



U.S. Department of Energy SunShot Rooftop Solar Challenge I

City University of New York

On Behalf of New York City

Solar Planning and Zoning Implementation Guide

Compliance with NYC Green Zone Text for Solar PV

June 2013

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Introduction

The City University of New York (CUNY), on behalf of New York City (NYC), created Action Area Working Groups in 2012 to improve the NYC solar market as part of the U.S. Department of Energy SunShot ‘Rooftop Solar Challenge I’ program. The Department of City Planning (DCP) is the lead City agency on the Planning and Zoning (PZ) Working Group team, and is supported by the NYC Solar Ombudsmen, the NYC Solar Coordinator, the University Director of Sustainability and additional Sustainable CUNY staff. The focus of the PZ Working Group was to provide greater clarity for navigating the zoning regulations related to the installation of solar PV in NYC.

In the early part of 2012, CUNY Solar Ombudsmen worked with DCP staff to review and provide feedback to initial zoning proposals as related to solar that were recommended by the [Green Codes Task Force](#). The Zone Green Text Amendment was proposed by DCP and CUNY’s NYC Solar Map was able to provide information about solar energy to the public during DCP’s public comment period. On April 30, 2012, the City Council approved a text amendment to the Zoning Resolution of the City of New York (“Zone Green”) to remove zoning obstacles to installing solar PV and other green technologies on NYC rooftops, walls, and some accessory buildings.

The Zone Green text eliminated a major barrier to solar in NYC. Before the Zone Green Text Amendment was passed, solar installations were not among the list of items permitted to exceed a zoning height limit, and therefore were not allowed by NYC zoning regulations to be added on top of many buildings in the five boroughs. With the approval of the Zone Green Text Amendment, solar energy systems are now categorized as permitted obstructions above a height limit, and now allowed “as of right” within the context of NYC zoning regulations.

For more information on the approved NYC Zone Green Text Amendment and to view the text please visit the [Department of City Planning’s \(DCP\) website](#). This Solar Planning and Zoning Implementation guide provides only general zoning information in order to assist the local PV industry in understanding the new zoning text in relation to solar projects. It is not meant to serve as a substitute for the actual regulations which are to be found in the [Zoning Resolution](#).

In addition to complying with the requirements of the NYC Zoning Resolution, all solar PV installations must also comply with NYC electrical and building codes, and all FDNY regulations ([FC 504](#)).

This report summarizes the zoning regulations that apply to solar PV projects in New York City, and is meant to guide solar installers and developers through specific questions about the text. The following information will act as an initial guide for Applicants (Registered PE/RA) and Installers who are developing solar PV projects in NYC. When filing for a permit for a Solar Installation with the Department of Buildings, all applicable zoning information must be included on the application plans. The Applicant is responsible for ensuring that plans comply with all NYC codes. More information on [Permits for Solar Installations](#) can be found at the Department of Buildings website as well on [FDNY code and filing for a variance de RB.pdf](#)

Determining Allowable Solar PV

Any building may install solar PV under the parameters described in the Zone Green text amendment – e.g., unlimited coverage up to 4’ above the roof, with limits on coverage for portions that extend more than 4’ above the roof. In addition, for buildings that are not built to or above the maximum height limit, the solar installation may exceed that maximum height limit by the amounts set forth in the Zone Green Text Amendment. However, the Zoning Resolution itself must be consulted for conclusive information

In order to determine the amount of allowable solar PV on a NYC roof, an Applicant must establish:

- Whether the building has a flat or pitched roof
- Height of existing building in question
- Zoning district of existing building in question
- Maximum building height limit allowed by zoning

Solar Installed on a Flat Roof

Determine existing building height

Applicant (PE/RA) will need to determine the existing building height from building plans, and building height calculations.

Determine zoning district of building

To determine zoning district of building, use the Department of City Planning Zoning and Land [ZoLa application](#). Scroll down ZoLa homepage to acknowledge disclaimer, and begin search. Go to right navigation bar and click on “Search for Location”. Input address or block/lot, and borough to search for zoning district and other general building information

Establish Allowable Maximum Building Height

Once actual building height and zoning district have been established for PV site, the Applicant must determine the “Maximum Building Height Limit”. Zoning has two basic ways that it regulates building heights, by establishing:

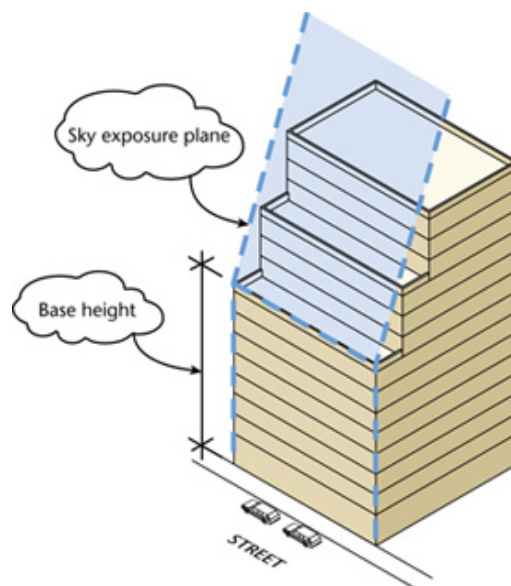
- horizontal maximum building height limits; or
- sky exposure planes that slope inward from a street line

Contextual Zoning District

Maximum building height limits are established generally in contextual zoning districts where the height and bulk of new buildings, their setback from the street line, and width along the street frontage, are regulated to produce buildings that are consistent with existing neighborhood character. Residential and commercial districts with an A, B, D or X suffix are generally known as contextual zoning districts.

Sky Exposure Plane

Sky exposure plane limits are established generally in non-contextual zoning districts, where building heights are regulated by a virtual sloping plane that begins at a specified height above the street line and rises inward over the zoning lot at a ratio of vertical distance to horizontal distance set forth in zoning district regulations. Generally, a building may not penetrate the sky exposure plane which is designed to provide light and air at street level, primarily in medium- and higher-density districts.



Sky Exposure Plane

Applicants must determine what the maximum building height is under the zoning and consult the Zoning Resolution. Applicants can reference the [Zoning Handbook](#), but the Zoning Resolution itself must be consulted for conclusive information.

Once the zoning district and height limit or sky exposure plane for the building have been determined, the next step is to determine the volume within which solar panels are allowed pursuant to zoning:

- Solar panels are permitted to be installed up to a height of 4 feet above the maximum allowable building height limit or finished level of the roof, whichever is higher, and are not limited by zoning in the amount of roof they can cover. (Other applicable codes and regulations may impose such limits.)

Example 1:

If the building is *below* the maximum building height limit, panels can project up to the maximum building height limit, plus an additional 4 feet, and are not limited by zoning in the amount of roof they can cover.

Example 2:

If the building is *above* the maximum allowable building height limit, panels can project up to 4 feet above the finished level of the roof surface, and are not limited by zoning in the amount of roof they can cover.

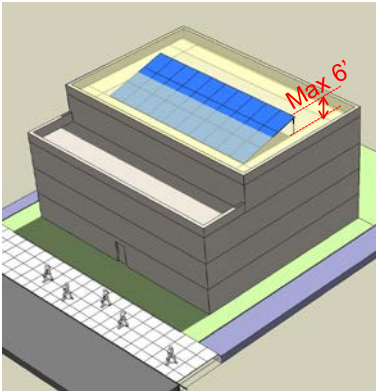
All portions of the solar panels that project *more* than 4 feet above the maximum height limit are limited to a cumulative total of twenty-five percent (25%) of roof coverage, must be set back at least six feet from the streetwall (to limit visibility), and depending on the zoning district are also limited to:

- (i) in R1 through R5 (including C-overlays), C3, & C4-1 Districts, a height of six feet above the building height limit or finished level of the roof, whichever is higher;
- (ii) in R6 through R10, C & M Districts, a height of 15 feet; (However, sky exposure planes are in effect in the vast majority of M Districts, creating great potential for rooftop solar installations above relatively low buildings. This would permit an exposure plane to be exceeded by 15 feet. Please consult full [Zoning Text](#).)
- (iii) when located on a bulkhead or other obstruction, a height of six feet

Zone Green: Permitted Obstructions Rules

Rooftops

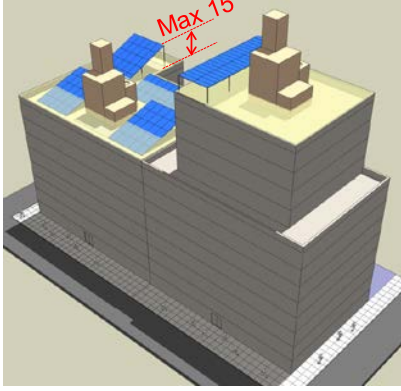
R1-R5 (including C overlays)
C3 & C4-1



- 6 feet height above maximum building height or finished level of roof

Rooftops

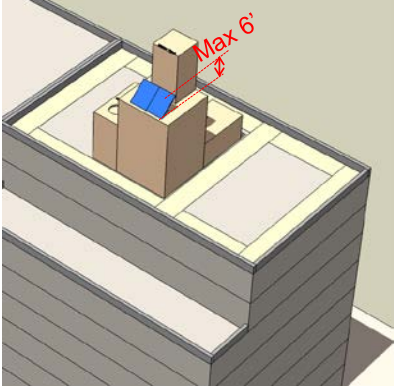
R6 – R10, C & M districts
(except C3, C4-1)



- 15 feet height above maximum building height or finished level of roof

Bulkheads

R5 – R10, C & M districts

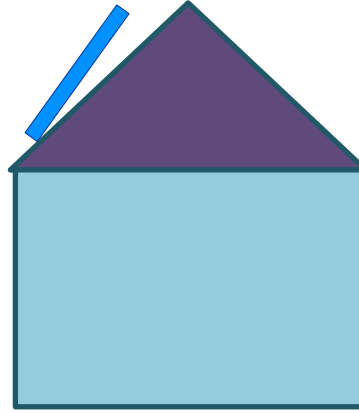
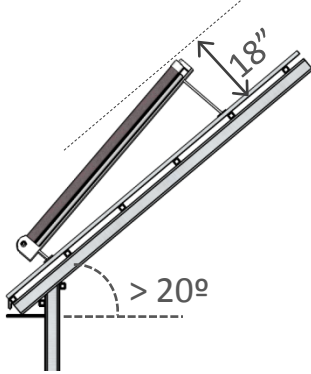


- 6 feet above bulkhead

Solar PV on Flat Roofs as permitted by NYC Zoning Districts

Solar Installed on Pitched Roofs

If solar panels are installed on a pitched roof with a slope greater than 20 degrees, the PV panels are limited to 18 inches in height as measured perpendicular to the roof surface.



Solar PV as permitted on Pitched Roof by NYC Zoning Districts

This provision applies when installing a solar installation on the roof surface would exceed a height limit. If the home is well set back from an exposure plane, or is already many feet below a horizontal max height limit, solar may be installed without limitation. Applicants can reference the Zoning Handbook, but the Zoning Resolution itself must be consulted for conclusive information.

Conclusions

NYC's solar generating capacity has gone from 1 MW in 2006 to over 20 MW in 2013. The NY Sun Initiative solar program is investing \$800 million into solar development in NY through 2015, and Governor Cuomo is committed to extending this program through 2023. When the NY City Council unanimously passed the Zone Green Text Amendment in April of 2012, it became evident that NYC was readying the way for exponential, unprecedented growth in solar PV on rooftops, walls and some accessory buildings.

Before the Zone Green Text Amendment was passed, solar installations were not among the list of items permitted to be built over a zoning height limit. This classified so many NYC rooftops as "off-limit" to solar. With the passing of the Zone Green Text Amendment, solar energy is now allowed to be installed on all buildings, even if the PV system is installed above the maximum building height. Solar PV is now allowed "as of right" within the context of NYC zoning regulations.

Solar Developers can now work closely with their PEs and RAs to design systems that can take advantage of these new zoning regulations. NYC is now poised to include solar in its renewable resiliency toolbox, to continue to relieve some pressure for power from the grid during peak hours, to help consumers take advantage of the several incentives available to those who invest in solar power, and to continue to improve the environment by supporting the growth of renewable energy in NYC.

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Machi Tantillo, NYC Solar Ombudsman, City University of New York (CUNY)

Appendix I:

Zone Green-Zoning Resolution sections pertaining specifically to Solar

The following are excerpts from the amendments to the Zoning Resolution adopted on April 30, 2012 as part of the Zone Green Text Amendment. For full text, please see the [Zoning Resolution](#)

Article II- Residence District Regulations

Chapter 3- Bulk Regulations for residential buildings in residence districts

23-12

Permitted Obstructions in Open Space

In Zoning Districts R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

In the districts indicated, the following obstructions shall be permitted in any #open space# required on a #zoning lot#:

(i) Solar energy systems:

- (1) on the roof of an #accessory building#, limited to 18 inches in height as measured perpendicular to the roof surface; or
- (2) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

23-44

Permitted Obstructions in Required Yards or Rear Yard Equivalents

In all #Residence Districts#, the following obstructions shall be permitted within a required #yard# or #rear yard equivalent#:

(a) In any #yard# or #rear yard equivalent#:

- (16) Solar energy systems on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

(b) In any #rear yard# or #rear yard equivalent#:

- (5) Parking spaces, off-street, #accessory#, for automobiles or bicycles, provided that:

- (4i) if #accessory# to a #single-# or #two-family residence#, the height of a #building# containing such parking spaces shall not exceed ten feet in height above the adjoining grade and such #building# shall be #detached# from such #residence#; ~~and f~~ Furthermore, if located in an R1 District, such #building# may not be nearer than five feet to a #rear lot line# or

#side lot line#. In R2A Districts, detached garages shall be included in #lot coverage#. In addition, solar energy systems, limited to 18 inches in height, as measured perpendicular to the roof surface, shall be permitted upon the roof of such #accessory building# within the #rear yard#;

- (2i) if #accessory# to any other kind of #building# containing #residences#, the height of a #building#, or portion thereof, containing such parking spaces within the #rear yard#, shall not exceed ten feet above adjoining grade, including the apex of a pitched roof in R3, R4 or R5 Districts, or fourteen feet above #curb level# or #base plane#, as applicable, in R6, R7, R8, R9 or R10 Districts. In addition, decks, parapet walls, roof thickness, skylights, vegetated roofs, and weirs, as set forth in Section 23-62 (Permitted Obstructions), and solar energy systems, limited to 18 inches in height, as measured perpendicular to the roof surface, shall be permitted upon the roof of such #accessory building# within the #rear yard#;

23-462

Side yards for all other buildings containing residences

R6 R7 R8 R9 R10

- (c) In the districts indicated, no #side yards# are required. However, if any open area extending along a #side lot line# is provided at any level, it shall measure at least eight feet wide for the entire length of the #side lot line#. Obstructions permitted pursuant to paragraph (a) of Section 23-44 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted in such open areas.

23-62

Permitted Obstructions

In all #Residence Districts#, except as provided in Section 23-621 (Permitted obstructions in certain districts), the obstructions listed in paragraphs (a) through (r) in this Section shall be permitted to penetrate a maximum height limit or #sky exposure plane# set forth in Sections 23-63 (Maximum Height of Walls and Required Setbacks), 23-64 (Alternate Front Setbacks) or 23-69 (Special Height Limitations):

(m) Solar energy systems:

- (1) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
- (2) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed;

- (i) in R1 through R5 Districts, a height of six feet;
- (ii) in R6 through R10 Districts, a height of 15 feet; and
- (iii) when located on a bulkhead or other obstruction pursuant to paragraph (g) of this Section, a height of six feet;
- (3) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

23-621

Permitted obstructions in certain districts

R2A R3 R4 R4A R4-1 R5A

- (a) In the districts indicated, permitted obstructions are limited to chimneys, exterior wall thickness, flag poles or aerials, parapet walls, roof thickness, skylights, solar energy systems and vegetated roofs, pursuant to Section 23-62.

R2X

- (b) In the district indicated, permitted obstructions are limited to chimneys, exterior wall thickness, flag poles or aerials, parapet walls, roof thickness, skylights, solar energy systems and vegetated roofs, pursuant to Section 23-62. Dormers may be considered permitted obstructions if:

R6A R6B R7A R7B R7D R7X R8A R8B R8X R9A R9D R9X R10A R10X

- (c) In the districts indicated, and for #Quality Housing buildings# in other R6, R7, R8, R9 and R10 Districts, the permitted obstructions set forth in Section 23-62 shall apply to any #building or other structure#, except that within a required front setback distance above a maximum base height, the following rules shall apply:

- (2) Solar energy systems on a roof shall be limited to four feet or less in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher. However, on a roof with a slope greater than 20 degrees, such systems shall be limited to 18 inches in height as measured perpendicular to the roof surface.

23-66

Required Side and Rear Setbacks

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

In all districts, as indicated, side and rear setbacks shall be provided as specified in this Section. Unenclosed balconies, subject to the provisions of Section 23-13 (Balconies), are permitted to project into or over any open areas required by the provisions of this Section. In addition, awnings and other sun control devices, decks, exterior wall thickness, parapet walls, roof thickness, solar energy systems up to four feet high, vegetated roofs, and weirs, are permitted as set forth in Section 23-62 (Permitted Obstructions).

23-862

Minimum distance between legally required windows and lot lines on small corner lots in R9 or R10 Districts

R9 R10

In the districts indicated, on a #corner lot# less than 10,000 square feet in #lot area#, a #legally required window# may open on a #yard# bounded on one side by a #front lot line# and having a minimum width of 20 feet, provided that the provisions of Section 23-44 (Permitted Obstructions in Required Yards or Rear Yard Equivalents) shall not apply to such #yard#. However, awnings and other sun control devices, exterior wall thickness and solar energy systems on walls, as set forth in Section 23-44 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted within such minimum distance.

23-87

Permitted Obstructions in Courts

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

In all districts, as indicated, the following obstructions shall be permitted within the minimum area and dimensions needed to satisfy the requirements for a #court#:

- (j) Solar energy systems on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

In addition, for #courts# at a level higher than the first #story#, decks, skylights, parapet walls, roof thickness, solar energy systems up to four feet high, vegetated roofs, and weirs, as set forth in Section 23-62 (Permitted Obstructions), shall be permitted.

23-891

In R1 through R5 Districts

R1 R2 R3 R4 R5

In the districts indicated, except R4B and R5B Districts, the provisions of this Section shall apply to all #zoning lots# with two or more #buildings# or #building segments# containing #residences#. All such #buildings# or #building segments# shall provide open areas: in

accordance with this Section. Only those obstructions set forth in Section 23-44 (Permitted Obstructions in Required Yards or Rear Yard Equivalents) shall be allowed, except that parking spaces, whether enclosed or unenclosed, and driveways, shall not be permitted within such open areas.

- (a) An open area shall be provided adjacent to the rear wall of each such #building# or #building segment#. For the purposes of this Section, the “rear wall” shall be the wall opposite the wall of each #building# or #building segment# that faces a #street# or #private road#. The width of such open area shall be equal to the width of each #building# or #building segment#, and the depth of such open area shall be at least 30 feet when measured perpendicular to each rear wall. No such open areas shall serve more than one #building# or #building segment#.

Chapter 4: Bulk Regulations for Community Facility Buildings in Residence Districts

24-33

Permitted Obstructions in Required Yards or Rear Yard Equivalents

In all #Residence Districts#, the following obstructions shall be permitted when located within a required #yard# or #rear yard equivalent#:

- (a) In any #yard# or #rear yard equivalent#:
 - (10) Solar energy systems, on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

- (b) In any #rear yard# or #rear yard equivalent#:

- (9) Solar energy systems on the roof of a #building# permitted as an obstruction to such #yard#, up to four feet in height as measured perpendicular to the roof surface when located above a permitted #community facility use# or attached parking structure; however, limited to 18 inches in height as measured perpendicular to the roof surface when located above a shed or detached parking structure, or on any roof with a slope greater than 20 degrees;

However, no portion of a #rear yard equivalent# which is also a required #front yard# or required #side yard# may contain any obstructions not permitted in such #front yard# or #side yard#.

24-35

Minimum Required Side Yards

R6 R7 R8 R9 R10

- (b) In the districts indicated, no #side yards# are required. However, if any open area extending along a #side lot line# is provided at any level, it shall be at least eight feet wide. Permitted obstructions pursuant to paragraph (a) of Section 24-33 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted in such open areas.

24-51 Permitted Obstructions

In all #Residence Districts#, the following obstructions shall be permitted and may thus penetrate a maximum height limit or #sky exposure plane# set forth in Sections 24-52 (Maximum Height of Walls and Required Setbacks), 24-53 (Alternate Front Setbacks) or 24-591 (Limited Height Districts):

- (n) Solar energy systems:
- (1) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
 - (2) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed:
 - (i) in R1 through R5 Districts, a height of six feet;
 - (ii) in R6 through R10 Districts, a height of 15 feet; and
 - (iii) when located on a bulkhead or other obstruction pursuant to paragraph (f) of this Section, a height of six feet;
 - (3) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

24-55 Required Side and Rear Setbacks

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

In all districts, as indicated, side and rear setbacks shall be provided as specified in this Section. Unenclosed balconies, subject to the provisions of Section 24-165 (Balconies); and awnings and other sun control devices, decks, exterior wall thickness, parapet walls, roof thickness, solar energy systems up to four feet high, vegetated roofs, and weirs, as set forth in Section 24-51 (Permitted Obstructions), are permitted to project into or over any open areas required by the provisions of this Section.

24-68

Permitted Obstruction in Courts

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

In all districts, as indicated, the following shall not be considered obstructions when located within a #court#:

- (i) Solar energy systems on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

In addition, for #courts# at a level higher than the first #story#, decks, skylights, parapet walls, roof thickness, solar energy systems up to four feet high, vegetated roofs, and weirs, as set forth in Section 24-51 (Permitted Obstructions), shall be permitted.

Article III: Commercial District Regulations

Chapter 2: Use Regulations

32-15

Use Group 6

C1 C2 C4 C5 C6 C8

Use Group 6 consists primarily of retail stores and personal service establishments which:

- (1) provide for a wide variety of local consumer needs; and
- (2) have a small service area and are, therefore, distributed widely throughout the City.

Public service establishments serving small areas are also included. Retail and service establishments are listed in two subgroups, both of which are permitted in all C1 Districts.

- D. Public Service Establishments⁵
Solar energy systems

⁵ In a C6-1A District, #uses# in Use Group 6D are not permitted

Chapter 3: Bulk Regulations for Commercial or Community Facility Buildings in Commercial Districts

33-23

Permitted Obstructions in Required Yards or Rear Yard Equivalents

In all #Commercial Districts#, the following obstructions shall be permitted when located within a required #yard# or #rear yard equivalent#:

- (a) In any #yard# or #rear yard equivalent#:
 - (10) Solar energy systems on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;
- (b) In any #rear yard# or #rear yard equivalent#:
 - (6) Solar energy systems:
 - (i) on the roof of a #building# permitted as an obstruction to such #yard#, up to four feet in height as measured perpendicular to the roof surface when located above a permitted #commercial# or #community facility use# or attached parking structure;
 - (ii) on the roof of a #building# permitted as an obstruction to such #yard#, shall be limited to 18 inches in height as measured perpendicular to the roof surface when located above a shed or detached parking structure, or on any roof with a slope greater than 20 degrees;
 - (iii) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

However, no portion of a #rear yard equivalent# that is also a required #front yard# or required #side yard# may contain any obstructions not permitted in such #front yard# or #side yard#.

33-25

Minimum Required Side Yards

C1 C2 C3 C4 C5 C6 C7 C8

In all districts, as indicated, no #side yards# are required. However, if an open area extending along a #side lot line# is provided at any level, it shall be either:

- (a) at least eight feet wide at every point; or
- (b) at least five feet wide at every point, with an average width of eight feet, such average being the mean of the width of the open area at its narrowest point and its width at its widest point, provided that:
 - (1) such widest point shall be on a #street line#;
 - (2) no portion of a #building# shall project beyond a straight line connecting such two points; and
 - (3) in the case of a #zoning lot# bounded by a #side lot line# extending from #street# to #street#, such average shall be computed and such open area shall be provided as though each half of such #side lot line# bounded a separate #zoning lot#.

Permitted obstructions pursuant to paragraph (a) of Section 33-23 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted in such open areas.

33-42

Permitted Obstructions

In all #Commercial Districts#, the following obstructions shall be permitted and may thus penetrate a maximum height limit or #sky exposure planes#, as set forth in Sections 33-43 (Maximum Height of Walls and Required Setbacks), 33-44 (Alternate Front Setbacks) or 33-491 (Limited Height Districts):

(n) Solar energy systems:

- (1) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
- (2) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed:
 - (i) in #Commercial Districts# mapped within #Residence Districts#, and in C3 and C4-1 Districts, a height of six feet;
 - (ii) in all other #Commercial Districts#, a height of 15 feet; and
 - (iii) when located on a bulkhead or other obstruction pursuant to paragraph (f) of this Section, a height of six feet;

- (3) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

34-232

Modification of side yard requirements

C1 C2 C3 C4 C5 C6

In the districts indicated, except as otherwise provided in Section 34-233 (Special provisions applying along district boundaries), no #side yard# shall be required for any #residential building#. However, if any open area extending along a #side lot line# is provided, such open area shall have a width of not less than eight feet. Permitted obstructions, pursuant to paragraph (a) of Section 23-44 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted in such open areas.

Chapter 5: Bulk Regulations for Mixed Use Buildings in Commercial Districts

35-24

Special Street Wall Location and Height and Setback Regulations in Certain Districts

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A
C4-4A C4-4D C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A
C6-3D C6-3X C6-4A C6-4X

- (a) Permitted obstructions

C1-6A C1-7A C1-8A C1-8X C1-9A C2-6A C2-7A C2-7X C2-8A C4-2A C4-3A C4-4A
C4-4D C4-5A C4-5D C4-5X C4-6A C4-7A C5-1A C5-2A C6-2A C6-3A C6-3D C6-3X
C6-4A C6-4X

In the districts indicated, and in other C1 or C2 Districts when mapped within R6A, R6B, R7A, R7B, R7D, R7X, R8A, R8B, R8X, R9A, R9D, R9X, R10A or R10X Districts, and for #Quality Housing buildings# in other #Commercial Districts#, the provisions of Section 33-42 shall apply to any #building or other structure#. In addition, a dormer may be allowed as a permitted obstruction pursuant to paragraph (c)(1) of Section 23-621 (Permitted obstructions in certain districts).-

35-52

Modification of Side Yard Requirements

C1 C2 C3 C4 C5 C6

In the districts indicated, except as otherwise provided in Section 35-54 (Special Provisions Applying Adjacent to R1 through R6B Districts), no #side yard# shall be required although, if any open area extending along a #side lot line# is provided at any level, it shall have a width of not less than eight feet. Permitted obstructions, pursuant to paragraph (a) of Section 33-23 (Permitted Obstructions in Required Yards or Rear Yard Equivalents), shall be permitted in such open areas.

However, in C3A Districts, #side yards# shall be provided in accordance with the regulations for R3A Districts as set forth in Section 23-461 (Side yards for single- or two-family residences).

35-53

Modification of Rear Yard Requirements

C1 C2 C3 C4 C5 C6

In the districts indicated, for a #residential# portion of a #mixed building#, the required #residential rear yard# shall be provided at the floor level of the lowest #story# used for #dwelling units# or #rooming units#, where any window of such #dwelling units# or #rooming units# faces onto such #rear yard#. If the level of such #yard# is at or higher than the first #story#, decks, parapet walls, roof thickness, solar energy systems up to four feet high, vegetated roofs, and weirs, shall be permitted, pursuant to Section 23-62 (Permitted Obstructions).

Article IV: Manufacturing District Regulations

Chapter 3: Bulk Regulations

43-23

Permitted Obstructions in Required Yards or Rear Yard Equivalents

In all #Manufacturing Districts#, the following obstructions shall be permitted within a required #yard# or #rear yard equivalent#:

(a) In any #yard# or #rear yard equivalent#:

(10) Solar energy systems on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects;

(b) In any #rear yard# or #rear yard equivalent#:

(5) Solar energy systems on the roof of a #building# permitted as an obstruction to such #yard#:

(i) up to four feet in height as measured perpendicular to the roof surface when located above a permitted #commercial# or #community facility use# or attached parking structure; or

- (ii) shall be limited to 18 inches in height as measured perpendicular to the roof surface when located above a shed or detached parking structure, or on any roof with a slope greater than 20 degrees;

However, no portion of a #rear yard equivalent# which is also a required #front yard# or required #side yard# may contain any obstructions not permitted in such #front yard# or #side yard#.

43-42

Permitted Obstructions

In all #Manufacturing Districts#, the following obstructions shall be permitted to penetrate a maximum height limit or a #sky exposure plane# set forth in Sections 43-43 (Maximum Height of Front Wall and Required Front Setbacks), 43-44 (Alternate Front Setbacks) or 43-49 (Limited Height Districts).

(m) Solar energy systems:

- (1) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
- (2) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed:
 - (i) a height of 15 feet; or
 - (ii) a height of six feet when located on a bulkhead or other obstruction, pursuant to paragraph (e) of this Section;
- (3) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

Article VIII: Special Purpose Districts

Chapter 1: Special Midtown District

81-252

Permitted obstructions

Except as set forth in this Section, structures which under the provisions of Sections 33-42 or 43-42 (Permitted Obstructions) or 34-11 or 35-11 (General Provisions); are permitted to penetrate a

maximum height limit or a #sky exposure plane# **shall not be permitted** as exceptions to the height limitations, setback requirements or rules for the measurement of #encroachments# or #compensating recesses# set forth in Section 81-26 (Height and Setback Regulations), nor shall they be excluded in determining daylight blockage pursuant to the provisions of Section 81-27 (Alternate Height and Setback Regulations).

84-135

Chapter 4: Special Battery Park City District

Limited height of buildings

For the purposes of this Section, the term “#buildings#” shall include #buildings or other structures#. No portion of any #building# may be built to a height greater than 85 feet above #curb level#, except that:

- (e) Sections 23-62 (Permitted Obstructions) and 33-42 (Permitted Obstructions) are hereby made inapplicable. Any portion of a #building# that exceeds an established height limit shall be subject to the following provisions:
 - (1) The following shall not be considered obstructions and **may thus penetrate a maximum height limit:**
 - (xi) Solar energy systems
 - (1) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
 - (2) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed a height of 15 feet, or when located on a bulkhead or other obstruction pursuant to paragraph (f) of Section 33-42, do not exceed a height of six feet;
 - (3) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

- (f) in #special height locations# in Appendices 2.2 and 3.2 of this Chapter, no portion of a #building#, including permitted obstructions, shall exceed a height of 450 feet above #curb level#.

84-333

Limited height of buildings

The maximum height of any #building or other structure#, or portion thereof, shall not exceed 400 feet on any portion of subzone C-1 shown as a #special height location# in Appendix 3.2 of this Chapter, except that permitted obstructions pursuant to Section 33-42 shall be allowed to penetrate a maximum height limit.

The maximum height of any #building or other structure#, or any portion thereof, located within subzone C-2 shall not exceed 180 feet above #curb level#, except that:

- a) the maximum height of any #building or other structure#, or portion thereof, shown as a #special height location# shall not exceed the height set forth in Appendix 3.2; and
- b) Sections 23-62 and 33-42 (Permitted Obstructions) are hereby made inapplicable. Any portion of a #building or other structure# that exceeds an established height limit shall be subject to the following provisions:

(1) The following shall not be considered obstructions and may this penetrate a maximum height limit:

(x) Solar energy systems

- (a) on the roof of a #building#, up to four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher;
- (b) on the roof of a #building#, greater than four feet in height, as measured from the maximum height limit, or the finished level of the roof, whichever is higher, provided that all such portions above four feet are set back at least six feet from a #street wall#, limited to a #lot coverage# not greater than 25 percent of the #lot coverage# of the roof and do not exceed a height of 15 feet, or when located on a bulkhead or other obstruction pursuant to paragraph (f) of Section 33-42, do not exceed a height of six feet;

(c) on walls existing on April 30, 2012, projecting no more than 10 inches and occupying no more than 20 percent of the surface area of the #building# wall (as viewed in elevation) from which it projects.

However, any installation on a roof with a slope greater than 20 degrees shall be limited to 18 inches in height, as measured perpendicular to the roof surface;

(y) In no event shall the height of any #building#, including permitted obstructions, exceed 800 feet above #curb level#.