Local Law 8 of 2024

Adopted 09.17.2024

A LOCAL LAW TO REPEAL AND REPLACE CHAPTER 160 OF THE CODE OF THE VILLAGE OF HASTINGS-ON-HUDSON, GREEN BUILDING CODE

Be it enacted by the Board of Trustees of the Village of Hastings-on-Hudson as follows:

Section One. Chapter 160 of the Code of the Village of Hastings-on-Hudson entitled "Green Building Code" is hereby repealed in its entirety.

Section Two. There is hereby added to the Code of the Village of Hastings-on-Hudson a new Chapter 160 entitled "Green Building Code" to read as follows:

Article I General Provisions

§ 160-1. Title.

This Chapter 160 of the Code of the Village of Hastings-on-Hudson shall be known as the "Green Building Code."

§ 160-2. Purpose.

The Village of Hastings-on-Hudson is committed to enhancing public welfare and ensuring that further development in the Village is consistent with the Village's desire to create a more sustainable and resilient community. The purpose of this Green Building Code is to promote public health, safety, and general welfare by establishing additional requirements above and beyond the requirements the state energy code and stretch energy code for all new construction, additions, and alterations for both residential and commercial buildings or structures. It is also intended to provide guidance and ideas for consideration in all other projects, including those undertaken by the School Districts with property in the Village.

§ 160-3. Objectives.

The intent of this Green Building Code is to:

A. Minimize short-term and long-term negative impacts on the environment;
B. Deliver measurable, immediate and long-lasting reductions in greenhouse gas (GHG) emissions to mitigate human impact on the climate;
C. Advance best practices, technologies and systems in the design and construction of all-electric buildings;
D. Provide owners and occupants with economic benefits from energy and water savings, use of renewable energy sources and sustainable building products and practices.

The requirements set forth give priority to electrification, renewable energy, and resilience and encourage transparency.

§ 160-4. Findings.

The Village of Hastings-on-Hudson finds that:

A. Climate change is causing an increase in extreme weather events, such as storms, flooding, and heat waves that threaten human life, healthy communities, and critical infrastructure in the Village, New York State, and across the world.
B. A special report from the Intergovernmental Panel on Climate Change (IPCC) indicates that limiting global warming to 1.5 degrees Celsius will significantly reduce climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth.
C. GHG emissions related to human activity are the main cause of global warming. Buildings within the Village of Hastings-on-Hudson are the most significant contributor to local GHG emissions.
D. The US Energy Information Administration indicates that 38 percent of energy consumption comes from buildings, including both residential and commercial sectors.
E. The Village of Hastings-on-Hudson, New York, formally adopted a "Climate Smart Communities" Pledge on June 1, 2010, recognizing the threat of climate change to our Village operations, citizens, and the planet and outlining initial steps that should be taken to mitigate this threat, increase energy efficiency, and build resilience and sustainability in the Village.
F. New York State, through its Climate Leadership and Community Protection Act, has set ambitious goals to combat climate change through GHG reduction. State goals are in line with many of the objectives of this Green Building Code, including reducing emissions in buildings, electrifying space heating, water heating, and cooking systems, increasing the use of renewable energy, and reducing the use of Fossil Fuels.
G. New York State passed the All-Electric Building Act, which prohibits the use of fossil fuels equipment and building systems in new construction. The law goes into effect January 1, 2026, for buildings 7 stories and lower, except for commercial or industrial buildings greater than 100,000 square feet, and for all new buildings on January 1, 2029. The law impacts all buildings with permit applications submitted after the effective date of the law.
H. The combustion of fossil fuels in homes and other buildings decreases internal air quality and has adverse impacts on human health (https://www.hsph.harvard.edu/c-change/subtopics/fossil-fuels-health/).
I. For new buildings, the most affordable and cost-effective time to reduce GHG emissions is during the design and construction phases of a project, rather than at a time of later retrofit.

Article II Scope, Application and Compliance

§ 160-5. Energy Law.

Pursuant to §11-109 of the New York State Energy Law, and subject to the provisions and requirements of that section, the Village of Hastings-on-Hudson has the power to promulgate a local energy conservation construction code that is more stringent than the Energy Conservation Construction Code of New York State (ECCCNYS).

§ 160-6. Enforcement.

The Village shall enforce this Chapter 160, Green Building Code, *in addition to* the enforcement of Chapter 101, Building Construction, of the Village Code. Chapter 101, Building Construction,

sets forth the method for administration and enforcement and establishes powers, duties, and responsibilities in connection therewith, including penalties and other remedies for violations.

Except as specified in this chapter, this chapter shall not be used to require the removal, alteration, or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this chapter.

§ 160-7. Conflicts with Other Laws.

During review of plans, should any conflicts exist between this Green Building Code and other applicable Village requirements such as requirements by the Planning Board, Zoning Board of Appeals or Architectural Review Board, the more stringent, as determined by the Building Inspector, shall apply.

§ 160-8. Applicability.

The requirements of this Green Building Code apply to the following:

A. All new construction of both commercial and residential buildings as defined in **§ 160-14.**
B. All major renovations of commercial and residential buildings as defined in **§ 160-14**.
C. All additions and alterations, as defined in **§ 160-14**, to commercial buildings that are 1,000 square feet or larger and residential buildings that are 500 square feet or larger.
D. All residential developments, as defined in **§ 160-14**.
E. All projects which include the renovation or new construction of a kitchen or bathroom that do not meet the definition of an addition, alteration, or major renovation, but require a building permit.

§ 160-9. Compliance.

Required compliance documentation is outlined in **§ 160-12** of this Green Building Code. Building types, as defined by the current edition of the ECCCNYS and this code shall meet the requirements listed below:

A. New construction of commercial and residential buildings shall earn a minimum of 25 points from **Article IV**, *or* meet the alternate compliance path requirements in **Article V**.
B. Major renovations of commercial and residential buildings shall earn a minimum of 20 points from **Article IV**, *or* meet the alternate compliance path requirements in **Article V**.
C. Additions and alterations to commercial and residential buildings shall earn a minimum of 10 points from **Article IV.**
D. All residential developments shall earn a minimum of 10 points from **Article IV, §160-16** for Site Improvements, and all structures in the development must follow the requirements of this section relative to their building type.
E. All projects that include the renovation or new construction of a kitchen or bathroom that do not meet the definition of an addition, alteration, or major renovation, but require a building permit, shall earn 5 points from **Article IV.**

§ 160-10. Substantial Improvement to Existing Buildings or Structures.

For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures, the building inspector shall determine where the proposed work constitutes a substantial improvement as defined by this code. The substantial improvement determination requires evaluation of previous permits issued for improvements or repairs as

specified in the definition of substantial improvement. Where the building inspector determines that the proposed work constitutes substantial improvement the building shall be considered a major renovation and must meet all applicable requirements of this code.

§ 160-11. Exemptions.

A. If an applicant believes that circumstances exist that make it a hardship or infeasible to meet one or more of the requirements of this Chapter, the applicant may apply for an exemption or partial exemption as set forth below. The burden is on the applicant to show hardship or infeasibility, as defined in **§ 160-14**. The Building Inspector will either grant or deny the request for an exemption or partial exemption.
B. Factors to consider in determining whether hardship or infeasibility exist include but are not limited to availability of appropriate building materials and technologies, compatibility of green building requirements with other government requirements and building standards, availability of markets for materials to be recycled, and preserving the historical integrity of the building.
C. The applicant may apply for an exemption at the time of submission of the Green Building Code Checklist. The applicant shall indicate the provisions for which it is applying for an exemption and provide a written explanation of the circumstances that make it a hardship or infeasible to fully comply with this Chapter.
D. If the Building Inspector determines that it is not a hardship or infeasible for the applicant to meet the requirements of this Chapter, he or she shall notify the applicant in writing with a statement of reasons for the denial.
E. If an exemption is granted on a portion of this Chapter, the applicant shall be required to comply with this Chapter in all other respects.

§160-12. Documentation.

A. Applicants shall complete and submit a *Green Building Code Checklist* on the forms provided by the Village. In addition to the checklists, all reports, certificates, or other documentation showing compliance with the requirements in this Green Building Code, if necessary, shall also be submitted. Forms and documentation shall be submitted with the building permit application and should be accompanied by all plans, specifications, and other materials required by the Village Code Chapter 101, Building Construction, and Chapter 295, Zoning.
B. This Green Building Code provides requirements and standards that are in addition to and shall be used in conjunction with the Chapter 101, Building Construction of the Village Code. **A Certificate of Occupancy will not be awarded until all requirements and supporting documentation are submitted to and approved by the building inspector.**

Article III Definitions

§ 160-13. Terms defined in other codes

Where terms are not defined in this code and are defined in the current version of the Energy Conservation Construction Code of New York State (ECCCNYS), such terms shall have the meaning ascribed to them as in that code as may be amended. Where terms are not defined in this

code and are defined in a New York State code other than the Energy Conservation Construction Code, and the applicable code is specifically referenced in relation to the terms, such term shall have the meanings ascribed to them in relation to the referenced code as may be amended.

§160-14. Definitions

As used in this Chapter, the following terms shall have the meanings indicated. Other terms not included on this list shall be defined as in the Zoning Chapter of the Hastings-on-Hudson Code.

APPLICABLE PROJECTS – All projects identified in **§160-8** above.

ACCREDITED PASSIVE HOUSE CERTIFIER - An organization or individual accredited by Passive House Institute or Passive House Institute US (PHIUS) as a Passive House Certifier, PHIUS Certified Verifier or PHIUS Certified Rater. A list of Accredited Passive House Certifiers can be found at www.passivehouse.com and www.phius.org.

ADAPTIVE REUSE – The repurposing of a building for a new permitted use or change in occupancy type.

ADDITIONS- As defined by the current edition of the ECCCNYS.

ALTERATIONS - As defined by the current edition of the ECCCNYS.

ASHRAE 90.1 - The publication entitled *ANSI/ASHRAE/IES Standard 90.1, Energy Standard for Buildings Except Low-rise Residential Buildings* published by ASHRAE, the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

BASELINE BUILDING – A computer representation of a hypothetical design based on the proposed building project. This representation is used as the basis for calculating the baseline building performance for rating above-standard design.

BIOMASS – Organic material that is processed and burned to provide energy, particularly for space heating, through direct thermal energy. Biomass for space heating purposes includes cord wood, pellets, and chips.

BUILDING DEPARTMENT – The Building Department of the Village of Hastings-on-Hudson.

BUILDING INSPECTOR – The village official designated to head the Building Department for the Village of Hastings-on-Hudson in accordance with §**101-3** of the Village Code. The term "Building Inspector" shall include their designee authorized to administer the provisions of this chapter.

BUILDING THERMAL ENVELOPE – The insulated exterior walls (above and below grade), floors, ceilings, roofs, and any other building element assemblies that enclose heated space or provide a boundary between heated space and unheated space.

COMMERCIAL BUILDINGS- As defined by the current edition of the ECCCNYS.

DESIGN PROFESSIONAL – A Professional Engineer (PE) or a Registered Architect (RA) licensed to practice in the State of New York.

EFFICIENT FRAMING – Optimizing use of framing materials by limiting waste factor to 10% or less, and /or using framing efficient measures such as using pre-cut framing packages, open-web floor trusses, or structurally insulated panels (SIPs); spacing wall studs, ceiling

joists, floor joists, and roof rafters greater than 16 inches on center; using 2-stud corners, ladder blocking or drywell clips, and designing header-sizing for actual loads.

ELECTRIC VEHICLE CHARGING STATION (ELECTRIC VEHICLE SUPPLY EQUIPMENT [EVSE], EV CHARGING STATION, CHARGING POINT) - The element in an infrastructure that supplies electric energy for the recharging of plug-in electric vehicles.

ELECTRIC VEHICLE PARKING SPACE (EV PARKING SPACE or EV SPACE) – A parking space that includes access to a dedicated electric vehicle charging port and supporting electrical infrastructure, collectively referred to as Electric Vehicle Supply Equipment (EVSE).

ELECTRIFICATION – Replacing equipment and technologies that use fossil fuels with equipment or technologies that use electricity for energy.

EMBODIED ENERGY – The energy consumed by all the processes associated with the production of a building.

ENERGY CODE – The current, adopted version of the State Energy Code by the Village, as indicated by *Chapter 101 Building Construction* of the Village code.

ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECCCNYS)- The current, adopted version of the Energy Conservation Construction Code of New York State.

ENERGY PROFESSIONAL - A professional holding a current accreditation in the energy field from BPI, AEE, ASHRAE, RESNET, or other body approved by the Director of Code Enforcement or their designee.

ENERGY STAR – Guidelines for energy efficiency developed by the United States Environmental Protection Agency ("EPA") and the United States Department of Energy, including any future amendments and revisions as they become effective.

ENERGY USE – All references to energy use refer to site energy use, which is the heat and electricity consumed by a building as reflected at the meter and/or in the utility bills.

FLOOR AREA – The total square footage of all levels as measured from the inside finished surface of the walls, but excluding outside courts, unconditioned garages, and uninhabitable crawl spaces and attics.

FOSSIL FUELS - Natural gas, oil, coal, and any form of solid, liquid, or gaseous fuel derived from such material.

GREEN BUILDING CODE (GREEN CODE or CODE) – This Chapter 160 of the Hastings-on-Hudson Code.

GREEN / VEGETATIVE ROOFS – Roofs that are partially or fully covered by vegetation, to manage water runoff and provide additional insulation in the winter and cooling in the summer.

GREEN INFRASTRUCTURE - Green infrastructure approaches infiltrate, evapotranspire or reuse stormwater, using soils and vegetation rather than hardscape collection, conveyance, and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains.

GREENFIELD SITES – Those lots that have not been previously developed or graded and remain in a natural state.

GREENHOUSE GAS (GHG) – Any of several gases, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases, that trap heat in the atmosphere.

GREYWATER – Wastewater discharged from lavatories, bathtubs, showers, clothes washers, and laundry sinks, as defined by the International Plumbing Code ("IPC").

HARDSHIP - A verifiable level of difficulty or adversity beyond the control of the applicant, by which the applicant cannot reasonably comply with the requirements of this code.

HEAT PUMP, AIR SOURCE – Air source heat pumps extract heat from the ambient air. Water loop boiler/tower heat pumps are not considered air source heat pumps.

HEAT PUMP, GEOTHERMAL – Heat pumps that use the earth, groundwater, a body of water, or similar sources that have a relatively constant temperature to efficiently exchange heat.

IMPACTED AREAS – Portions of the building where incidental work entailed by the intended work must be performed.

INFEASIBILITY- The existence of verifiable obstacles beyond the control of the applicant that render the applicant incapable of complying with the requirements of this code.

INVASIVE PLANTS – Species the introduction of which does, or is likely to, cause economic or ecological harm or harm to human health. A list of Invasive Plants is maintained and distributed by the Building Department. (https://www.hastingsgreen.org/protect-our-woods/what-hastings-is-doing/work-to-date/invasive-plant-surveys-removals)

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED) – A green building rating/certification system, developed by the U.S. Green Building Council (USGBC) and administered by Green Business Certification, Inc. (GBCI).

LIVING BUILDING CHALLENGE – The International Living Future Institute, a non-governmental institution operates a regenerative certification program with seven performance areas referred to as petals: place, water, energy, health and happiness, materials, equity and beauty. Certifications include Petal Certification where a project achieves 3 complete petals, Net Zero Energy Certification, and full Living Building Certification. Full certification is based on 12 months of operational evaluation. (https://living-future.org)

MAJOR RENOVATION - Any construction or renovation to an existing structure other than a repair or addition, where the work area exceeds 50% of the floor area OR construction that involves disassembly of greater than 50% of the area of the above-grade portion(s) of the building thermal envelope in the building.

NATIONAL GREEN BUILDING STANDARD (NGBS, OR ICC/ASHRAE 700) – A green building rating/certification system approved by the American National Standards Institute (ANSI), under which points can be earned for energy efficiency; water efficiency; resource efficiency; lot development; operation and maintenance; and indoor environmental quality.

NATIVE PLANTS – Plants that are indigenous to the northeast region or cultivars of Native Plants that are adapted to the local climate and are not considered Invasive Species or noxious weed. A reference list of Native Plants is maintained and distributed by the Building

Department.
(https://www.hastingsgov.org/sites/g/files/vyhlif7561/f/uploads/nys_native_plants_available_at_local_nurseries.pdf)

NET ZERO ENERGY – see ZERO ENERGY

ON-SITE RENEWABLE ENERGY SYSTEM: a renewable energy system such as wind, solar geothermal, biogas, biomass or other alternative source of energy located on near the property.

OPEN GRID PAVING SYSTEM – A paving material that has an open grid structure to allow water to pass through the material and into the earth below.

PASSIVE HOUSE CERTIFICATION – A certification program for buildings, including COMMERCIAL BUILDINGS, constructed to "passive building standards."

PASSIVE SOLAR HEATING STRATEGIES – The collection and distribution of solar energy for heat without the use of mechanical and electrical devices. Elements to be considered in passive solar design include southern orientation of windows, glazing type, thermal mass, thermal insulation and shading device.

PHOTOVOLTAICS (PV) – A technology commonly known as solar panels that generate power using mechanisms that absorb energy from the sun and convert it to electrical energy.

PREVIOUSLY DEVELOPED AREAS – Those areas that previously contained buildings, roadways, parking lots or were graded or altered by direct human activities.

RECYCLED CONTENT MATERIALS – Materials with recycled content such that the sum of post-consumer recycled content plus one half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials.

RENEWABLE ENERGY CREDIT (REC) - A tradable instrument that represents the environmental attributes of one megawatt-hour of renewable electricity generation and is transacted separately from the electricity generated by the renewable energy source. Also known as REC, renewable energy certificate, energy attribute and energy attribute certificate.

REPAIR– The restoration to good or sound condition of any part of an existing building for the purpose of its maintenance, including, but not limited to, the patching, restoration or replacement of damaged materials, elements, equipment or fixtures.

RESIDENTIAL BUILDINGS- As defined by the current edition of the ECCCNYS.

RESIDENTIAL DEVELOPMENT – A development comprised of two or more detached single-family or two-family dwellings or townhouses constructed on the same lot, on adjacent lots owned or developed by the same person or related entity, or as part of the same development. All structures in the development must follow the requirements of this code relative to their building type as defined by the current edition of the ECCCNYS, and the development shall meet the requirements for Site Improvements set forth in §**160-16** below.

RESILIENCE – The capacity for infrastructure and buildings to recover from events such as flooding, fires, high winds, extreme heat, and other natural disasters.

SOLAR ENERGY – A renewable energy produced by the sun.

SUBSTANTIAL IMPROVEMENT - Any one or more or any combination of repair, reconstruction, rehabilitation, alteration, addition or other improvement of a building or

structure taking place during a 5-year period, the cumulative area of which equals or exceeds 50 percent of the square footage measured to the outside of the building or structure before the improvement or repair is started. For each building or structure, the 5-year period begins on the date of the first permit issued for improvement or repair of that building or structure subsequent to the effective date of this code. If the building or structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building inspector and that is the minimum necessary to assure safe living conditions.
2. Any alternation of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

THERMAL SAFETY – Ability for indoor environment to remain passively survivable during an energy outage.

ZERO ENERGY READY HOME (ZERH) PROGRAM – This U.S. Department of Energy program recognizes high performance homes that a renewable energy system could offset most or all of a home's annual energy use. (https://www.energy.gov/eere/buildings/zero-energy-ready-home-program)

ZERO ENERGY / NET ZERO ENERGY / ZERO NET ENERGY – A building where the total amount of energy used on an annual basis is equal to the amount of renewable energy created on site.

VILLAGE – The Village of Hastings-on-Hudson, Westchester County, New York.

Article IV Prescriptive Path Requirements (Points Path)

§ 160-15. Scope and Application

Along with the submission of a building permit application, applicants shall submit a Green Building Code proposal checklist on the form provided by the Village. Prior to the final inspection, applicants shall submit a final checklist to the Building Department showing full compliance with the requirements of this Code. Applicants shall submit all supporting documentation for the completed measures.

To meet the requirements of this section, projects must achieve the required number of points based on the appropriate building/project type outlined in **§ 160-9**. The table below illustrates the required number of points and the sub-sections that are available for each project type.

Project Type	Required Points	Applicable Sub-Sections
New Construction (Commercial & Residential)	25	Points may be earned in any sub-section under this Article, with a minimum of 5 points earned in **§ 160-16**.

Major Renovations (Commercial & Residential)	20	Points may be earned in any sub-section under this Article
Additions & Alterations (Commercial & Residential)	10	Points may be earned in any sub-section under this Article
Residential Developments	10	Points must be earned in sub-section **§ 160-16** in addition to points required for the building type above
Kitchen & Bathroom Renovations (Commercial & Residential)	5	Points must be earned in sub-sections **§ 160-17** through **§ 160-19**

§ 160-16. Site Improvements.

A. **Stormwater Pollution Prevention Plan– 6 points.** *Six points* shall be awarded for projects that develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets criteria set forth by New York State Department of Environmental Conversation. All SWPPPs must include practices consistent with the New York Standards and Specifications for Erosion and Sediment Control AND comply with the New York State Stormwater Management Design Manual to address post-construction stormwater discharges. The SWPPP shall be approved by the Stormwater Management Officer, Planning Board, or Zoning Board of Appeals as indicated by Chapter 250 of the Village Code.

B. **EV Charging Stations- 4 points.** *Four points* shall be awarded for all projects which install EV charging stations, according to the tables below. Multifamily buildings shall meet the requirements of the appropriate building type as defined by the current, adopted edition of the ECCCNYS.

Residential Space	
Number of Dwelling Units (DU)	Number of EV Spaces Required for Residential Portion (SR)
1 to 6	1
7 to 13	2
14 to 20	3
21 to 24	4
25 to 30	5
31 to 38	6
39 to 46	7
47 to 53	8
For up to 53 Dwelling Units, use table. **For 54 or more Dwelling Units:** **SR = (0.13 x DU) + 1** Complete Residential and Commercial calculations separately, add results, and round up to nearest whole number: **SR + SC = ST (Total EV Parking Spaces)**	

Commercial Space	
Area in units of 1,000 Sq. Ft (CA)	Number of EV Spaces Required for Commercial Portion (SC)
5	2
10	3
15	5
20	6
25	7
30	9
35	10
40	12
The numbers listed above are examples. **For <u>all</u> building sizes use the equation:** **SC = 0.28 x CA** Complete Residential and Commercial calculations separately, add results, and round up to nearest whole number. **SR + SC = ST (Total EV Parking Spaces)**	

Source: <u>Ithaca Energy Code Supplement – Updated July 2022</u>

C. **Native Plants – 2 to 4 points.** All existing Invasive Plants shall be removed from areas that are to be planted. Any new plants installed shall be non-invasive.

Two points will be awarded for new landscapes that are a minimum of 75% Native Plants by area.
Four points shall be awarded to projects which restore or protect a minimum of 50% of the Previously Developed Area (excluding the building footprint and required parking area) with native plants. Green/Vegetated Roof surface may be included in this calculation. Documentation of plant species shall be submitted to the building inspector. No petrochemicals fertilizers or pesticides can be used for operation or maintenance of the landscape.

D. **Project Specific Resilience Design** – 3 points. *Three points* shall be awarded for project teams which complete a vulnerability or hazard assessment for the project using the Hastings-on-Hudson 2020 Climate Vulnerability Assessment and applicable regional and state hazard assessment frameworks (such as the NYS Hazard Mitigation Plan, <u>https://mitigateny.availabs.org/</u>) to identify and implement appropriate design and construction strategies into the project for the top three hazards/vulnerabilities identified by the project team.

E. **Bioretention Systems- 2 points**. Two points shall be awarded for projects that install a bioretention system such as one or more of the following: vegetated swale, on-site rain garden, dry well, rainwater cistern, landscaping, permeable pavement, disconnect downspout and redirect roof runoff to a vegetated, pervious area, cistern or rain barrel, or other mechanism(s). Bioretention systems shall be approved by the Building Inspector.

F. **Greenfield Sites – 2 points**. *Two points* shall be awarded for projects where greenfield site disturbances do not exceed 30 feet beyond the building perimeter and parking garages; and 10 feet beyond surface alterations.

G. **Habitat Exchange / Land Trust or Protected Natural Areas Within Village** – 2 points. *Two points* may be earned for a project that sets aside land away from the project within the Village that is equal to the project's size or one acre (whichever is greater) through donation or land or a conservation easement to a Land Trust, or sets aside onsite land equal to the project's site coverage or one acre (whichever is greater) through a conservation easement or a recorded restrictive covenant in a form satisfactory to the Village to protect the land.

H. **Heat Island: Non-Roof – 2 points**. *Two points* shall be awarded for any new or replacement site hardscape (including roads, driveways, sidewalks, courtyards, and parking areas) where any combination of the following strategies is used for at least 50% of the site hardscape:

(1) Shade from existing tree canopy or from planted tree landscape within 5 years of installation. Tree landscaping must be in place at the time of occupancy;
(2) Shade from roof or trellis structures; or
(3) An Open Grid Paving System that is at least 50% pervious.

I. **Light Trespass – 2 points**. *Two points* shall be awarded for all new exterior lighting where light spillage upward or beyond the site boundaries is prevented by using one of the following lighting zones as it applies to the project. Justification shall be provided to the Building Inspector for the selected lighting zone. Exceptions for safety or security lighting will be considered by the Building Inspector.

(1) Light Zone 2 - Low (primarily residential zones, neighborhood business districts, 7 light industrial areas with limited nighttime use and residential mixed-use areas). Exterior lighting must be designed so that all site and building-mounted luminaires produce a maximum initial illuminance value no greater than 0.10 horizontal and vertical footcandles (1.0 horizontal and vertical lux) at the project boundary and no greater than 0.01 horizontal footcandles (0.1 horizontal lux) 10 feet (3 meters) beyond the project boundary. Documentation must be submitted to show that no more than 2% of the total initial designed fixture lumens (sum total of all fixtures on site) will be emitted at an angle of 90 degrees or higher from nadir (straight down).

(2) Light Zone 3 - Medium (commercial/ industrial, and high-density residential). Exterior lighting must be designed so that all site and building-mounted luminaires produce a maximum initial illuminance value no greater than 0.20 horizontal and vertical footcandles (2.0 horizontal and vertical lux) at the project boundary and no greater than

0.01 horizontal footcandles (0.1 horizontal lux) 15 feet (4.5 meters) beyond the site. Documentation must be submitted to show that no more than 5% of the total initial designed fixture lumens (sum total of all fixtures on site) are emitted at an angle of 90 degrees or higher from nadir (straight down).

J. **Natural Resilience for Flood and Erosion Control- 2 points**. *Two points* shall be awarded for projects that adopt natural resilience measures to reduce risks of flooding and erosion including natural feature restoration or construction outlined in *Using Natural Measures to Reduce the Risk of Flooding and Erosion* (New York State's Department of Environmental Conservation and Department of State, August 2020).

K. **Transit Oriented Development or Transit Oriented Housing – 2 points**. *Two points* will be given for any project built within .25 miles walking distance of public transportation.

L. **Xeriscaping/Smart Scaping- 2 points.** *Two points* shall be awarded for projects which design xeriscaping (also referred to as smart scaping) systems which require little to no water beyond what the natural climate provides.

M. **Solar Shade Devices – 1-2 points.**

(1) *One point* shall be awarded for projects which use deep overhangs (min. 30") or trellises above windows along south and west facing walls to reduce summer solar heat gain.

(2) *Two points* shall be awarded for projects which use of solar shading calculations to determine depth of shade device and to maximize reduction of solar heat gain. A report shall be submitted to the building inspector to substantiate compliance.

N. **Bicycle Racks – 1 point**. *One point* shall be awarded for the installation of bicycle racks for any projects that increases the parking requirements for the building. Projects must secure bicycle racks for 5% or more of the estimated number of building users at peak periods must be provided. In no event shall there be less than one rack that can accommodate at least two bicycles. ***This measure does not apply to detached single-family homes.***

O. **High Efficiency Irrigation – 1 point**. *One point* shall be awarded for projects that install an irrigation system that consists of high-efficiency equipment (i.e., trickle or drop irrigation) and/or EPA WaterSense labeled controllers and sprinkler spray bodies.

P. **Rainwater Harvesting – 1 point**. *One point* may be earned by designing and installing a rainwater harvesting and storage system for landscape irrigation or indoor water use. The storage system must be sized to hold all of the water from a one-inch rainfall event (0.62 gallons per square foot of roof area used for capture) for 50% or more of the total roof area.

§160-17. Efficient Systems and Appliances.

A. **Fuel Switching – 8 points**. *Eight points* shall be awarded for projects that involve switching from fossil fuel equipment and appliances (coal, oil and natural gas) and replacing them with equipment and appliances that draw power from electricity.

B. **All-Electric Construction – 6-8 points**. This measure only applies to new construction. Points for all-electric construction will be sunset for the given building type, once that building type is required to be all-electric per the All-Electric Buildings Act.

(1) *Six points* shall be awarded to **residential** projects that are constructed to operate free of fossil fuels. Fossil fuels shall not be used for any space heating, space cooling, water heating, ventilation systems, or appliances in the building.

(2) *Eight points* shall be awarded to **commercial** projects that are constructed to operate free of fossil fuels. Fossil fuels shall not be used for any space heating, space cooling, water heating, ventilation systems, or appliances in the building.

C. **Electric Commercial Cooking – 3-4 points.**

(1) *Three points* shall be awarded to restaurants or other food service establishments that use all electric cooking equipment, including but not limited to ranges, griddles, and fryers.

(2) *Four points* shall be awarded for projects which install induction cooktops.

D. **Heat Pumps for Space Heating and Cooling – 3-4 points.**

(1) *Three points* shall be awarded for heating systems that use ENERGY STAR-certified Air Source Heat Pumps for space heating needs.

(2) *Four points* shall be awarded to projects that install a geothermal heating and cooling system that provides a minimum of 80% of the required space heating and space cooling energy. A calculation shall be submitted to building inspector to support performance claim.

E. **Balanced Ventilation - 3 points.** *Three points* shall be awarded for projects that install a heat recovery ventilator (HRV) or energy recovery ventilator (ERV). The HRV/ERV must be sized adequately for the specific application, which includes the building's conditioned area, and number of occupants.

F. **Efficient Appliances– 3 points.** *Three points* shall be awarded for projects where all installed appliances are ENERGY STAR certified.

G. **Heat Pumps for Water Heating – 3 points**. *Three points* shall be awarded for Heat Pump Hot Water Heaters.

H. **Water Efficiency – 3 points**. *Three points* shall be awarded for projects where all installed toilets, urinals, showers, and lavatory faucets meet the Environmental Protection Agency's (EPA) WaterSense Program requirements for performance and water efficiency.

I. **Heat Pumps for Clothes Drying – 2 points**. *Two points* shall be awarded for a ventless heat pump clothes dryer.

J. **Efficient Heating and Cooling Equipment- 2 points.** *Two points* shall be awarded for all new or replacement heating and cooling equipment that is ENERGY STAR certified or meet the minimum efficiency requirements below:

(1) All new or replacement hot water boilers shall be condensing boilers with a minimum annual fuel utilization efficiency (AFUE) of at least 87% for oil burning and 92% for natural gas burning boilers.

(2) High efficiency cooling equipment. All new or replacement cooling equipment shall have a seasonal energy efficiency ratio 2 (SEER2) of at least 15.2.

K. **Electric Residential Cooking – 2 points**. *Two points* shall be awarded for the installation of induction cooktops.

L. **Improved Thermal Performance – 2 points per enclosure package**. *Two points* per enclosure package shall be awarded for roof, walls, windows, and doors, above current code U-value as modeled and evaluated by a third-party. To qualify for points, all of any one of the given components in the building must be above the current code. For example, to gain 2 points for windows, all windows in the building must be above code.

M. **Efficient Ventilation- 2 points**. *Two points* shall be awarded for projects where all installed ventilation fans are ENERGY STAR certified.

N. **Smart Thermostats- 1 point.** *One point* shall be awarded for the installation of an ENERGY STAR certified smart thermostat.

O. **Electric Vehicle Ready – 1 point**. *One point* may be earned for projects which install the necessary infrastructure and electric panel upgrades to accommodate an EV charging stations in the future.

§160-18. Materials and Indoor Environment.

A. **EPA Indoor Air Plus – 4 points**. *Four points* shall be awarded for projects that achieve EPA'S Indoor airPlus or equivalent commercial program with documentation.

B. **Embodied Energy Calculation – 3 points.** *Three points* shall be awarded for projects that reduce the embodied energy or carbon emissions of the primary materials used in the foundation, structure, enclosure and finishes by ten (10%) compared to a baseline building. Acceptable embodied carbon/energy tools include: Builders for Climate Action BEAM Estimator, Athena Institute EcoCalculator, Carbon Leadership Forum EC3 Tool, Architecture 2030 Zero Tool , Living Future Institute Carbon Calculators or equivalent methodology acceptable to the building inspector.

C. **Green (Vegetated) Roofs – 2-4 points.**

Two to four points shall be awarded for projects which include the installation of a green (vegetated) roof. Green roofs shall be categorized as extensive, intensive, or semi-intensive based on the differences outlined in the report, Green Roof and Wall Policy in North America. All green roofs shall meet the design guidelines approved by the American National Standards Institute (ANSI) for fire, wind, and root repellency. The type of green roof installed (extensive, intensive, semi-intensive) shall be determined by the building inspector based on the submitted design.

(1) *Two points* shall be awarded for projects which install an extensive green roof, as defined in this code. Typically, extensive green roofs are located on residential buildings, have a growing medium depth of 2-6", and have vegetation that requires little to no maintenance.
(2) *Three points* shall be awarded for projects which install a semi-intensive green roofs. A semi-intensive green roof includes both extensive and intensive green roof properties on a single structure.
(3) *Four points* shall be awarded for projects which install an intensive green roof. Typically, an intensive green roof is located on a multifamily or commercial building with a flat roof, has a growing medium depth of 6" or more, and has a healthy mix of vegetation that requires significant maintenance and human interaction.

D. **Low Embodied Carbon Concrete – 1-3 points.** *One to three points* shall be awarded for projects which use concrete that has a lower Global Warming Potential (GWP) than the benchmarks in the table below for the necessary strength requirements. The benchmarks below are based on the National Ready-Mix Concrete Association's (NRMCA) 2020 Regional Benchmarks for the Eastern Region.

Reduction of 10-19% GWP (1 point), 20-29% (2 points) and more than 30% (3 points). Calculations shall be done using the ZGF Concrete LCA Tool and submitted to the building inspector to substantiate compliance.

Low embodied carbon concrete GWP benchmarks per cubic yard of concrete (kgCO2e = kilograms per carbon dioxide equivalent; LW = lightweight concrete mix), based on the NRMCA 2019 Eastern Region Benchmarks *(Source: NRMCA Industry Wide LCA Project Report – V3.0)*

Strength	psi @ 28 days	2500	3000	4000	5000	6000	8000	3000LW	4000LW	5000LW
GWP	kgCO2e	197.62	217.93	261.21	315.77	333.82	395.70	399.18	446.19	493.10

E. **Local Materials** – 2 points. *Two points* shall be awarded for projects that utilize locally harvested countertops, wood flooring, tile, and/or stone. Locally harvested shall mean materials that have been extracted, harvested, or recovered from within 500 miles of the site. Documentation shall be submitted to the building inspector to substantiate compliance.

F. **Certified Wood – 1 point**. *One point* shall be awarded for projects that use Forest Steward Council's (FSC) certified framing and/or FSC certified flooring. A report shall be submitted to the building inspector to substantiate compliance.

G. **Green Decks – 1 point**. *One point* shall be awarded for projects that use FSC certified wood or recycled content (min. 20%) composite material as the material for decks. A report shall be submitted to the building inspector to substantiate compliance.

H. **Low-Emission Materials – 1 point**. *One point* shall be awarded for projects where all composite wood products, interior paints and finishes, and carpets and carpet adhesives used in construction shall meet the requirements for Low-Emission Materials in § 6 of the Indoor airPLUS Construction Specifications.

I. **Rapidly Renewable Materials – 1 point.** *One point* shall be awarded for projects that use rapidly renewable flooring, sheathing, insulation (such as hemp). A report shall be submitted to the building inspector to substantiate compliance.

J. **Roofing Materials – 1 point**. *One point* shall be awarded for projects where a minimum of 75% of the roof area of a new building uses materials with an initial minimum Solar Reflectance Index (SRI) of 78 for a low-sloped roof (less than or equal to 2:12) or SRI of 29 for a steep-sloped roof (greater than 2:12). SRI product ratings are available on the Cool Roof Rating Council's Directory.

§ 160-19. Recycling and Waste Management.

A. **Adaptive Reuse – 5 points.** *Five points* shall be awarded for reusing or adapting an existing building for a new use.

B. **Building Deconstruction/Salvage – 5 points**. *Five points* shall be awarded for projects which i) deconstruct or salvage a minimum of 80% by weight of any existing building or structure, *and* ii) appropriately dispose of or recycle hazardous materials present in the existing building. Documentation shall be provided to the code inspector indicating compliance (e.g., waste hauling and hazardous disposal or recycling receipts).

C. **Construction Waste Management – 3-4 points.**

(1) *Three points* shall be awarded for a minimum of 50% of construction waste diversion from landfills and/or incinerators.

(2) *Four points* shall be awarded for 90% or more of constructions waste diversion from landfills and/or incinerators. Documentation of compliance with this section shall be submitted to the building inspector.

D. **Salvaged or Reused Materials – 2 points**. *Two points* shall be awarded for projects that utilize salvaged, refurbished, or reused wood framing, flooring, tiles, doors, cabinets, and/or wood siding. Documentation shall be submitted to the building inspector to substantiate compliance. Reused materials can be materials found on-site that can be kept or refurbished, or previously used materials obtained off-site from another facility or purchased as salvaged materials.

E. **Recycled Content – 1-2 points.**

(1) *One point* shall be awarded for utilizing recycled content materials for between 5% and 9.99% (by cost) of all building materials and finishes.

(2) *Two points* shall be awarded for utilizing Recycled Content Materials for 10% or greater (by cost) of all building materials and finishes. A report shall be submitted to the building inspector to substantiate compliance.

F. **Pre-Demolition Deconstruction Survey – 1 point.** *One point* shall be awarded for a plan identifying where building waste will be delivered or recycled. Documentation of compliance with this section shall be submitted to the building inspector.

G. **Recycling Rooms – 1 point.** *One point* may be earned for designating an area of appropriate size to house containers to serve paper recycling, comingled recycling, and food waste recycling. ***This measure only applies to commercial buildings and residential developments.***

§ 160-20. Renewable Energy.

A. **Solar Electricity (Photovoltaics) – 4 points**. *Four points* shall be awarded to projects that install a photovoltaic array to provide a minimum of 50% of year-round electricity. A calculation shall be submitted to the Building Inspector to support the performance claim.

B. **Energy Storage and Load Shifting System – 3 points**. Three points shall be awarded for a residential energy storage system. Residential energy storage systems can be sited within its own fire rated room; inside a garage or accessory structure; on the exterior wall of the home; or on ground mounts. Systems in these locations are also limited to 40 kilowatt-hours (kWh) of storage capacity.

C. **Solar Hot Water – 3 points**. *Three points* shall be awarded for projects that install a solar hot water system to provide a minimum of 40% of year-round hot water. A calculation shall be submitted to the Building Inspector to support the performance claim.

D. **Passive Solar Heating Strategies – 2 points**. *Two points* shall be awarded to projects larger than 1000 square feet, that utilize Passive Solar Heating Strategies that save a minimum of 50% of the yearly heating energy requirements compared to a conventional, code-compliant building. A calculation shall be submitted to the building inspector to support passive performance claim, including effects of winter shading, impact of trees and surrounding structures.

E. **Biomass – 1 point**. *One point* shall be awarded per biomass equipment. All biomass equipment must comply with the NYSERDA (New York State Energy Research and Development Authority) Renewable Heat NY program guidelines, available at www.nyserda.ny.gov/All- Programs/Programs/Renewable-Heat-NY.

F. **Solar Electricity (Photovoltaic) Ready – 1 point**. *One point* shall be awarded for meeting the DOE Zero Energy Ready Home PV-Ready Checklist.

§ 160-21. Innovation.

A. **Innovative Building Systems & Appliances- up to 6 points**. Up to *six points* may be awarded, at the discretion of the building inspector, for innovative measures that are not included in this Green Building Code, provided they reduce the energy use and/or emissions from the building operation. Applicants must provide the building inspector with an analysis, performed by a design or energy professional that shows the reduction in energy use and/or emissions. The proposed measure shall be submitted to the building inspector in writing and signed by a design or energy professional. Points will be awarded based on the total reduction of energy use and/or emissions.

B. **Alternate Green Energy Sources or Distributed Energy – 4 points**. *Four points* shall be awarded for green energy generation, storage, monitoring and control solutions or other renewable energy innovation. The proposed measure shall be submitted to the building inspector in writing and signed by a design or energy professional.

Article V Alternative Compliance Paths

§160-22. Phius Based Compliance. To achieve compliance using Phius building standards, projects must comply with both §**160-22A** and §**160-22B**.

A. Design Requirements. Buildings shall meet the requirements for one of the Phius standards listed below. Phius certification is not required.

(1) New Construction projects shall meet the requirements of either Phius CORE, Phius CORE Prescriptive, or Phius CORE ZERO

(2) Existing building projects shall meet the requirements of Phius CORE REVIVE or Phius ZERO REVIVE

(3) Commercial projects shall meet the requirements of Phius CORE COMM or Phius ZERO COMM

B. Documentation**.** Documentation shall include at least one of the following:

(1) A Phius Design Certification Letter from a Phius Certified Rater or Verifier

(2) A Phius Final Certification Letter from a Phius Certified Rater or Verifier

(3) Other formal documentation, completed and signed by a Phius Certified Rater or Verifier may be accepted at the discretion of the building inspector.

§ 160-23. National Green Building Standard Based Compliance. To achieve compliance using the National Green Building Standard (NGBS), projects must comply with both **§160-23A** and **§160-23B.**

A. Design Requirements**.** Using the most recent published edition of the National Green Building Standard, projects must meet the minimum requirements to achieve a "Bronze" rating level based on project type. NGBS certification is not required.

B. Documentation**.** Documentation shall include at least one of the following:

(1) The Design Professional or Energy Professional documenting compliance will provide a signed statement to the building inspector that the design meets the requirements of this section and provide the building inspector with documentation showing compliance.

(2) Documentation of NGBS certification. At the discretion of the building inspector, additional documentation used to achieve certification shall be submitted.

Article VI Appeals

§ 160-24. Appeals.

A. Any person aggrieved by an order, interpretation, or decision of the Building Inspector concerning the application or requirements of the provisions of this chapter may make an appeal to the Board of Appeals.

B. Appeals shall be made to and heard by the Board of Appeals in the same manner as set forth in **§§295-140, 295-143** and **295-144** of the Village of Hastings-on-Hudson Local Zoning and Planning Law. A fee as set by the Board of Trustees by resolution in accordance with Chapter 22 of the Code shall be paid with each Appeal.

C. Within 10 days after receipt of the notice of appeal, the Board of Appeals shall transmit a copy of the full application for an appeal to the Architectural Review Board, which shall submit an advisory report on the appeal to the Board of Appeals.

D. The Board of Appeals, in hearing an appeal from the order, interpretation, or decision of the Building Inspector, shall have the power to make its own interpretation (where an interpretation is requested), and, where such appeal relates to a denial of a request for an exemption, to grant exemptions from the standards and requirements of this chapter, in whole or part, with regard to specific construction upon application made by or on behalf of an owner, where the applicant meets its burden of demonstrating strict compliance with such standard or requirement would entail hardship or infeasibility as defined in **§160-14**.

Section Three. Severability

If any section, subsection, clause, phrase or other portion of this Local Law is, for any reason, declared invalid, in whole or in part, by any court, agency, commission, legislative body or other authority of competent jurisdiction, such portion shall be deemed a separate, distinct and independent portion. Such declaration shall not affect the validity of the remaining portions hereof, which other portions shall continue in full force and effect.

Section Four. Effective Date

This local law shall take effect immediately upon filing in the office of the New York State Secretary of State in accordance with section 27 of the Municipal Home Rule Law.