



NEW YORK CITY ENERGY CONSERVATION CODE

with ANSI/ASHRAE/IES STANDARD 90.1-2016 with AMENDMENTS

2020 New York City Energy Conservation Code

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NEW YORK CITY ENERGY CONSERVATION CODE

PREFACE

Background

New York City is authorized by the *New York State Energy Law* to enact its own energy code, provided the City's code is more stringent than the requirements for New York State, codified in the *New York State Energy Conservation Construction Code* ("NYSECCC"). Since 2009, the *New York City Energy Conservation Code* ("NYCECC") has regulated energy consumption in New York City buildings.

Established by Local Law 85 of 2009 as Chapter 10 of Title 28 of the New York City *Administrative Code*, the NYCECC is required to be periodically updated to maintain the City of New York's position as a leader in sustainable construction policies and practices.

In December of 2019, the New York State Fire Prevention and Building Code Council voted to update both the Commercial and Residential provisions of the *New York State Energy Conservation Construction Code* to meet the requirements of the Commercial and Residential provisions of the 2018 edition of the *International Energy Conservation Code*[®] (IECC[®]), and Commercial provisions of the NYSECCC to meet the requirements of ANSI/ASHRAE/IES 90.1—2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, with amendments made by the 19 NYCRR Section 1240.3, which together comprise the 2020 NYSECCC. The 2020 NYCECC further amends the 2020 NYSECCC to address the unique and dense construction environment of New York City and to align with the New York State Energy Research and Development Authority's NYStretch Energy Code—2020 as per Section 28-1001.3.3 of the *Administrative Code*.

This code update aligns with the goals of Mayor Bill de Blasio's *One City Built to Last Plan*, which calls for the City to develop and implement world class green building and energy codes. This is a key initiative in the City's target to carbon neutrality by the year 2050.

The Code Development and Revision Process

The Department established the New York City Energy Conservation Code Commercial and Residential Advisory Committees to provide stakeholder involvement in the updating of the energy conservation requirements. Both Advisory Committees are composed of industry professionals who represent practitioners from various fields including architects, engineers, building developers and managers, construction trades, and sustainability advocates. The input of these professionals ensures that the sustainability provisions are based on the best practices and current technologies.

Codes Maintenance

At the national level, the *International Energy Conservation Code* is kept current through the review of proposed changes submitted to the International Code Council by code enforcement officials, industry representatives, design professionals and other interested parties. Proposed changes are considered through an open code development process in which all interested and affected parties may participate.

The Department is mandated by Local Law 85 of 2009 to submit to the New York City Council proposed amendments to this code to bring it up to date with or exceed the latest edition of the NYSECCC (i) following any revision of the NYSECCC that establishes more stringent requirements than those imposed by this code and (ii) no later than the end of the third year after the effective date of this code.

This will help ensure that New York City maintains an updated Energy Conservation Code far into the future.

Marginal and Other Markings

An “NYC” in the margins within the body of the codes indicates a substantive change from the 2020 *New York State Energy Conservation Construction Code*, 2018 version of the International Codes[®] and ANSI/ASHRAE/IES 90.1—2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, as well as changes adopted from the NYStretch Energy Code—2020, Version 1.0.

A “State” in the margins within the body of the codes indicates a substantive change from the 2018 version of the International Codes[®] and ANSI/ASHRAE/IES 90.1—2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings* made by the 2020 *New York State Energy Conservation Construction Code*.

Hollow deletion arrows (⇨) are provided in the margin to indicate a deleted paragraph or item from the 2020 *New York State Energy Conservation Construction Code*, 2018 version of the International Codes[®], and ANSI/ASHRAE/IES 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.

A double dagger (‡) within the body of the codes indicates text that is corrected from the enacted legislation for purposes of clarity. Substantive corrections will appear in future code revisions.

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**TITLE 28 OF THE NEW YORK CITY ADMINISTRATIVE CODE INCLUDING
THE NEW YORK CITY CONSTRUCTION CODES**

28-100	Administration
28-200	Enforcement
28-300	Maintenance of Buildings
28-400	Licensing and Registration of Businesses, Trades and Occupations Engaged in Building Work
28-500	Miscellaneous Provisions
28-600	NYC Plumbing Code
28-700	NYC Building Code
28-800	NYC Mechanical Code
28-900	NYC Fuel Gas Code
28-1000	NYC Energy Conservation Code (included in this volume)

TITLE 28
NEW YORK CITY CONSTRUCTION CODES

CHAPTER 10

THE NEW YORK CITY ENERGY CONSERVATION CODE

ARTICLE 1001

ENACTMENT AND UPDATE OF THE NEW YORK CITY ENERGY CONSERVATION CODE

§28-1001.1 Adoption of the New York city energy conservation code. In accordance with section 11-109 of the New York state energy law, which permits any municipality to promulgate a local energy conservation construction code, the city of New York hereby adopts the New York state energy code in effect and any amendments thereto that are more stringent than such code adopted by the city of New York as the minimum requirements for the design, construction and alteration of buildings for the effective use of energy in the city. Such adoption shall be subject to amendments pursuant to local law and set forth in section 1001.2 of this chapter, which shall be known and cited as the “New York City amendments to the New York state energy code.” The New York state energy code with such New York city amendments shall together be known and cited as the “New York city energy conservation code (NYCECC).”

§28-1001.1.1 Definition. As used in this chapter.

ASHRAE 90.1—2013. The term “ASHRAE 90.1—2013” means the 2013 edition of the energy standard for buildings except low-rise residential buildings, standard reference number 90.1—2013, published by the American society of heating, refrigerating and air conditioning engineers (ASHRAE).

COVERED BUILDING. The term “covered building” has the same meaning as set forth in section 28-309.2.

NEW YORK STATE ENERGY CODE. The term “New York State Energy Code” means the *New York State Energy Conservation Construction Code* (the “New York State Energy Code”), constituting part 1240 of title 19 of the New York codes, rules and regulations (19 NYCRR Part 1240), and the publications incorporated by reference in such part, promulgated on April 6, 2016 by the State Fire Prevention and Building Code Council pursuant to Article 11 of the New York State Energy Law.

PREDICTED ENERGY USE. For a building, the amount of energy that is expected to be used at the premises of such building based upon the design of such building as filed by an applicant with the department for approval.

PREDICTED ENERGY USE TARGET. For each type of buildings, as such types correspond to the prototypes set forth in ASHRAE 90.1—2013, a maximum allowable predicted energy use of such buildings that are new buildings or existing buildings undergoing substantial reconstruction, as determined pursuant to this article.

SUBSTANTIAL RECONSTRUCTION. The term “substantial reconstruction” means any alteration or improvement of an existing building, if such work involves alteration of 40 percent or more of the building envelope and any two of the following, within a period of 12 months: (i) replacement of the equipment that provides heating capacity, including service hot water to 50 percent or more of the building floor area; (ii) replacement of the equipment that provides cooling capacity to 50 percent or more of the building floor area; or (iii) replacement of 50 percent or more of the connected lighting load; provided that before the commissioner submits to the city council proposed amendments to this code that establish predicted energy use targets pursuant to section 28-1001.3.4, the New York city energy conservation code advisory committee established pursuant to section 28-1001.3.2 may recommend, and the commissioner may include in such amendments, an alternative definition of this term, including a definition that varies based on building type.

§28-1001.2 New York city amendments to the New York state energy code. The following New York city amendments to the New York state energy code are hereby adopted as set forth in sections 28-1001.2.1, 28-1001.2.2 and 28-1001.2.3.

§28-1001.2.1 New York city amendments to 19 NYCRR Part 1240.

1240.6 Exceptions.

(a) Historic buildings. The Energy Code shall not apply to the alteration or renovation of a historic building.

§28-1001.2.2 New York city amendments to commercial and residential chapters of the New York state energy code.

§ 28-1001.2.3 New York city amendments to the 2016 edition of Energy Standard for Buildings Except Low-Rise Residential Buildings (“ASHRAE 90.1—2016”), as amended by 19 NYCRR section 1240.3.

§28-1001.3 Periodic update.

§28-1001.3.1 Periodic update. The commissioner shall submit to the city council proposed amendments that he or she determines should be made to this code to bring it up to date with or exceed the latest edition of the energy conservation construction code of New York state. The commissioner shall, at a minimum, submit such proposed amendments (i) following any revision of the energy conservation construction code of New York state that establishes more stringent requirements than those imposed by this code and (ii) no later than the end of the third year after the effective date of this section and every third year thereafter. Prior to such submission, such proposed amendments shall be submitted to an advisory committee established by the commissioner pursuant to section 28-1001.3.2 for review and comment.

§28-1001.3.2 New York city energy advisory committee. The commissioner shall establish a New York city energy conservation code advisory committee to provide advice and recommendations regarding such code and revisions thereto. Such committee shall include registered design professionals knowledgeable in energy efficiency, energy conservation, building design and construction; environmental advocates with expertise in energy efficiency and conservation; construction and real estate professionals; and representatives of appropriate labor organizations.

§28-1001.3.3 Stretch energy code. For proposed amendments to this code submitted by the commissioner to the city council pursuant to section 28-1001.3.1, the commissioner, after receiving the advice and recommendations of the New York city energy conservation code advisory committee established pursuant to section 28-1001.3.2, shall for such amendments due to be submitted to the city council in 2019 and in 2022:

1. Submit to the city council proposed amendments to this code to bring this code up to date with the most recent model stretch code published by the New York state energy research and development authority, provided that such model stretch code is more stringent than the New York state energy code in effect when such proposed amendments are submitted and provided further that such model stretch code was first published no more than three years before such proposed amendments are submitted;
2. If no such model stretch code exists at the time such proposed amendments are to be submitted, (i) submit to the city council proposed amendments to this code to ensure that the predicted energy use of buildings designed and constructed in compliance with this code is, on average, expected to be no greater than 80 percent of the predicted energy use of such buildings if such buildings were designed and constructed in minimum compliance with ASHRAE 90.1—2013 or the New York state energy code, as such term was defined on December 1, 2017, and (ii) if the New York state energy code in effect when such proposed amendments are submitted includes a prescriptive compliance path, include in such proposed amendments a prescriptive compliance path to the extent that the commissioner determines such a path to be practicable under applicable federal and state law and rules and such other concerns as such advisory committee determine to be relevant; or
3. If no such model stretch code exists and the commissioner determines that proposed amendments to this code to achieve compliance with item 2 would render the design and construction of buildings impracticable or unduly burdensome, (i) submit to the city council proposed amendments to ensure that the predicted energy use of buildings designed and constructed in compliance with this code is, to the greatest extent practicable, on average, less than the predicted energy use of such buildings if such buildings were designed and constructed in minimum compliance with ASHRAE 90.1—2013 or the New York state energy code, as such term was defined on December 1, 2017, provided that, together with such proposed amendments, the commissioner shall submit a report describing why proposed amendments to achieve compliance with such item would render the design and construction of buildings impracticable or unduly burdensome and the estimated percentage by which the average predicted energy use of buildings designed and constructed in compliance with this code would be less than the average predicted energy use of such buildings if such buildings were designed and constructed in minimum compliance with ASHRAE 90.1—2013 or the New York state energy code, as such term was defined on December 1, 2017, and (ii) if the New York state energy code in effect when such proposed amendments are submitted includes a prescriptive compliance path, include in such proposed amendments a prescriptive compliance path to the extent that the commissioner determines such a path to be practicable under applicable federal and state law and rules and such other concerns as such advisory committee determine to be relevant.

§28-1001.3.4 Predicted energy use targets. For proposed amendments to this code submitted by the commissioner to the city council pursuant to section 28-1001.3.1, the commissioner, after receiving the advice and recommendations of the New York city energy conservation code advisory committee established pursuant to section 28-1001.3.2, shall for such amendments due to be submitted to the city council in or after 2025 submit to the city council proposed amendments to this code to establish predicted energy use targets for covered buildings in the city. In addition:

1. By no later than January 1 of the year before such amendments are due to be submitted to the city council, the commissioner, after receiving the advice and recommendations of such advisory committee, shall prepare and electronically submit to the mayor and the speaker of the council, and make publicly available online, a report recommending predicted energy use targets for covered buildings in the city. Such report shall include, at a minimum:
 - 1.1. A metric for measuring the predicted energy use of covered buildings that can be used to meaningfully compare such use with the predicted energy use of other similar buildings;

- 1.2. For each type of covered building in the city, as such types correspond to the prototypes set forth in ASHRAE 90.1—2013, a predicted energy use target expressed in terms of such metric;
- 1.3. Results and analysis of energy modeling for a representative sample of each such type of covered building for which a predicted energy use target is being recommended;
- 1.4. Examples of designs of such buildings that would satisfy such targets, provided that, if the New York state energy code in effect at the time such report is compiled includes a prescriptive compliance path, such report shall include recommendations for a prescriptive compliance path to achieve such targets if such advisory committee determines such a path to be practicable under applicable federal and state law and rules and such other concerns as the commissioner determines to be relevant;
- 1.5. An analysis of the impact that such targets would have on construction costs and other costs;
- 1.6. Recommendations for accounting for predicted energy use based on the source of such energy, including but not limited to, a method for accounting for sources that are qualified energy resources, as such term is defined in section 45 of title 26 of the United States code in effect on January 1, 2017;
- 1.7. Recommendations for implementing such targets;
- 1.8. A description of why such targets would not render the design and construction of buildings impracticable or unduly burdensome; and
- 1.9. If such targets differ from the predicted energy use targets recommended by such advisory committee, a list of the predicted energy use targets recommended by advisory committee.
2. The predicted energy use targets recommended by the commissioner shall be as stringent as practicable, provided that:
 - 2.1. Except as provided in item 2.2, such recommended targets shall be such that the predicted energy use of buildings that are designed and constructed in compliance with such targets is, on average, expected to be no greater than 70 percent of the predicted energy use of such buildings if such buildings were designed and constructed in compliance with ASHRAE 90.1—2013 or the New York state energy code, as such term was defined on December 1, 2017;
 - 2.2. If the commissioner determines that the predicted energy use targets necessary to achieve compliance with item 2.1 would render the design and construction of buildings impracticable or unduly burdensome, (i) such recommended targets shall minimize, to the greatest extent such advisory committee determines to be practicable, the average predicted energy use of buildings designed and constructed in compliance with such recommended targets and (ii) the report required pursuant to item 1 shall, in addition to the requirements of such item, describe why the predicted energy use targets necessary to achieve compliance with item 2.1 would render the design and construction of buildings impracticable and unduly burdensome and the estimated percentage by which the average predicted energy use of buildings designed and constructed in compliance with such recommended targets would be less than the average predicted energy use of such buildings if such buildings were designed and constructed in minimum compliance with ASHRAE 90.1—2013 or the New York state energy code, as such term was defined on December 1, 2017; and
 - 2.3. Such recommended target for any type of building shall not be more stringent than the targets set forth in clause (B) of subparagraph (i) of the definition of low energy intensity target in paragraph 1 of subdivision 1 of section 224.1 of the New York city charter.

TABLE OF CONTENTS

CHAPTER 1 ADMINISTRATION	1
<i>NYCECC—RESIDENTIAL PROVISIONS.....</i>	<i>R-1</i>
CHAPTER R2 DEFINITIONS	R-3
CHAPTER R3 GENERAL REQUIREMENTS	R-7
CHAPTER R4 RESIDENTIAL ENERGY EFFICIENCY.....	R-9
CHAPTER R5 EXISTING BUILDINGS.....	R-27
CHAPTER R6 REFERENCED STANDARDS....	R-31
<i>NYCECC—COMMERCIAL PROVISIONS</i>	<i>C-1</i>
CHAPTER C2 DEFINITIONS.....	C-3
CHAPTER C3 GENERAL REQUIREMENTS ...	C-11
CHAPTER C4 COMMERCIAL ENERGY EFFICIENCY.....	C-13
CHAPTER C5 EXISTING BUILDINGS.....	C-85
CHAPTER C6 REFERENCED STANDARDS....	C-89
APPENDIX CA MODIFIED ENERGY STANDARD FOR BUILDINGS EXCEPT FOR LOW-RISE RESIDENTIAL BUILDINGS.....	C-97

CHAPTER 1

ADMINISTRATION

INTRODUCTORY STATEMENT

The *New York City Energy Conservation Code* (“NYCECC”) is comprised of the *New York State Energy Conservation Construction Code* with amendments as enacted into law by the city. Reflecting these amendments to the *New York State Energy Conservation Construction Code*, the NYCECC is divided into provisions relevant to commercial buildings and provisions relevant to residential buildings as follows:

1. The provisions of the NYCECC for commercial buildings are reflected in the state publications incorporated by reference in 19 NYCRR Sections 1240.3 and 1240.4, as amended by Sections 28-1001.2.1, 28-1001.2.2 and 28-1001.2.3 of the *Administrative Code*. Such state publications include (i) Chapters 1 [CE], 2 [CE], 3 [CE], 4 [CE], 5 [CE] and 6 [CE] of the publication entitled the 2020 *Energy Conservation Construction Code of New York State* (“ECCCNYS”); (ii) the October 2016 edition of Energy Standard for Buildings Except Low-Rise Residential Buildings (“ASHRAE 90.1-2016”), as amended by 19 NYCRR Section 1240.3; and (iii) reference standards incorporated by reference in subdivision (c) of 19 NYCRR Section 1240.4.
2. The provisions of the NYCECC for residential buildings are reflected in the state publications incorporated by reference in 19 NYCRR Section 1240.5, as amended by Sections 28-1001.2.1, 28-1001.2.2 and 28-1001.2.3 of the *Administrative Code*. Such state publications include (i) Chapters 1 [RE], 2 [RE], 3 [RE], 4 [RE], 5 [RE] and 6 [RE] of the publication entitled the 2020 *Energy Conservation Construction Code of New York State* (“ECCCNYS”); and (ii) the referenced standards incorporated by reference in subdivision (b) of 19 NYCRR Section 1240.5.

SECTION ECC 101 SCOPE AND GENERAL REQUIREMENTS

101.1 General. These provisions shall be known and cited as the “*New York City Energy Conservation Code*,” “NYCECC” or “ECC,” and are referred to herein as “this code.” All section numbers in this code shall be deemed to be preceded by the designation “ECC.” Administration and enforcement of this code shall be in accordance with Title 28 of the *Administrative Code*.

101.1.1 Titles. The publication entitled 2020 *Energy Conservation Construction Code of New York State* shall be known as the “ECCCNYS.”

The 2016 edition of the Energy Standard for Buildings Except Low-Rise Residential Buildings shall be known as “ASHRAE 90.1-2016.” All references in this code to ASHRAE 90.1-2016 shall be deemed to be references to ASHRAE 90.1-2016 (AS AMENDED).

The *New York State Energy Conservation Construction Code*, as contained in Part 1240 of Title 19 of the New York Codes, Rules and Regulations, along with the New York City amendments to such *New York State Energy Conservation Construction Code* shall be known collectively as the “*New York City Energy Conservation Code*.”

101.2 Scope. This code applies to commercial buildings and residential buildings, as defined in Chapter C2 and Chapter R2 of this code, and the buildings’ sites, associated systems and equipment.

101.2.1 References. Where reference is made within this code to the *Building Code of New York State*, *Existing Building Code of New York State*, *Fire Code of New York State*, *Fuel Gas Code of New York State*, *Mechanical Code of New York State*, *Plumbing Code of New York State*, *Property Maintenance Code of New York State* or *Residential Code of New York State*, the reference shall be deemed to be to the analogous provision of the New York City Construction Codes (Title 28 of the *Administrative Code*), the 1968 Building Code (Chapter 1 of Title 27 of the *Administrative Code*), the *New York City Fire Code* (Title 29 of the *Administrative Code*) or the *New York City Electrical Code* (Chapter 3 of Title 27 of the *Administrative Code*).

101.2.2 Occupancy classifications. For determination of occupancy classification and use within this code, a comparable occupancy classification shall be made to the *New York City Building Code*.

101.2.3 Reconciliation with New York State Energy Conservation Construction Code. Whenever any provision of the *New York State Energy Conservation Construction Code* provides for a more stringent requirement than imposed by this code, the more stringent requirement shall govern.

101.2.4 Other laws. The provisions of this code shall not be deemed to nullify any federal, state or local law, rule or regulation relating to any matter as to which this code does not provide.

101.2.5 Exceptions. This code shall not apply to the alterations of existing buildings set forth in items 1 through 8, provided that the alteration will not increase the energy usage of the building:

1. Storm windows installed over existing fenestration.
2. Glass-only replacements in an existing sash and frame, provided that the *U*-factor and the solar heat gain coefficient (SHGC) shall be equal to or lower than before the glass replacement.
3. Alterations, renovations or repairs to roof/ceiling, wall or floor cavities, including spaces between furring strips, provided that such cavities are insulated to the full existing cavity depth with insulation hav-

101.6 Statutory Limitations. In the event of an addition to or alteration of an existing building or building system in an existing building, nothing in this code shall be interpreted to require any unaltered portion of such existing building or building system to comply with this code.

101.7 Historic Buildings. Historic Buildings, as defined in this code, are exempt from the requirements of this code.

**SECTION ECC 102
ALTERNATE MATERIALS, METHOD
OF CONSTRUCTION, DESIGN
OR INSULATING SYSTEMS**

102.1 General. This code is not intended to prevent the use of any material, method of construction, design or insulating system not specifically prescribed herein, provided that such material, method of construction, design or insulating system has been approved by the commissioner as (1) meeting the intent of this code, (2) achieving energy savings that are equivalent to or greater than would be achieved using prescribed materials, methods of construction, designs or insulating systems, and (3) meeting the requirements of Article 113 of Chapter 1 of Title 28 of the *Administrative Code* and the remaining *New York City Construction Codes*.

Nothing in this section shall be construed to permit the commissioner to approve an application that would waive, vary, modify, or otherwise alter any provision, standard, or requirement of this code if such alteration would make such provision less restrictive than a standard or requirement of the *Energy Conservation Construction Code of New York State* unless the applicant has obtained approval for such alteration pursuant to Section 11-106 of the *New York State Energy Law*.

**SECTION ECC 103
CONSTRUCTION DOCUMENTS**

103.1 General. Construction documents shall be prepared in accordance with the provisions of Chapter 1 of Title 28 of the *Administrative Code*, the *New York City Construction Codes*, including this code, and the rules of the department.

103.2 Supporting documentation on construction documents. Supporting documentation shall include those construction documents that demonstrate compliance with this code.

103.2.1 Intent. Supporting documentation shall accomplish the following:

1. Demonstrate conformance of approved drawings to the energy analysis for every element and value of the energy analysis;
2. Demonstrate conformance of approved drawings to other mandatory requirements of this code, including, but not limited to, sealing against air leakage from the building envelope and from ductwork as applicable, insulation of ducts and piping as applicable, mechanical and lighting controls with devices shown and operational narratives for each, and additional requirements as set forth in this section;

3. Identify required progress inspections in accordance with the scope of work, this code, the *Administrative Code*, the *New York City Building Code* and the rules of the department; and

4. Comply with other requirements as may be set forth in the rules of the department.

103.2.2 Detailed requirements. Construction documents shall be drawn to scale upon suitable material. Electronic media documents are permitted to be submitted in accordance with department procedures. Construction documents for a project shall be fully coordinated and of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in sufficient detail pertinent data and features of the building, building systems and equipment as herein governed. Details shall include, but are not limited to, as applicable, insulation materials and their *R*-values; fenestration *U*-factors and SHGCs; area-weighted *U*-factor and SHGC calculations; mechanical system design criteria; mechanical and service water heating system and equipment, types, sizes and efficiencies; economizer description; equipment and systems controls; fan motor horsepower and controls; duct sealing, duct and pipe insulation and location; lighting fixture schedule with wattages and control narrative; location of daylight zone on floor plans (as applicable), and air sealing details. The building's thermal envelope shall be represented on the construction documents.

103.3 Examination of documents. In accordance with Article 104 of Chapter 1 of Title 28 of the *Administrative Code*, the department shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws, rules and regulations.

103.4 Changes during construction. For changes during construction refer to Section 28-104.3 of the *Administrative Code*.

**SECTION ECC 104
INSPECTIONS**

104.1 General. Except as otherwise specifically provided, inspections required by this code or by the department during the progress of work may be performed on behalf of the owner by an approved agency. All inspections shall be performed at the sole cost and expense of the owner. Refer to Article 116 of Chapter 1 of Title 28 of the *Administrative Code* for additional provisions relating to inspections. In addition to any inspections otherwise required by this code or the rules of the department, the following inspections shall be required:

1. Progress inspections. Progress inspections shall be performed in accordance with the rules of the department.
2. Final inspection. Refer to Article 116 of Chapter 1 of Title 28 of the *Administrative Code* and the rules of the department.
3. Issuance of Certificate of Compliance. Refer to Section 28-116.4.1 of the *Administrative Code*.

NYCECC—RESIDENTIAL PROVISIONS

TABLE OF CONTENTS

CHAPTER R2 DEFINITIONSR-3	ECC R504 Repairs R-28
Section	ECC R505 Change of Occupancy or Use..... R-28
ECC R201 General R-3	
ECC R202 General Definitions R-3	CHAPTER R6 REFERENCED STANDARDS R-31
	⇐
CHAPTER R3 GENERAL REQUIREMENTSR-7	
Section	
ECC R301 Climate Zones..... R-7	
ECC R302 Design Conditions R-7	
ECC R303 Materials, Systems and Equipment R-7	
CHAPTER R4 RESIDENTIAL ENERGY EFFICIENCY R-9	
Section	
ECC R401 General R-9	
ECC R402 Building Thermal Envelope R-9	
ECC R403 Systems..... R-15	
ECC R404 Electrical Power and Lighting Systems .. R-21	
ECC R405 Simulated Performance Alternative (Performance)..... R-21	
ECC R406 Energy Rating Index Compliance Alternative R-26	
CHAPTER R5 EXISTING BUILDINGS R-27	
Section	
ECC R501 General R-27	
ECC R502 Additions R-27	
ECC R503 Alterations R-27	