

# SKYLINES

**#43**

**VOLUME THIRTEEN  
FALL 2022**

### CARLOS' LAW

NYS law sets the minimum fines for companies found criminally liable for a worker's death to \$500,000.00 for felonies and \$300,000.00 for misdemeanors. p12

### ADAMS COMMISSION

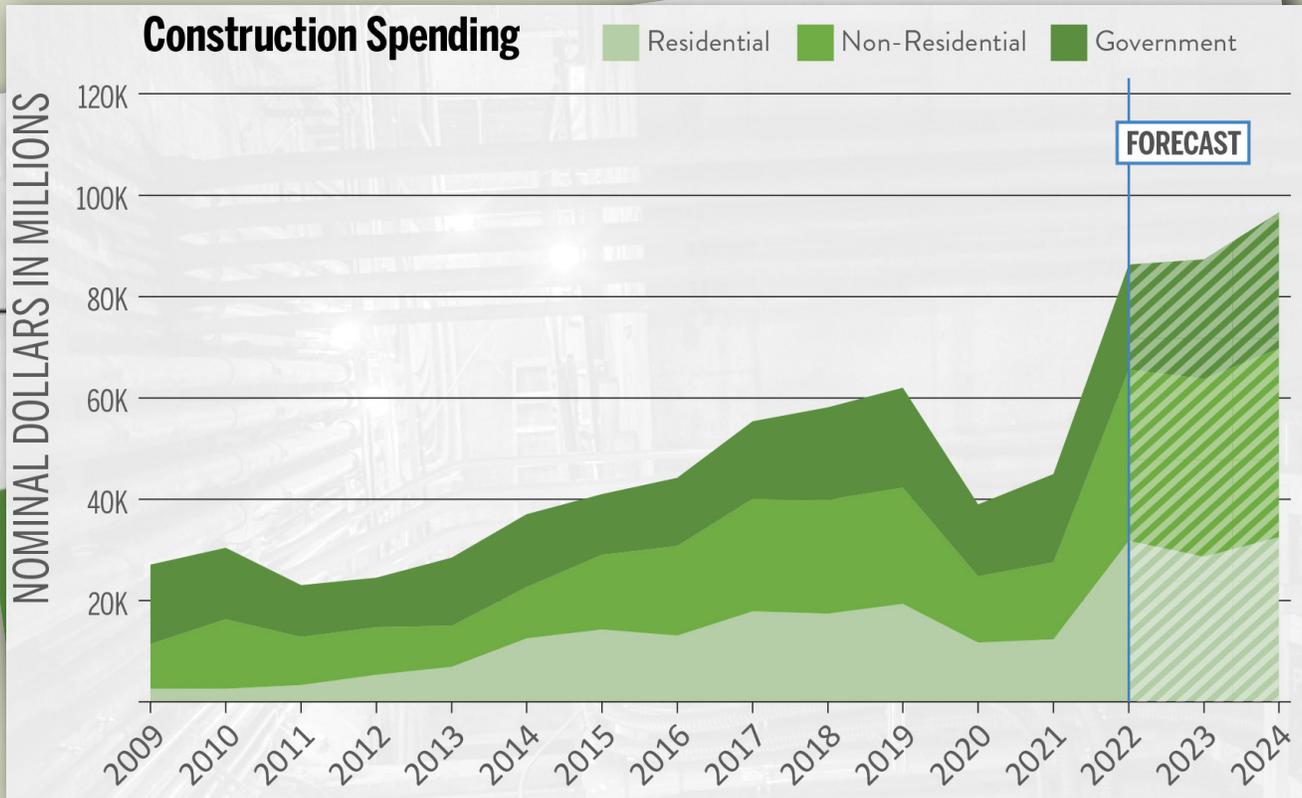
NY Mayor calls stakeholders from labor, industry, the nonprofit sector, and city government to produce a "blueprint for a better Department of Buildings." p6

### 3D LASER SCANNING

Technology brings accuracy in exterior restoration with important advances to surveys and documentation for existing buildings. p14

## "INCREDIBLE GROWTH"

New York Building Congress and New York Building Foundation  
Release the NYC Construction Outlook 2022-2024 p8



12

the Committee  
 accordance with Senate  
 amended, ordered reprinted as amended,  
 amended, committee discharged, bill  
 amended and recommitted to said committee

AN ACT to amend the penal law, in relation  
 or injury of a worker

**The People of the State of New York,  
 do enact as follows:**

1 Section 1. Short title. This act  
 2 "Carlos' law".  
 3 § 2. Paragraph (c) of subdivision 1  
 amended by chapter 671 of the law  
 constituting the

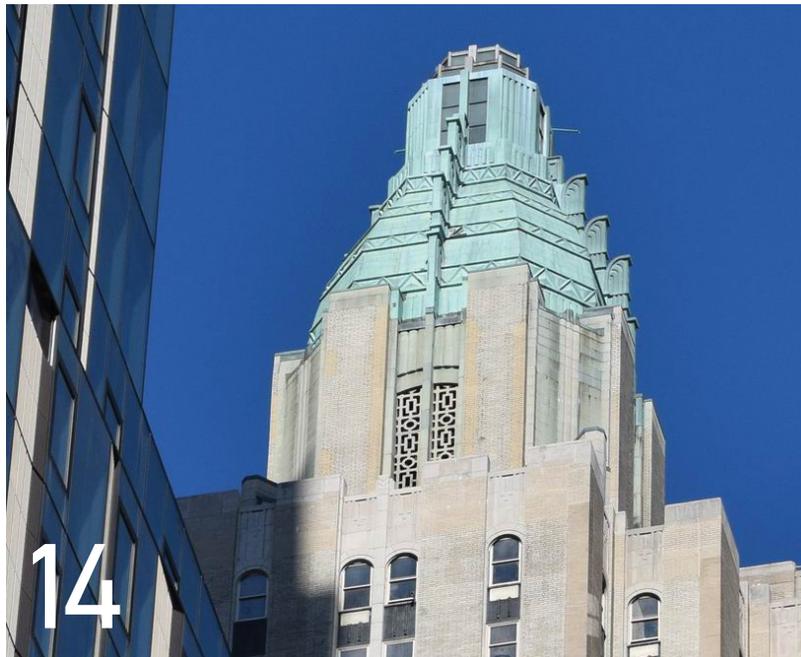


**NYC STOP WORK ORDER**  
 Buildings

Partial Stop Work Order      Date: \_\_\_\_\_  
 Full Stop Work Order      Premise: \_\_\_\_\_  
 Violation#: \_\_\_\_\_

PLEASE TAKE NOTICE that pursuant to Section 28-207.2 of the Administrative Code of the City of New York, you are hereby ordered to immediately stop all work at the above premises, because of a violation of Section(s) \_\_\_\_\_ of the Administrative Code and/or the Zoning Resolution of the City of New York or because work was being performed in a dangerous or unsafe manner. The restrictions of this STOP WORK ORDER apply to the following location(s): \_\_\_\_\_ (location of work).

PURSUANT TO Sections 28-207.2.1 and 28-103.7 of the Administrative Code of the City of New York, the New York City Police Department is being notified that this STOP WORK ORDER has been issued. FAILURE TO COMPLY WITH THIS STOP WORK ORDER MAY RESULT IN CRIMINAL CHARGES BEING FILED AGAINST YOU.



**NEW YORK CITY  
 BY THE NUMBERS**

**\$86 Billion**  
 in 2022 Construction Spending  
 Up \$38 billion from 2021

**139,000**  
 Total NYC Construction Jobs in 2022

**\$270 Billion**  
 Est. Construction Spending 2022-2024

8



PHOTO: DAREN MCBEE/OFFICE OF GOVERNOR KATHY HOCHUL



Governor Hochul delivers remarks at New York Housing Conference Annual Awards program on December 01, 2022 in New York City.

## "WE DREAM BIG, AND WE DO BIG. AND WE, ULTIMATELY, DO WHAT'S RIGHT."

On November 2, Kathy Hochul made history as first woman elected governor in the state of New York. In her remarks at New York Housing Conference Annual Awards program on December 01, 2022 in New York City, Governor Hochul admitted that "we are in the midst of a housing crisis that has been decades in the making... We've never had a statewide strategy on housing before. But under my administration, that will change in January. We will act boldly... We dream big, and we do big. And we, ultimately, do what's right."

And Governor Hochul can do just that: What's right!

The Governor needs to "act boldly" if her administration is willing to change the statute that makes building growth difficult. She needs to evaluate the archaic and inequitable New York State law that drives the housing crisis into deeper waters: The Scaffold Law.

The Manhattan Institute analysis "[Deconstructing New York's Building Costs: One-of-a-kind regulations illustrate why it's so hard to build anything in Gotham](#)" published in the City Journal last Spring, finds insurance costs for construction contractors in New York inflated by Section 240 of the State Labor Law (Scaffold Law,) which also makes the insurance market far less competitive. The lack of competition means still higher insurance prices: several estimates conclude that the Scaffold Law approximately **doubles insurance costs**, representing 7-10% of the construction expenses in New York (3-5% elsewhere.)

A [2014 report](#) from the New York County Lawyers' Association attributes New York's putative good construction safety record to the Scaffold Law, while a [2014 working paper](#) by several authors from Cornell University finds it difficult to attribute good points of New York's safety record to the Scaffold Act. According to [Bureau of Labor Statistics data](#), the rate of fatal injuries is unremarkable or a bit worse than average.

The Scaffold Law has not proven to be a remedy or a factor to prevent construction accidents. Wouldn't it make sense the money paid for inflated insurance costs be vested in building **safety culture** and providing additional **safety training** for workers?

The Governor can, ultimately, do what's right! [Reform Scaffold Law](#), help solve the housing crisis, and make history again!

Wishing a healthy and safe new year to all!



Eva Hatzaki  
Editor

# CONTENTS

- 04 2022 Construction Codes in Effect**  
For all projects filed on or after November 7, 2022.
- 06 Adams Commission**  
A blueprint for a better Buildings Department.
- 07 DOB's SWO Issuance Guides**  
When full or partial stop work orders may be issued as part of the new NYC 2022 Construction Codes.
- 07 Parking Garage Forum**  
IIBEC New York present Local Law 126.
- 08 Incredible Growth Forecasted**  
2022-2024 New York City Construction Outlook.
- 10 DOB Now: Build Updates**  
Changes in plan submissions, superintendent job limitations, sidewalk shed removal request procedures.
- 11 New Acting DOB Commissioner**  
Following the resignation of Eric Ulrich, Mayor Adams appointed Kazimir Vilenchik, P.E., to the position.
- 11 60K EV Charging Stations For NYS**  
Approved by the Federal Highway Administration.
- 12 Law Sets \$500K Minimum Penalty**  
Carlos' Law would raise the minimum fines for companies found criminally liable for a worker's death.
- 14 3D Laser Scanning**  
Alan Barr, owner of Stone Details, explains how technology brings important advances to surveys and documentation for existing buildings.

*Happy Holidays*

[www.SkylineFoundation.us](http://www.SkylineFoundation.us)

# 2022 CONSTRUCTION CODES IN EFFECT

FOR ALL PROJECTS FILED ON OR AFTER NOVEMBER 7, 2022

In its Buildings Bulletin, the NYC Buildings Department clarifies when to apply the 2014 Construction Codes or the 2022 Construction Codes to new buildings, alterations, partial demolition, and full demolition, including the applicable provisions of Chapter BC 33 (Safeguards During Construction or Demolition).

## I. Background

Local Law 126 of 2021 enacted the [2022 NYC Construction Codes](#), which go into effect on November 7, 2022. Except as provided below, the 2022 Construction Codes apply to all projects filed on or after November 7, 2022.

## II. Applications for new buildings and alteration permits

Except as provided in Sections III, IV, and V of this Bulletin, the 2014 Construction Codes apply to applications for permits when the application for construction document approval is submitted before November 7, 2022. This includes, but is not limited to, applications for permits for New Buildings (NB) and Alterations (ALT), Alteration permits that include partial demolition work, and permits for Foundation, Earthwork, Plumbing, Signs, Service Equipment, Fire Protection and Fire Suppression Systems, Temporary Structures, Temporary Uses, and Limited Alteration Applications (LAA),

BUILDINGS BULLETIN OPERATIONAL 2022-007		NYC Buildings		
<b>TABLES OF 2014 &amp; 2022 CONSTRUCTION CODES APPLICABILITY</b>				
<b>Table 1: APPLICATIONS FOR CONSTRUCTION, ALTERATION, OR DEMOLITION WORK</b> (EXCEPT BC CHAPTER 33 WORK & PERMITS FOR TEMPORARY CONSTRUCTION INSTALLATIONS, CRANES, DERRICKS, AND MAST CLIMBERS)				
WORK TYPE	TRIGGER	DATE	2014 Code	2022 Code
New Buildings	Application for construction document approval submitted	Before November 7, 2022 <sup>a, b</sup>	✓	
		On or after November 7, 2022		✓
Alterations to Existing Buildings (incl. Partial Demolitions) <sup>c</sup>	Application for construction document approval submitted	Before November 7, 2022 <sup>d</sup>	✓	
		On or after November 7, 2022		✓
Full Demolitions - Site Safety Plan Filing Not Required <sup>e</sup>	Submittal documents submitted, or if submittal documents not required, pre-demolition inspection package submitted	Before November 7, 2022 <sup>b</sup>	✓	
		On or after November 7, 2022		✓
Full Demolitions - Site Safety Plan Filing Required <sup>f</sup>	Site safety plan approved	Before November 7, 2022 <sup>g</sup>	✓	
		On or after November 7, 2022		✓
<b>Table 2: APPLICABILITY OF BC CHAPTER 33 TO THE WORK</b> (EXCEPT PERMITS FOR TEMPORARY CONSTRUCTION INSTALLATIONS, CRANES, DERRICKS, AND MAST CLIMBERS)				
WORK TYPE	TRIGGER	DATE	2014 Code BC 33	2022 Code BC 33
New Buildings & Alterations to Existing Buildings (incl. Partial Demolitions) - Site Safety Plan Filing Required <sup>g</sup>	Site safety plan approved	Before November 7, 2022 <sup>h</sup>	✓	
		On or after November 7, 2022		✓
Full Demolitions - Site Safety Plan Filing Required <sup>g</sup>	Site safety plan approved	Before November 7, 2022 <sup>i</sup>	✓	
		On or after November 7, 2022		✓
New Buildings & Alterations to Existing Buildings (incl. Partial Demolitions) - Site Safety Plan Filing Not Required <sup>g</sup>	Application for construction document approval submitted	Before November 7, 2022 <sup>b</sup>	✓	
		On or after November 7, 2022		✓
Full Demolitions - Site Safety Plan Filing Not Required <sup>g</sup>	Application for approval submitted	Before November 7, 2022 <sup>b</sup>	✓	
		On or after November 7, 2022		✓
<b>Table 3: PERMITS THAT AUTHORIZE THE INSTALLATION OF TEMPORARY CONSTRUCTION INSTALLATIONS, OR THE USE OF CRANES, DERRICKS, AND MAST CLIMBERS</b>				
WORK TYPE	TRIGGER	DATE	2014 Code	2022 Code
All	Application for approval submitted	Before November 7, 2022 <sup>b</sup>	✓	
		On or after November 7, 2022		✓
<p>a. New Building applications must include complete architectural, structural, and foundation drawings. Subsequent related filings can be submitted after November 7, 2022 but must follow the same year Code as the original application.</p> <p>b. Such applications must have been submitted and complete. See Sections II through V of the Bulletin for further detail.</p> <p>c. Alterations are subject to the applicable provisions in either the 2014 or 2022 edition of §26-101.4 of the Administrative Code.</p> <p>d. Application applications that authorize an enlargement must include complete architectural and structural drawings, and as applicable, complete foundation drawings.</p> <p>e. Jobs requiring a Site Safety Plan to be filed are outlined in either the 2014 or 2022 edition of BC Section 3310.</p> <p>f. The Site Safety Plan must cover all anticipated work and aspects of the site for at least one phase of the demolition.</p> <p>g. The Site Safety Plan must cover all anticipated work and aspects of the site for at least one phase of the construction or alteration project, including but not limited to earth and foundation work. An approved Site Safety Plan solely encompassing full demolition work at the site does not qualify.</p>				
<a href="http://nyc.gov/buildings">nyc.gov/buildings</a>				

when the conditions below are met:

- the construction documents submitted meet the minimum requirements for completeness under the Department's Plan Examination Guidelines - Minimum Requirement for Review of Design Drawings (see [https://www1.nyc.gov/assets/buildings/pdf/plan\\_exam\\_user\\_guide.pdf](https://www1.nyc.gov/assets/buildings/pdf/plan_exam_user_guide.pdf) for details)
  - for a new building application, the construction documents submitted include complete architectural, structural, and foundation drawings
  - for an alteration application for an enlargement, the construction documents submitted include complete architectural and structural drawings, and as applicable, complete foundation drawings
  - the application is diligently pursued to completion
- Reviews and approvals from other agencies (e.g., Transit Authority, Department of Transportation, Fire Department, Board of Standards and Appeals, Department of Environmental Protection, Parks Department) need not be submitted prior to November 7, 2022, in order for the application to be subject to the 2014 Construction Codes. With respect to new building applications, the 2014 Construction Codes shall apply to the entire new building, including but not limited to any additional construction filings related to the new building, such as fire alarms

or mechanical filings, submitted on or after November 7, 2022. Any alteration or new building filed in accordance with the 2014 Construction Codes that has a substantial increase in work scope related to the overall size or footprint of such building after November 7, 2022 must fully comply with the 2022 Construction Codes by re-filing all applications in accordance with the requirements of those Codes, unless otherwise authorized by the appropriate borough office.

### III. BC Chapter 33 provisions

#### A. Construction and alteration work not requiring a Site Safety Plan to be filed

When a Site Safety Plan is not required to be filed for the work and the application for construction document approval is subject to the 2014 Code in accordance with Section II of this Bulletin, the 2014 version of BC Chapter 33 and Article 110 of Title 28 of the Administrative Code shall apply for the duration of the work, including any subsequent filings related to BC Chapter 33.

#### B. Construction and alteration work requiring a Site Safety Plan to be filed

When a Site Safety Plan is required to be filed for the work, the 2014 version of BC Chapter 33 and Article 110 of Title 28 shall apply for the duration of the work, including any subsequent filings related to BC Chapter 33 or the Site Safety Plan, when the Site Safety Plan is approved before November 7, 2022, and the conditions below are met:

- the Site Safety Plan filed meets the minimum requirements for completeness under the Department's Minimum Content of Site Safety Plan Submissions (see [https://www1.nyc.gov/assets/buildings/pdf/cs\\_industry\\_notice\\_site\\_safety\\_plan\\_min\\_content.pdf](https://www1.nyc.gov/assets/buildings/pdf/cs_industry_notice_site_safety_plan_min_content.pdf) for details);

- the Site Safety Plan covers all anticipated work and aspects of the site for at least one phase of the construction or alteration project, including but not limited to earth and foundation work. An approved Site Safety Plan solely encompassing full demolition work at the site is not sufficient; and
- the application is diligently pursued to completion.

#### C. Full demolition work

For a full demolition which is subject to the 2014 Code in accordance with Section IV of this Bulletin, the 2014 version of BC Chapter 33 and Article 110 of Title 28 of the Administrative Code shall apply for the duration of the work, including any subsequent filings related to BC Chapter 33 and the Site Safety Plan.

#### D. Applications for temporary construction installation permits and crane, derrick and mast climber permits

Notwithstanding the provisions of this section above, applications for temporary construction installation permits and crane, derrick and mast climber permits shall be subject to the provisions of Section V of this Bulletin.

### IV. Applications for full demolition permits

#### A. Full demolition work not requiring a Site Safety Plan to be filed but requiring submittal documents per Section BC 3306.5

The 2014 Construction Codes apply to applications for full demolition permits that do not require a Site Safety Plan to be filed for the work, but require submittal documents per Section BC 3306.5, when the submittal documents for the demolition are submitted before November 7, 2022, and the conditions below are met:

- the submittal documents submitted meet the minimum

requirements for completeness under the Department's Plan Examination Guidelines - Minimum Requirement for Review of Design Drawings (see [https://www1.nyc.gov/assets/buildings/pdf/plan\\_exam\\_user\\_guide.pdf](https://www1.nyc.gov/assets/buildings/pdf/plan_exam_user_guide.pdf) for details)

- the application is diligently pursued to completion

#### B. Full demolition work not requiring a Site Safety Plan to be filed and not requiring submittal documents per Section BC 3306.5

The 2014 Construction Codes apply to applications for full demolition permits that do not require a Site Safety Plan to be filed for the work, and do not require submittal documents per Section BC 3306.5, when the pre-demolition inspection package is submitted before November 7, 2022, and the conditions below are met:

- the pre-demolition inspection package submitted is complete, with all required reports, statements, documents, photographs, and signatures, and, as applicable, professional seals, included
- the application is diligently pursued to completion

#### C. Full demolition work requiring a Site Safety Plan to be filed

The 2014 Construction Codes apply to applications for full demolition permits that require a Site Safety Plan to be filed for the work when the Site Safety Plan is approved before November 7, 2022, and the conditions below are met:

- the Site Safety Plan filed meets the minimum requirements for completeness under the Department's Minimum Content of Site Safety Plan Submissions (see [https://www1.nyc.gov/assets/buildings/pdf/cs\\_industry\\_notice\\_site\\_safety\\_plan\\_min\\_content.pdf](https://www1.nyc.gov/assets/buildings/pdf/cs_industry_notice_site_safety_plan_min_content.pdf) for details)

## STOP WORK ORDER (SWO) ISSUANCE GUIDE

SEE PAGE 7

- the Site Safety Plan covers all anticipated work and aspects of the site for at least one phase of the demolition
- the application is diligently pursued to completion

#### D. Applications for temporary construction installation permits and crane, derrick and mast climber permits

Notwithstanding the provisions of this section above, applications for temporary construction installation permits and crane, derrick and mast climber permits shall be subject to the provisions of Section V of this Bulletin.

#### V. Applications for temporary construction installation permits and Crane, Derrick and Mast Climber permits

Applications for permits for temporary construction installations (including but not limited to sidewalk sheds, fences, and scaffolding) or for the use of a crane, derrick, or mast climber, submitted before November 7, 2022, shall comply with the requirements of the 2014 Construction Codes for the respective installation or equipment, when the conditions below are met:

- the construction documents submitted meet the minimum requirements for completeness under the Department's Plan Examination Guidelines - Minimum Requirement for Review of Design Drawings (see [https://www1.nyc.gov/assets/buildings/pdf/plan\\_exam\\_user\\_guide.pdf](https://www1.nyc.gov/assets/buildings/pdf/plan_exam_user_guide.pdf) for details); and
- the application is diligently pursued to completion.

# ADAMS COMMISSION

## A BLUEPRINT FOR A BETTER BUILDINGS DEPARTMENT



On September 14, 2022, New York Mayor Eric Adams and former DOB Commissioner Eric Ulrich announced the creation of the "Adams Commission" — a 90-day commission convening stakeholders from labor, industry, the nonprofit sector, and city government to produce a comprehensive blueprint recommending structural improvements at the Department of Buildings.

The City has invited over [60 industry groups](#), trade organizations, ownership associations, advocacy groups, and government agencies to participate in this effort, each sending representatives to serve on topic-specific subcommittees, which will focus on eliminating unnecessarily complicated practices and onerous regulatory hurdles and inefficient workflows. Over a period of 90 days, these groups —with support from DOB

experts— will meet and formulate recommendations to improve the DOB, culminating in a report to Mayor Adams and the City Council. The report will be public once complete. With the report as a blueprint, the agency will begin implementing recommendations as appropriate in early 2023 through a combination of policy changes, operational modifications, and regulatory reforms. The administration will work with the City Council to make changes requiring legislation.

### Small Business Support Team (SBST) and Major Projects Development Unit (MPDU)

Mayor Adams and Commissioner Ulrich kicked off the effort with the launch of two new customer service units: the Small Business Support Team (SBST) and the Major Projects Development Unit (MPDU). These new fully staffed and operational units

aim to accelerate project timelines by providing dedicated services to ensure applications avoid unnecessary pitfalls. These specialized groups will operate similarly to the existing Affordable Housing Unit, providing guidance and expertise to move projects thoroughly and efficiently through the development pipeline to propel the city's recovery. The agency has created new internal workflows in its existing online application portal to automatically funnel small business projects to the SBST. The new MPDU is dedicated to assisting with proposed tower developments, significant new building and enlargement projects, and other complex projects deemed eligible by the DOB. The unit can provide one-on-one consultation services, and it is accepting applications for enrollment in this first-come, first-served, limited space program,

via the DOB NOW portal.

### Customer Service Initiatives

Recently, the DOB launched "Buildings After Hours," a weekly customer service event held every Tuesday night from 4:00 PM to 7:00 PM at the five borough offices where homeowners, small business owners, tenants, buildings managers, and others can meet with DOB experts and discuss buildings-related issues. Meetings with DOB staff are free, and no appointment is required to attend. DOB has also launched initiatives to enhance customer service operations, including:

- Extending in-person customer service hours at borough offices,
- Reinstating an option for in-person plan examination appointments for construction projects, and
- Committing to significantly reducing overregulation of small businesses.

# DOB'S STOP WORK ORDER (SWO) ISSUANCE GUIDE

WHEN FULL OR PARTIAL STOP WORK ORDERS MAY BE ISSUED AS PART OF THE NEW NYC 2022 CONSTRUCTION CODES

Description of Condition	Section(s) of Law	Full	Partial
Inspector is denied access.	AC 28-116.1	✓	
Work without required permit or license/permit or license expired.	AC 28-105.1/28-401.4	✓	
Not meeting conditions of NB permit	AC 28-105.1	✓	
Expired Insurance	AC 28-401.9	✓	
Construction documents are inadequate/missing essential detail or signatures/not on site at the time of inspection.	AC 28-120.1; BC 1704/BC 1603		✓
Required licensing/registration indicated to ensure safety is not present per construction documents.	AC 28-104.2.2		✓
Work contrary to plans or approved drawings.	AC 28-105.12.2		✓
Failure to provide drawings at the time of inspection	AC 28-104.2.2		✓
Failure to file and/or follow Site Safety Plan.	AC 28-105.12.2/AC 28-105.12.8	✓	
LL196 requirements not fulfilled	BC 3321.1	✓	
Site Safety Log not on site	BC 3321.2		✓
Required Tenant Protection plan or Occupancy Protection plan not on file or not being followed.	AC 28-120.1/AC 28-105.12.2	✓	
Exceeding the scope of work on an LAA (Limited Alteration Application)	AC 28-105.1		✓
LMP withdrawal from an application (usually sent by borough commissioner's office)	AC 28-105/28-408		✓
Work is performed outside of standard construction hours or, on the weekends - without an approved After Hours Variance (AHV) work permit.	AC 28-105.1	✓	
Building is enlarged beyond what is allowed for the zoning district of the property.	ZR-Misc.	✓	
15 Day Letter issued by BC	AC 28-104.2.10/AC 28-105.10	✓	
Serious injury or Fatality as a result of construction activity	BC 3301.2	✓	
Minor Injury caused by construction operations.	BC 3301.2		✓
Work resulting in a partial/full site collapse.	BC 3301.2	✓	
Signs of Structural Failure (bowing, bending).	BC 3301.2	✓	
Failure to safeguard public, persons and/or property	BC 3301.2	✓	
Construction equipment is being operated in an unsafe manner	BC 3301.2	✓	
Equipment required for the protections of workers, the public or adjacent properties not in place or not in use	BC 3301.2		✓
Damage or lack of safeguards to an adjacent property/missing roof/overhead protection.	BC 3301.2/BC 3309.1	✓	
Required monitoring of adjacent buildings not performed during excavation	BC 3301.2/BC 3309.4.4	✓	
Failure to reshore in proximity to facades.	AC 28-302.5	✓	
Failure to follow reshore schedule.	AC 28-105.12.2	✓	
Failure to adequately brace mason walls.	AC 28-302.1	✓	
Failure to provide washout box procedures	BC 3303.15		✓
Unsafe scaffold design or construction.	BC 3314.1	✓	
Scaffold not erected or maintained safely/Missing required SWS	BC 3307.1/BC 3307.6.2		✓
Required fire suppression system on-site is missing or inadequate.	AC 28-301.1	✓	
Use of open flame without fireguards, FDNY Certificate of Fitness and/or Fire Extinguisher in place	BC 3301.1.2	✓	
Uninspected and Uncertified Gas work is ongoing or involved.	FGC 406.2	✓	
Gas piping installed in prohibited locations	FGC 406.2		✓
Severe compromise (corrosion, holes, etc.) of the flue	BC 3301.2 & AC 28-301.1	✓	
High carbon monoxide	BC 3301.2 & AC 28-301.1	✓	
Safety relief valve missing/inoperative	AC 28-301.1		✓
Boiler vessel leaking	AC 28-301.1	✓	
Boiler leaking fuel	AC 28-301.1	✓	
Chimney or vent blocked	AC 28-301.1	✓	
Missing/inoperative boiler safety controls	AC 28-301.1	✓	
Failure to provide required samples	BC 1905.6.3.3		✓
Elevator not maintained	AC 28-304.1	✓	
Special inspector failed to perform or inadequately performed inspections/missing inspection documents	BC 1704.1.2	✓	
Failure to maintain Housekeeping.	BC 3303.4 & AC 27-1018		✓
A permit holder or person directly in charge of any suspended scaffold supported by c-hooks or outrigger beams fails to notify the department prior to the installation or use of such equipment as required by section 3314.1.1.1 of the New York City Building Code and either: 1. The rigger does not hold a license required by this Code, or 2. The workers lack certificates of fitness as required by this Code or applicable rule, or 3. The rigger failed to file with the department satisfactory evidence of insurance required by this Code.	AC 28-207.2.4.1	✓	
Inadequate egress	BC 3301.2/BC 3303.9/BC 3307.2.4	✓	

NOTE: These are guidelines for when the Department may issue a Stop Work Order. This does not limit the Department's authority to issue Stop Work Orders under NYC Administrative Code Section 28-207.2. The information in this document is not intended as a substitute for any law, rule or regulation. The New York City Department of Buildings reserves the right to take action at variance with this document.

All work must stop to allow time to assess the safety risks the project poses when the following occurs:

1. When adjoining property/structures are significantly damaged.
2. When a member of the public or construction worker is injured
3. When material/debris falls outside the property lines of the project onto a public area.

# IIBEC NEW YORK PRESENT LOCAL LAW 126 PARKING GARAGE FORUM

On September 21, 2022, the International Institute of Building Enclosure Consultants\* (IIBEC) New York Chapter held a Parking Garage Forum, at Club 101 in NYC, where representatives of the AEC industry had the opportunity to understand and navigate the requirements for NYC parking structures as mandated by the recently introduced [Local Law 126](#).

Andre Parnter, Burhappold Engineering and President of the IIBEC NY Chapter introduced keynote speaker Andrea Shear, Associate Principal, WJE who explained the Local Law 126 compliance requirements and alerted the attendees on the approaching [deadlines](#). The panel, consisting of Jill Hrubecy, Executive Engineer, NYC Department of Buildings; Anthony Stasio, Principle, EDG; John DeJager, Infrastructure Repair; and moderator Hugo Ramirez, VP, Adler Windows, presented the various types of concrete structural elements and outlined the road map to repair programs, preventative maintenance, and the importance of these processes to keep New York City's parking garages safe.

Ms. Hrubecy described the process of becoming a DOB approved Qualified Parking Structure Inspector (QPSI) and said that NYC currently has approximately 35 DOB-approved inspectors with more in line for approval. As Mr. Stasio explained, during the inspection process a repair program is determined for compliance or the requirement for immediate remediation to satisfy the structural deficiencies revealed. Non-compliance with this process exposes the owners to severe financial penalties and perhaps the possibilities of vacate/condemn orders. The audience raised questions regarding qualification or certification of contractors performing these repairs and if the DOB had plans of vetting and approving vendors to perform this vital work. DOB is actively reviewing this concern and will provide an update later this year.

\* *The International Institute of Building Enclosure Consultants (IIBEC) is an international association of professionals who specialize in roofing, waterproofing, and exterior wall specification, and design.*



The discussion panel: (L-R) Hugo Ramirez, VP, Adler Windows; Andrea Shear, Associate Principle, WJE; Jill Hrubecy, Executive Engineer, Buildings Department, John DeJager, President, Infrastructure Repairs; Anthony Stasio, Principle, EDG.

IMAGE COURTESY OF IIBEC NY CHAPTER

## 2022 - 2024 NEW YORK CITY CONSTRUCTION OUTLOOK

# INCREDIBLE GROWTH FORECASTED AHEAD

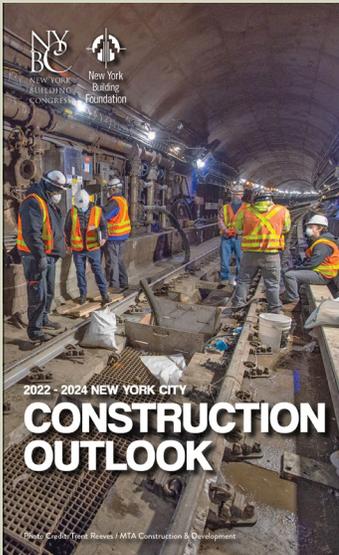


IMAGE: NYBC NYC CONSTRUCTION OUTLOOK 2022-2024

*The New York Building Congress forecasts \$86 billion in New York City construction spending in 2022. This represents development growing \$38 billion in inflation-adjusted dollars.*

The New York Building Congress (NYBC) in collaboration with the New York Building Foundation presented their [2022 - 2024 New York City Construction Outlook](#) during the annual Construction Industry Breakfast on October 19, 2022, which was attended by over 400 hundred AEC professionals.

This year's Construction Outlook shows New York City's building industry enjoying a roaring recovery as it bounces back from the devastation caused by the COVID-19 pandemic. Against all odds, construction spending and building levels over the next three years are projected to be relentlessly bullish in the face of economic headwinds and seismic changes in the city's workforce patterns. According to the Outlook "more growth and advancement are expected following Washington's historic Infrastructure Investment and Jobs Act (IIJA) of 2021." The NYBC urges the federal government to move quickly and efficiently to get these funds out the door and in the hands of our industry leaders, who will mold and shape the built environment of New York for future generations. This year's report presents "spending figures adjusted for inflation in a side-by-side comparison with that of nominal dollars (non-inflation adjusted dollars). Also, while some of the increased spending in 2022-2024 represents cost increases in construction, much of it is

## New Large Office Construction 2021 to 2024

Yr.	Address	Developer	Sq. Ft.
2021	322-326 Seventh Ave (28 & 7)	Klovern & GDS Development	105,000
	25 11th Ave (Pier 57)	Youngwoo & RXR	350,000
	76 8th Ave	Chun Woo Realty	37,166
2022	124 East 14th Street (ZERO Irving)	RAL Development	258,000
	50 Hudson Yards (415 10 Ave)	Related	2,900,000
	2 Manhattan West* (435 West 31 Street)	Brookfield	1,900,000
	550 Washington Street	Oxford Properties	1,300,000
2023	46 Gansevoort Street	Wm Bottliev & Aurora Capital	100,000
	66 Hudson Blvd (The Spiral)	Tishman Speyer	2,850,000
2024	3 Hudson Blvd (555 West 34th Street)	Moinian/Boston Properties	1,800,000
	5 World Trade Center** (130 Liberty Street)	Port Authority of NY & NJ	1,300,000
	200 Greenwich Street (WTC #2)	Silverstein Properties	2,800,000
	99 Hudson Blvd (444 11th Ave)	Tishman Speyer	1,300,000

GRAPHIC: NYBC NYC CONSTRUCTION OUTLOOK 2022-2024

attributed to counterbalancing depressed construction activity in 2020-2021." Factors like "the lack of a suitable replacement for 421-a could dramatically dampen this outlook, while potential benefits from signature actions like the bipartisan IIJA, could infuse additional spending. Thus, this forecast should be continuously monitored."

## CONSTRUCTION ACTIVITY SPENDING

The New York Building Congress forecasts \$86 billion in New York City construction spending in 2022. This represents development growing \$38 billion in inflation-adjusted dollars. Even when compared to pre-COVID levels, spending is still dramatically increased, up by \$13.7 billion from 2019, a 19 percent increase, in inflation-adjusted dollars. Fueling this rise, labor and material prices have escalated while shortfalls in development during COVID years

are being addressed. Spending in nominal dollars is expected to reach \$270 billion (\$250 billion, when adjusted for inflation) over a three-year period, growing to \$87 billion in 2023 and then to \$96 billion in 2024. Compared to the pre-COVID, three-year period from 2017 to 2019, this reflects an inflation-adjusted increase of \$37.8 billion.

## EMPLOYMENT

Although construction employment in 2022 is still behind its pre-COVID levels, the building industry is set to create tens of thousands of new jobs within three years. The Building Congress anticipates employment in the construction of buildings, heavy and civil engineering, and specialty trades to total 139,000 jobs in 2022, 143,000 in 2023 and 142,500 in 2024. With the dramatic rise in construction costs, construction jobs per \$1 million in spending have dropped from 3.1 in 2021 to 1.6 in 2022 and 2023.

**SECTOR BREAKDOWN****RESIDENTIAL**

Compared to the pre-COVID three-year period 2017- 2019, forecasted residential spending for 2022-2024 will be up almost 70 percent in nominal dollars to almost \$93 billion. Residential investment in new development, rehabilitation, and interior renovation has accounted for 23% of the increase in construction spending between 2019 and 2022. The average outlay per gross square foot of new housing has exceeded \$400 in 2022, suggesting high levels of renovation investment. Going forward to 2024, development is expected to exceed 30,000 new units per year while the cost per square foot of residential spending may decline somewhat as less interior renovation occurs. By 2024, aggregate residential investment is forecast to reach \$32.5 billion, up from \$31.8 billion in 2022.

**NON-RESIDENTIAL**

Non-residential spending, which includes office space, retail, hotels, institutional development, entertainment venues, and recreational facilities, is expected to reach \$106 billion in nominal spending between 2022 and 2024. This represents a 57% increase from pre-COVID years 2017 to 2019. The share of spending in this sector is projected to increase to 39% of all construction spending in 2022, up from 34% in 2021. New construction in large offices and healthcare facilities contributed to much of the increased share of non-residential construction. Manhattan saw more than a dozen completions of office buildings in 2019 totaling 10 million gross square feet of space. Subsequently, the past two COVID-affected years also delivered 11 new and converted buildings exceeding 4 million GSF of office floorspace. Looking

forward, three mega towers with nearly 6 million GSF are scheduled for completion in 2022, while five equally large skyscrapers are destined to deliver 10 million square feet of office space over the 2023-24 period. Beyond this forecast period, several more major office buildings are on the horizon, generating current construction spending in their earlier years of development.

In contrast, other commercial developments — like retail, social or hotel facilities — have waned, while COVID has contributed to a significant demand for heavy investment in educational and health care facilities, as well as in less costly warehouse or storage facilities. With shifting demands— as well as cost inflation and foregone maintenance and/or development — given current trends, the sum of all nonresidential construction investment is expected to peak above \$33.7 billion in 2022 by year's end.

**GOVERNMENT**

Government spending under current conditions is expected to increase to almost \$21 billion in 2022, \$23.6 billion in 2023 and \$26.9 billion in 2024. During the COVID period, government investment in construction and development exceeded one-third of total construction investment in New York City — a high proportion given the prior five years, but significant only in that government's spending did not decline as rapidly as private construction investment. In 2022, construction spending by the public sector is expected to rise to \$20.8 billion, more than 30% above the average annual spending level of the 2020- 21 period. As a consequence, government's share of overall construction investment will begin to climb,

reaching 28% of the total by 2024. While significant, given potential benefits of the IIJA, the volume of public spending on construction and development could conceivably reach higher shares in New York, in keeping with historic 40% averages. Over the next two years, government spending on infrastructure development is projected to dominate the construction market. Much is yet unknown about the benefits of the IIJA. However, according to the capital plans of New York City, the Metropolitan Transportation Authority, and the Port Authority, \$50.5 billion will be expended in 2023-24.

Please note that the agency detailed information below is based on publicly available capital budget information and may change as agency priorities shift.

**CITY OF NEW YORK**

In Fiscal Year 2022, New York City expended \$8.25 billion on construction and design in 72 categories of municipal infrastructure. Chief among these was Education, at \$5.6 billion, Housing Preservation & Development at \$1.7 billion and Water Pollution Control, at \$1.3 billion. The City's Capital Budget for 2022 to 2025 calls for continued emphasis on these three capital improvement needs over the next two years, with the addition of Corrections and Highway Bridges. In the aggregate, however, municipal capital investment is planned to decline in nominal dollars without the infusion of federal or state infrastructure spending.

**METROPOLITAN TRANSPORTATION AUTHORITY (MTA)**

Within the five boroughs, the MTA is likely to invest a steady \$34.8 billion in nominal dollars over the next three years, which would be

a 70 percent increase over total spending between 2017 and 2019. Actual expenditures will depend on the agency's execution of its current and past capital plans, the most recent of which expires in 2024. Construction and design commitments in the MTA's 2020-24 capital budget with respect to facilities and equipment in New York City reflect a rising level of investment from \$8.5 billion in 2022 to \$14.2 billion in 2024. Projects most enhanced by additional funding include NYC Transit station work and accessibility improvements, as well as signal modernization, line structure rehabilitation, and the Second Ave Subway extension.

**PORT AUTHORITY OF NEW YORK AND NEW JERSEY**

PANYNJ is expected to invest almost \$2 billion this year in New York City capital projects, a \$1.5 billion drop from 2021. Spending levels in the next three-year period are on par with those seen in the previous three-year period, each hovering around \$5.5 billion. Capital budget expenditures of the PANYNJ were originally expected to decline in New York City over the next two years however, New Terminal One at JFK Airport, which is set to open in 2026 at a total cost of \$18 Billion (\$9.5 Billion privately financed), is expected to change this equation over the next two years. Among the other large recipients of capital spending in the 2022-24 period will be improvements to the Goethals Bridge and the Lincoln Tunnel. The City's two bus stations are not anticipated to be a focus of investment in this period.

**OTHER**

The remaining \$1.5 billion in 2022 public works spending will be undertaken by agencies at the state and federal levels.



IMAGE: COURTESY OF SPRING SCAFFOLDING LLC

# DOB NOW: BUILD UPDATES

*Changes in Site Safety Plan Submissions, Construction Superintendent Job Limitations, Site Safety Release and Sidewalk Shed Removal Request Procedures*

In its July 8, 2022\* [Service Notice](#), the NYC Buildings Department announced that as of July 15, 2022, site safety plans can be submitted in DOB NOW: Build before the job is approved.

Once the job is submitted, the plan examiner will review the site safety criteria that includes the building height, stories, footprint, and additional considerations for alteration and demolition. A banner will appear on the filing and an email will be sent to the stakeholders on the job indicating that the site safety criteria has been approved and that the site safety plans can be submitted. In addition, a separate site safety plan request is no longer required for subsequent filings.

### Construction Superintendent Job Limitations

Local Law 149 of 2021 provides that, as of June 1, 2022, an individual may not be designated as the primary construction superintendent (CS) for more than five jobs.

Job#	Filing#	Filing Type	Filing Status	Modified Date	WorkType(s)...
S00412742	I1	Job Filing	Permit Entire	06/27/2022	GCMS-STF... 3135 V
Q00412641	I1	Job Filing	Permit Entire	06/27/2022	GCMS-ST/EA 110-20

**New Site Safety Request**

Site Safety Request Type

Site Safety Plans
  Site Safety Waiver
  Site Safety Release and Sidewalk Shed Removal

Request Type\*

Select Type: [Dropdown Menu]

Sidewalk Shed Removal  
 Site Safety Release  
 Site Safety Release and Sidewalk Shed Removal

For [blank] jobs, use format 123456789-01.

Job Filing Number\*

Enter Job Filing Number

Next Cancel

IMAGE: NYC.GOV

A site safety release and sidewalk shed removal can be requested in DOB NOW: Build. From the dashboard, select +Requests and Site Safety. Select Site Safety Release and Sidewalk Shed Removal and then the appropriate request type.

This is a change from the previous limitation of ten jobs. Construction superintendents who are designated on more than five active jobs can request to be withdrawn from the job, the permit applicant can renew

the permit with change to issue the permit with a different CS, or a request can be submitted to release the site safety requirements from the job, which will also release the construction superintendent.

### Withdraw a Construction Superintendent from a Job

For BIS jobs, the construction superintendent can request to be withdrawn from a permit by submitting a signed letter of intent to withdraw to the Borough Commissioner's Office. For DOB NOW jobs, the construction superintendent can submit a Withdrawal Letter to the help form at [www.nyc.gov/dobhelp](http://www.nyc.gov/dobhelp). The permit status will be changed to On Hold until the permit is renewed with a new construction superintendent.

### Change the Construction Superintendent on a Permit

For BIS jobs, the permit applicant renews the permit with change by dropping off a PW2 at the Borough Office. Permit renewals with change cannot be processed in eFiling. For DOB NOW jobs, the permit applicant renews the permits with change in DOB NOW.

### Site Safety Release and Sidewalk Shed Removal

For both BIS and DOB NOW jobs, any user associated to the job can request site safety release and sidewalk shed removal in DOB NOW: Build. From the dashboard, select +Requests and Site Safety. Select Site Safety Release and Sidewalk Shed Removal and then the appropriate request type. To request Sidewalk Shed Removal, provide a DOB NOW Sidewalk Shed (SH) job number and indicate whether it is a request for full or partial removal. After the Sidewalk Shed Removal request is submitted in DOB NOW, the Construction Safety Compliance Unit will schedule an inspection and once the inspection is in Pass/Final status, the Sidewalk Shed Removal request will be approved in DOB NOW: Build and the sidewalk shed can be removed from the site.

### Construction Superintendent Release

To release a Construction

Superintendent, an authorization letter and photographs are required to be uploaded in the Documents section. The authorization letter can be signed by one of the following:

- Applicant of Record of the specific job filing
  - Progress Inspector identified on the Technical Report-Final associated to the job
  - Permit Holder if the licensee is a Registered General Contractor including 1/2/3 family homes
  - Construction Superintendent associated to the specific permit
- Submit the Site Safety Release request in DOB NOW and once it is approved by the Construction Safety Compliance Unit, the site safety requirement will be removed from the job and the job Construction Superintendent will no longer be designated on the job.

### Site Safety Coordinator or Site Safety Manager Release

To release a Site Safety Coordinator or Site Safety Manager, submit the Site Safety Release request in DOB NOW. The Construction Safety Compliance Unit will schedule an inspection and once the inspection is in Pass/Final status, the site safety requirement will be removed from the job and the request will be approved in DOB NOW. If the permit is renewed, a Site Safety Coordinator or Site Safety Manager will not be required. A request to release site safety (site safety coordinator or manager) and the sidewalk shed at the same time requires full (not partial) removal of the sidewalk shed and the SH filing must be associated with the same BIN. For assistance, submit an inquiry at [www.nyc.gov/dobhelp](http://www.nyc.gov/dobhelp).

*\* This Service Notice replaces the temporary process outlined in the Department of Buildings April 2022 Service Notice.*

## NEW ACTING DOB COMMISSIONER

On November 3rd, Mayor Eric Adams named Kazimir Vilenchik, P.E., as Acting Commissioner of the Department of Buildings, following the resignation of Eric Ulrich.

A member of the Department since 2008, Acting Commissioner Vilenchik has served as First Deputy Commissioner for the Department, and before that was the Brooklyn Borough Commissioner. Prior to his tenure at the Department, Acting Commissioner Vilenchik worked

for over 20 years in the private sector. He attended Belarussian State Polytechnic University in Minsk, Belarus. In a message to Department staff, the Acting Commissioner said: "Together, we have accomplished so much at the Department since the beginning of the new administration, and I have every intention of moving the ball forward on our other new agency initiatives. We continue to serve a vital role in this City, and I thank each of you for your continued dedication and professionalism."

## 60K ELECTRIC VEHICLE CHARGING STATIONS FOR NYS

New York has received the green light—and \$63 million of federal funding—to install over 60,000 charging stations for electric vehicles throughout the state.

With the Federal Highway Administration's approval, the NYS Department of Transportation is planning to install these stations every 50 miles along New York's throughways and highways, including NY-17 (Southern Tier Expressway), NY-27 (Sunrise and Montauk highways), and

NY-25 (Queens Boulevard, Hillside Avenue and Jericho Turnpike). DOT will also request for proposals for owners of rest stops and other properties near highways to operate the charging stations.

The state's [EV Make-Ready Program](#) is expected to finance the installation, while the New York Power Authority is investing \$250 million to build 800 charging stations state-wide. The state's goal is to accommodate about a million electric vehicles by 2025.



Businesses in New York State may soon be equipped with electric vehicle charging stations like the ones recently installed at the energy-efficient Andromeda Building in Long Island City.

# NYS LAW SETS \$500K MINIMUM PENALTY FOR A WORKER'S DEATH



A Penal Codes amendment creates new offenses and substantially increases fines that can be imposed upon a corporate defendant convicted of certain crimes.

**Carlos' Law**—named after Carlo Moncayo, an undocumented worker from Ecuador who was fatally injured when a trench collapsed on him at a worksite in New York City on April 6, 2015,—would raise the minimum fines for companies found criminally liable for a worker's death to **\$500,000.00** for felonies and **\$300,000.00** for misdemeanors.

Carlos' Law was proposed for legislation by city councilman Francisco Moya in 2016 and passed the New York General Assembly in 2017. It has been shuffled on and off the state congressional agenda for years, lastly tied up in the code committee before its amended version being moved to the assembly floor and then the senate where the [measure passed](#) in January of 2021.

Governor Hochul has been reviewing it in this current legislative session and has asked for input and comment from the concerned constituencies most affected by the passage of the bill into law. It is understood that the governor's signature is required before the end of this year for it to become NY State law.

The Real Estate Board Of New York (REBNY) expressed their concerns for protecting developers and proposed to eliminate language that could allow interpretation of "supervisors" to include developers where legal liability is involved.

In a [June 30 letter](#) (see next page), BTEA, NAMC, WBC, and MWCDA—organizations representing hundreds of contractors—urge the Governor

of NY to amend Carlos' Law before it's signed, and they propose the following:

- Removing the minimum requirements, which handcuff prosecutors and judges, and threaten to put MWBEs, small contractors, and small businesses out of business.
- Including "recklessly" as a standard to avoid drastic fines for companies, which will put them out of business for any misdemeanor or violation related to conduct of any agent, not just a high managerial agent, of a corporation.
- Including "serious physical injury" instead of just injury, which is undefined in the penal code.
- Clarifying that the bill should apply prospectively.
- The Penal Law already allows prosecutors to bring criminal proceedings against



Carlos' Law was proposed for legislation by city councilman Francisco Moya (above left) in 2016 and passed the New York General Assembly in 2017. BTEA President Louis Coletti (right) and other organizations in the construction industry are "concerned about the potential impact the legislation will have on Minority and Women-Owned businesses, small contractors, and small businesses," and have urged the Governor to amend Carlos' Law before it's signed.

a corporation for assault and manslaughter and they have shown their willingness to do so where the facts determine they do so. The language that makes a corporation strictly liable for actions that are in relation to a crime involving the death or injury of a worker is unnecessary and should be stricken.

As Louis Coletti, president of the BTEA, says in a recent [Op-Ed](#) in the Gotham Gazette, "in trying to solve the very real problem of having an ineffectual law on the books, legislators have gone too far in the other direction. If Carlos' Law is signed by Governor Hochul without being adjusted, it will have a punitive effect on contractors in the state, putting New York, and its \$40 billion per year construction trade, at further risk of a recession."



**Building Trades Employers' Association**  
 1325 Avenue of the Americas • 10<sup>th</sup> Floor • New York, N.Y. 10019  
 212.704.9745 • [www.bteany.com](http://www.bteany.com)  
 Louis Coletti, President & CEO

June 30, 2022

The Honorable Kathy Hochul  
 Governor of New York State 633  
 3rd Avenue  
 New York, New York 10017

NYS Capitol Building Albany, New  
 York 12224

Re: Proposed Chapter  
 Amendments for Carlos Law  
 S621-B/A4947-B

Dear Governor Hochul,

As you know, the Building Trades Employers' Association and the Minority Developers and Contractors Association, the National Association of Minority Contractors, NYC Chapter, and Women Builders Council, Reverend Jacques DeGraff and Elizabeth Velez of the Velez Group opposed S621/A4947-A as it was submitted. While safety is, was, and will continue to be our number one priority, we continue to be concerned about the potential impact the legislation will have on Minority and Women-Owned businesses, small contractors, and small businesses.

We continue to have those concerns and hope that the Governor will consider some revisions which will not affect the intent of the bill, but will protect MWBEs, small contractors, and small businesses. As you know, the bill was proposed in response to the tragic loss of a construction worker, Carlos Moncayo. Although two companies and individuals were criminally charged and convicted, the caps on fines - \$10,000

for a felony and \$5,000 for a misdemeanor, were unacceptable. We propose:

- removing the minimum requirements, which handcuff prosecutors and judges, and threaten to put MWBEs, small contractors, and small businesses out of business;
- including "recklessly" as the standard to avoid drastic fines for companies, which will put them out of business for any misdemeanor or violation related to conduct of any agent, not just a high managerial agent, of a corporation;
- including "serious physical injury" instead of just injury, which is undefined in the penal code;
- clarifying that the bill should apply prospectively;
- the penal law already allows prosecutors to bring criminal proceedings against a corporation for assault and manslaughter and they have shown their willingness to do so where the facts determine they do so. The language that makes a corporation strictly liable for actions that are in relation to a crime involving the death or injury of a worker is unnecessary and should be stricken.

These minor changes do not take away the teeth of the bill - corporations, high managerial agents, and agents can still be criminally liable and substantial fines can still be imposed - but the very real threat of putting good MWBE and small contractors out of business by imposing a mandatory \$300,000 fine where a

worker trips and breaks a wrist, or a dishwasher putting broken dishware in the trash gets cut, is removed.

The Building Trades Employers Association has 159 M/WBE contractors, more than any other contractor Association in New York State:

- 42% of BTEA M/WBE contractors have revenues of \$5 million or more
- 21% of BTEA M/WBE contractors have revenues of \$1-5 million

In 2020, the U.S. Department of Labor Occupational Health and Safety Administration statistics (attached for your review) show that 72% of construction fatalities occurred on jobsites of small contractors; 79% of these fatalities occurred on construction sites below 10 stories.

These statistical facts show the real threat to small contractors, Minority and Women-Owned contractors who build projects of this size and will disproportionately suffer the unfathomable economic consequences should fatalities or accidents occur on their jobsites.

**Summary**  
 There is nothing more important to BTEA contractors than to ensure a safe work environment and making sure all workers return home safely to their families safe, healthy, and sound each and every single night. Sound public policy must take into consideration the implications of all the constituencies who are affected by it. Our proposed changes provide strong worker safety protections while at

the same time protecting the economic vibrancy of small contractors, Minority and Women-Owned contractors and their ability to grow their companies into the effective economic generator of the jobs the New York State economy needs- especially in recovering from the devastating economic impact of the COVID virus.

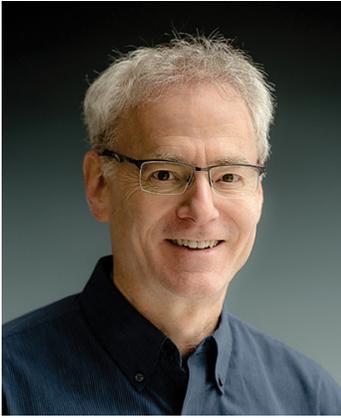
I look forward to the opportunity of discussing with you and your staff why our proposed amendments are good for the safety of all construction workers, good for small businesses and Minority and Women-Owned contractors and good for New York State. To memorialize the above revisions in the context of a chapter amendment will achieve the goals we all share in making all our jobsites safer.

Best Regards,

Louis J. Coletti  
 President

Cc: Kathryn Garcia, Director of State Operations  
 Rebecca Wood, Deputy Counsel to the Governor  
 Jill Starishevsky, Assistant Counsel to the Governor





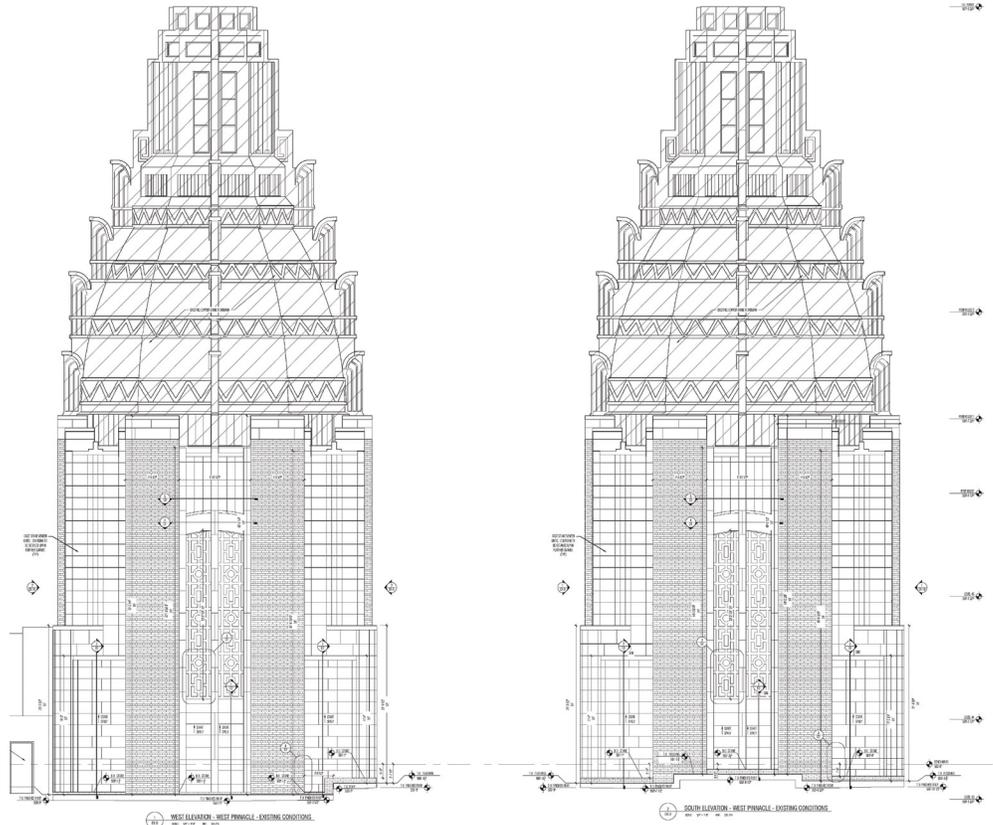
**Alan Barr,**  
owner of **Stone  
Details,** explains  
how technology  
brings important  
advances to  
surveys and  
documentation for  
existing buildings

3D laser scanning and digital measuring devices have ushered in a new era of building surveying and documentation, but the days of tape measures and clipboards are not completely gone yet.

Laser scanning and digital measuring systems have been around for years. These tools are used for a wide variety of building documentation needs, from obtaining the surface area square footage of complex rock face building stones, to interior stud wall layout to scanning structures of historic sites.

As Alan Barr, owner of [Stone Details LLC](#), explains, digital technology plays a large part in the survey and documentation of existing building conditions, and how those conditions relate to the design of architectural stone for building façade restoration, but to obtain the accuracy required for their projects, old school drafting tools are still used to get the best results.

# 3D LASER SCANNING BRINGS ACCURACY IN EXTERIOR RESTORATION



When Barr founded Towne House Restorations in 1987, their market was the replication of ornamental terra cotta, limestone and brownstone using concrete based materials. "We cut our teeth riding rigs and measuring stones, masonry openings and structural steel configurations to fabricate stones that fit the exact existing condition, or newly designed steel condition, in which they would be installed." Stone Details, LLC was formed in 2009 to carry that mission out to the façade restoration industry by providing detailed building façade surveys to create existing exterior condition drawings for architects and engineers, and stone replication drafting services

for the natural stone industry. "We still ride rigs, but now with powerful digital data capture equipment along with our tape measures," says Barr.

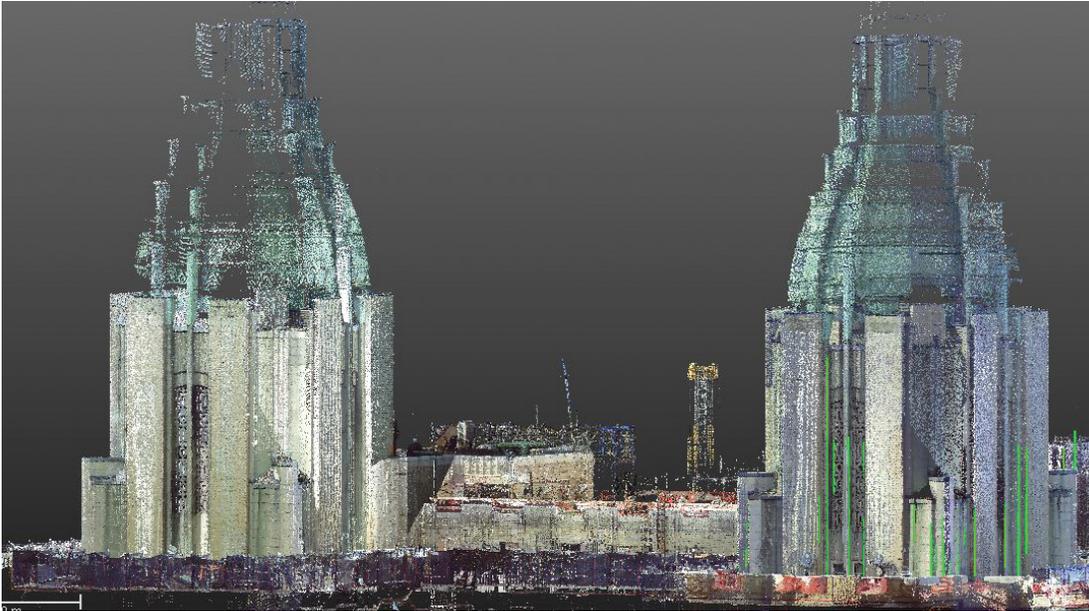
## The Waldorf Astoria Project

On a recent project at the Waldorf Astoria Hotel in New York City, 3D laser scanning and other digital measuring tools were used in conjunction with conventional surveying equipment to prepare a set of existing conditions drawings for the landmarked copper domed pinnacles on the roof of the building. The billion-dollar restoration of the Waldorf was one of the largest restoration projects in the history of New York City. It involved gutting the

44 story, full city block structure and the renovation of the entire interior into mixed use hotel, residential and commercial. Some planned residential units were to be multistory and involved reconfiguring existing concrete floors and structural steel which created an extremely complex coordination effort for the GC and architect. This impressive undertaking includes the crown jewel of the project: the conversion of the two roof top pinnacle structures, which originally housed the roof top water towers, into two fabulous penthouses.

## Pinnacle Detailing Project Scope

The project team comprised of



On a recent project at the Waldorf Astoria Hotel in New York City, 3D laser scanning (above) and other digital measuring tools were used in conjunction with conventional surveying equipment to prepare a set of existing conditions drawings (left) for the landmarked copper domed pinnacles on the roof of the building.

construction manager AECOM Tishman, architect Skidmore, Owings & Merrill, structural engineer Silman, exterior wall consultant Vidaris, and Pullman as the restoration contractor on the job. Because of the condition of the pinnacles, the plans called for the demolition of the structures. Since the structures were landmarked, they would have to be rebuilt to the exact same exterior appearance, including the brick masonry and stone design. That required a dimensionally accurate set of existing conditions drawings suitable for the architect and structural engineer to incorporate into their construction documents. There are two pinnacles, one east and one west. Each pinnacle has 4 stories of brick masonry and stone and a copper dome which is practically 4 stories in itself. The footprint was complex with the brick masonry stepping from the 43rd to 44th and then to 45th floors with a series of setbacks and parapets. The shape was octagonal, and although the two pinnacles appeared to be mirror opposites, that was not the case. It was ultimately decided that

the copper dome would remain in place and be repaired as required, but that the masonry and stone structure would be demolished and rebuilt to match the original. Stone Details was awarded the contract to provide the survey work and prepare the existing conditions drawings.

#### The Devil Is in The Details!

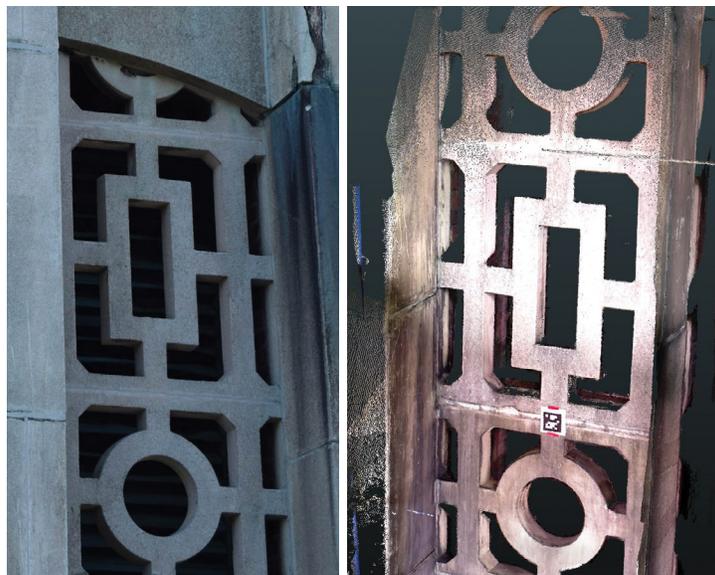
As Barr stresses "surveying these structures involved every tool in the belt... Faro 3D laser scanner

for the buildings, handheld laser scanner for the details, auto levels, laser measuring devices, total station, as well as tapes, levels, and bevel tools. Benchmark elevations were established on every floor by the interior survey team." Stone Details used laser levels to transfer these benchmarks to the exterior walls of the pinnacles to tie the pinnacle exterior wall features and roof elevations to the benchmark system for the

building. All building features, brick setbacks, ornamental stone assemblies, brick pier heights and ornamental copper locations were referenced to this system for use in rebuilding the structure. The Pullman team provided over 40 probes so that the locations and configurations of the existing structural steel, as well as the depth and design of the ornamental stone could be documented. After obtaining the exact measurements of the existing conditions, some measurements were standardized to eliminate the obvious conditions where existing masonry had cracked or bulged thus re-creating the perfect octagon for each pinnacle for which they were originally designed. The deliverable was a comprehensive set of measured existing condition drawings provided for both pinnacles along with a comprehensive 3D laser scan of both pinnacles.

#### Measurement Redundancy is Key to Accuracy

"You might wonder," says Barr, "with all the laser and digital technology available these days for building measurement, why is it still necessary to use a tape measure? Laser scans do not automatically create a perfect drawing. They generally require postproduction software for the scan to be imported into a drawing program. As with many technologies, sometimes the effort required to use the technology is more time consuming than the less high-tech alternative. There is also the 'belt and suspenders' philosophy. I have been involved in projects where the scans, for one reason or another, have lacked the accuracy required for our work. So, we double check the scan data against real world measurements. Nothing beats reading a tape, especially when your name is on the bottom line."



3d laser scan image (right) of vent assembly. IMAGES COURTESY OF STONE DETAILS LLC



**JEFFREY BISHOP**  
LIQUID ARCHITECTURE



**MICHAEL POAST**  
SCULPTURES

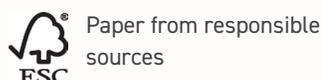


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*MAS seeks to create a dialogue with issues of contemporary art practices to encourage, support and expand creativity and self-expression. To create an environment in which the arts flourish and enrich the quality of life. — [www.mosaicartspace.com](http://www.mosaicartspace.com)*

PHOTOS: COURTESY OF  
JEFFREY BISHOP, AND  
MICHAEL POAST, RESPECTIVELY



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