
Chapter 12

HVAC

Heating, Ventilation, and Air Conditioning, and other Mechanical Equipment (e.g. Louvers, Heat Pumps, Solar Panels)



Heating, ventilation, and air conditioning (HVAC) and other mechanical equipment are integral features of modern life and New York City buildings. These elements must be installed in compliance with building codes, energy codes, and health and safety standards, which evolve over time as codes and standards advance and occupant needs change. LPC staff can approve equipment installed and upgraded in ways that have little to no effect on a historic facade. These installation methods serve as the basis for LPC's rules for the installation of HVAC and mechanical equipment (see [LPC Rules](#), Section 2-21, available on our website, www.nyc.gov/landmarks).

In This Chapter, You Will Find:



This chapter explains LPC’s rules for installation of HVAC and other mechanical equipment. Our goal is to help you submit a fully completed permit application for work that conforms to the rules so you can get your permit more quickly.

Section A	12.3
How to Get Started	
Section B	12.5
LPC Rules and Criteria	
General Criteria	12.6
Installing Through-Window HVAC Equipment	12.6
– at Primary Facades	
– at Secondary Facades	
Installing Through-Wall HVAC Equipment	12.8
– at Primary Facades	
– at Secondary Facades	
Installing Wall-Mounted HVAC	12.12
– at Primary Facades	
– at Secondary Facades	
Installing HVAC Equipment in Storefronts	12.14
Installing Rooftop HVAC or Other Mechanical Equipment	12.15
Installing Solar Panels	12.17
Installing HVAC and Other Mechanical Equipment in Yards and Areaways	12.20
Section C	12.21
Technical Guidance and Resources	
Glossary	12.22
Master Plans	12.24
How to Construct a Mock-Up	12.24

Section A

How to Get Started



Before applying for your permit, you should:

Find Information About Your Building

This will help you determine how the LPC Rules apply.

What type of building is it?

Search for your building on the [Discover NYC Landmarks map](#) to determine how the LPC Rules apply to your specific building type.

Click on your building to find **construction date, architect and style, building and landmark**

type, and a link to the LPC **designation report** with historical background.

What did your building look like?

Find **historic tax photos** from the 1940s and 1980s, available through the NYC Department of Records & Information Services' [NYC Municipal Archives Collections](#).

Additional information, including guidance on finding **historic maps**, can be found in the **LPC Resource Guide** [Researching](#)

[Historic Buildings in New York City](#), available at www.nyc.gov/landmarks.

How big is the building?

Verify height and street frontage since requirements for HVAC installations at primary facades depend on the size of the building. See *Section B, Installing Through-Window and Through-Wall HVAC Equipment at Primary Facades*.

See if Your Work Requires an LPC Permit

Maybe you don't need a permit.

LPC requires a permit for installing most types of HVAC and mechanical equipment, but a permit is **not required** for:

Non-permanent installations that require only raising, lowering, or opening a window sash.

Glazed or solid panels installed along with the AC unit to fill the remainder of the opening. They should be painted to match the window frame (if solid). Support brackets must fasten to

the window frame or the interior, and brace against the exterior wall without mechanical attachments.

Unsure whether your work requires a permit?

Contact LPC at 212-669-7817 or info@lpc.nyc.gov.



Seasonal installations of window air conditioning units, like the one seen here, do not require a permit.

Consider Establishing a Master Plan

If you plan to install HVAC and other mechanical equipment over time, apply for a master plan. A master plan provides the opportunity to incrementally perform work as finances and vacancies permit. Once you have a master plan, future applications can be quickly reviewed since specific work standards will be established and approved in the initial permit. This type of permit generally does not expire. See *Section C* for more information.

What You Will Need

All LPC permit applications and supporting materials are now filed and processed through Portico, the agency's web-based permit application portal. A complete application typically requires the materials listed below, but additional materials may be required depending on the type of work. See *Section B* for a list of all materials required for your work type.

Basic Application Materials

- ☐ **LPC permit application** filed on Portico
 - Details of existing conditions and proposed HVAC or mechanical equipment installations at windows, facades, and storefronts only
- ☐ **Color photos** of the entire building and close-ups of locations of where the work is occurring for context
- ☐ **Comparative drawings:**
 - Elevation of existing conditions and proposed HVAC or mechanical equipment installations
 - Floor and/or site plans of existing conditions and locations of proposed HVAC or mechanical equipment installations
 - Section of existing conditions and proposed HVAC or mechanical equipment installations at windows, facades, and storefronts only
- ☐ **Color specifications/ paint cards** at visible facades, roofs, and yards only
- ☐ **Department of Buildings (DOB) filing drawings** if proposed work requires a DOB permit

Section B

LPC Rules and Criteria



This is how the Landmarks Preservation Commission works:

The LPC Rules establish criteria that allow staff to review and approve proposals for certain types of work at landmark properties. Permit applications for work that meets the LPC Rules can be approved faster. If the work does not meet the rules, staff may suggest alternatives that do meet the rules — or your proposal may be presented to the LPC Commissioners for review at a public hearing. Staff can guide you through this process. Visit www.nyc.gov/landmarks for more information.

This section explains and illustrates the rules and criteria for the most common types of work involving HVAC and mechanical equipment, including through-window and through-wall installations for window AC units or louvers and vents for air intake and/or exhaust (e.g., in kitchens, bathrooms, mechanical rooms/spaces, storefronts), as well as wall-mounted, rooftop and yard/areaway installations for various equipment (e.g., heat pumps, mini-split systems, central air systems, boilers, air handlers, condensers, cooling towers, solar panels). See [LPC Rules](#), Section 2–21, for more information.

→ In This Section:

General Criteria

Installing Through-Window HVAC Equipment

- at Primary Facades
- at Secondary Facades

Installing Through-Wall HVAC Equipment

- at Primary Facades
- at Secondary Facades

Installing Wall-Mounted HVAC

- at Primary Facades
- at Secondary Facades

Installing HVAC Equipment in Storefronts

Installing Rooftop HVAC or Other Mechanical Equipment

Installing Solar Panels

Installing HVAC and Other Mechanical Equipment in Yards and Areaways

General Criteria

Staff can issue permits approving the installation of HVAC and other mechanical equipment if it meets the following general criteria. Certain types of installations may have additional requirements. See criteria by work type for more information.

The installation does not damage or remove significant architectural features.

The installation is not visible, if possible. Make every effort to place equipment in a non-visible location unless no feasible alternative exists. Staff

may request evidence or option studies to help determine where equipment can or must be placed.

The installation cannot occur at a special window. See *Chapter 2* for information on special windows.

Installing Through-Window HVAC Equipment

Installing Through-Window HVAC Equipment at Primary Facades

Staff can only issue permits approving permanent installations of HVAC equipment, louvers, and vents in window openings on certain types of buildings.

Small Buildings

If the building is classified as a small building (see Glossary in *Section C*), staff cannot approve installation of through-window HVAC equipment. Staff may suggest alternatives – or your proposal may be presented to the full Commission for review at a public hearing.

Large Buildings

If the building is classified as a large building (see Glossary in *Section C*), staff can issue permits approving permanent installation

of through-window HVAC equipment if window openings meet the following criteria.

Removal
The installation must retain the window frame and only involve

Required Application Materials

- ☐ **Photos** of building facades
- ☐ **Photos of windows** where installations are planned
- ☐ **Existing and proposed annotated floor plans or elevations** showing location of windows where installations are planned, including building height and street frontage dimensions at primary facades only
- ☐ **Comparative window elevations** showing existing and proposed conditions for each installation
- ☐ **Comparative vertical section drawings** showing existing and proposed conditions of the louver installed within the window sash or frame
- ☐ **Color samples** to match the window frame at visible facades only

If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff.



A projecting HVAC unit set within a filler panel at the top sash of a window, which may be used if a unit or louver fills only part of a window frame.

removal of glazing, or modifying or removing one double-hung sash or one portion of a casement window assembly.

A new window can be installed in conjunction with HVAC equipment, subject to requirements for window replacement as described above and in Chapter 2.

Design and Installation

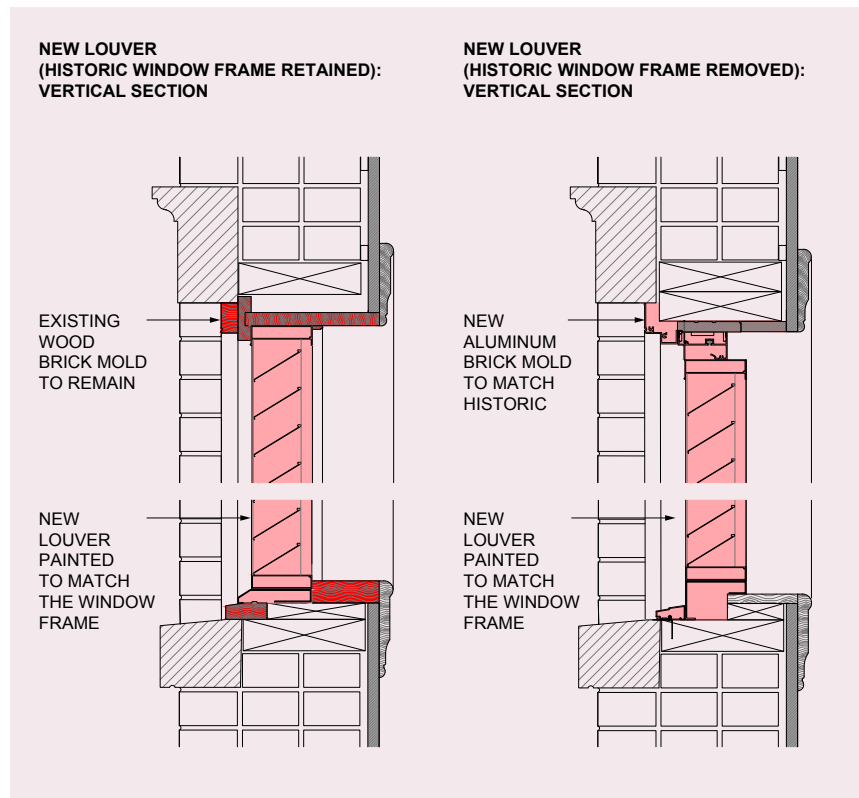
The exterior HVAC louver **must be mounted flush** with or behind the plane of the window frame and behind brick mold or panning.

If the window air conditioning unit projects, it must be **mounted within the window frame**.

In either case, if the exterior louver or window unit only fills a part of the window frame, the remainder of the sash can be filled with a filler panel (glazed or solid) or partial-height window sash to match the overall window configuration.

Finish

The exterior louver and any solid filler panel must be **finished to match the window frame**. A projecting window unit does not need to be painted.



Section drawings of new through-window louvers, installed within the existing window frame to remain (left) and with the window frame removed (right).

Installing Through-Window HVAC Equipment at Secondary Facades

Staff can issue permits approving HVAC and mechanical installations on secondary facades if they meet the following criteria:

Design and Installation

The installation must occur **within an existing window opening**, either as an exterior louver, projecting window unit, or small vent with a flush or minimally projecting cap and filler panel, set back from the plane of the facade to approximate the window depth.

The installation may occur at the same time as a new window is installed.

Finish

At visible secondary facades, the installation involves an exterior louver or small vent with a flush or minimally projecting cap, the louver, vent, cap, and solid filler panel must be **finished to match the window frame**.

If the installation is at a visible secondary facade, only part of the full height of the sash being removed, the remainder must be filled with a filler panel (glazed or solid) or partial height window sash that matches (size permitting) the overall window configuration. For more information, see *Chapter 2*.

Installations at non-visible secondary facades do not need to be painted.

Installing Through-Wall HVAC Equipment

Installing Through-Wall HVAC Equipment at Primary Facades

Staff can only issue permits approving permanent installations of HVAC equipment, louvers, and vents through the wall on certain types of buildings.

Small Buildings

If the building is classified as a small building (see Glossary in *Section C*), a manufacturing or loft building, or an individual landmark, staff cannot approve installation of through-wall HVAC equipment. Staff may suggest alternatives or your proposal may be presented to the full Commission for review at a public hearing. See *Section A* to verify whether the building is considered a small building according to LPC Rules.

Large Buildings

If the building is classified as a large building (see Glossary in *Section C*), staff can issue permits approving permanent installation of through-wall HVAC equipment if it meets the following criteria. See *Section A* to verify whether the building is considered a large building according to LPC Rules.

Location

The location of the new installation must **match the regular pattern of installations at the building or the installation should be centered beneath**

the window opening. If there is no pattern or it is not possible to adhere to an existing pattern, the location can form the basis for a new pattern that does not detract from the facade or adjacent buildings.

If the window opening is wide enough to accommodate two or more windows, **placement must match the predominant existing pattern of through-wall installations**, which can be centered beneath the opening or to one side.

The installation must not occur through decorative masonry such as corbelled or patterned brickwork.

Design and Installation

Through-wall HVAC equipment **must be mounted as flush as possible** with surrounding masonry, typically no more than 1/2 inch beyond the plane of the facade. This type of installation is typically achieved with a rimless type architectural louver with flat metal blades.

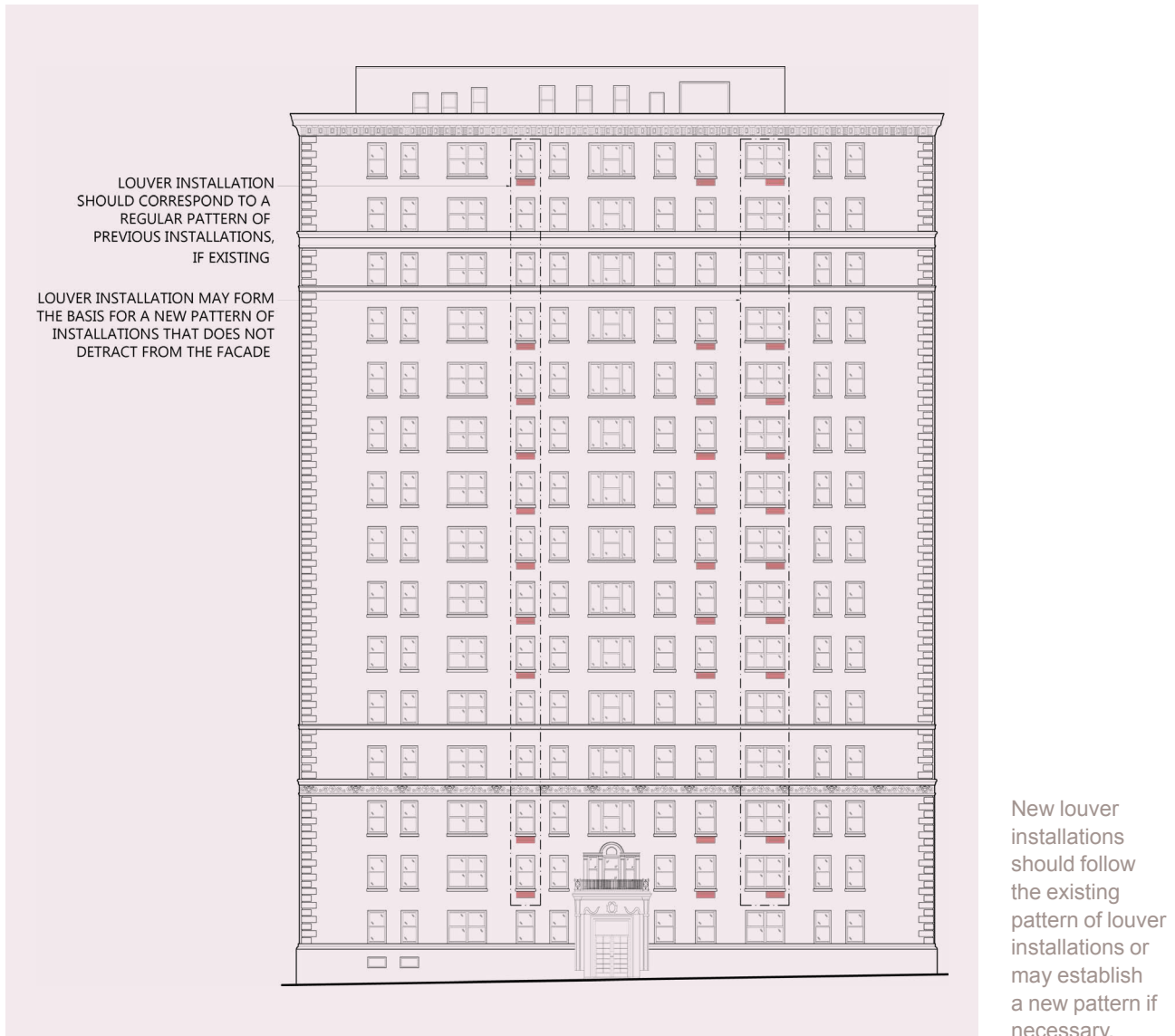
Finish

The louver must be finished to match surrounding masonry.

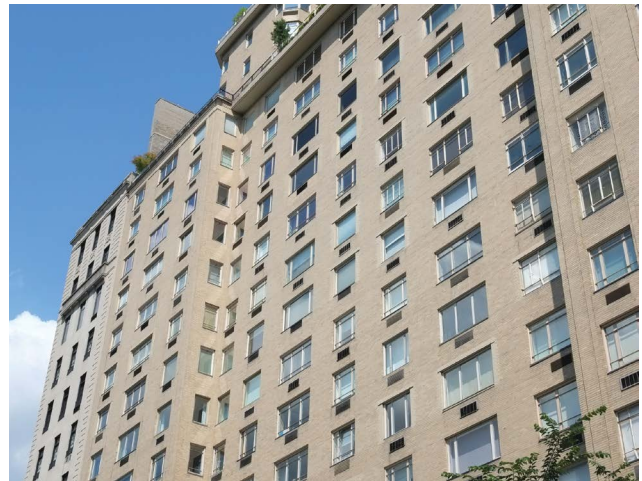
Required Application Materials

- ☐ **Photos** of building facades
- ☐ **Photos of the specific wall areas** where installations will occur
- ☐ **Existing and proposed annotated floor plans or elevations** showing the location where installations will occur, including building height and street frontage dimensions at primary facades only
- ☐ **Comparative elevation** for each installation showing existing and proposed conditions, including alignment of the louver to the associated window, if any
- ☐ **Comparative vertical section drawings** showing existing conditions and proposed louver, installed flush with the wall or minimally projecting
- ☐ **Manufacturer cut sheets of the louver or vent**
- ☐ **Color samples** to match the surrounding masonry

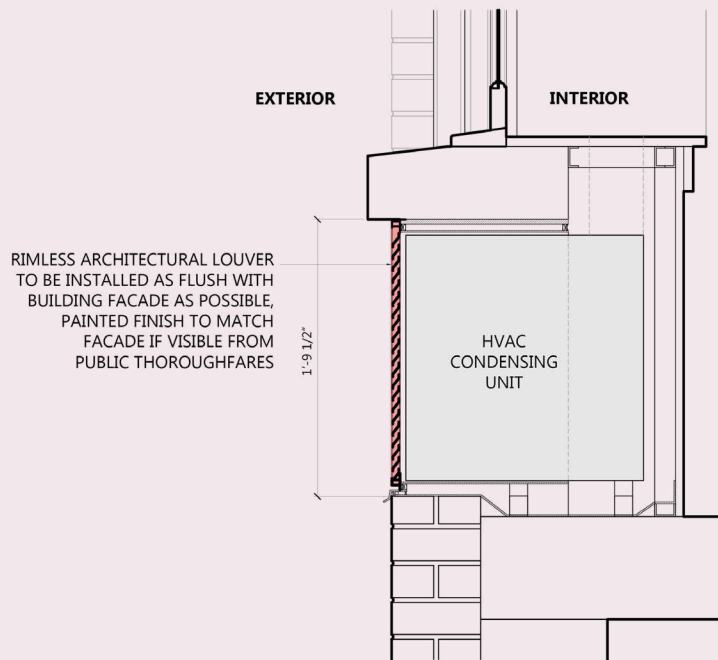
If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff



Through-wall HVAC installations should not be installed at decorative masonry (at left), but may be installed at plain masonry (at right).

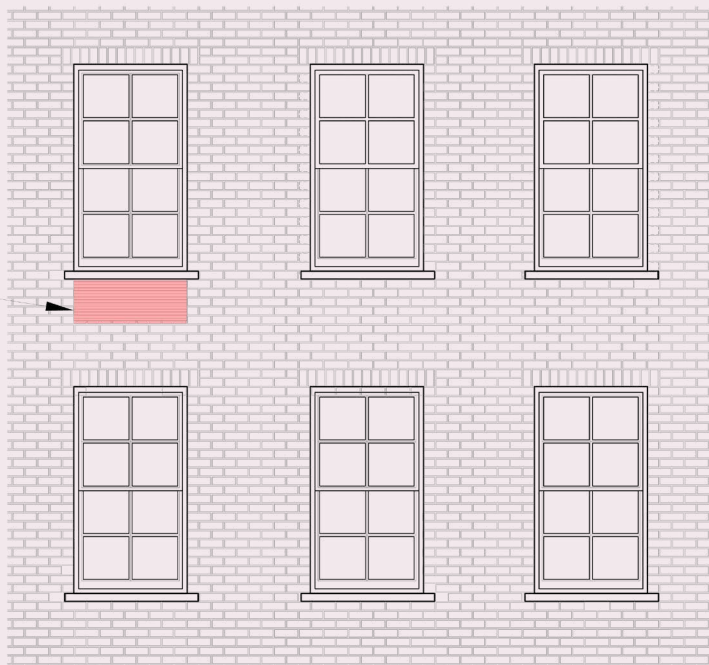


New installations should match an established regular pattern of through-wall HVAC installations.

SECTION AT THRU-WALL HVAC

A section drawing of a through-wall HVAC installation with a flush-mounted architectural louver. The louver must be finished to match the surrounding masonry.

RIMLESS ARCHITECTURAL
LOUVER MOUNTED AS
FLUSH WITH FACADE AS
POSSIBLE, PAINTED FINISH
TO MATCH FACADE IF
VISIBLE FROM PUBLIC
THOROUGHFARES



A typical elevation drawing of a through-wall HVAC installation centered below a window opening.

Installing Through-Wall HVAC Equipment at Secondary Facades

Staff can issue permits approving through-wall HVAC and mechanical installations at secondary facades if they meet the following criteria:

Location

At **visible secondary facades**, if the vent or louver exceeds 144 square inches in surface area, it must be centered beneath or above a window opening.

If the vent or louver is 144 square inches or less in surface area, it must be below, above, or to the side of a window opening.

Design and Installation

At **visible and non-visible secondary facades**, if the louver is 144 square inches or less in surface area, a minimally projecting cap may be installed.

Louvers that exceed 144 square inches in surface area are only permitted through a masonry facade. The exterior louver must be mounted as flush as possible with the exterior wall or facade cladding, and with the minimum feasible projection.

At secondary facades without windows, the unit must be installed in a uniform pattern. Variations from the predominant existing pattern may be permitted if interior space does not permit installation that conforms with the pattern.

Finish

At visible secondary facades, the exterior louver must be finished in a manner that approximates the color of the surrounding facade cladding.

At non-visible secondary facades, the installation does not need to be painted.

Installing Wall-Mounted HVAC

Installing Wall-Mounted HVAC at Primary Facades

Staff cannot approve wall-mounted HVAC equipment at primary facades on any building. These installations must be reviewed by the full Commission at a public hearing.

Installing Wall-Mounted HVAC at Secondary Facades

Staff can issue permits approving wall-mounted HVAC installations if they meet the following criteria:

Location

Wall-mounted HVAC **may be minimally visible from a public thoroughfare**. See *Section C* for more information on minimal visibility.

Wall-mounted HVAC **can be minimally visible from a public thoroughfare**, or more than minimally visible if required by building, fire, or health codes.

If the installation is more than minimally visible, it should be seen in conjunction with utilitarian features, such as fire escapes and fences, and be **located in the least visible location**, not disrupt the composition of the facade, and not extend higher than required.

Design and Installation

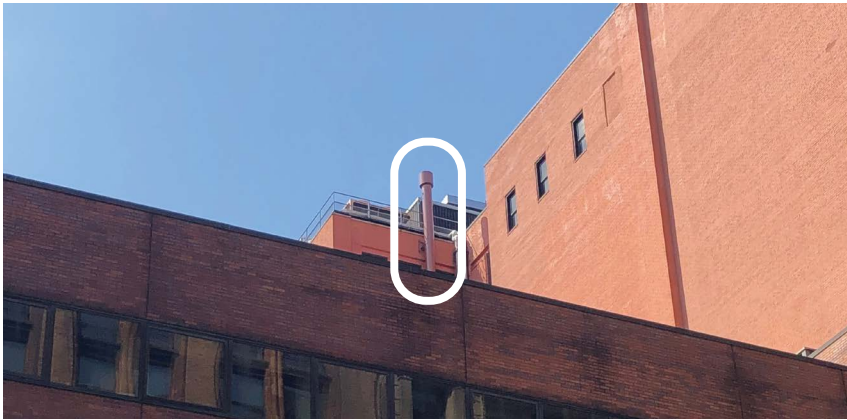
Any attachments, such as associated platforms, brackets, and straps, must be **reversible**, if possible, and minimize damage to the historic building. If penetrations through the facade are required for conduits or ducts, they must be as small as possible to conform with the manufacturer's recommended dimensions.

Finish

At visible secondary facades, HVAC and other mechanical equipment, flues, and ducts, plus associated platforms, brackets, and straps, must have a finish that matches the color of the underlying material or is neutral and does not call attention to itself.

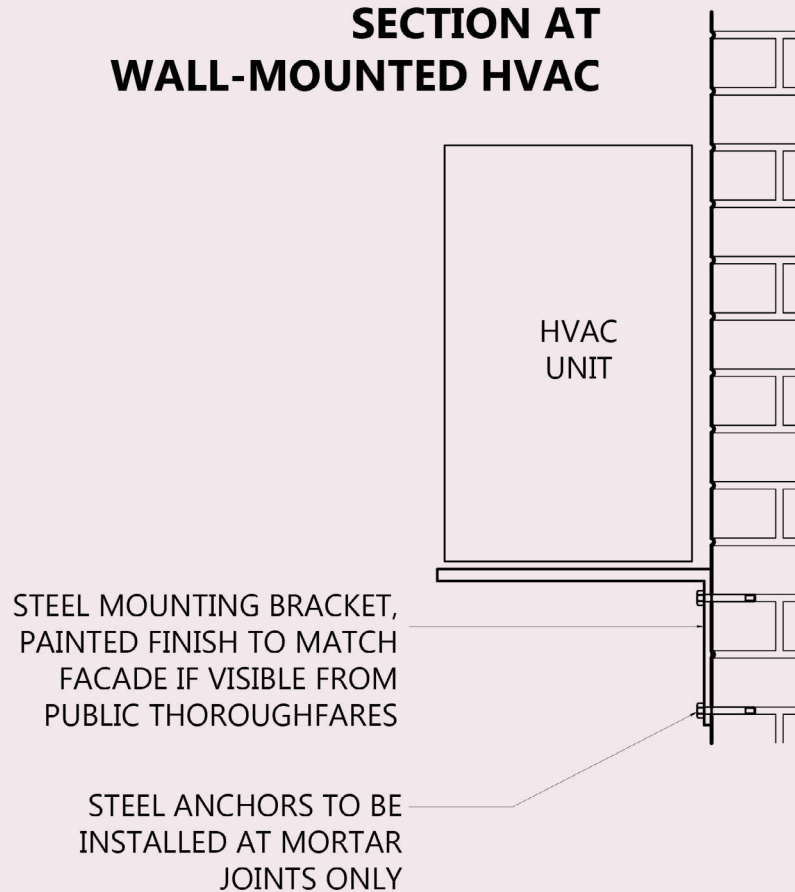
Required Application Materials

- ☐ **Photos** of building facades
- ☐ **Photos of specific wall areas** where installations will occur
- ☐ **Existing and proposed annotated floor plans or elevations** showing location of proposed installations
- ☐ **Comparative elevations** showing existing and proposed conditions for each installation
- ☐ **Comparative vertical section drawings** of existing and proposed HVAC equipment or flue, showing attachment to the wall, including platforms and brackets
- ☐ **Manufacturer cut sheets of HVAC equipment**
- ☐ **Color samples** to match or harmonize with the surrounding masonry or wall cladding at visible facades only



Wall-mounted flues at a secondary facade, as required by code. The flues have been finished to match the underlying material.

SECTION AT WALL-MOUNTED HVAC



A section drawing showing the attachment of a platform and brackets for a wall-mounted HVAC unit utilizing existing mortar joints.

Installing HVAC Equipment in Storefronts

Staff can issue permits approving storefront HVAC installation if it meets the following criteria:

Removal

The installation must only involve removing glazing, or modifying or removing the transom window sash and retaining the storefront or door frame.

Transom Installation

The exterior louver must be mounted flush with or behind the plane of the transom window frame and behind brick mold or panning.

If the exterior louver replaces only part of the transom window sash being removed, the remainder of the space must be filled with a flat panel (glazed or solid) or partial height transom window sash that matches the finish and configuration (size permitting) of the overall transom window.

At recessed storefront entrances only, the window unit (projecting or flush) can be mounted within the transom window frame.

Bulkhead Installation

At a non-historic storefront bulkhead, a rimless architectural louver can be integrated into the design of the bulkhead and installed as flush as possible.

If installation involves installing the exterior louver and a new storefront or door at the same

time, the resulting installation must comply with criteria in this section and Chapter 3 (Storefronts) as well.

Finish

The exterior louver and any solid filler panel must be finished to match the storefront window frame or bulkhead. At a recessed storefront, the projecting window unit does not need to be painted.



The glazing at one of these transom windows has been replaced with a flush-mounted louver, finished to match the transom window frames.



Louvers can be integrated into the design of a non-historic storefront bulkhead.

Required Application Materials

- ☐ **Photos** of building facades
- ☐ **Photos of storefronts** where installations will occur
- ☐ **Existing and proposed annotated floor plans or elevations** showing the location of storefront windows where installations will occur
- ☐ **Comparative storefront window elevations** showing existing and proposed conditions
- ☐ **Comparative vertical section drawings** showing existing conditions and proposed louver installed within the storefront window
- ☐ **Color samples** to match the storefront at visible facades only

If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff.

Installing Rooftop HVAC or Other Mechanical Equipment

Staff can issue permits approving rooftop HVAC or other mechanical installations if they meet the following criteria:

Staff may approve a minimally visible installation if it is not possible to make the installation non-visible, and visibility is not caused by equipment being placed on a Commission-approved addition. See *Section C* for more information on minimal visibility.

If an existing installation that was Commission-approved or was present at the time of designation is being replaced, staff can approve work that slightly increases visibility over a primary facade if the increase is required by building or fire codes or for compliance with energy or environmental codes, laws or standards and there is no feasible alternative.

Otherwise, a Commission-approved installation or an installation that existed at the time of designation can be replaced with matching or smaller units, even if it is more than minimally visible, provided there is no feasible alternative location that would be not visible or minimally visible.

At a secondary facade, the installation can be minimally visible. If it is not practicable or feasible to make the installation minimally visible, staff may approve an installation that is

more than minimally visible, provided the installation is seen

only through a gap view between buildings.

Required Application Materials

- ☐ **Photos** of building facades and roof
 - ☐ **Photos of areas** of installation at the roof
 - ☐ **Existing and proposed annotated roof plan** showing locations where installations will occur
 - ☐ **Comparative elevations** of existing and proposed conditions for each installation
 - ☐ **Comparative building section drawings** of existing and proposed conditions, showing HVAC or mechanical equipment installations on the roof, including dunnage and surrounding parapets:
 - Sightline section taken at a 6-foot eye level from directly across the street at the property line and other points where HVAC or mechanical equipment may be visible*
 - ☐ **Manufacturer cut sheets of HVAC or mechanical equipment**
 - ☐ **Color specifications** for visible installations only
- ☐ **DOB filing drawings** if proposed work requires a DOB permit

A physical mock-up of the installation may be required to determine potential visibility of rooftop HVAC and mechanical equipment (see Section C, Technical Guidance and Resources). If a mock-up is required, you must submit the following application materials:

 - ☐ **Color photographs of the mock-up and roof** from surrounding points on the street to demonstrate potential visibility of the proposed installation
 - ☐ **If the proposed installation is visible from a public thoroughfare,** color photographs from points of visibility noting the maximum point of visibility
 - ☐ If requested by staff, a photo montage for each view with the installation drawn in

If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff.



Rooftop HVAC installations, including vents and condensing units, can be minimally visible if it is not possible to make them non-visible from public thoroughfares.



Rooftop installations can include other mechanical equipment like solar panels, as seen here.



Minimally visible rooftop HVAC units, as seen from a public thoroughfare.



The orange box is a physical mock-up of a proposed rooftop HVAC unit. Staff may require such a mock-up to determine an installation's potential visibility from public thoroughfares.

Installing Solar Panels

Staff can issue permits approving solar panels on flat roofs and sloped roofs if they meet the following criteria:

The guardrail should utilize the fewest and thinnest members possible (e.g., bars or cables) and be finished in a neutral black or gray color.

If the guardrail is more than minimally visible, the number of panels may need to be reduced to make the guardrail less visible.

Flat Roofs

Staff can issue permits approving nonvisible solar panel installations on a flat roof, including flat or sloped arrays and arrays on elevated canopies, as well as minimally visible arrays over a primary or secondary facade if they have been located to minimize visibility to the greatest extent possible. See *Section C* for more information on minimal visibility.

Over a secondary facade, the installation may be more than minimally visible, if only seen through a gap view between buildings, even if there are no other rooftop installations of any type in the surrounding context.

Fencing and Guardrails

Fencing or guardrails installed in conjunction with solar panels should also be no more than minimally visible, but may be more than minimally visible over a primary or secondary facade provided that:

Safety tie-back anchors are deemed not unacceptable as documented by DOB and/or FDNY review and guardrails are required instead.

The height and length of the guardrail is the minimum required and it is set back to the greatest extent possible.

Required Application Materials

- ☐ **Photos** of building facades and roof
 - ☐ **Photos of areas** of installation at the roof
 - ☐ **Existing and proposed annotated roof plan** showing locations where installations will occur
 - ☐ **Comparative elevations** of existing and proposed conditions for each installation
 - ☐ **Comparative building section drawings** of existing and proposed conditions, showing solar panel installations on the roof, including surrounding parapets (if any):
 - Sightline section taken at a 6-foot eye level from directly across the street at the property line and other points where solar panels may be visible
 - ☐ **Manufacturer cut sheets of solar panels**
 - ☐ **Color specifications for visible installations only**
 - ☐ **DOB filing drawings** if proposed work requires a DOB permit
- A physical mock-up of the installation may be required to determine potential visibility of solar panels.** (see fact sheet, “Installing Solar Panels,” available on LPC’s website). **If a mock-up is required, you must submit the following application materials:**
- ☐ **Color photographs of the mock-up and roof** from surrounding points on the street to demonstrate potential visibility of the proposed installation
 - ☐ **If the proposed installation is visible from a public thoroughfare**, color photographs from points of visibility, noting the maximum point of visibility; and if requested by staff, a photo montage for each view with the installation drawn in
- If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff.*

Sloped Roofs

Staff can issue permits approving visible solar panel installations on sloped roofs, including at free-standing houses, rowhouses and semi-attached houses, and other building types with pitched roofs, but not on designed roofs, such as mansard roofs, turrets, or crowning tower elements, if they have been located to minimize visibility to the greatest extent feasible. These installations may be visible over a primary facade, if other locations are deemed infeasible due to the lack of sufficient sunlight as documented in the application materials, if they meet the following criteria:

The installation is discrete and limited in footprint, unless the slope of the roof is sufficiently shallow and/or a larger footprint would result in a less conspicuous installation

The installation is parallel to the surface of the sloped roof and is mounted as close to the surface, and all mounting framework is concealed to the greatest extent possible

The installation is subservient to more prominent rooftop features (e.g., dormers)

The solar panels are not installed on significant historic roofing materials (e.g., slate or clay tiles)

The installation will not detract from any significant architectural features of the facade(s) or roof(s)

The building is not an individual landmark

On side- and rear-facing sloped roofs, solar panels may be visible over a secondary facade, if they meet the following criteria:

The installation is parallel to the surface of the sloped roof, and all mounting framework is concealed.

The solar panels should be organized in a simple, rectilinear footprint, and avoiding stepping or separation of panels to the greatest extent possible, if visible from a public thoroughfare.

The panels must be “black on black” with black edges and black PV surfacing that masks the grid of photovoltaic cells. An alternative color that better relates to the appearance of the roofing may be considered, if the panels are visible from a public thoroughfare

A black-finished “skirt” or “critter guard” must be installed at the base of the solar panels if the installation is visible from a public thoroughfare and the skirt will improve the appearance of the installation.

*If the installation of the solar panels is over a secondary facade and requires the **removal of historic roofing material** (e.g. slate or clay tiles), the tiles must be retained and stored on site for future reuse.*

Other Rooftop Installations

Solar panel installations may be installed on an existing pergola, bulkhead, or other rooftop structure that does not have a flat roof, which may result in a small increase of the overall visibility of the structure.

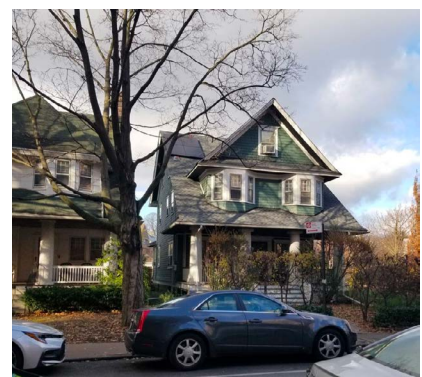
Related Equipment

The electrical conduit must be minimized in length and located at the least visible side of the roof, or otherwise placed in an inconspicuous location (e.g., adjacent to gutters and leaders, at inset joints of abutting walls, etc.), and should be painted to match the adjacent surface finishes where possible.

The inverter box should be located adjacent to the existing electrical meter where possible, or otherwise placed in a discreet location.



Rooftop solar canopies visible through a gap view.



Solar panels can sometimes be installed on sloped roofs visible over the primary facade.



Solar panels cannot be installed on designed roofs, as seen here.



"Black-on-black" solar panels installed on slate roofing at a rear-facing sloped roof.

Installing HVAC and Other Mechanical Equipment in Yards and Areaways

Staff can issue permits approving HVAC and other mechanical installations in yards and areaways if they meet the following criteria:

Location

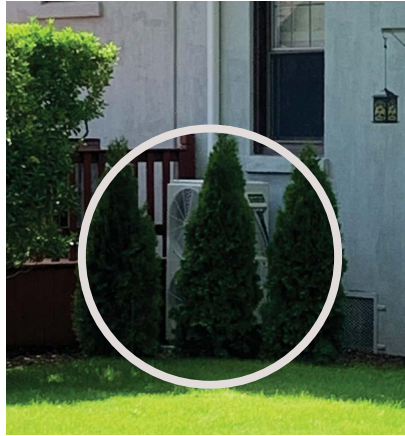
Equipment should be placed in a non-visible location. Equipment can only be installed in front of a primary facade or visible secondary facade if there is no practical or feasible alternative.

In front of a primary facade, the installation can be minimally visible only if at least partially screened by architectural or hardscape features, e.g., behind an areaway wall, within a below-grade light well. See *Section C* for more information on minimal visibility.

In front of a visible secondary facade, the installation must be set back as far as possible from the primary facade. Visibility can be reduced or eliminated through the use of permanent plantings.

Installation

Penetrations for associated conduits or ducts through the facade must be as small as possible to conform with manufacturer's recommended dimensions.



Finish

If there is any visibility of HVAC and other mechanical equipment, conduit and ducts, and associated platforms, equipment must have a finish that matches the color of the facade material or is neutral and does not call attention to itself.

This HVAC unit was installed adjacent to a secondary facade. Evergreen plantings will further reduce the equipment's visibility over time.

Required Application Materials

- ☐ **Photos** of building facades and areaway or yard
- ☐ **Photos of areas** of installation at areaway or yard
- ☐ **Existing and proposed annotated areaway or site plan** showing where installations will occur; if in the front areaway, include details on why it is not feasible elsewhere
- ☐ **Comparative elevations** showing existing and proposed conditions for each installation
- ☐ **Comparative vertical section drawings** of existing and proposed conditions, showing HVAC or mechanical equipment and attachment to paving, yard, or base of the wall, including platforms, conduits, and penetrations
- ☐ **Manufacturer cut sheets of HVAC or mechanical equipment**
- ☐ **Color samples** to match or harmonize with surrounding paving or wall at visible areaways and yards only

If LPC requires additional materials after your application is reviewed, you will receive a Materials Checklist from LPC staff.

Section C

Technical Guidance and Resources

→ In This Section:

[Glossary](#)

[Master Plans](#)

[How to Construct a Mock-Up](#)

This section provides additional guidance and resources to help you understand LPC's rules and criteria in order to submit the correct materials with your application.

Glossary

Decorative Masonry

is terra cotta, cast stone, natural stone (such as limestone, marble, brownstone, or granite), and brick facade areas; any ornamental feature that is a component of the facade such as belt courses, banding, water tables, cornices, corbelled brick work, medallions, enframements, and surrounds; and ornamental bonding patterns, e.g., tapestry or diaper brick patterns. The term does not include entirely plain units of stone, masonry, or brick laid up with simple, non-decorative coursing.

Designed Roof

is a roof that is part of the composition of the building, such as a mansard roof, a character-defining architectural feature, such as a spire, turret or cupola, and in some cases a dormer, or a crowning element seen in the round, such as a tower or dome.

Gap View

is an opening in the streetwall no greater than 25 feet that allows visibility of secondary facades and rooftops from a public thoroughfare. A gap can be an empty lot, yard, alley, driveway, areaway, garden or park, and can also be a building that is shorter than the adjacent building and allows views above it, including a garage or rear addition.

HVAC Equipment

includes through-window, through-wall, rooftop, areaway, and facade- and yard-mounted heating, ventilation, and air conditioning equipment, including louvers; wall-mounted louvers; and stove, restaurant, bathroom, and/or dryer vents.

Large Buildings

are seven or more stories or have a street frontage of more than 40 feet. Large buildings include large apartment buildings and hotels; large commercial and loft buildings, including cast-iron fronted buildings, department stores, banks, office buildings; and other building types.

Mechanical Equipment

is equipment other than HVAC equipment, such as solar and wind powered equipment, batteries and emergency generators, and any associated elements such as safety railings and sound attenuation screens, baffles, and other structures.

Minimally Visible

is the amount of visibility of HVAC and other mechanical equipment that the staff can approve over the primary and secondary facades:

Over a primary facade:

If there is no feasible or practical alternative, HVAC and other mechanical equipment can project into the maximum line of sight from a public thoroughfare no more than 12 inches in height if the equipment is less than 60 feet above the ground; project no more than 18 inches if the equipment is between 61 and 80 feet above the ground; project no more than 24 inches if the equipment is between 81 and 100 feet above the ground; and project no more than 36 inches if the equipment is more than 100 feet above the ground.

Over a secondary facade:

The visibility of HVAC and other mechanical equipment must not call attention to itself or detract from significant architectural features of the building or other buildings if in a historic district. In determining whether equipment does not call attention to itself or detract, LPC staff considers the following factors:

Visibility at a significant distance.

Visibility against the backdrop of another building or equipment.

Visibility over other buildings and not associated with significant features of the building or adjacent buildings.



See Chapter 6, Additions, for more information about minimal visibility.

Primary Facade

is:

A facade fronting a street or public thoroughfare that is not a street, such as a mews or court.

A visible facade that possesses a level of design or significant architectural features that is commensurate with the building's street-fronting facades, and where such facade:

Faces but does not front a street, such as a setback facade, or

Is part of a dominant massing element where at least one facade is street-fronting or street-facing, such as a tower element it.

A facade with a primary entrance to the building.

Secondary Facade

is a facade that does not front on a street or public thoroughfare and does not possess significant architectural features commensurate with the street-fronting facade.

Small Buildings

are six stories or fewer in height with a street frontage of 40 feet or less. Includes rowhouses, townhouses, mansions, detached and semi-detached houses, and carriage houses; small apartment buildings, tenements, and hotels; small, utilitarian, commercial, and loft buildings; and other building types.

Master Plans

Master plans, which generally do not have an expiration date, allow you to install HVAC or mechanical equipment over time as finances or vacancies permit. (See Section 2-02 of the LPC Rules). Master plans are more efficient because once approved, applications can be processed more quickly.

Master plans can be approved at the staff level or by the

Commission, depending on whether the work meets LPC Rules.

Once established, the building owner can move forward quickly with work covered by a master plan by submitting a completed application to the Commission through Portico, LPC's web-based permit portal, describing the scope of work, and stating that it

conforms to master plan drawings and other documents.

Staff reviews the application and will issue the applicable permit.

How to Construct a Mock-Up

If visibility cannot be determined from the drawings, a physical **mock-up** of your installation may be required to determine potential visibility of rooftop HVAC and mechanical equipment. A mock-up is a temporary, accurate, full-scale physical representation of the proposed modifications to a building that allows staff to assess the visibility of the proposed installation and its impact. (The applicant is responsible for the accuracy of the mock-up's visibility; any mistakes in the mock-up are construed against the applicant.)

A mock-up is typically constructed from 2x4s or metal pipe and draped with orange construction netting, painted a bright color, or wrapped with bright yellow caution tape, or, in certain circumstances, a story pole is used. These materials ensure that it is clearly visible from the street.

The mock-up must include all mechanical equipment, as well as any required railings.

Once the mock-up has been constructed, contact the staff member assigned to your application and schedule a site visit. Your architect must be prepared to verify on-site (with drawings and a measuring tape) the heights and setbacks of various elements of the rooftop installation.

At the site inspection, LPC makes an initial determination on visibility of the rooftop installation from public thoroughfares and may suggest modifications to lessen impact.

Mock-ups are often required for projects being presented at a public hearing. In this case, the mock-up must be constructed of sturdy materials so it can be safely left in place over the course of the hearing so staff, Commissioners, and the community may view and document it.

Depending on the complexity and scale of your project, DOB and LPC permits may be required for the temporary installation of a mock-up. See *Chapter 6* for more information on mock-ups.



See the "Installing Solar Panels" fact sheet, available on LPC's website, for more information about mock-ups for solar panels.