



CITY OF HARTFORD GUIDELINES FOR SOLAR ON HISTORIC PROPERTIES

ADOPTED 2017



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1. OVERVIEW

- A. Intent.** These guidelines aim to assist property owners submitting applications to the City of Hartford for the installation of solar energy systems on buildings within historic districts. The City's overall objective is to preserve character-defining features and historic fabric in its historic districts, while accommodating the need for solar access to the greatest extent possible.
- B. Applicability.** These guidelines apply to properties in Hartford's historic districts, including locally designated districts and National Register historic districts.

2. TYPES OF SOLAR

The City of Hartford recognizes that there are three types of solar installations.

- A. Solar - Building-Mounted.** A solar energy system that is affixed to or an integral part of a principal or accessory building, including but not limited to photovoltaic or hot water solar energy systems which are contained within roofing materials, windows, skylights, and awnings. See Figure A.
- B. Solar - Freestanding.** A solar energy system with a supporting framework that is placed on, or anchored in, the ground and that is independent of any building or other structure other than parking lot canopy solar energy systems described in Part 2.C. See Figure B.
- C. Solar - Parking Lot Canopy.** A solar energy system with a supporting framework that is placed on, or anchored in, the ground and that is independent of any building or other structure, which is used in a parking lot or the top story of a parking structure to shade vehicles parked in such lot or structure. See Figure C.

3. PROCEDURES

- A. Two Application Tracks.** There are two different tracks for applications: administrative approval (which does not require a public hearing) and approval by the City's historic commission (which does require a public hearing). For the fastest approval, property owners should carefully review these guidelines and design their solar energy systems with the aim of fast-tracking it for administrative approval.
- B. Fast Track: Administrative Approval.** City staff may administratively approve an application for the following types of solar energy system designs:



Figure A. Building-Mounted Solar. (Photo courtesy National Alliance of Preservation Commissions.)



Figure B. Freestanding Solar. (Photo courtesy National Alliance of Preservation Commissions.)



Figure C. Solar Parking Lot Canopy. (Photo courtesy Rutgers University.)

- (1) Solar energy systems that have no impact on historic or character-defining features.
- (2) Solar energy systems that cannot be seen from the public right of way.
- (3) Solar photovoltaic panels mounted on the face of a pitched roof, which can be seen from the public right of way, if panels are mounted flush with the roof and the visible portion of the panels does not project beyond 4 inches, measured perpendicularly, from any point on the roof, and the panels are not mounted within 6 inches of any edge of the roof (and the panels do not hang over the roof).
- (4) Solar energy systems that otherwise obviously comply with the Secretary of the Interior's Standards for Rehabilitation.

C. Regular Track: Historic Commission Approval. All applications that do not meet the criteria set forth in Part 3.B. must be heard by the historic commission, during a properly noticed public hearing.

4. GENERAL GUIDANCE

A. Overall Goal. When planning the installation of solar panels on historic properties, the overall goal is to reduce the visual impacts of solar panels as seen from the public right-of-way (usually, the street) and to preserve character-defining features and historic fabric.

B. Case-By-Case Basis. All solar panel installations must be considered on a case-by-case basis,



Figure D. Photovoltaic System on a Pitched Roof. The low profile and location of these solar panels make them unobtrusive, even though they are visible from the public right of way. (Photo courtesy National Alliance of Preservation Commissions.)

recognizing that the best option will depend on the characteristics of the property under consideration.

C. Recommended: The Secretary of the Interior Standards. All solar panel installations should conform to the applicable Secretary of the Interior's Standards for Rehabilitation. In particular, the following standards apply:

- (1) "The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided." (Standard Two)
- (2) "New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment." (Standard Nine)

D. Not Recommended. Property owners should not submit applications that propose any of the following things:

- (1) Remove historic roofing materials in order to install, or during the installation of, solar systems.
- (2) Remove or otherwise alter the historic roof configuration – dormers, chimneys, or other features – to add solar systems.
- (3) Use an installation procedure that will cause irreversible changes to historic features or materials.
- (4) Locate a solar panel on a primary or street-facing roof plane.
- (5) Use solar systems in historic windows or on walls, siding, and shutters, unless consistent with the Secretary of the Interior's Standards for Rehabilitation.
- (6) Place or design solar panels that detract from the historic character of the site or destroy historic landscape materials.

5. SPECIFIC GUIDANCE: Building-Mounted Solar

Part A provides guidance on building-mounted solar in historic districts. Hartford's zoning rules allow building-mounted solar in every zoning district. We reproduce the zoning rules in Part B for convenience.



Figure E. Solar Shingles on a Pitched Roof. These solar shingles are designed to look like conventional asphalt shingles, matching them in size and color. (Photo courtesy National Alliance of Preservation Commissions.)

A. Historic Preservation Guidance

- (1) **On the Roof - Photovoltaic Systems or Solar Shingles on Flat Roofs.**
 - (a) Position the system or shingles behind existing architectural features - such as parapets, dormers, or chimneys - and set them back from the roof edge to limit visibility from the public right of way.
 - (b) Adjust pitch and elevation to reduce visibility from the public right of way.
- (2) **On the Roof - Photovoltaic Systems on Pitched Roofs.**
 - (a) Place the system on a roof face, such as the rear roof, which cannot be seen from the public right of way, as long as doing so does not materially impair the performance of the solar system.
 - (b) Position the system behind existing architectural features - such as parapets, dormers, or chimneys - to limit its visibility from the street. See Figure D.
 - (c) Use equipment that is compatible in color to established roof materials so as to be as unobtrusive as possible.
 - (d) Mount panels flush to the roof face.
- (3) **On the Roof - Solar Shingles on Pitched Roofs.**
 - (a) Place the shingles on a roof face, such as the rear roof, which cannot be seen from the

public right of way, as long as doing so does not materially impair the performance of the solar system.

- (b) Position the solar shingles behind existing architectural features - such as parapets, dormers, or chimneys - to limit their visibility from the street.
 - (c) Use solar shingles that are compatible in material and color to established roof materials so as to be as unobtrusive as possible.
 - (d) Choose solar shingles that are specifically designed for historic properties, including solar shingles that mimic slate or terra cotta tiles, where appropriate. See Figure E.
- (4) **On Walls - Solar Windows.**
 - (a) Use transparent solar windows, rather than tinted or patterned solar windows, wherever possible.
 - (b) Place solar windows which would affect the profiles of historic window frames or which are not transparent on building facades not visible from the public right of way.
 - (5) **On Walls - Solar Awnings.**
 - (a) Place solar awnings on building facades not visible from the public right of way.
 - (b) Adjust pitch to conform to and complement historic rooflines.



Figure F. Solar Panels on an Accessory Building. Solar panels placed on an accessory structure not visible from the public right of way should still follow the slope of the roof and have a low profile. (Photo courtesy National Alliance of Preservation Commissions.)

B. Zoning Rules

- (1) **Quantity.** The total square footage may not exceed the total area of roof surface of the structure to which the system is attached.
- (2) **Flush Mounted System.** Systems should be less than 4 inches from the roof surface whenever possible.
- (3) **Height**
 - (a) Systems shall not extend beyond 3 feet parallel to the roof surface of a pitched roof.
 - (b) Systems shall not extend beyond 4 feet parallel to the roof surface of a flat roof.
 - (c) Systems shall not extend more than 5 feet above the highest peak of a pitched roof.
- (4) **Location on Structure.** Allowed on the following:
 - (a) Principal and accessory structures. See Figure F.
 - (b) Any roof face.
 - (c) Side and rear building facades.
- (5) **Projection.** The system may project off a roof edge or building facade as follows.
 - (a) May project laterally from a building facade or roof edge a maximum of 3.5 feet.
 - (b) May project into an interior side or interior rear setback, but shall be no closer than 5 feet to the interior side or interior rear property line.
- (6) **Signs.** Signage or writing of any kind is not permitted on any portion of system, other than required manufacturer plates and safety labeling.

6. SPECIFIC GUIDANCE: Freestanding Solar

Part A provides guidance on freestanding solar in historic districts. Hartford's zoning rules allow freestanding solar in every district except downtown (DT) and the busier Main Street districts (MS-1 and MS-2). We reproduce the zoning rules in Part B for convenience.

A. Historic Preservation Guidance

- (1) Install a freestanding solar system in locations that minimize visibility from the public right of way, such as the side or rear yards.
- (2) Use a matte finish and a color scheme consistent with the primary structure for exposed hardware, frames, and piping.



Figure G. Freestanding Solar. These freestanding solar panels, on the campus of a Hartford school, are well-screened by the landscape and fit nicely in the campus setting. (Photo courtesy S. Bronin.)

- (3) Screen a freestanding solar system from the public right of way with fencing, landscaping, or vegetation. See Figure G.
- (4) Consider the visibility of a freestanding solar system from neighboring properties.

B. Zoning Rules

- (1) **Output.** The system shall produce less than one megawatt of electricity.
- (2) **Size.** A system in any MX, N, or NX district shall not exceed either the area of 50 percent of the principal building footprint or 600 square feet, whichever is greater.
- (3) **Maximum Height.** The system shall be as close to the ground as practicable, and not taller than 20 feet on lots of at least 5 acres in the ID districts, 12 feet on lots of at least 5 acres, and 6 feet on all other lots, all measured from the grade at the base of the pole to the highest edge of the system.
- (4) **Clearance.** Minimum clearance between the lowest point of the system and the surface on which the system is mounted is 3 feet.
- (5) **Location.** Allowed in the interior side yard and interior rear yard only.

- (a) For any property designated as historic or located within a historic district, such system shall be located in the rear yard.
- (6) **Setbacks.** All parts of the freestanding system shall be set back a minimum of 5 feet from the interior side and interior rear property lines and shall not be located in a public utility easement.
- (7) **Appearance.** Such system must be gray, natural green, or beige in color, with the exception of the solar photovoltaic panels which are usually black, or system must be screened from view from surrounding residential properties.
- (8) **Materials.** Such system shall not include any unfinished lumber.

7. **SPECIFIC GUIDANCE: Solar Parking Lot Canopies**

Part A provides guidance on solar parking lot canopies in historic districts. Hartford's zoning rules allow solar parking lot canopies in the Main Street (MS), Commercial-Industrial (CX), Industrial (ID), and Multi-Use Mix (MX) districts. We reproduce the zoning rules in Part B for convenience.

A. **Historic Preservation Guidance**

- (1) Recognizing that solar parking lot canopies have the potential to be a highly impactful installation when located within a historic district, follow to the extent applicable the guidance set forth in Part 6.A. for freestanding solar structures.

B. Solar - Parking Lot Canopy. A solar energy system with a supporting framework that is placed on, or anchored in, the ground and that is independent of any building or other structure, which is used in a parking lot or the top story of a parking structure to shade vehicles parked in such lot or structure.

- (1) **Size.** A system in any residential district (MX, N, or NX) shall not exceed either the area of 50 percent of the principal building footprint or 600 square feet, whichever is greater.
- (2) **Maximum Height.** The system shall be between 8 and 15 feet in height, so as to provide for parking underneath the system.
- (3) **Clearance.** Minimum clearance between the lowest point of the system and the surface on which the system is mounted is 7.5 feet.
- (4) **Location.** Allowed in the interior side yard and interior rear yard only, if applicable.
 - (a) For any property designated as historic or located within a historic district, such system shall be located in the rear yard, if applicable.
 - (b) Shall not cover more than 50 percent of the parking lot or story of the parking structure in which it is located.
- (5) **Setbacks.** All parts of the freestanding system shall be set back a minimum of 5 feet from the interior side and interior rear property lines and shall not be located in a public utility easement.
- (6) **Appearance.** Such system must be gray, natural green, or beige in color, with the exception of the solar photovoltaic panels which are usually black, or system must be screened from view from surrounding residential properties. Signage or writing of any kind is not permitted on any portion of any parking lot canopy solar energy system, other than required manufacturer plates or safety labeling.
- (7) **Materials.** Such system shall not include any unfinished lumber.