Basic Form		
ALL LAN	Land Use Review	Application
	N150167ZRY	Reade Street, New York, NY 10007-1216
City Planning will assign and stamp reference numbers here	APPLICATION NUMBER	APPLICATION NUMBER
	APPLICATION NUMBER	APPLICATION NUMBER
1.	NYC Department of City Planning	Beth Lebowitz
	APPLICANT (COMPANY/AGENCY OR OTHER ORGANIZATION) *	APPLICANT'S PRIMARY REPRESENTATIVE
REPRESENTATIVES	22 Reade Street	Director, Zoning Division
	STREET ADDRESS	REPRESENTATIVE'S COMPANY/AGENCY OR OTHER ORGANIZATION
	New York NY 10007	blebowi@planning.nyc.gov street address
	212-720-3263	
	AREA CODE TELEPHONE # FAX#	CITY STATE ZIP
	* List additional applicants below:	AREA CODE TELEPHONE # FAX#
	CO-APPLICANT (COMPANY/AGENCY OR OTHER ORGANIZATION )	
	CO-APPLICANT (COMPANY/AGENCY OR OTHER ORGANIZATION ) ADDITIONAL APPLICANT REPRESENTATIVE:	
	NAME AND PROFESSIONAL AFFILIATION (ATTORNEY/ARCHITECT/	NGINEER ETC.) TELEPHONE # FAX #
2.	N/A	Stairwells Text Amendment
SITE DATA	STREET ADDRESS	PROJECT NAME (IF ANY)
more than one property complete the	DESCRIPTION OF PROPERTY BY BOUNDING STREETS OR CROSS	STREETS
Attachment Sheet.")	Various	
		AM ON BK Multiple
	N/A TAX BLOCK AND LOT NUMBER	BOROUGH COMM. DIST.
	URBAN RENEWAL AREA, HISTORIC DISTRICT OR OTHER DESIGNA	TÉD AREA (IF ANY)
	IS SITE A NEW YORK CITY OR OTHER LANDMARK? NO TYES	IF YES, IDENTIFY N/A
3.		
DESCRIPTION OF PROPOSAL	(If the entire project description does not fit in this space, enter " sheet, identified as "LR item 3. Description of Proposal")	see attached description" below and submit description on a separate

4.	
ACTIONS	
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		PUBLIC FACILITY, SEL./ACQPF	\$	OTHER
		DISPOSITION OF REAL PROP	\$	SPECIFYA X
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		HOUSING PLAN & PROJECT	\$	Make Check or Money Order payable to Department of City Planning.
		FRANCHISE *	\$	If fee exemption is claimed check box below and explain
		REVOCABLE CONSENT	\$	Clty Agency
		CONCESSION*	\$	
		LANDFILL	\$	Has pre-application meeting been held? 🔲 NO 🛛 YES
		OTHER (Describe)		If yes Zoning / Dakota Hendon 08/30/2013
			\$\$	DCP Office/Representative Date of meeting
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5. ENVIRONMENTAL	CITY ENVIRONMENTAL QUALITY REVIEW (CEQR) (Discuss with CEQR lead agency before completing) LEAD AGENCY DCP CEQR NUMBER 15DCP071Y				
REVIEW	TYPE OF CEQR ACTION:				
	TYPE II     Type II category:     Date determination was made:				
	TYPE I Has EAS been filed? Yes No				
	UNLISTED J If yes, Date EAS filed: 11/10/2014				
	Has CEQR determination been made? Yes No				
	If yes, what was determination? Negative Declaration				
	CND Date determination 11/17/2014 (Attach Copy)				
	Positive Declaration				
	If Positive Declaration, has PDEIS been filed?				
	Has Notice of Completion (NOC) for DEIS been issued? If yes, attach copy.				
	If PDEIS has not been filed, has final scope been issued?				
6. COASTAL ZONE MANAGEMENT	IS SITE IN STATE DESIGNATED COASTAL ZONE MANAGEMENT (CZM)? AREA? No 🗍 Yes 🔀				
7					
RELATED	LIST ALL CURRENT OR PRIOR CITY PLANNING COMMISSION ACTIONS RELATED TO SITE.				
ACTIONS BY CITY PLANNING	APPLICATION NO. DESCRIPTION/DISPOSITION/STATUS				
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RELATED	LIST ALL OTHER CORRENT OR PRIOR CHT, OTHE OTHE DELEVENCE OF A DELEVENC				
OTHER	REFERENCE NO. DESCRIPTION DISPOSITION AND STATUS 2014 NVC Construction Codes (Local Law 141 of 2013) 12/31/2013				
AGENCIES	2018 NTC CONSLIGENON CODES (ECCAI EAN 141 C. SCTO)				
9. FUTURE ACTIONS REQUIRED	LIST ALL FUTURE CITY, STATE OR FEDERAL ACTIONS REQUIRED TO IMPLEMENT THE PROPOSED ACTION:				
<b>10.</b> APPLICANT (Attach authorizing resolution(s), if applicable)	Beth Lebowitz, Director, Zoning Division NAME AND TITLE OF APPLICANT OR AUTHORIZED REPRESENTATIVE NYC Department of City Planning				
	APPLICANT'S COMPANY/AGENCY OR OTHER ORGANIZATION (IF ANY)				
11. CO-APPLICANTS	NAME AND TITLE OF CO-APPLICANT OR AUTHORIZED REPRESENTATIVE SIGNATURE OF CO-APPLICAN DE CATE				
(Attach authorizing resolution(s), if	CO-APPLICANT'S COMPANY/AGENCY OR OTHER ORGANIZATION				
applicatio)	STREET ADDRESS CITY STATE ZIP TEL.NO. FAX				
	NAME AND TITLE OF CO-APPLICANT OR AUTHORIZED REPRESENTATIVE				
	CO-APPLICANT'S COMPANY/AGENCY OR OTHER ORGANIZATION				
	STREET ADDRESS CITY STATE ZIP TEL.NO. FAX				
ADMINISTRATIVE CODE NOTICE	ANY PERSON WHO SHALL KNOWINGLY MAKE A FALSE REPRESENTATION ON OR WHO SHALL KNOWINGLY FALSIFY OR CAUSE TO BE FALSIFIED ANY FORM, MAP, REPORT OR OTHER DOCUMENT SUBMITTED IN CONNECTION WITH THIS APPLICATION SHALL BE GUILTY OF AN OPFENSE PUNISHABLE BY FINE OR IMPRISONMENT OR BOTH, PURSUANT TO SECTION 10-154 OF THE CITY OF NEW YORK ADMINISTRATIVE CODE. THIS APPLICATION WILL BE DEEMED PRELIMINARY UNTIL IT IS CERTIFIED AS COMPLETE BY THE DEPARTMENT OF CITY PLANNING OR THE CITY PLANNING OR WORLD AD DUILD BE DEEMED PRELIMINARY UNTIL IT IS CERTIFIED AS COMPLETE BY THE DEPARTMENT OF CITY PLANNING.				
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# STAIRWELLS TEXT AMENDMENT LR ITEM 3 November 17, 2014

#### I. Introduction

The Department of City Planning (DCP), in collaboration with the Department of Buildings (DOB) and the Fire Department (FDNY), is proposing a city-wide Zoning Text Amendment to facilitate and make effective additional safety measures that are part of New York City's 2014 Building Code. The safety measures are intended to enhance public safety in a particular category of new high rise buildings by providing additional exiting capacity for building occupants during emergency situations that require full building evacuation. These safety measures may be provided as designated emergency elevators, increased exit stair width, or as an additional exit stairway. The proposed text amendment consists of an amendment to the New York City Zoning Resolution, Section 12-10 (Definitions), to exempt floor space that is occupied by these additional safety measures from counting towards zoning floor area (zfa).

Such measures are required for all new non-residential buildings that are greater than 420 feet in height but **do not apply** to residential buildings. Buildings of this size are typically found in zoning districts without set height limits that allow a floor area ratio (FAR) of 10 or greater. These districts can be found in midtown and downtown Manhattan, downtown Brooklyn and portions of Long Island City in Queens. As stipulated in Local Law 141 of 2013, the new safety provisions, described in more detail below, will only become effective after the approval of this proposed zoning text amendment.

#### **II. Background**

After the collapse of the World Trade Center towers in 2001, the City recognized the need to comprehensively review and modernize the 1968 Building Code to bring construction requirements up to date. The work to modernize the 1968 Building Code began in 2002. It was administered by the DOB, and utilized the 2003 edition of the International Code Council's (ICC) family of codes as the basis for updating. The DOB organized more than 400 industry stakeholders, including architects, engineers, city planners, representatives of building owners, labor, affordable housing and government, into technical, advisory and managing committees. These committees reviewed the entire 1968 Building Code and compared it with the 2003 editions of the International Building, Mechanical, Fuel Gas and Plumbing Codes to identify the "new" code provisions. This work culminated with the passage of Local Law 99 of 2005 and Local Law 33 of 2007, also known as the 2008 New York City Construction Codes. An important feature of the legislation was the mandatory three-year revision cycle, a system designed to prevent code standards from becoming obsolete for want of timely revision. It is believed that if New York's buildings are to continue to function as monuments of the City's ingenuity, vision and expertise, its Construction Codes should do the same.

In 2011 the Department of Buildings began work on the first Construction Codes revision mandated by Local Law 33 of 2007. Once again it was a public/private partnership involving

more than 350 participants on 11 technical, advisory and managing committees. The committees reviewed the changes from the 2009 editions of the International Building, Mechanical, Fuel Gas and Plumbing Codes. In more than 48,500 hours spent attending more than 255 technical, advisory, and managing committee meetings, the members worked together to resolve issues and craft the revisions to the code that reflect the needs of the city. The Technical Committees, by consensus, either adopted the ICC revisions, or modified the changes to fit the needs and conditions of New York City. If an impasse was reached, and the committee could not reach consensus, it was forwarded to the DOB for mediation among stakeholders. Local Law 141 of 2013 (the revisions to the 2008 NYC Construction Codes) was passed by the City Council and signed by the Mayor in December 2013. These new provisions are collectively known as the 2014 NYC Construction Codes.

Included in the latest revisions are many provisions that increase safety within buildings, especially high-rise buildings. Some of these safety provisions implement the recommendations of the National Institute of Standards and Technology (NIST) World Trade Center Report (2005) that include decreasing the time it takes to evacuate an entire building in an emergency, increasing the ability of first responders to access building occupants and providing greater redundancy in escape routes to ensure that, should one such route become unavailable for building occupants, there is still adequate capacity to exit or evacuate the building. The practice of safety procedures during emergencies, including emergency occupant evacuation, is evolving. The 2008 Construction Codes assumed a "typical" firefighting strategy to shelter in place, thereby focusing on providing capacity to evacuate only one or two stories. The 2009 International Building Code, NIST and general building industry recognized an increased need for full building evacuation. These concepts were incorporated in the revisions to Section 403.5.2 of the Building Code contained in Local Law 141 of 2013.

Briefly summarized, Building Code Section 403.5.2 is a new provision requiring **one** of the following options be incorporated into the design of all new **non-residential** buildings **greater than 420 feet in height, or any mixed-use building that contains non-residential use above a height of 420 feet:** 

- 1. Construct all passenger elevators in the building as "occupant self-evacuation" type, including the safety requirements of such elevators, such as connection to emergency standby power, emergency communications, and special lobby dimensions to accommodate floor occupants, including wheelchairs; or
- 2. Increase the required width of all "emergency" exit stairways by 25 percent above what is otherwise required **and** construct all passenger elevators as "occupant self-evacuation" type **but** the standby power generating-equipment need only be sized to accommodate a <u>limited</u> number of the elevators (defined by an approved timed egress analysis); or
- 3. Construct one additional "emergency" exit stairway than is normally required based on the number of building occupants.

The above requirements in Section 403.5.2 of the Building Code resulted from mediation that included all stakeholders in both the Egress and Elevator Technical Committees. (See the DOB

**website** for the 2011 Construction Codes Revision Handbook that provides a detailed description of the code revision process, including mediation.) The International Building Code provisions were modified during the mediation process to accommodate NYC building conditions and resulted in the requirements summarized above. These modifications are necessary to increase safety in high-rise buildings while also accommodating the vastly different types of development sites, and buildings, in New York City.

# III. Purpose & Need

The majority of the provisions of Local Law 141/2013 (the 2014 NYC Construction Codes) will take effect on December 31, 2014. However, *Section 403.5.2* of the Building Code, *Additional Exit Stairway*, states that the provisions "shall take effect the later of 18 months after the date of enactment of this local law or the date of an amendment of the definition of floor area in the New York City Zoning Resolution providing for the exclusion of the floor area of the additional exit stairway and additional exit stairway width from the calculation of floor area...". (Section 14 of Local Law 141 of 2013).

The purpose of this action is to enhance public safety in a particular category of new high-rise buildings by providing additional exit capacity for building occupants during emergency situations that require safe, orderly and timely full building evacuation. The text amendment is necessary in order to effectuate these additional safety measures, as required by Building Code section 403.5.2 (aka Section 1 of Subpart 4 of Part C of Local Law 141 of 2013).

## **IV. Actions Necessary to Facilitate the Project**

The action necessary to facilitate the project consists of a text amendment to Section 12-10 (Definitions) of the New York City Zoning Resolution. The proposed amendment would modify the definition of *floor area* to exempt the required additional stair width or the additional stair from zoning floor area (zfa), when such safety measure is provided pursuant to the Building Code. The proposed exemption would allow for the restoration of the minor loss of zoning floor area that would result from providing these safety measures. The zoning text amendment would not increase the allowable zoning floor area of any affected site and net usable square footage would remain the same as currently permitted under existing regulations. No other changes to areas that permit high-rise development are included with this action.

**Section 12-10 (Definitions)** of the Zoning Resolution defines "floor area" by listing the types of floor space that do and do not count towards allowable zfa. The proposed zoning text amendment would extend the list of what does not count towards zfa by exempting the floor space occupied by additional exit stairwell capacity. Such floor space may come in two forms:

- 1) As a 25 percent enlargement of the stairwells already required by code, in which case the added width of the stairs and landings is exempted, but not the enclosing walls; or
- 2) As an additional stairwell structurally separate from the stairwells already required by code, in which case the floor area of the additional stairwell's stairs, landings and enclosing structural walls is exempted.

## V. Affected Area

The proposed text amendment is limited to non-residential buildings greater than 420 feet in height. Such buildings are most likely to be found in zoning districts without set height limits and with allowed floor area ratios (FAR) exceeding 10. These districts are:

10 FAR: C4-7, C5-2, C5-4, C6-4, C6-5, C6-8, M1-6 15 FAR: C5-3, C5-5, C6-6, C6-7, C6-9

These districts are commonly located in midtown and downtown Manhattan (Manhattan CD 1, 2, 3, 4, 5, 6, 7 and 8), downtown Brooklyn (Brooklyn CD 2) and small areas in Long Island City Queens (Queens CD 1, 2).

## VI. Analysis

Depending on the design option selected from the Building Code requirements, the reconfiguration of total net floor area could result in slightly bulkier buildings; either with slightly larger floorplates, or slightly increased height. To understand the net effect of this change, the Department studied building types most likely to be affected by the proposed amendment. According to DOB records, from Jan 1, 1997 through June 31, 2014, only 29 non-residential buildings over 420 feet in height (less than 2 per year) were constructed or are under construction. Of these 29 buildings, 18 are office buildings, 10 are hotels, and 1 is a hospital. In the same time period 73 residential buildings would not be affected by the proposed zoning text amendment, and consequently were not analyzed. Therefore, based on the DOB data, office and hotels are the primary types of high-rise development affected by this action and are the focus of the analysis.

For the reasons described above, prototypical hotel and office development were assessed. The proposed zoning text amendment would allow new non-residential high-rise buildings taller than 420 feet to exempt the floor area that would be occupied by the additional emergency egress stairway or the increased width added to required stairways, from counting as zoning floor area. This may result either in a small increase to the height or lot coverage, but no increase in usable floor area. Such increases would need to be within the permitted zoning envelope for both lot coverage and maximum height, as no additional bulk changes are proposed.

The slight increase in bulk resulting from the proposed action may affect development sites of different sizes differently. Therefore, hotels and office buildings on large-, medium- and small foot-print sites were assessed.

**Figure 1** indicates the typical fire safety exit stairways found in high-rise office and hotel developments. It illustrates the amount of floor space taken up by the additional safety exit stair (184 square feet per office floor; 141 square feet per hotel floor) and the amount of floor space taken up by the 25% increase in width of the current stairways (52 square feet per office stairway; 47 square feet per hotel stairway), using typical floor to floor heights in each building type.



Figure 1: Floor Space Used by Fire Safety Requirement

Buildings with small footprints have a tight building core, and usually a small number of elevators are adequate to serve the building occupants. Because of the limited amount of square feet per floor, the designers of such buildings typically seek to maximize the amount of usable floor area per floor. The provision of all occupant self-evacuation elevators (OEEs) occupies the least amount of usable floor area per floor, thus maximizing efficiency, and would therefore be the most likely design option for these small footprint buildings. The fact that fewer elevators are provided in small floor plate buildings, construction cost associated with adding the OEEs is also less.

By contrast, high-rise buildings with large floorplates need significantly more elevators to efficiently transport the building occupants. Therefore, the added cost for all OEEs is greatly multiplied and the provision of backup power for all the elevators is more expensive as well. Overall, development sites with larger floorplates allow the project designer a greater amount of design flexibility. The designer of these buildings would most likely choose either the 25% wider stairways with OEEs or the additional exit stairway.

**Figures 2, 3 and 4**, below, illustrate the net effect of the added bulk in each of the analyzed scenarios. In each building type, gross square footage and height are compared to the existing conditions and each of the fire safety options. The resulting exempted square footage is added to the top of the building and shown as a ratio of the floorplate of the highest story.

#### Figure 2: Small Floor Plate (less than 10k sf)





Figure 3: Medium Floor Plate (10k – 15k sf)

Medium Floor Plate	Additional Fire Safety Exit Stair	25% Fire Safety Exit Stair Width Increase
Scenario 1: Medium (OFFICE)	Floor space for one 44" wide stair = 184 sf (as per attached drawing)	25% increase in stair width = 52 sf (as per attached drawing)
Location: Midtown Manhattan		52 sf x 2 (stairways, required) = 104 sf
Height: 588' (> 420')	Final # of stories = 42 + 1* = 43 stories	Final # of stories = 42 + 1* = 43 stories
Stories: 42	*Additional story to accommodate exempted square footage.	*Additional story to accommodate exempted square footage.
Dimensions of Lowest	104 of periodicity 42 stories = 7.042 of	104 of por stopy x 42 stories - 4 473 of
100' x 190'	104 Si per story x 45 stories = 7,912 Si	104  si per story x 43 stories = 4,472 si
Dimensions of Highest	Area of highest story = 78° x 150° = 11,700 st	Area of highest story = 11,700 st
78' x 150'	7,912 St 7 11,700 St = 0.08 additional story	4,472  st 711,700  st = 0.38  additional story
Gross Floor Area:		
557,100 ST	added to the bulk of the 557,100 square foot building, which is 1.4% of the original building's floor area or less than % of an additional story.	added to the bulk of the 557,100 square foot building, which is 0.8% of the original building's floor area or less than ½ of an additional story.





## V. Conclusion

The proposed text amendment modifies the definition of *Floor Area* to exempt the additional fire exit stairway or stairway width from counting towards Zoning Floor Area. It would not result in new or increased development in the City, nor would it affect the type, amount or location of future development. There would be no difference in permitted zoning floor area. The principal effects of the proposed action would be the effectuation of Building Code Section 403.5.1, resulting in improved safety in new high-rise, non-residential buildings. As illustrated above, it is anticipated that high-rise building designers would choose the all OEE option for very small floor plates, typical of hotels and either widened safety stairways or additional stair options for those high-rise buildings with small, medium or large floor plates, typical of offices and hotels. If the exempted floor area was cumulatively added to the top of the building, the added floor area would result in less than one full additional story, ranging from 19% to 73% of a floor, depending on the building type and Building Code option chosen. In these cases the height of the resulting building would be approximately 9 to 14 feet taller, depending on the type of building.

Zoning Districts where Commercial Buildings Can Exceed Heights of 420 Feet

