

Summary of Notable Changes to the IRC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	R301.1.4	N/A	Intermodal Shipping Containers	Provisions for construction with intermodal shipping containers has been added. Constructing houses out of 1 or more intermodal shipping containers has gained in popularity in recent years, and as such a section detailing requirements was added.
2	R301.2 & Table R301.2.1(1)	R301.2 & Table R301.2.1(1)	Design Wind Speeds	Design wind speed map is updated to include lower wind speeds in many areas. The components and cladding wind pressure table has also been updated to reflect the lower wind speeds. The 2016 version of ASCE 7 provided new wind maps which have significantly lower wind speeds in large portions of NYS. These updated wind speeds are based on extensive research, weather data, and weather modelling, which illustrated that lower design wind speeds were appropriate in a number of (mostly inland) areas. These new wind speeds have been incorporated into the IRC, to align it with the current ASCE 7 and the 2021 IBC.
3	R301.2.2.6	R301.2.2.6	Irregular Buildings in Seismic Areas	Light-frame construction on hillsides has been included in the IRC list of irregular building features which require engineered design. Due to differences in stiffness caused by varying wall heights in a building along a hillside, the prescriptive design requirements of the IRC are not adequate, and an engineered design is required.
4	R301.2.2.10	R301.2.2.10	Water Heaters in Seismic Areas	The anchorage requirements for water heaters in high seismic areas has been expanded to include townhouses in seismic design category C. Overturning of water heaters in seismic events is a flooding hazard, and potentially a fire hazard as well in the case of gas powered water heaters. Townhouses, due to the increased likelihood of an event in one unit affecting multiple other units in the same building, have been added at a lower seismic activity level than previously required.
5	R302.2	R302.2	Townhouses	Common walls separating townhouse units are permitted to terminate at the interior face of exterior walls under certain conditions. Previously, common walls were required to extend to the exterior face of the intersecting wall, leading to confusion as to whether continuous exterior finishes were allowed in these areas.
6	R302.3	R302.3	Two-Family Dwelling Separation	This change specifies that the presence of a lot line along the wall dividing two-family dwellings does not affect the construction requirements for that wall. Some jurisdictions have taken the presence of a lot line along the wall dividing a two-family dwelling to mean that two 1-hour fire rated walls are required. This update to the code clarifies that only a single 1-hour fire rated wall is required.
7	R302.4	R302.4	Rated Wall Penetrations	Water-filled sprinkler piping has been added to the list of items which do not require a fire stop system if other construction requirements are met. Installation of residential sprinklers is becoming more common, and in many cases, the sprinkler system design requires the sprinkler piping to pass through fire-rated walls separating two-family dwellings. Due to the safety requirements for sprinkler piping, these pipes do not create a fire hazard which would require a firestop system.
8	R310.1	R310.1	Emergency Escape and Rescue Openings	This change clarifies that a path through a yard (or yards) to the public way must have a minimum width of 36 inches. Previous editions of the IRC did not specify a minimum width for exterior egress paths to the public way. This provides for a minimum width to allow safe travel along the exterior egress path.
9	R310.7	N/A	Emergency Openings in Existing Buildings	This change provides minimum specifications for the use of existing openings in existing buildings which are undergoing a change of use or occupancy which creates the requirement for emergency escape and rescue openings. This change allows the use of windows which meet the requirements for existing emergency openings to be utilized as such in the event of a change of occupancy, even if the windows were not previously utilized as such.

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11	R314.3	R314.3	Smoke Alarms	Smoke alarms which are listed as being designed to reduce nuisance alarms may be installed a minimum of 6 feet from a cooking appliance.
12	R320.2	N/A	Live/Work Units	This change adds requirements for accessibility in live/work units. Specifically, non-residential areas of live/work units must be accessible, and if there are more than 4 dwelling units, the residential areas must meet the accessibility requirements for live/work units in the IBC. This change aligns the IRC accessibility requirements with those of the IBC for live/work units, while maintaining a similar exception to the existing exception for lodging houses with four or fewer guestrooms.
13	R324	R324	Photovoltaic Systems	Exceptions for building-integrated photovoltaic systems have been added to clear access pathway and emergency rescue opening restrictions on photovoltaic system placement. Building-integrated photovoltaic systems typically involve replacing the traditional roof finish with photovoltaic finishes, such as PV roof shingles. These finishes do not present a tripping or access hazard, and as such are exempted from the clear access requirements. These finishes are also required to not prevent electrical shock hazards to firefighters cutting through them.
14	R326	R325.6	Habitable Attics	Habitable attics have been clarified as counting as a story above grade plane, unless they meet the requirements of the exception (which includes a floor area of less than 50% of the floors below). This clarification is intended to coordinate the IBC and IRC views on habitable attic spaces such that both codes designate them as a story above grade plane.
15	R507.1, R507.4, R507.5, R507.6, R507.7	R507.1, R507.4, R507.5, R507.6, R507.7	Exterior Decks	Exterior decks are required to be designed to the greater of the deck live load or the ground snow load. Load tables for all deck support members have been updated to include snow loads, as well as reorganized for greater readability.
16	R507.10	N/A	Exterior Guards	A new section has been created to state requirements for exterior guards on exterior decks. Previously, the IRC did not have requirements for exterior guards (such as safety railings). These requirements have been added to the 2021 code.
17	Table R602.3(1)	Table R602.3(1)	Fastening Schedule	Additional fastener options were added to the fastening schedule for roof and wall members and sheathing. This change aligns the fastening schedules in the IRC and IBC so that all fastening options are available in both codes.
18	Table R602.3(2) Footnote g	Table R602.3(2) Footnote g	Alternate Attachments	This change reduces the maximum design wind speed for which alternate attachments are permitted, and clarifies fastener spacing requirements. This change aligns the alternate attachment options with those of the Wood Frame Construction Manual, which is the source of the pre-calculated wind loads for these attachments.
19	R602.9	R602.9	Cripple Walls	Continuous sheathing requirements for foundation cripple walls limited to exterior cripple walls only. Interior foundation cripple walls have been found to move with exterior concrete foundation walls during an earthquake and to suffer few issues. As such, continuous sheathing is not required, and can hamper ventilation and access for crawl spaces.
20	Table R602.10.3 (1)	Table R602.10.3 (1)	Bracing for Wind	Bracing requirements for lower wind speeds (based on the lower design wind speeds on the updated wind speed map) have been added.

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21	Table R602.10.3 (4)	Table R602.10.3 (4)	Seismic Adjustment Factors	This table was adjusted to clarify the limits of brick veneer use, and when additional bracing is required in zones of high seismic activity. This change clarifies the additional bracing requirements for brick veneer located above the first story, and specifies what braced wall systems can be used for these conditions.
22	R602.10.6.5	R602.10.6.5	Stone and Masonry Veneer	This change limits the use of the IRC prescriptive design tables for buildings in areas of high seismic activity. Use of the prescriptive design tables is limited to one-story townhouses in high seismic areas - all others must have an engineered design. One- and two-family dwellings with stone/masonry veneer above the first story are limited to certain braced wall construction methods in high seismic areas.
23	R609.4.1	R609.4.1	Garage Doors	Informative labelling (including manufacturer name, model number, design wind pressure resistance, and installation instructions) is required on all garage doors.
24	R702.7	R702.7	Vapor Retarders	Requirements for vapor retarders have been reorganized and clarified. Several new tables have been provided to assist designers in determining what vapor retarders are required, and where these vapor retarders should be located in the wall assembly.
25	R703.7.3	R703.7.3	Water-Resistive Barriers	Specific requirements for dry and moist/marine climates have been added. Very dry and very moist climates affect the functions of the water-resistive barriers in exterior walls. These new provisions provide guidance for these special situations.
26	Table R703.8.4 (1)	Table R703.8.4 (1)	Veneer Attachment	Additional veneer attachment options have been added to allow for larger air gaps behind the veneer. Larger air gaps allows for more continuous insulation on the exterior of the structure, which can aid in meeting energy code requirements.
27	R704	R703.3.1	Soffits	A new section has been created, with expanded requirements for soffit materials, design, and installation. Previous soffit requirements were very brief, and mostly required compliance with manufacturer requirements. This new section provides prescriptive guidance on the materials, design, and installation of soffits.
28	Table R802.5.2 (1)	Table R802.35.2 (1)	Heel Joint Connections	Heel joint connection table updated to include roof spans of 24 and 36 feet, and 19.2-inch rafter spacing. These provisions update the IRC to be consistent with the 2018 Wood Frame Construction Manual and 2018 NDS.
29	R802.6	R802.6	Rafter and Ceiling Joist Bearing	Additional specifications are provided to clarify and limit where ridge boards can be used. This change clarifies the requirements for use of ridge boards, including numerical slope limits and framing requirements.
30	Table R804.3	Table R804.3	CFS Roof Framing Fasteners	The fastening schedule for cold-formed steel roof framing members is updated and clarified. This change aligns the IRC with the 2018 AISI S230, which has increased wind load requirements.
31	R905.4.4.1	R905.4.4	Metal Shingle Wind Resistance	Requirements for the wind resistance of metal roof shingles were added. Metal roof shingles do not behave in the same manner as asphalt shingles under wind loading, but are also not adequately represented by existing requirements for metal roofing. Requirements specific to metal roof shingles were added to allow them to be properly designed and specified.
32	M1505	M1505	Ventilation	A 30% reduction in required mechanical ventilation rate was allowed for balanced ventilation systems. A table showing required local exhaust rates was added.
33	M1802.4	N/A	Oil-Fired Appliances	Oil-fired appliances must be equipped with a safety device which will stop burner operation in the event that the venting system is obstructed.

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Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
34	M2101	M2101	Hydronic Piping Systems	The provisions for ground source heat pump loop piping systems have been expanded to apply to all hydronic piping systems. Detailed guidance has been added for hydronic piping systems, and the existing provisions have been updated to reflect current construction practices.
35	G2427.5.5.1	G2427.5.5.1	Chimney Lining	The exception allowing new exhausts to be run through existing un-lined chimneys has been removed.
36	G2447.2	G2447.2	Commercial Cooking Appliances	The exception allowing commercial cooking appliances where designed by a licensed Professional Engineer has been removed. Commercial cooking appliances lack many safeguards that are found in residential appliances, and are now fully prohibited by the IRC.
37	P2503.5.1	P2503.5.1	Drain, Waste, and Vent System Testing	The required test head pressure for drain, waste and vent piping systems is increased to 10 feet. The test pressure was reduced in the 2015 IRC, this change returns the value to the original 10 feet and brings the IRC in line with the IPC.
38	P2905.3	N/A	Hot Water Piping	The length of hot water piping from the source is limited to 100 feet. This change mirrors a similar requirement in the IPC (50 foot limitation) and reduces the time it takes for hot water to reach fixtures far from the source, reducing wasted water and occupant wait time.
39	P3011	P3011	Sewer/Drain Pipe Relining	This change provides and clarifies installation and testing procedures for relining drainage and sewer piping. Previous versions of the IRC recognized only one method of pipe relining. These changes update the code to allow a variety of new pipe relining techniques and provide installation and testing requirements.
40	E3601.8	N/A	Emergency Service Disconnect	An emergency service disconnect is required in a readily accessible outdoor location. In many one- and two-family dwellings, the electrical service disconnect is located inside the building. This leaves first responders with few safe options for disconnecting the power to the structure prior to entry. This provision will allow first responders to quickly and safely enter the structure, without having to wait for the utility company.
41	E3606.5	N/A	Surge Protection	A surge-protective device is required at the service panel. Modern dwellings have many sensitive electronics which can be damaged by electrical surges. This change will add a layer of protection from surges to all devices in the house, including appliances.
42	E3902	E3902	GFCI Protection	Ground-fault circuit-interrupter (GFCI) protection is required for up to 250-volt receptacles in the areas previously identified as requiring GFCI protection for 125-volt receptacles. The 20-amp limitation has been removed.
43	E3902.5	E3902.5	Basement GFCI Protection	The requirement for GFCI protection in unfinished basement areas has been expanded to include all basement areas.
44	E3902.10	E3902.10	Indoor GFCI Protection	Damp or wet indoor areas not included in other code sections are also required to have GFCI protection.

Summary of Notable Changes to the IBC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	202, Table 504.3, Table 504.4, Table 506.2, 508.4.4.1, 509.4.1.1, Table 601, 602.4, 703.6, 703.7, Table 705.5, 722.7, 1705.5.3, 1705.20, 2304.10.1, 2304.11	N/A	Mass Timber	<p>Mass timber is now specifically defined as representative of both the large wood building elements historically recognized as Heavy Timber (now Type IV-HT) construction and the three new construction types of IV-A, IV-B and IV-C. Modifications and additions to the text include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • The "Allowable Height in Feet" table, the "Allowable Height in Stories" table, the "Fire-Resistance Rating Requirements for Building Elements" table, the "Allowable Building Area" table, and the "Exterior Wall Ratings" table were modified. • Mass timber elements that separate occupancies in Type IV-B and IV-C construction, shall be protected with gypsum board. • A new section was added to address the fire protection of structural connections. • Concealed spaces are now permitted in floors and roof decks for Type IV-HT. • New sections were added to further ensure the safety of buildings constructed under one of the new construction types
2	202, 411.5	202, 411.5	Puzzle Room	<p>Puzzle rooms are now regulated. This new section provides the allowable exiting options. The puzzle room, a relatively new type of special amusement area, is now specifically regulated by the code and a related definition provides the necessary scoping to address its unique hazards.</p>
3	311.2, 311.3	311.2, 311.3	Alcohol Beverage	<p>Beverages that are over 16-percent alcohol content were added to Moderate-hazard storage, Group S-1. Beverages up to and including 16-percent alcohol content remain in Low-hazard storage, Group S-2, regardless of the combustible nature of its container.</p> <p>The proper occupancy classification for the storage of beverages, specifically alcohol beverages, has been clarified for both the Group S-1 and S-2 categories.</p>
4	404.6	404.6	Atrium	<p>Two items were added to the list of exceptions from the enclosure of atrium requirements. No new safeguards were added to take their place; it was considered that the existing safeguards were sufficient.</p> <p>Horizontal assembly separation of the atrium from adjacent spaces is no longer required at those openings created for complying escalators and/or exit access stairways.</p>
5	503.1.4	503.1.4	Occupied Roof	<p>Occupied roofs are no longer required to be included when calculating the building height or number of stories, provided that the penthouses or other enclosed roof structures comply with Section 1511.</p> <p>The proper approach to dealing with occupied roofs from the perspectives of building height, number of stories and installation of occupant notification features has been further clarified for a more consistent application of the code's intent.</p>
6	510.2	510.2	Podium Buildings	<p>Two new conditions, related to the materials allowed for interior stairways, were added to the section that regulates when a horizontal building separation is allowed.</p> <p>Where a combustible building (Type III, IV or V) is located above the lower noncombustible (Type IA) building when applying the horizontal building separation allowance, interior exit stairways located within the Type IA building may be constructed of combustible materials where specified conditions are met.</p>

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Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
7	1006.3.4	1006.3.3	Exit Access Travel Distance	This language change from “Common path of Egress Travel Distance” to “Exit Access Travel Distance” will change the end point of the measurement of the distance traveled. For single-exit stories, the travel distance limits are now based on the exit access travel distance as opposed to the common path of egress travel.
8	1009.2.1	1009.2.1	Occupied Roof - Accessible Access	Occupied roofs were added to the existing section that requires an elevator at accessible floors 4 or more stories above or below the level of exit discharge. An elevator serving an occupied roof must now be considered as one of the required accessible means of egress where the roof is located directly above the third story above the level of exit discharge.
9	1009.6.3, 3008.6.4	1009.6.3, 3008.6.4	Area of Refuge - Floor Space	The required floor area for an area of refuge was increased. The minimum required size of the clear floor space for a wheelchair has been increased to 30 inches in width by 52 inches in length to coordinate with the 2017 edition of the ICC A117.1 Standard.
11	1010.2.8, 1010.2.8.1, 1031.2.2	1010.1.4.4, 1010.1.4.4.1, 1031.2.2	Locking Arrangements in Educational Occupancies	Group I-4 occupancies are now regulated under the special locking arrangements allowed for other “educational occupancies.” Facilities used for day care operations are often classified as Group I-4 occupancies. When remote operation is provided, the door must still be unlockable from outside the room. A similar change was made in the 2021 IFC and 2021 IEBC.
10	1102.1	1102.1	Accessible Design Compliance	The referenced version of the ICC A117.1 was changed from the 2009 to the 2017. The ICC A117.1 standard that is referenced by the International Building Code (IBC) for the design and construction of accessible buildings and facilities has been updated from the 2009 edition to the 2017 edition and includes several new and revised technical requirements.
12	1107.2	N/A	Vehicle Charging Stations	Sections were added that specifically addresses accessibility for motor-vehicle-related facilities which includes electrical vehicle charging stations. Scoping provisions have been provided to make electrical vehicle charging stations accessible.
13	1108.5, 1110.2	1107.5, 1109.2	Assisted Toileting and Bathing	The toilet and bathing facility provisions for assisted living and nursing home dwelling units have been modified. Scoping and technical changes were made and provisions normally found only in the ICC A117.1 have been moved onto the IBC. A series of changes were made to the assisted living and nursing home provisions to allow some units to have toilet and bathing facilities designed for assisted use instead of the independent use generally intended by the ICC A117.1 Accessible unit provisions.
14	1207	N/A	Classroom Acoustics	Section 1207 and its subsections were added to provide new classroom acoustics requirements that intend to make auditory learning easier. Rooms in educational occupancies, where the volume doesn’t exceed 20,000 cubic feet, are now required to meet the enhanced classroom acoustic requirements of Section 808 of ICC A117.1.

Summary of Notable Changes to the IBC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
15	1603.1.4	1603.1.4	Construction Documents - Wind Pressure Zone Depiction	<p>Component and cladding (C&C) pressure zones (wind pressure) must now be identified in the construction documents. There has been some confusion as to how the 2016 edition of the American Society of Civil Engineers (ASCE) standard ASCE 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures, component and cladding (C&C) wind pressure zones are to be applied—specifically, what dimensions various zones should be for individual buildings. A description of C&C pressure zones in the construction documents should assist in correctly applying requirements for roof and wall assemblies and covering applications.</p> <p>Adding the zones to the submittal information is intended to improve guidance for locating tighter nailing zones and other changes in construction requirements on a roof or wall surface. As ASCE 7-16 updated C&C roof zones, changing the shape, length and wind intensity of the zones, notice of changing nailing patterns in designs, especially along roof edges and ridges, is important. C&C wall pressures did not change in ASCE 7-16.</p> <p>A similar change was made in the 2021 IRC.</p>
16	Table 1604.5	Table 1604.5	Risk Categories of Assembly Spaces	<p>Two new types of buildings were added to risk category III, an increase from the 2018 IBC. They are: “buildings and other structures containing one or more public assembly spaces, each having an occupant load greater than 300 and a cumulative occupant load of the public assembly spaces of greater than 2,500,” and “buildings and other structures containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250.”</p> <p>“Change Significance: Group R-1 hotels often have convention center facilities with multiple large ballrooms and other assembly spaces, but public assembly is not the primary occupancy of the building. These buildings have historically been classified as Risk Category II. Conversely, there are smaller buildings consisting solely of one or more assembly rooms where the primary occupancy is public assembly with a cumulative occupant load of over 300 that must be designed to the higher Risk Category III requirements although the total assembly occupant load is much lower when compared to a hotel. To deal with this imbalance, Table 1604.5 includes a new condition under Risk Category III for those buildings containing at least one assembly space with an occupant load greater than 300 while also having a cumulative occupant load for all assembly spaces of more than 2,500. Buildings that meet these criteria are now assigned to Risk Category III rather than Risk Category II.”</p>
17	1605.1, 1605.2	1605.2, 1605.3.1, 1605.3.2	Load Combinations	<p>2021 IBC directly references ASCE 7-16 for load combinations. The ASCE 7-16 referenced, includes Supplement 1 (this may or may not be significantly different from the referenced document in the 2020 BCNYS).</p> <p>The strength design and allowable stress design load combinations have been deleted while direct reference to Chapter 2 of ASCE 7 has been added to Section 1605.</p> <p>(Further investigation required to determine if the new supplement significantly changes the provisions.)</p>
18	1901.2	1901.2	Concrete Design and Construction	<p>ACI 318 has been updated to the 2019 edition [previously the 2014] and includes changes addressing deep foundations, materials and seismic design.</p>
19	1901.7	N/A	Structural Concrete Tolerances	<p>A new section and a new reference standard was added to address acceptable tolerances for concrete construction. American Concrete Institute standards ACI 117 and ITG-7 have been added to the IBC by reference to provide acceptable tolerances for concrete construction.</p>

Summary of Notable Changes to the IBC

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	2021	2018		
20	2303.2	2303.2	Fire-Retardant- Treated Wood	The code now simply points to the reference standard and the code text was deleted. The 2021 IBC references ASTM E84-2018B and UL 723-2018 but the BCNYS references ASTM E84-16 and UL 723-2008 (rev 2013). ASTM E84 has been updated to now include requirements previously only addressed in the IBC; accordingly, the code language has been deleted. (Further investigation is required to determine how significant the technical differences are.)
21	2303.4.1.2, 2303.4.1.3	2303.4.1.2, 2303.4.1.3	Wood Truss Bracing	Wood truss member diagonal bracing and restraint requirements. Additionally, three new associated definitions were added to Section 202. Owners, building designers, truss designers, truss manufacturers and building officials typically rely on framers to accurately and completely interpret when, where and how to install required restraint and diagonal bracing for pre-engineered wood trusses. The reality in the field, however, is that framers are often not familiar with BCSI-B3 and not provided a copy of that document with the trusses.
22	3115	N/A	Shipping Containers	A new section was added to address construction using shipping containers. The use of intermodal shipping containers as buildings and structures is now recognized in the IBC, and criteria have been established to address the minimum safety requirements without duplicating existing code provisions.

Summary of Notable Changes to the IFC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	320	N/A	3D printing	Added language provides safety requirements to the IFC for 3-D printers which are becoming a common, there are minor requirements for non-industrial 3-D printers and much more in-depth requirements for industrial 3-D printers to regulate the multitude of hazards.
2	321	N/A	Artificial Vegetation	The added section for artificial combustible vegetation now regulates artificial vegetation when it is located on a roof or within close proximity to a building. The requirements include regulating the flammability of the vegetation, prohibition of locating the artificial vegetation near an open flame, and decorating the artificial vegetation with non UL listed lighting.
3	903.2.4.2 Chapter 40, 903.2.4.2, 903.2.9.3 , IBC 307.1.1	IBC 307.1.1	Distilled Spirits	This code addition will require new wineries, buildings that distill spirits, or buildings that are used to store wine and spirits to be sprinklered and comply with other fire safety requirements.
4	903.2.4.3 903.2.7.2 903.2.9.4	903.2.4 903.2.7 903.2.9	Upholstered Furniture and Mattresses	Requirements for the installation of an automatic sprinkler system in facilities manufacturing, storing or selling upholstered furniture and mattresses have been revised. The modified language clarifies when a sprinkler system is required especially when there are mixed use building. This code change includes an exemption for one-story self storages that can be accessed from the exterior.
5	903.2.10.2 IBC 202 903.2.10 903.2.11.3	903.2.10 903.2.11.3	Parking Garages	-Mechanical-access enclosed parking garages are defined and now require an automatic sprinkler system. -Open parking garages are required to be equipped with an automatic sprinkler system when the fire area exceeds 48,000 square feet.
6	903.3.1.2.2	903.3.1.2.2	Sprinklers on Means of Egress Balconies	This revision modifies the requirements in NFPA 13R and specifies that sprinklers are required to protect corridors and egress balconies that are not adequately open to the exterior to provide for heat and smoke to escape.
7	907.2.10	N/A	Manual Fire Alarm in Storage Facilities	A manual fire alarm system is required in self-storage facilities which are not sprinklered, are three stories or more, and have interior corridors.
8	1103.5.4	Appendix M	Sprinklers in High-Rise Buildings	All buildings over 120 feet that do not have a sprinkler system and certain buildings over 75 feet must provide a compliance plan within 1 year and have sprinkler system installed with in 12 years. This provision only applies to jurisdictions that have not adopted appendix M, which NYS has not; however, NYS currently modifies Ch 11 so that section 1103 only applies as deemed applicable in the other Sections of the Uniform Code.
9	1204	N/A	Portable Generators	The code now requires that portable generators be operated and maintained in accordance with manufactures instructions, grounded according to NFPA 70, operated at least 5 from any building, and requires new generators to be UL listed.

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10	Table 3203.8	N/A	High-Piled Storage of Lithium-Ion Batteries	Code Users now have a commodity classification to use when applying Table 3206.2 for general fire protection and life safety systems. This classification also allows the code official to regulate lithium-ion battery storage as high-piled storage when the storage height exceeds 6 feet.
11	3303.3, 3303.3.1	N/A	Daily Fire Safety Inspection	Identifies the owners responsibilities for the fire safety of a construction site but also addresses the compliances measures used by the code enforcement to bring the site into compliance.
12	3303.5 3308.4	N/A	Fire Safety for Types IV-A, IV-B and IV-C Construction	Passive fire safety requirements added during construction of buildings of construction Types IV-A, IV-B and IV-C During construction, these new provisions require protection of the exposed wood for both interior and exterior portions of the building. This will help ensure that the lower portions of the combustible structure have an increased level of protection as greater heights are reached. As such, the likelihood of catastrophic structural failure during a fire and adverse impact to surrounding structures is reduced, a benefit to responding fire fighters.
13	3305.5	3304.5	Fire Watch	Requirements are added for fire watch during non-working hours at building construction sites for building that exceed 50,000 sqft in addition to existing threshold of 40 ft above grade.
14	3305.9	N/A	Separation of Construction Areas	In Type I and II buildings, barriers installed to separate construction areas from the remainder of a building must be noncombustible, flame retardant or have a limited heat release rate.
15	3313	3312	Water Supply During Construction	Water supply infrastructure has typically not always been completed prior to vertical construction of a building. This revised code section would require that a water supply be available when combustible construction material arrives on site, the standpipe is installed, and the combustible vertical components are constructed. This code change clearly identifies key milestone of when and how much of a water supply is needed.
16	5707.1, 5707.2, 5707.2.1, 5707.2.2	5707.1, 5707.2, 5707.2.1, 5707.2.2	On-Demand Mobile Fueling	On-demand mobile fueling operations are enhanced and fueling vehicles are now identified as one of three classifications based on the quantity of fuel carried.

Summary of Notable Changes to the IEBC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	303	1106	Storm Shelters	The provisions were relocated and modified to make them applicable to all compliance paths. The most notable change in the text is for Group E. They now only need a shelter to house the occupant load of the classrooms, vocational rooms, and offices, not the additional assembly spaces.
2	309	N/A	Exterior Wall Coverings and Envelopes	This is a new requirement that will help to ensure the safety of existing buildings when replacement of the exterior wall covering or envelope is performed. It is required, when the building owner voluntarily makes changes or when replacement is necessary due to damage or failure of the exterior wall covering or envelope, for the new material to now comply with the IBC in certain scenarios.
3	502.6, 503.16, 506.6	N/A	Classroom Acoustics	Additions, Level 3 alterations, and changes of occupancy in educational occupancies are now required to meet the enhanced classroom acoustic requirements of Section 808 of ICC A117.1. The criteria in ICC A117.1, Section 808 are intended to be applicable to standard size self-contained classrooms while excluding larger spaces used for bands, choir, and other large groups. The criteria are also not intended to apply to ancillary learning spaces, such as individual tutoring spaces, corridors or cafeterias. Similar provisions were added to the IBC.
4	803.2.2, 803.2.3, 803.2.5	N/A	Sprinklers and Level 2 Alterations	An automatic sprinkler system is now mandated regardless of the number of occupants, with automatic sprinkler protection required throughout the work area of an I-2 use for Alternation Level II. If the work area is greater than 50 percent of a smoke compartment, the entire smoke compartment must be sprinklered. Similar changes were made to Level III in Chapter 9.

Summary of Notable Changes to the IFGC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	FG402.7	FG402.7	Press-Connect Joints	Allows piping joined by fittings listed to ANSI LC-4/CSA 6.32 and installed in accordance with the manufacturer's instructions. Code now recognizes press-connect joints as suitable for high pressure (over 5 psig) applications indoors for gas systems.
2	FG614.7	FG614.7	Dryer Exhausts	This change requires all dryers exhausting greater than 200 cfm to be provided with a makeup air supply. Where a closet is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches for makeup air shall be provided in the closet enclosure, or makeup air shall be provided by other approved means.

Summary of Notable Changes to the IMC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	MC401.2	MC401.2	Ventilation in Residential Occupancies	This change clarifies where mechanical ventilation is required for dwelling units. The requirement for mechanical ventilation in R-2 dwelling units is no longer tied to a residential blower door testing requirement. This eliminates the distinction between commercial and residential R-2 buildings as defined in the IECC. The IMC does not regulate one- and two-family dwellings and townhouses, but does regulate R-2 multiple-family buildings, and the intent of this code section is now evident regarding R-2 buildings, that is, dwelling units under the scope of the IMC must be mechanically ventilated if such units comply with the air leakage requirements of the applicable energy code.
2	MC403.3.2.1	MC403.3.2.1	Balanced Ventilation	The code will now give credit to dwelling unit ventilation systems that provide better distribution of outdoor air and provide for the mixing of indoor and outdoor air for better dilution of contaminants. The ventilation rate determined by equation 4-9 can be reduced by 30 percent where the ventilation system is balanced and outdoor air is ducted to each bedroom and also to the choice of the living room, dining room or kitchen.
3	MC502.20	MC502.20	Manicure and Pedicure Exhaust	The exhaust system for manicure and pedicure stations shall have controls that operate the system continuously when the space is occupied. The code will require the exhaust system to operate continuously while the space is occupied, which presumably means during the hours the salon is open for business. <i>Coordinate with DOS Division of Licensing - Regulate Nail Salons.</i>
4	MC801.21	N/A	Oil-Fired Appliances	A requirement was added for an additional safety device for oil-fired appliances to be consistent with what is required for some gas-fired appliances. Code now requires blocked vent switch to be supplied with Oil-fired appliances.
5	MC1101.1	MC1101.1	Ammonia Refrigerants	Deletes and adds new code sections regarding ammonia refrigerants references the IIAR standards, which already referenced in the IMC comprehensively cover all aspects of refrigeration systems that use ammonia. These revisions remove all regulations for ammonia refrigeration systems from the IMC and instead simply defer all regulation to the suite of IIAR standards already referenced in the IMC.
6	MC1107-MC1110	MC1107	Refrigerant Piping	Section 1107, Refrigerant Piping, of the 2018 IMC was deleted entirely and replaced with all new text in Sections 1107 through 1110. The new sections address piping for all refrigerants except ammonia. These changes reorganize the existing text and update provisions which were outdated.

Summary of Notable Changes to the IPC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	PC403.1.2	PC403.1.2	Plumbing Fixture Counts	The numbers of plumbing fixtures in all single-user toilet rooms and bathing rooms count towards the total number required for a building. The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities. <i>Similar provisions are included in the 2020 NYS Codes.</i>
2	PC403.2	PC403.2	Separate facilities	New exception introduces the new concept of multiple-user toilet facilities designed to serve all persons regardless of sex. <i>Similar provisions are included in the 2020 NYS Codes.</i>
3	PC403.3.3	PC403.3.3	Location of Toilets in Occupancies Other Than Malls	The location and maximum distances of travel to required public and employee facilities in Group S occupancies shall be permitted to exceed that required by this section, provided that the location and maximum distances of travel are approved.
4	PC705.2.4	N/A	Push-Fit Joints	Push-fit DWV fittings of either ABS or PVC are allowed under this change. Such fittings eliminate the need for the solvent cementing of joints. The new standard has been added to Table 702.4, Pipe Fittings.
5	PC903.1.3	N/A	Protected vent terminal	This change adds new requirements for protected outdoor roof vent terminals to accommodate solar panel and architectural roof feature installations. Requirements include pipe termination height above roof, vent placement, and open areas required for vents.
6	PC1002.4.1.5	N/A	Fixture drain connection for trap priming	Previously the code allowed only a portion of the waste flow from a lavatory to be directed to another fixture which requires its trap seal to be protected from evaporation. This change allows the entire flow to be directed to such traps.

Summary of Notable Changes to the IPMC

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	602	602	Heating Facilities	The installation of one or more portable space heaters shall not be used to achieve compliance with the heating requirements of this Section.
2	704.3	704.3	Systems Out of Service	Exception added that allows facilities with an approved notification and impairment management program complying with NFPA 25 to be exempt from the requirements of this Section.

Summary of Notable Changes to the IECC (Commercial)

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	Chapter 4 [CE]	Chapter 4 [CE]	Terminology Removal	The terms “prescriptive” and “mandatory” in provision labels throughout Chapter 4 have been removed. The code has been restructured such that each compliance path has its own section and the mandatory provisions for each are clearly identified within these sections.
2	Table C402.1.3	Table C402.1.3	Minimum R-Values	The minimum R-Values in Table C402.1.3 are increased and align with ASHRAE 90.1.
3	Table C402.1.4	Table C402.1.4	U-Factors	Decrease U-factor requirements in Table C402.1.4 and are now aligned with ASHRAE 90.1.
4	Table C402.4	Table C402.4	Glazing Area U-Factors and SHGC	Changes to the U-factor and Solar Heat Gain Coefficient (SHGC) requirements in Table C402.4 and the table is revised to classify SHGC on the operable/fixed properties of the fenestration rather than orientation.
5	C402.5	C402.5	Air Leakage	Air leakage requirements are expanded to include requirements for residential and nonresidential air leakage testing and for building envelope performance verification for buildings not tested.
6	C402.5.11	N/A	Operating Controls	Large, operable openings such as roll-up doors and windows must now be interlocked with the heating and cooling system.
7	C402.5.3	N/A	Building Thermal Envelope Testing	Adds revised and required air leakage requirements for occupancies other than Group R and I. ASTM E3158 was added as an approved testing method.
8	C405.2.8	N/A	Lighting Controls	Parking garages are to have either occupant sensors or time-switch controls for lighting controls.
9	C402.5.2	N/A	Building Thermal Envelope Testing	Adds new thermal envelope testing requirements for dwelling unit air leakage testing for Group R and I occupancies.
10	C405.12	N/A	Energy Usage Data Monitoring	New buildings with a gross conditioned floor area of 25,000 square feet or more to be equipped to measure, monitor, record and report consumption data.
11	C402.5.1.5	N/A	Air Barrier Performance Requirements	Adds new performance verification requirements for continuous air barrier installation.
12	C406	C406	Additional Energy Efficiency Requirements	A credit based systems was adopted so now to comply with eh Prescriptive Compliance option designers may select from 11 points-based additional energy efficiency options that now consider climate zone and occupancy type.
13	C405.4	N/A	Lighting Luminary Efficiency	A provision regulating lighting for plant growth and maintenance has been added to ensure indoor agriculture operations are energy efficient.

Summary of Notable Changes to the IECC (Residential)

Item #	Code Section		Subject	Description of the Code Change
	2021	2018		
1	Chapter 4 [RE]	Chapter 4 [RE]	Terminology Removal	The terms “prescriptive” and “mandatory” in provision labels throughout Chapter 4 have been removed. The code has been restructured such that each compliance path has its own section and the mandatory provisions for each are clearly identified within these sections.
2	Table R402.1.2	Table R402.1.2	Maximum U- Factors	The ceiling and framed wall assembly U-factors in Table R402.1.2 have been decreased.
3	Table R402.1.3	Table R402.1.2	Minimum Component R- Values	The R-value table has been restructured and the efficiencies for most components have been increased.
4	R406.3	R406.3	Target ERI Scores	Target Energy Rating Index (ERI) scores are lowered and the role of on-site renewables is clarified.
5	R406.7.3	N/A	Renewable Energy Documentation	Renewable Energy Certificate (REC) documentation is introduced to ensure homeowners are able to legally document ownership of the RECs associated with their homes.
6	R402.4.1.2	R402.4.1.2	Testing of Building Thermal Envelope	Air leakage testing is not required for heated, attached and detached private garages and accessory to one- and two-family dwellings and townhouses.
7	R403.3.5	R403.3.5	Duct testing	Ducts in conditioned spaces are no longer exempt from duct testing requirements and a duct testing standard is specified.
8	R403.3.2	R403.3.2	Insulation in cavities with ducts	R19 insulation is now required at duct locations in floor cavities over unconditioned space.
9	R403.6.3	N/A	Mechanical Ventilation Testing	This change adds a new requirement for flow rate testing on mechanical ventilation systems.
10	R408	N/A	Additional Energy Efficiency Requirements	Provides five options to demonstrate additional energy efficiency and largely mirrors C406. The options include: 1) enhanced envelope performance, 2) more efficient HVAC equipment performance, 3) reduced energy used in service water heating, 4) more efficient duct thermal distribution system, and 5) improved air sealing and efficiency ventilation system.
11	R406.5	R406.4	ERI Compliance Path – ERI Thresholds	This change lowers the maximum ERI thresholds for all climate zones.
12	R401.2.5	N/A	ERI Compliance Path – 5% ERI reduction	This change imposes an additional 5% reduction in the ERI values.
13	R402.4.6	N/A	Air-Sealed Outlet Boxes in Exterior Walls	This change adds a new requirement that all electrical and communication outlet boxes located in exterior walls must be air-sealed boxes.

Summary of Updated and New Appendices in the 2021 International Residential Code

App.	Appendix Title	Currently Adopted/New	Description of the Appendix Code Change
H	PATIO COVERS	Adopted	This Appendix was adopted in its entirety in the 2020 RCNYS. Appendix H sets regulations and limitations for patio covers. The provisions address those uses permitted in patio cover structures, the minimum design loads to be assigned for structural purposes, and the effect of the patio cover on egress and emergency escape or rescue from sleeping rooms. This appendix also contains the special provisions for aluminum screen enclosures in hurricane-prone regions. Table AH106.4(1) is renumbered as AH106.4.1(1) and two ultimate design wind speeds were added to the table, 90 and 95. Table AH106.4(2) is renumbered as AH106.4.1(2)
Q	TINY HOUSES	Adopted	This Appendix was adopted in its entirety in the 2020 RCNYS. Appendix Q relaxes various requirements in the body of the IRC as they apply to houses that are 400 square feet in area or less. Attention is specifically paid to features such as compact stairs, including stair handrails and headroom, ladders, reduced ceiling heights in lofts and guard and emergency escape and rescue opening requirements at lofts. Figure AQ104.1.3 was added regarding the height effect on the loft area. Language was added to Section AQ104.2 addressing the egress from lofts. Section AQ104.2.1.4 was added to clarify the requirements for stairway landings. New Section AQ106 was added addressing energy conservation for tiny homes. Section AQ106.2 contains an alternative compliance method to the requirements of the energy provisions in Chapter 11 of the IRC. Other minor editorial changes and renumbering.
U	COB CONSTRUCTION (MONOLITHIC ADOBE)	New	This appendix provides prescriptive and performance-based requirements for the use of natural cob (monolithic adobe) as a construction material. It is limited in application to the walls of one-story structures, except where additional engineering is provided. This appendix is new in the 2021 IRC.
W	3D-PRINTED BUILDING CONSTRUCTION	New	Appendix W provides for the design, construction and inspection of 3D building construction. UL 3401 was developed to evaluate critical aspects of this construction process to result in consistent 3D-printed building techniques that comply with a level of safety and performance equivalent to legacy construction techniques currently in the code. This appendix is new in the 2021 IRC.

Summary of Updated and New Appendices in the 2021 International Building Code

App.	Appendix Title	Currently Adopted/New	Description of the Appendix Code Change
E	SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS	Adopted	Appendix E includes scoping requirements contained in the 2010 ADA Standards for Accessible Design that are not in Chapter 11 and not otherwise mentioned or mainstreamed throughout the code. Items in the appendix address subjects not typically addressed in building codes (for example, beds, room signage, transportation facilities). Section E104.2.2 was edited for better clarity. Section E111.1 was added to explain Table E111.1 regarding the reference standards used in the appendix.

Summary of Updated and New Appendices in the 2021 International Fire Code

App.	Appendix Title	Currently Adopted/New	Description of the Appendix Code Change
D	FIRE APPARATUS ACCESS ROADS	Adopted	Appendix D contains more detailed elements for use with the basic access requirements found in Section 503, which gives some minimum criteria, such as a maximum length of 150 feet and a minimum width of 20 feet, but in many cases does not state specific criteria. This appendix is a tool for jurisdictions looking for guidance in establishing access requirements and includes criteria for multiple-family residential developments, large one- and two-family subdivisions, specific examples for various types of turnarounds for fire department apparatus and parking regulatory signage. Language added for clarity to Section D103.5. Exception added to Section 105.1 for buildings of Type IA, Type IB or Type IIA construction equipped throughout with an automatic sprinkler system and having fire fighter access through an enclosed stairway with a Class I standpipe from the lowest level of fire department vehicle access to all roof surfaces, when approved by the fire code official. Minor edits for clarity to the exceptions in Section D107.1

Summary of Updated and New Appendices in the 2021 International Existing Building Code

App.	Appendix Title	Currently Adopted/New	Description of the Appendix Code Change
A	GUIDELINES FOR THE SEISMIC RETROFIT OF EXISTING BUILDINGS	Adopted	Appendix A provides guidelines for upgrading the seismic-resistance capacity of different types of existing buildings. It is organized into separate chapters that deal with buildings of different types, including unreinforced masonry buildings, reinforced concrete and reinforced masonry wall buildings, and light-frame wood buildings. Section A106.2.3.1 was added to coordinate terms with current testing standards. Definitions added to Section A203 to coordinate with standard terms used in ASCE. Several new subsections added to A205.4 to clarify the intent of the testing and inspection in Section A206.2. Changes made to Section A206.2 for better coordination with ASCE 7. Exceptions added to A403.2 to simplify the selection of the R value for a building using combined structural systems. Section A403.3.1 was added to introduce a concept from FEMA P-807 (May 2012), Seismic Evaluation and Retrofit of Multi-Unit Wood-Frame Buildings With Weak First Stories. Section A403.8 was modified to clarify the chapter's intent regarding the need for diaphragm strengthening. Sections A403.10 and subsections added to provide details for structural systems commonly used in Chapter A4 retrofits. Other minor editorial changes and renumbering.

Summary of Updated and New Appendices in the 2021 International Energy Conservation Code

App.	Appendix Title	Currently Adopted/New	Description of the Appendix Code Change
CC	ZERO ENERGY COMMERCIAL BUILDING PROVISIONS	New	Appendix CC provides a model for applying new renewable energy generation when new buildings add electric load to the grid. This renewable energy will avoid the additional emissions that would otherwise occur from conventional power generation. This appendix is new in the 2021 IECC
RC	ZERO ENERGY RESIDENTIAL BUILDING PROVISIONS	New	Appendix RC provides requirements for residential buildings intended to result in net zero energy consumption over the course of a year. Where adopted by ordinance as a requirement, Section RC101 language is intended to replace Section R401.2. This appendix is new in the 2021 IECC.

No notable changes were made to the appendices for the 2021 editions of: the International Plumbing Code, the International Fuel Gas Code, the International Mechanical Code, and the International Property Maintenance Code.

*In addition to the above noted changes, many reference standards were updated to new editions, including for example, ASHRAE 90.1, which is now referenced as the 2019 edition.

**The information gathered in this PDF is from a staff review of the red lined versions of the International Code Council 2021 International Model Codes and the Significant Change Documents.