at least two means of egress. One may be a fixed ladder or alternating tread device if two exits are required. The exits must be well separated, within 150 feet travel distance, and may be increased under the IBC. Doors must swing in the direction of egress, be self-closing, tight-fitting, and equipped with panic hardware regardless of occupant load.	Designer Owner Reviewer	M	M
IMC #6	Refrigeration piping system test	N/A	1110	System testing must be completed and a certificate of testing provided. The certificate must include the test date, refrigerant type, test medium, high and low pressure test values, and be signed by the installer or registered design professional.	Designer Owner Contractor	M	M



NFPA 70 (National Electrical Code) Summary of Change

NFPA 70 (NEC) - 1/1

No	Topic / Subject	2017 Section	2023 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
NEC #1	Identification of Disconnecting Means	110.22	110.22	In commercial and multi-family buildings, disconnects must now be labeled to show which circuit or panel supplies them. This helps improve safety, makes emergency response easier, and simplifies maintenance and lockout/tagout procedures.	Designer	L	H
NEC #2	Ground-Fault Circuit-Interrupter Protection for Personnel / Branch Circuits	210.8	210.8	The 2023 NFPA 70 expanded GFCI protection requirements for commercial spaces with sinks and food preparation or cooking areas, even if they are not considered traditional kitchens. This includes places like coffee shops, smoothie stores, and ice cream parlors. The change was made to improve safety and reduce electrical shock hazards in areas with wet conditions and metal equipment.	Designer Contractor Reviewer Inspector	M	H
NEC #3	GFCI for Specific Appliances / Branch Circuits 210 & Appliances 422	422.5	210.8(D) 422.5	(1) Automotive vacuum machines (2) Drinking water coolers and bottle fill stations (3) High-pressure spray washing machines (4) Tire inflation machines (5) Vending machine (6) Sump pumps (7) Dishwashers (8) Electric ranges (9) Wall-mounted ovens (10) Counter-mounted cooking units (11) Clothes dryers (12) Microwave ovens	Designer Contractor Reviewer Inspector	M	H
NEC #4	Tamper-Resistant Receptacles / Receptacles	406.12	406.12	Tamper-resistant (TR) receptacles were added to the NEC to help protect children from electrical injuries caused by inserting objects into outlets. Based on injury data from the Consumer Product Safety Commission, TR receptacles are now required in most residential areas and child-focused facilities because they provide a safer and more permanent way to prevent accidental shocks.	Designer Contractor Reviewer Inspector	L	H
NEC #5	Ventilation / Transformers	450.9	450.9	New code language prohibits using the top of transformers as storage areas and requires warning markings indicating this restriction. Storing items on transformers can block ventilation, create excessive heat, and increase fire and electrical hazards. The change helps inspectors enforce safer maintenance and operation of transformers.	Designer Contractor Reviewer Inspector	L	L
NEC #6	DC Disconnect Methods / Storage Batteries	480.7	480.7	New code requirements mandate a readily accessible disconnect switch within sight of stationary battery systems used as standby power in one- and two-family dwellings. The disconnect allows safer maintenance by isolating the batteries from connected equipment, even though the batteries themselves remain energized. The update also improves code organization and reduces repetitive language.	Designer Contractor Reviewer Inspector	M	H
★ NEC #7	Disconnecting Means	625.43	625.43	The 2023 NFPA 70 now requires a marking plaque when the disconnect switch for EV charging equipment is located remotely from the equipment. This change improves safety for maintenance personnel and first responders by making the disconnect location easier to identify and supports future emergency shutoff requirements for EV charging systems..	Designer Contractor Reviewer Inspector	L	M
NEC #8	Emergency Disconnects / Services	-	330.85	For one- and two-family dwellings, the disconnect must be installed in an outdoor, readily accessible location or within sight of the dwelling unit. It must also be properly labeled in accordance with Sections 238.85(E)(1) and (E)(2).	Designer Owner Contractor Reviewer Inspector	M	H



IEBC (International Existing Building Code) Summary of Change

IEBC - 1/1

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
IEBC #1	Storm shelters	-	303.1.1	Storm shelters shall be constructed in accordance with Section 423 of the 2024 IBC.	Designer Owner	M	M
IEBC #2	Means of egress	-	306.6.1	Accessible means of egress are required for elevator additions, except when all of the following conditions are met: 1. Two-way communication is provided at all elevator landings in accordance with Section 1009.8 of the 2024 IBC. 2. Each elevator landing has access to a horizontal exit or a stairway at least 36 inches wide. 3. The elevator does not serve an accessible floor or occupied roof located more than four stories above or below the level of exit discharge.	Designer Owner	M	M
IEBC #3	Accessible routes	-	306.7	Alterations affecting primary function areas must maintain or provide an accessible route to the primary function area, including access to toilet facilities and drinking fountains.	Designer Owner	M	M
IEBC #4	Occupiable roofs	-	502.1	Any new occupiable roof added to a building or structure must comply with the provisions of the 2024 IBC.	Designer Owner	M	M
IEBC #5	Construction site safety	1501.5	1502.1 - 1502.3.1	The owner is responsible for fire protection and site safety. New requirements now require site safety plans to be enforced by a site safety director, including daily fire safety inspections conducted by the director.	Designer Owner	M	M



IPMC (International Property Maintenance Code) Summary of Change

IPMC - 1/1

No	Topic / Subject	2018 Section	2024 Section	Summary of Change	Practical Impact	Cost Impact	Life Safety Impact
IPMC #1	Structural Analysis	N/A	102.6	Where structural analysis is used to assess a potentially unsafe condition, the analysis can be taken using the currently adopted code edition at the time of construction, or a newer edition of codes	Designer Owner	H	H
IPMC #2	Determination of Compliance	N/A	105.2	Code official can require tests, reports, and technical opinions to determine code compliance. The criteria is detailed in this section	Owner	M	M
IPMC #3	Warrant	N/A	105.3.1	When an inspection warrant is produced, owner, authorized agent, occupant, or person having control of the premise, shall not prevent access/inspection	Owner	-	M
IPMC #4	Demolition	110.1	111.1	If an unsafe structure was ordered to be repaired, and there is a cessation of repairs/construction for over 2 years, the code official can order the structure to be demolished	Owner Designer	H	H
IPMC #5	Responsibility	301.2	301.2	New language stating owner/agent shall be responsible to ensure any repairs, additions, or alterations are done in accordance to IBC, IPMC, IRC, or International Existing Building Code	Owner	M	M
IPMC #6	Handrails & Guards	307	307	New language states 30" minimum height for handrails & guards (existing)	Owner Designer	L	M
IPMC #7	Accessibility	N/A	310	Accessibility & accessibility features shall be maintained during occupancy	Owner Designer	M	M
IPMC #8	Storm Shelters	N/A	311	New section for storm shelter requirements	Owner Designer	L	M
IPMC #9	Private residential elevators	N/A	606.3	New section for private elevator requirements	Owner Designer	M	M
IPMC #10	Fire Protection Systems	704	704	Language altered to indicate that all fire protection & life safety systems are to be installed, repaired, operated, & maintained per IFC & IBC	Owner Designer	M	M
IPMC #11	Installation (smoke alarm) near cooking appliances	704.6.1.3	704.6.1.3	New language stating smoke alarms must be at least 10ft from cooking appliance (or 6ft if exception met)	Owner Designer Reviewer Inspector	L	M
IPMC #12	Replacement (smoke alarm)	N/A	704.7.1	New requirements for when smoke alarms must be replaced: 1. The smoke alarm fails to respond to operability tests. 2. Where the smoke alarm exceeds 10 years from the date of manufacture marked on the unit, unless an earlier replacement is specified in the manufacturer's instructions. 3. The smoke alarm end-of-life signal is sounded. 4. The smoke alarm date of manufacturer cannot be determined.	Owner Designer Contractor	L	H



CONCLUSION

The 2024 I-Codes represent a significant advancement in building safety, energy efficiency, sustainability, accessibility, and emerging technology regulation. While implementation will require updates to local ordinances, staff training, and stakeholder education, the overall benefits to public safety and building performance are expected to be substantial.

The Building and Life Safety Department recommends adoption of the 2024 I-Codes, and the 2023 NFPA 70 National Electrical Code effective January 1, 2027.

Thank you!



Proposed Village Amendment

Based on 2024 I-Codes



**BUILDING & LIFE
SAFETY DEPARTMENT**

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EXECUTIVE SUMMARY

The Building & Life Safety Department has completed a comprehensive review of the 2024 International Codes (I-Codes) and the 2023 National Electrical Code (NEC) and is recommending the adoption of these updated model codes with amendments tailored to the operational needs and construction practices of the Village of Arlington Heights. The proposed amendments are intended to preserve the nationally recognized technical standards established by the model codes while addressing local conditions, enhancing public safety, improving code administration, and providing greater clarity for the design and construction community.

The proposed amendments were developed through a detailed technical review by the Building & Life Safety Department and include recommendations from building inspectors, plans examiners, fire inspectors and Fire Department. Each amendment was evaluated to ensure that it addresses a demonstrated local need, improves code enforcement, enhances public safety, or provides greater consistency in permit review and inspections.

KEY OBJECTIVE OF THE PROPOSED AMENDMENTS

1. Align the 2024 I-Codes and the 2023 NFPA 70 (National Electrical Code) with local building standards.
2. Improve consistency and clarity in permit requirements, inspections, and code administration.
3. Enhance structural integrity and residential construction standards through updated requirements for foundations, crawl spaces, wall bracing, and accessory structures.
4. Strengthen fire and life safety by enhancing requirements for fire apparatus access, emergency responder communications, fire department connections, and fire protection systems.
5. Address emerging technologies, including electric vehicle supply equipment (EVSE), photovoltaic (PV) systems, battery energy storage systems (BESS), and modern electrical installations.
6. Improve building safety during renovations by requiring the removal of abandoned mechanical, plumbing, gas, electrical, low-voltage, and ductwork systems exposed during construction.
7. Update local electrical requirements to improve system reliability, maintainability, and compatibility with Village operational standards.



2024 International Residential Code

R302.3.2 Fire-Resistance rating. Vertical and horizontal assemblies separating dwelling units shall have a fire-resistance rating of 1 hour, ~~or a fire-resistance rating of one-half hour in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.~~ Fire-resistance ratings shall be based on testing in accordance with ASTM E119 or UL 263, or an analytical method in accordance with Section 703.2.2 of the International Building Code.

R302.13 Fire protection of floors. Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other approved equivalent sprinkler system.
2. ~~Floor assemblies located directly over a crawl space not intended for storage or for the installation of fuel-fired or electric-powered heating appliances.~~
3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:
 - 3.1. The aggregate area of the unprotected portions does not exceed 80 square feet (7.4 m²) per story.
 - 3.2. Fireblocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.
4. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.
5. Wood floor assemblies less than 600 square feet (55.7 m²) within detached accessory structures with no habitable space above them.

R401.4 Soil Tests. Where quantifiable data created by accepted soil science methodologies indicate expansive soils, compressible soils, shifting soils or other questionable soil characteristics are likely to be present, the building official shall determine whether to require a soil test to determine the soil's characteristics at a particular location. This test shall be done by an approved agency using an approved method. Where the seismic design category in accordance with Section R301.2.2.1 is C or greater and where soil testing is performed, the geotechnical report shall include the determination of the site class and the short-period spectral response acceleration, SDS, in accordance with Section 1613 of the International Building Code. The seismic design category shall be assigned in accordance with Table R301.2.2.1.1. **A soil report is required for new single-family homes and additions that include a basement or 2nd floor.**

R403.1.3.3 Slabs-on-ground with turned-down footings. ~~In Seismic Design Categories D0, D1 and D2, s~~ **Slabs-on-ground** cast monolithically with turned-down footings shall have not fewer than one No. 4 bar at the top and the bottom of the footing or one No. 5 bar or two No. 4 bars in the middle third of the footing depth.

Where the slab is not cast monolithically with the footing, No. 3 or larger vertical dowels with standard hooks on each end shall be installed at not more than 4 feet (1219 mm) on center in accordance with Figure R403.1.3, Detail 2. Standard hooks shall comply with Section R608.5.4.5.

R403.1.4.2 Accessory Structure Foundations. Accessory structures shall be provided with foundations in accordance with the followings:

1. **Accessory structure 99 square feet or less.** Accessory structures having a floor area of 99 square feet or less shall not be required to have a permanent foundation. A final inspection shall be required.
2. **Accessory structure 100 to 199 square feet.** Accessory structure having a floor area of 100 square feet to 199 square feet shall be supported on one of the following foundation systems
 - a. A minimum 4-inch-thick concrete slab
 - b. Concrete pier blocks
 - c. Concrete pier extending a minimum of 42 inches below finished grade.
 A pre-pour inspection, where applicable, and a final inspection shall be required.
3. **Accessory structures 200 square feet and larger.** Accessory structures having a floor area of 200 square feet or greater shall be supported on a concrete slab with a thickened edge constructed in accordance with the requirements for detached garages. All applicable provisions of the 2024 International Residential Code, including structural, electrical, and other applicable requirements, shall apply. For the purposes of code compliance, such structures shall be regulated as detached garages regardless of the terminology used on the permit application.

R403.1.9 Trench Foundation. Trench foundations shall be permitted only for one-story room additions not exceeding 250 square feet, unless otherwise approved by the Building Official.

1. **Minimum Dimensions.** Trench foundations shall have a minimum width of 10 inches and shall extend to a minimum depth of 42 inches below existing grade.
2. **Reinforcement.** Trench foundations shall be reinforced with a minimum of one continuous No. 4 reinforcing bar located at the top and one continuous No. 4 reinforcing bar located at the bottom of the trench foundation.
3. **Connection to Existing Foundation.** New trench foundations shall be connected to the existing foundation using reinforcing steel dowels or pins. Dowels or pins shall be securely anchored into the existing foundation using an approved epoxy anchoring system and shall be tied to the new trench foundation reinforcement.
4. **Soil Conditions.** Where questionable or unsuitable soil conditions are identified during the trench foundation pre-pour inspection, the Building Official may require a soil report prepared by a qualified professional engineer prior to placement of concrete.

R408.6 Finished grade. The finished grade of under-floor surface shall be permitted to be located at the bottom of the footings; however, where there is evidence that the groundwater table can rise to within 6 inches (152 mm) of the finished floor at the building perimeter or where there is evidence that the surface water does not readily drain from the building site, the grade in the under-floor space shall be as high as the outside finished grade, unless an approved drainage system is provided. A minimum 2-inch slush coat shall be provided over a gravel base with a Class I vapor retarder. The crawl space shall have a minimum height of 3 feet, measured from the bottom of the floor joists to the top of the slush coat. Drain tile shall be installed.

R408.8 Under-floor vapor retarder. ~~In Climate Zones 1A, 2A and 3A below the warm-humid line, a~~ A continuous Class I or II vapor retarder shall be provided on the exposed face of air-permeable insulation installed between the floor joists and exposed to the grade in the under-floor space. The vapor retarder shall have a maximum water vapor permeance of 1.5 perms when tested in accordance with Procedure B of ASTM E96.

~~Exception: The vapor retarder shall not be required in unvented crawl spaces constructed in accordance with Section R408.3.~~

(Village Amendment) Chapter 23, Table R602.10.4 Bracing Methods. Replace 3/8" with 1/2" **7/16"** for the minimum thickness of bracing method continuously sheathed wood structural panel.

R802.3 Ridge. A ridge board used to connect opposing rafters shall be not less than ± 2 inch (25 mm) nominal thickness and not less in depth than the cut end of the rafter. Where ceiling joist or rafter ties do not provide continuous ties across the structure as required by Section R802.5.2, the ridge shall be supported by a wall or ridge beam designed in accordance with accepted engineering practice and supported on each end by a wall or column.

R802.11.3 Hurricane ties. Hurricane ties shall be provided at all rafter and truss connections for new construction. For remodeling projects, hurricane ties shall be installed at all exposed rafter and truss connections.

M1202.1 Additions, alterations or repairs. Additions, alterations, renovations or repairs to a mechanical system shall conform to the requirements for a new mechanical system without requiring the existing mechanical system to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause an existing mechanical system to become unsafe, hazardous or overloaded. Minor additions, alterations or repairs to existing mechanical systems shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous, and is approved. **All abandoned Mechanical including but not limited to electrical, plumbing, gas, low voltage, and ductwork that are exposed during construction must be removed in their entirety.**

M1305.1.2 Appliances in attics. Attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be not less than of 20 inches by 30 inches (508mm by 762 mm), and large enough to allow removal of the largest appliance. **Equipment installed in attics outside the building thermal envelope shall be located within a dedicated mechanical room of sufficient size to provide access for servicing and maintenance. The mechanical room shall be enclosed within the building thermal envelope.**

G2417.7.3.1 (406.7.3.1) Abandoned fuel gas piping. Where fuel gas piping is removed from service for an indefinite time period, it shall be ~~purged~~ **removed in its entirety.**

2024 International Fire Code

105.5 Required operational permits. ~~The fire code official is authorized to issue operational permits for the operations set forth in Sections 105.5.2 through 105.5.53.~~
 Delete this section in its entirety, including sections 105.5.1 through 105.5.53

503.3 Marking. Where required by the fire code official, approved signs or other approved notices or markings that include the words "NO PARKING—FIRE LANE" shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility. ~~Fire lane curbs shall be painted yellow, with contrasting black letters that are a minimum 4 inches (101mm) tall "NO PARKING – FIRE LANE" at 25-foot intervals along the length of the fire lane, in the absence of curbs, a 6-inch (152.4mm) yellow stripe with the same verbiage and spacing shall be painted on the edge of the pavement of the prescribed fire lane.~~

510.1 Emergency responder communications enhancement systems in new buildings. Approved in-building emergency responder communications enhancement system (ERCES) for emergency responders shall be provided in all new buildings. In-building ERCES within the building shall be based on the existing coverage levels of the public safety communications systems utilized by the jurisdiction, measured at the exterior of the building. The ERCES, where required, shall be of a type determined by the fire code official and the frequency license holder(s). This section shall not require improvement of the existing public safety communications systems.

Exceptions:

- ~~1. Where approved by the building official and the fire code official, a wired communications system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained instead of an approved communications coverage system.~~
- ~~2. Where it is determined by the fire code official that the communications coverage system is not needed.~~
- ~~3. In facilities where emergency responder communications coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder communications coverage system.~~
4. One-story buildings not exceeding 12,000 square feet (1115 m²) with no below-ground area(s). ~~Provided all areas of building are proven in accordance with IFC 510.5.4 to have sufficient radio coverage without enhancement.~~

510.5.4 Acceptance test procedure. Where an in-building emergency responder communications enhancement system is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is not less than 95 percent ~~for all public-safety frequencies~~. The test procedure shall be conducted as follows or by a method approved by the fire code official:

2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the ~~agency~~ ~~Village of Arlington Heights and/or duly authorized public communications agency, as determined by the Authority Having Jurisdiction (AHJ)~~ talking through the agency's radio communications system or equipment approved by the fire code official.
5. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the

outside of the building through the public agency **Village of Arlington Heights and/or duly authorized public communications agency, as determined by the Authority Having Jurisdiction (AHJ)**'s radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered to be a failure of that test area. Additional test locations shall not be permitted.

905.5.1 Group A-1 and A-2. In Group A-1 and A-2 occupancies with occupant loads of more than 1,000, hose connections shall be located on each side of **any stage, on each side of** the rear of the auditorium and on each side of the balcony.

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus, **and shall be located near the main entrance, within 100ft of a hydrant and unobstructed to the sky.** The location of fire department connections shall be approved by the fire code official.

912.3 Fire hose threads. Fire hose threads used in connection with standpipe systems shall be approved and shall be compatible with fire department hose threads: **a 5" Storz connection with a 30-degree downturn.**

913.1 General. Where provided, fire pumps for fire protection systems shall be installed in accordance with this section and NFPA 20. **Manual standpipes shall not be permitted for any building equipped with a fire pump.**

914.6.1 Automatic sprinkler system. Stages shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the stage. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such stages.

Exceptions:

- ~~1. Sprinklers are not required under stage areas less than 4 feet (1219 mm) in clear height utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X gypsum board not less than 5/8 inch (15.9 mm) in thickness.~~
- ~~2. Sprinklers are not required for stages 1,000 square feet (93 m²) or less in area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.~~
- ~~3. Sprinklers are not required within portable orchestra enclosures on stages.~~
- ~~4. Sprinklers are not required under catwalks and galleries where they are permitted to be omitted in accordance with Section 903.3.1.1~~

1009.3.3 Area of refuge. Stairways shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from an area of refuge complying with Section 1009.6.

- ~~1. Areas of refuge are not required at exit access stairways where two-way communication is provided at the elevator landing in accordance with Section 1009.8.~~
- ~~2. Areas of refuge are not required at stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
- ~~3. Areas of refuge are not required at stairways serving open parking garages.~~

- ~~4. Areas of refuge are not required for smoke protected or open air assembly seating areas complying with Sections 1030.6.2 and 1030.6.3.~~
- ~~5. Areas of refuge are not required at stairways in Group R-2 occupancies.~~
6. Areas of refuge are not required for stairways accessed from a refuge area in conjunction with a horizontal **exterior** exit.

1009.4.2 Area of refuge. The elevator shall be accessed from an area of refuge complying with Section 1009.6.

- ~~1. Areas of refuge are not required at the elevator in open parking garages.~~
- ~~2. Areas of refuge are not required in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
- ~~3. Areas of refuge are not required at elevators that are not required to be located in a shaft in accordance with Section 712 of the International Building Code.~~
- ~~4. Areas of refuge are not required at elevators serving smoke protected or open air assembly seating areas complying with Sections 1030.6.2 and 1030.6.3.~~
5. Areas of refuge are not required for elevators accessed from a refuge area in conjunction with a horizontal **exterior** exit.

1103.2 Emergency responder communications enhancement in existing buildings.

Existing buildings other than Group R-3 that do not have approved in-building emergency response communications enhancement for emergency responders in the building based on existing coverage levels of the public safety communication systems, shall be equipped with such coverage according to one of the following:

1. Where an existing wired communication system cannot be repaired or is being replaced, or where not approved in accordance with Section 510.1, Exception 1.
2. Within a timeframe established by the adopting authority.

~~Exception: Where it is determined by the fire code official that the in-building emergency responder communications enhancement system is not needed.~~

1205.1 General. Solar photovoltaic (PV) systems shall be installed in accordance with the International Building Code or International Residential Code. The electrical portion of solar PV systems shall be installed in accordance with NFPA 70. Rooftop-mounted solar photovoltaic systems shall be installed in accordance with Sections 1205.2 through 1205.4.3. Ground-mounted solar photovoltaic systems shall comply with Section 1205.5.

All photovoltaic (PV) systems installed on residential and commercial structures shall have a notification indicating the type of inverter system installed, located with the supplemental power notification near system components. Notification of the installation of the PV system and its specifications be made to the Fire Department.

1206.1 General. Stationary fuel cell power systems in new and existing occupancies shall comply with this section. **All stationary fuel cell or Battery Electric Storage Systems (BESS) installed on residential and commercial structures shall have a notification indicating the type of inverter system installed, located with the supplemental power notification near exterior system components. Notification of the installation of a stationary fuel cell or BESS system, and the system specifications, must be made to the fire department for any occupancy.**

D102.1 Access and Loading Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing up to ~~75,000 pounds (34,050 kg).~~ **90,000 lbs. (40 823 kg) to account for the increased weight of the new ladder truck that is being used for auto-turn diagram.**

2023 NFPA 70 (National Electrical Code)

110.90 Abandoned Electrical Equipment. Abandoned electrical equipment, raceways, conductors, boxes, panelboards, transformers, and associated electrical equipment shall be removed from exposed walls, ceilings, and accessible spaces.

~~**210.12 Arc-Fault Circuit-Interrupter Protection.** Arc-fault circuit interrupter (AFCI) protection shall be installed in accordance with 210.12(B) through (C) by any of the means described in 210.12(A)(1) through (A)(6). The AFCI shall be listed and installed in a readily accessible location.~~ Delete sub sections in its entirety.

~~**210.23 (A) 10-Ampere Branch Circuits.** A 10-ampere branch circuit shall comply with the requirements of 210.23 (A)(1) and (A)(2).~~ 10-ampere branch circuits shall not be permitted.

215.12 Identification for Feeders. *Modify this section by adding the following language after the paragraph:*

- (D) Commercial Conductor Identification
 - (1) 120/208 Volt: Black, Red, Blue
 - (2) 277/480 Volt: Brown, Orange, Yellow

225.31 (B) Location. The disconnecting means shall be installed either inside or outside of the building or structure served or where the conductors pass through the building or structure. The disconnecting means shall be at a readily accessible location nearest the point of entrance of the conductors. For the purposes of this section, the requirements in 230.6 shall apply. Where an Electric Vehicle Supply Equipment (EVSE) is installed in a detached structure supplied by a feeder, a panelboard with a main disconnecting means shall be installed within the detached structure.

240.30 General. *Modify this section by adding the following language after the paragraph:*
(C) Commercial Circuit Breakers. Commercial panelboards shall utilize bolt-on circuit breakers.

250.64 Grounding Electrode Conductor Installation. *Modify this section by adding the following language after the paragraph:*

(H) Grounding Electrode Conductors. Grounding electrode conductors shall be installed in a dedicated raceway and shall not pass through panelboards except where terminating within the enclosure.

(1) Service Upgrades. When service equipment is replaced, grounding electrode conductors shall be installed in a dedicated raceway.

408.36 Overcurrent Protection. In addition to the requirement of 408.30, a panelboard shall be protected by an overcurrent protective device having a rating not greater than that of the panelboard. This overcurrent protective device shall be located within or at any point on the supply side of the panelboard. All feeder-supplied commercial panelboards shall be provided with a main disconnecting means if the feeder disconnection is not within sight.

408.45 Residential Service Panelboards. Residential service panelboards shall meet the following minimum requirements:

1. 100-ampere services: Minimum 30 circuit positions
2. 200-ampere services: Minimum 40 circuit positions

408.54 Maximum Number of Overcurrent Device. A panelboard shall be provided with physical means to prevent the installation of more overcurrent devices than that number for which the panelboard was designed, rated, and listed. For the purposes of this section, a 2-pole circuit breaker or fusible switch shall be considered two overcurrent devices; a 3-pole circuit breaker or fusible switch shall be considered three overcurrent devices. **Tandem circuit breakers shall not be permitted in any new installation, service upgrade, panel replacement, or panel modification.**

450.14 Disconnecting Means. Transformers, other than Class 2 or Class 3 transformers, shall have a disconnecting means located either in sight of the transformer or in a remote location. Where located in a remote location, the disconnecting means shall be lockable open in accordance with 110.25, and its location shall be field marked on the transformer. **A disconnecting means shall be installed within sight of all transformers on both the primary and secondary sides.**

705.11 (C) Connections. *Modify this section by adding the following language after the paragraph:*

(1) Photovoltaic System Connections. Insulation-piercing taps shall not be permitted for photovoltaic system service connections. Line-side connections shall utilize listed service rated connection methods.

706.20 (B) Dwelling Units. *Modify this section by adding the following language after the paragraph:*

Energy Storage Systems (ESS) serving one- and two- family dwellings shall be installed on the exterior of the structure.

724.24 Mechanical Execution of Work. *Modify this section by adding the following language after the paragraph:*

(A) Thermostat and control wiring installed in exposed locations shall be installed within EMT or an approved raceway system.

800.24 Mechanical Execution of Work.

(A) General. *Modify this section by adding the following language after the paragraph:*

(1) Low-voltage wiring not installed within a raceway shall be provided with a conduit sleeve where passing through walls, floors, or structural assemblies.

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302.3 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to be unsafe. **All abandoned mechanical, electrical, plumbing, gas, low-voltage, and ductwork systems exposed during construction shall be removed in their entirety.**