



20 build safe | live safe
21 **DIGITAL** CONSTRUCTION
SAFETY CONFERENCE

GENERAL & DEMOLITION SITE SAFETY

P R E S E N T E D B Y
RONALD MENER, DIRECTOR
CRAIG HUGHES, CHIEF
ROBERT TURNER, CHIEF





COPYRIGHT

This presentation is protected by United States and International Copyright laws. Reproduction, distribution, display and use of the presentation without written permission of the speaker is prohibited.

© 2021 New York City Department of Buildings

DISCLAIMER

The information in this document is only a summary and overview and is not intended to substitute for the full text and meaning of any law, rule or regulation. The City disclaims any liability for errors that may be contained in this document and shall not be responsible for any damages, consequential or actual, arising out of or in connection with the use of this document and/or the information contained herein. The City reserves the right to take action at variance with this document. This document shall not be construed to create a substantive or procedural right or benefit enforceable by any person. The information contained in this document is current only as of the publication date of this document.

© 2021 New York City Department of Buildings

PRESENTATION DESCRIPTION

This presentation reviews Site Safety Training requirements, COVID-19 Safety regulations, and general safety measures seen on different types of construction and demolition sites. Buildings Bulletins, NYC Building Code, and other types of safety regulations will be cited.

It would be helpful for presentation viewers to have background knowledge and experience in construction and demolition.

OVERVIEW

- Introduction: General Construction Site Safety
- LL196/SST Requirements
- COVID-19 Safety
- General Construction Safety
 - High-rise & Low-rise
 - Scaffold & Sidewalk Shed
 - Excavation
 - Gut Rehab & Interior Demo

OVERVIEW

- Demolition
 - Demolition Plans
 - Pre-Demolition
 - Demolition Notification
 - Demolition Safety
 - Demolition Sign-off



INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

Hazard Mitigation, Importance & Most Common Violations

INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

What is General Construction Site Safety?

- General site safety refers to the safety measures that need to be taken at almost all sites
 - Regardless of whether they are open, **closed**, or interrupted
- As legislation and current events evolves, so does general site safety
- In 2017, DOB rolled out Local Law 196 (LL196) which updated the training requirements for workers on construction site
- In 2020, COVID-19 caused worker interactions and safety measures to change

INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

What is General Construction Site Safety? *(continued)*

- These events bring us to NYC's current general site safety measures
- Some examples of this are:
 - Maintaining proper housekeeping
 - Maintaining all required on-site documents
 - Fire extinguishers are kept on site in accordance with FDNY
 - All construction workers have (at least) 40-hour Site Safety Training

INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

Closed/Interrupted Work Sites

- A **closed site** is a site that is inactive for a short period of time with the anticipation of returning in the near future
 - i.e. sites that are closed for holidays, weekends, or SWOs
- An **interrupted work site** is a site that is inactive for a prolonged period of time with no anticipation nor scheduled date of return
 - i.e. sites that are shut down due to a lack of funds and the site will be stalled while the owner works on getting another loan to finish the job
 - Permits must be kept up to date and site safety inspections shall be conducted periodically to make sure the safety of the site has not been compromised

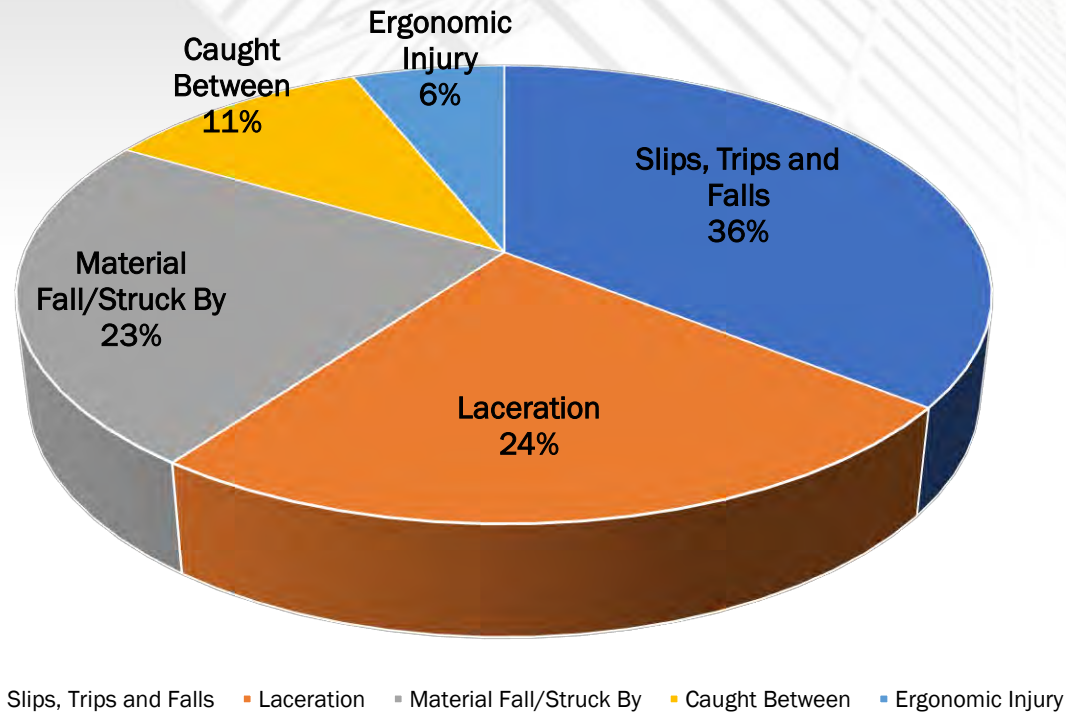
INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

Hazard Mitigation

- There are five methods of control to mitigate hazards
- Hazards controls, hierarchy of controls, are in order of most effective to least effective and hazards shall be dealt with using the more effective control first whenever possible



INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY



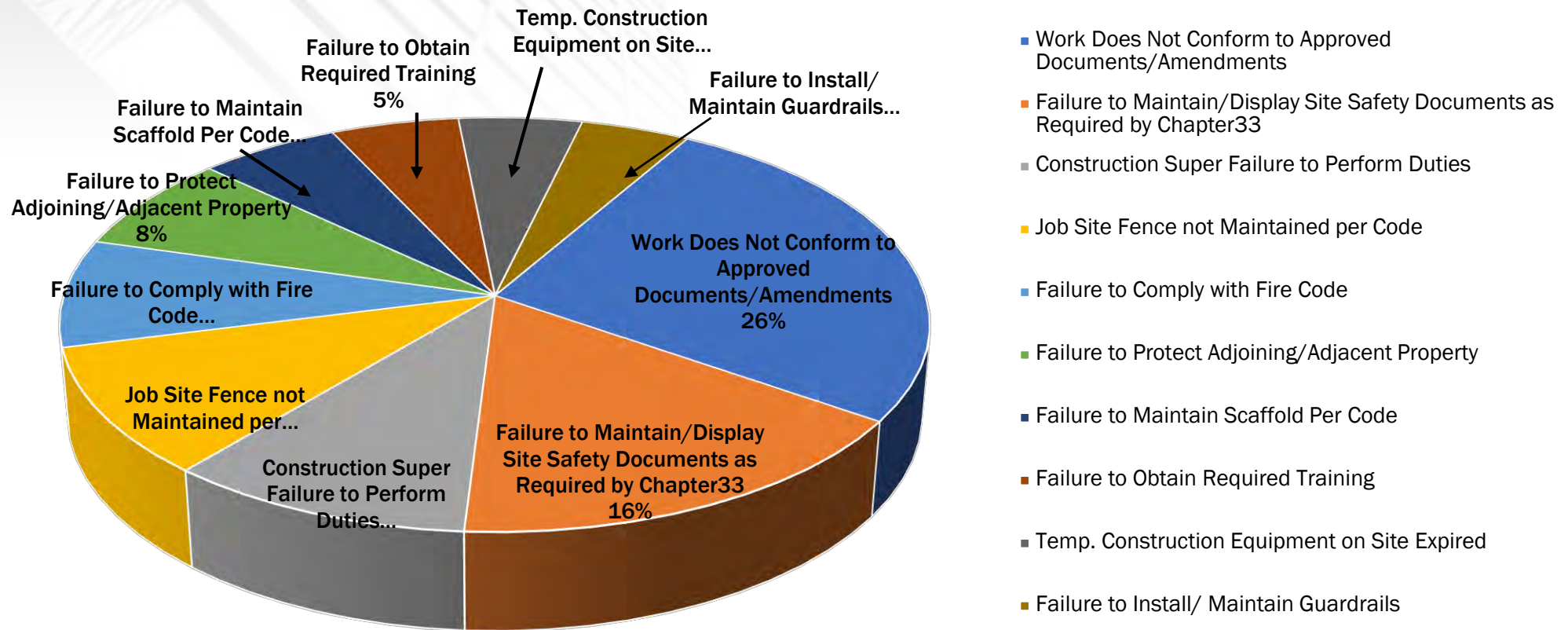
Incident with Injuries (2020)

Importance

- In 2020, there was a total of 796 incidents
- The top incident types are:
 - Material Fall/Struck-by
 - Slips, Trips, and Falls
 - Lacerations
- Safety measures and hazard mitigation act as incident and injury prevention
- Saves money, time, and resources in the long run

INTRODUCTION: GENERAL CONSTRUCTION SITE SAFETY

Top 10 Site Safety Monitoring Violations Issued





LOCAL LAW 196 & SITE SAFETY TRAINING

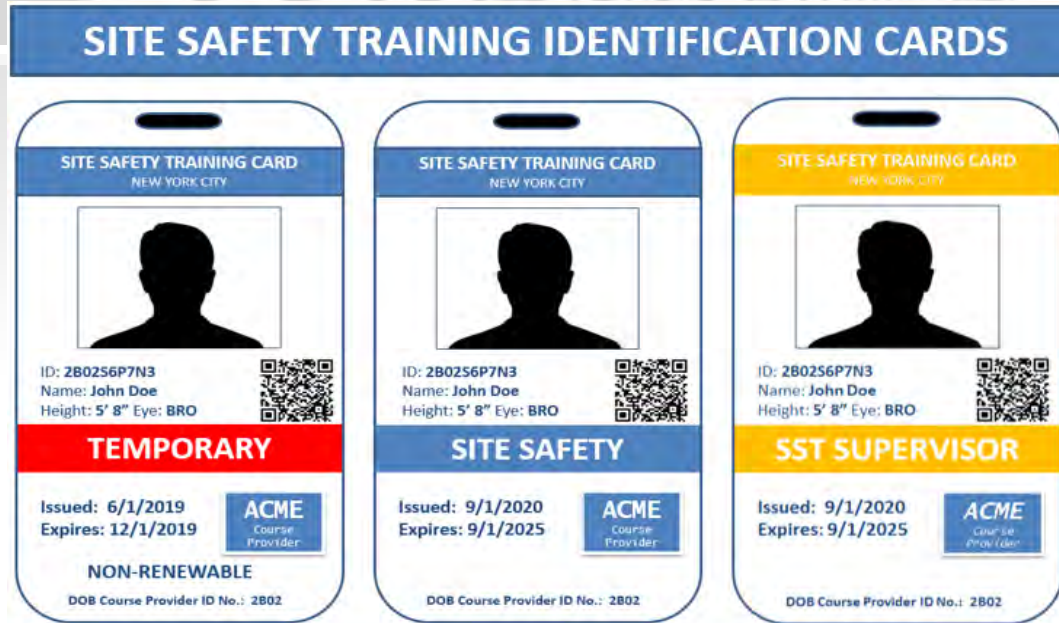
Local Law 196 Facts and Requirements

WHAT IS LOCAL LAW 196 of 2017?



- Requires all workers on a construction or demolition site, requiring a CS, SSM, SSC, to have the minimum 40-hour site safety training.
- Site safety training is further required by Administrative Code 28-204.1.1, and BC 3321
- Workers at these sites must be reasonably identified

OVERVIEW: LOCAL LAW 196



Local Law 196 Training Requirements

Regular Workers – 40-Hour SST

- As of **March 1, 2021** the requirements are now 40-hours on site safety training;
- OSHA 30-Hour construction safety class, 8-hour Fall Protection and 2-hour Drug and Alcohol Awareness training

- OR -

- OSHA 10-hour and an additional 30-hour of DOB approved site safety training.

Safety Manager, Supervisors & Superintendents - 62-Hour SST

- OSHA 30-Hour construction safety class as well as an additional 32 hours of elective credits, which cover a broad range of topics related to construction safety.

JOB SITES REQUIRING SST CARDS



Job sites that require a Site Safety Coordinator, Site Safety Manager or Construction Superintendent require SST training.

- A registered Construction Superintendent is required to oversee safety on construction sites up to nine stories in New York City.
- A certified Site Safety Coordinator is required to oversee safety on construction sites **10 to 14 stories** in New York City.
- A certified Site Safety Manager is required to oversee safety on construction sites of buildings **15 stories** and higher in New York City.
- 1, 2, 3 - family homes are **exempt** from SST card requirements.

Use DOB's searchable map available at <https://www1.nyc.gov/assets/buildings/html/site-safety-construction-map.html>

WHO NEEDS TRAINING

- Construction Superintendents (CS)
- Site Safety Coordinators (SSC)
- Site Safety Manager (SSM)
- Concrete Safety Managers (CSM)
- Competent Persons
- Construction Workers
- Journeypersons
- Demolition Workers
- Forepersons
- Employees of DOB Licensee
- Employee of DOB Registrants

LINKS FOR SST TRAINING



**CHECK FOR WORKER
SST CARDS AT YOUR
JOB SITE.**

The NYC Department of Small Business Services offers **free** Site Safety Training through the following partner organizations;

For New Entrants: [Workforce1 Career Center Network](#)

For Day Laborers:

- Brooklyn – Worker Justice Project
- Bronx – Catholic Charities
- Staten Island – La Colmena
- Queens – NYNICE
- Manhattan – NYCOSH

LINKS FOR SST TRAINING



Interested individuals can register for more information at [Career Discovery website](#). Day Laborers who register with this site will be directed to one of the Day Labor organizations listed above.

The Department of Small Business Services issues full Site Safety Training cards that represent an individual has completed the 40 hours of training required to be on SST designated worksites in NYC. Individuals who want to obtain a Department of Small Business Services Site Safety Training card can do so by meeting one of the two following criteria;

- Individuals who hold a valid OSHA 30 card can complete 2hrs of Drug/Alcohol Awareness and 8hrs of Fall Prevention (to obtain the full Site Safety Training card which represents 40hrs of safety training).
- Individuals who do not have an OSHA 30 can complete 30hrs of OSHA equivalent courses and the 2hrs of Drug/Alcohol Awareness and 8hrs of Fall Prevention (to obtain the full Site Safety Training card which represents 40hrs of safety training).

WHO DOES NOT NEED TRAINING

- Building Site Owners
- Developers
- Project Managers
- Construction Managers
- General Contractors
- Professional Engineers (PE)
- Registered Architects (RA)
- DOB Licensees & Registrants that are not CS, SSC, SSM or CSM
- Delivery Persons
- Flag Persons
- Special Inspectors/Consultants
- Concrete Testing Laboratories
- Concrete Inspectors
- Filing Representatives
- Security Officers & Service Technicians

KEY DOs & DON'Ts FOR THE CS, SSC & SSM

DO...

- ✓ Sign the logbook every day.
- ✓ Maintain presence on the site while work is being performed.
- ✓ Designate somebody as a competent person in the absence of a CS.
- ✓ Indicate specifically who is the **Competent Person** during your absence in the logbook and have them **Sign and Acknowledge** they are the competent person.
- ✓ SSC & SSM shall maintain presence during all construction operations.

DON'T...

- ✗ Forget to sign the logbook.
- ✗ Sign the logbook in the morning and leave for the rest of the day.
- ✗ CS shall not leave the site without first designating a competent person.
- ✗ CS shall not leave the site without documenting who the competent person is that is taking over for you.
- ✗ SSC & SSM cannot leave the site.

COMPETENT PERSONS



One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous to employees, and who has authorization to take prompt corrective measures to eliminate them.

COMPETENT PERSONS KEY DOs & DON'Ts

DO...

- ☒ Maintain site safety presence.
- ☒ Stay on site during active construction or until you are relieved from duty.
- ☒ Be knowledgeable in the duties performed.
- ☒ Continuous training.
- ☒ Keep up to date in new means and methods.
- ☒ Stop any unsafe activities.

DON'T...

- ☒ Ignore safety regulations.
- ☒ Leave the site without being relieved.
- ☒ Be inexperienced or a novice.
- ☒ Take on more than you can handle.
- ☒ Be afraid to report issues or concerns.



COVID-19 NYS GUIDELINES

Compliance with NYS COVID-19 Guidelines

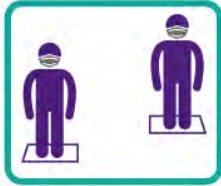
COMPLIANCE WITH COVID-19 NYS GUIDANCE

- NYS Business Affirmation.
- COVID-19 Site Safety Plan.
- Designate a COVID-19 Site Safety Manager.
- COVID-19 Communication Plan.
- Cleaning Log.
- Contact Log.
- Signage consistent with DOH COVID-19 Guidance.
- Workers are required to wear face coverings.



COMPLIANCE WITH COVID-19 NYS GUIDANCE

ELEVATOR GUIDELINES



Maintain physical distance while waiting for elevator



Wear a face covering



Do not exceed occupancy limit



Wash your hands with soap and water or use hand sanitizer after leaving the elevator.

Occupancy Limit: _____

- Tightly confined space such as elevators, and hoists that are in use to have an occupancy no greater than 50%.
- Signage with reduced capacity by 50% of the Elevator or Hoist, utilized by workers, posted within each cab and on each landing.
- Hand hygiene station with water, soap, and paper towels or hand sanitizer available on-site.
- Physical distance of 6ft apart shall be maintained, when possible.

NYS BUSINESS AFFIRMATION

Affirmation of DOH Safety Guidance on-site

 **New York Forward**

Business Affirmation

We have received your reopening affirmation on 06/01/2020 at 08:20 pm.

Print or take a screenshot of this page for your records.

Your next step is to create and post your NY Forward Business Safety Plan.

[Download the NY Forward Business Safety Plan Template](#)

I am the owner or agent of the business listed. I have reviewed the New York State interim guidance for business re-opening activities and operations during the COVID-19 public health emergency and I affirm that I have read and understand my obligation to operate in accordance with such guidance.

Test
Construction
Test Test2
(215) 666-1222
Test@test.com
123 Test St.
New York, NY 11204
Kings County

- NYS Business Affirmation is site specific

COVID-19 SITE SAFETY PLAN TEMPLATE

MEETING GUIDELINES



Hold online meetings
whenever possible



Observe meeting room
occupancy limits



Maintain 6 feet
of distance



Wear a face covering



Wipe shared
equipment after use



Practice hand hygiene

1. Company Information

- Name of Business, industry, and address.
- Contact information of business owner/manager
- HR representative and contact information, if possible.

2. Physical Distance

- Maintain 6 ft. apart when possible unless core function of work requires otherwise.
- Confined space, one at a time or a max of 50% capacity, if wearing face coverings.
- Social distancing markers in common spaces.
- Limit in-person gatherings.
- Designated areas for pick-up and deliveries.

COVID-19 SITE SAFETY PLAN TEMPLATE



3. Hygiene & Cleaning

- Adhere to CDC hygiene and sanitation requirements.
- Maintain cleaning logs on-site.
- List person responsible for cleaning logs and where the log will be kept.
- Hand washing stations or hand sanitizer.
- Regular cleaning, after every shift, daily or more frequently.

COVID-19 SITE SAFETY PLAN TEMPLATE



Face Covering



Eye Covering



Face Shield



Gloves

4. Personal Protective Equipment (PPE)

- Employers must provide employees with an acceptable face covering.
- Face coverings must be clean and not shared.
- Limit sharing objects or wearing of gloves or sanitize/wash hands before and after contact.

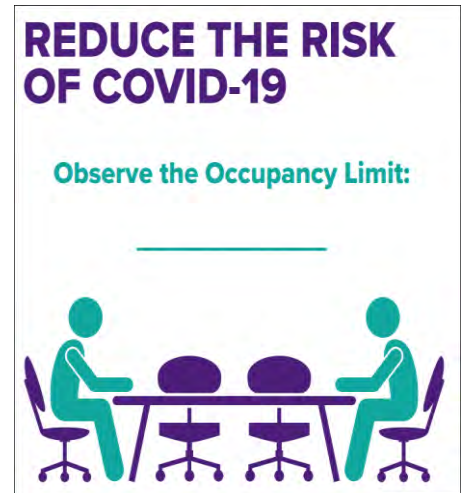
5. Process

- Mandatory health screening assessment.
- Cleaning, disinfection of contained areas and contact tracing plan.

COVID-19 SITE SAFETY PLAN TEMPLATE

6. Communication

- Post signage throughout site requiring adherence to hygiene, social distancing, use of PPE, cleaning and disinfecting.
- Communication plan, contact log.
- Notify the State if a worker tests positive for COVID-19.
- Stay up to date on industry specific guidance.



COVID-19 SITE SAFETY MANAGER



Image sourced from Plastics Today

- COVID-19 Site Safety Manager must be designated and can be anyone on the site.
- Site Safety Manager or Site Safety Coordinator is eligible to pick up the extra duty.

RESPONSIBILITIES

- Ensure the site complies with the most up to date State and City Executive Order
 - COVID-19 Site Safety Manager can designate others to develop and update the various required logs.



GENERAL SITE SAFETY

High-Rise & Low-Rise, Scaffolds & SWS Excavation, Gut Rehab & Interior Demolition



HIGH-RISE & LOW-RISE

- *Site Safety Oversight*
- *Closed/Interrupted Work Sites*
- *Common Violations*

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT

Construction Superintendent

- Required during construction or demo of buildings less than 10 stories
- Can designate a competent person to act in their place
 - _ Must visit their sites at least once daily
 - _ Can manage up to 10 sites on their license
 - _ Orders/directs corrective action of unsafe conditions

Site Safety Manager

- Required during construction or demo of major buildings
- Cannot designate a competent person
- Required to remain on-site
- Notifies responsible parties of unsafe conditions

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT

Per BC 3307.6.2: Where Required (SWS)

Per BC 3301.7: Documents to be Kept On Site

- If there is work ongoing above the second story level a SWS is necessary
 - Ensure the SWS is in compliance (To be explained in further detail in the Scaffold & SWS Section)
- Be sure to have all required documents on-site, in an accessible location like a trailer
 - SSM Logs, approved drawings, manufacturer specs, SSP, permits, special inspection reports, (M)SDS sheets, tenant protection plans, etc.
- Workers shall be wearing appropriate PPE at all times (typically include a hard hat, face mask, and safety glasses)

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT

Per BC 3309.1: Protection Required

BC 3305.2.5: Tag Lines

BC 3301.11.1: Site Safety Orientation

- Check all permits to make sure they are not expired
 - Permits shall be renewed with the Department prior to their expiration date
 - Give yourself ample time to go through the renewal process
- All workers new to the jobsite shall undergo Site Safety Orientation before commencing work per **BC 3301.11.1**
- Install tag lines on hoists to prevent uncontrolled movement of materials per **BC 3305.2.5**
- Protect adjoining properties from construction operations per **BC 3309.1**

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT



Per BC 3301.12: Pre-shift Safety Meetings & BC 3303.8: Standpipe Systems during Construction, Alteration, or Demolition

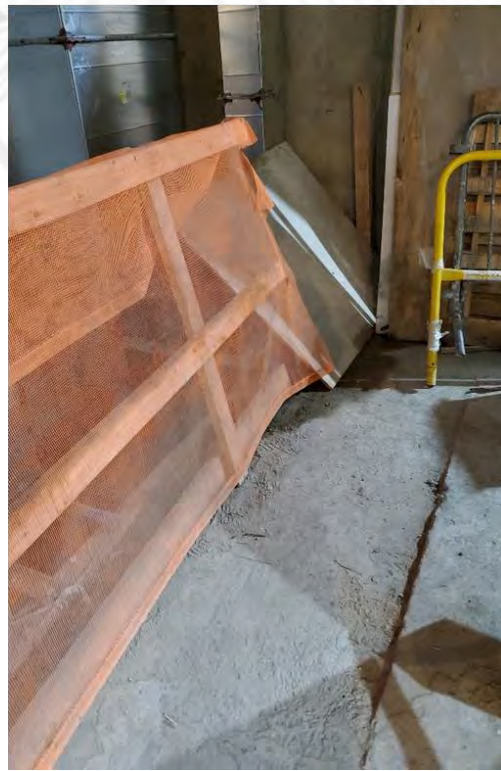
- Workers shall have their training cards on them while on-site
- Be sure the competent person is conducting daily pre-shift meetings per **BC 3301.12**
- Once the working deck reaches a height of 75ft, be sure to install and hydro statically test a standpipe system per **BC 3303.8**

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT

Per BC 3309.8: **Adjoining Walls** & BC 3309.1.1: **Notification of Adjoining Properties**

- If the construction project requires access to adjoining properties, written notification shall be provided to the adjoining property owner at least 60 calendar days prior to the commencement of such work.
- If the construction project exposes an adjoining wall, the person causing the construction shall:
 - Maintain the structural integrity of the wall
 - Have the wall be investigated by a registered design professional
 - Maintain all fire exits

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT



Per BC 3308.7: Guardrail Systems

- Guardrail systems must contain the following:
 - Have toe-boards which shall be within $\frac{1}{4}$ " off the ground
 - Have a top rail which shall be able to withstand 200lbs of downward and outward force
 - Be located no less than 39" above the ground
 - Mesh shall be secure and taut

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT



Per BC 3308.6.1.1: Where Required (Horizontal Netting)

Per BC 3308.5: Vertical Netting

- Be sure netting is taut per **BC 3308.5.4**
 - Structural netting complies with ANSI A10.11 per **BC 3302.1**
 - Compliance with ANSI standards should be labeled on the equipment/material
 - Can also be determined by contacting the manufacturer
- Make sure horizontal, vertical, and alternative netting are in compliance with the design drawings, manufacturer recommendations, and **BC 3308**
- Horizontal netting shall not be installed more than two stories or 30ft below the working deck
 - Its purpose is to catch falling materials and debris, not to arrest the fall of a worker

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT



Per BC 3303.4: Housekeeping

- Maintain adequate housekeeping per BC 3303.4, for example:
 - Clean out horizontal netting of debris and materials daily per **BC3308.6.2.11**
 - When clearing debris off netting, be sure to use a CAZ below
 - Combustible materials and debris shall not pile up at all per **BC 3303.4.4**
 - Shall use approved metal containers to hold debris
 - The containers shall be removed from the site at reasonable intervals per **BC 3305.1**
 - Debris and materials that is exposed to public shall not be piled up over 3ft

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT



Per BC 3303.4.4: Control of Debris

- Roof shall be cleared of debris daily per **BC 3303.4.4**
- Clear areas accessible to the public of all ice, snow, grease, equipment, debris, etc. per **BC 3303.4.1.1**
- In order to maintain good housekeeping, sites should have a sufficient amount of debris containers, like waste dumpsters, to keep up with the debris per **BC 3303.4.2**
- When material is not being used, it should be kept at least 10ft from unenclosed perimeters per **BC 3303.4.5.2**

HIGH-RISE & LOW-RISE: SITE SAFETY OVERSIGHT

Worker Protection from Weather (OSHA best practice)

1. Be sure workers are adequately protected from weather related injuries such as cold stress, heat stress, and hypothermia
2. On days cold days (sometimes above 40°F depending upon other conditions) workers become susceptible to cold-stress and should stay hydrated, dress warmly, and stay dry
3. On hot days, interpretation can vary depending upon conditions such as humidity and sun, workers can become susceptible to heat stress and should stay hydrated, take breaks outside of the sun, and monitor the way they feel
4. Heat stress symptoms to monitor: dizziness, fatigue, heavy sweating, confusion, thirst, and nausea



HIGH-RISE & LOW-RISE: CLOSED/INTERRUPTED WORK SITES

House Keeping

- Per **BC 3303.4.5.2**, secure materials, such as lumber or sheet rock, to prevent them from being moved
 - Intense winds, can cause sheets of lumber to fly off roofs or working decks
- Watchperson must be on-site when operations are not in progress for sites between 5,000 and 40,000sqft per **BC 3303.3**
 - When the site is over 40,000sqft, at least one additional watchperson shall be on site for every additional 40,000sqft
- Ensure mesh on pipe scaffold does not come loose
 - It can be a public safety hazard should it come off completely

HIGH-RISE & LOW-RISE: CLOSED/INTERRUPTED WORK SITES



SOURCE: Safetymanagementgroup.com

Housekeeping

- Walk through and make sure the site is clean throughout and housekeeping is in compliance with **BC 3303.4**
- Heavy machinery is secured and locked
- Ensure proper lockout/tagout procedure is being followed for equipment
 - Especially cranes, derricks, hoists, and other heavy machinery
- Monitor any water accumulation
 - Accumulated water shall be pumped out when necessary

HIGH-RISE & LOW-RISE: CLOSED/INTERRUPTED WORK SITES



HIGH-RISE & LOW-RISE: COMMON VIOLATIONS



- Failure to maintain adequate housekeeping (**BC 3303.4 & 27-1018**)
- Missing guardrails where they are required (**BC 3301.2 & AC 27-1009(a)**)
- SSM logs are inadequate (**BC 3310.8.4**)
 - Pre-shift meetings are not logged (**BC 3301.12.2-3**)
 - Safety measures have not been inspected and unsafe conditions mitigated
- Jobsite fence is not constructed or maintained (**BC 3307.7**)
- Gaps or breaks in the fence where civilians could possibly get through
 - Advertisements and business signs are up (**BC 3307.4.6**)
- Work without a permit (**AC 28-105.1**)
 - Working with an expired permit

HIGH-RISE & LOW-RISE: COMMON VIOLATIONS



- Failure to protect all persons and property affected by construction operations (**BC 3301.2**)
- Failure to have an SSM or SSC present on site where required (**BC 3310.5**)
- Work Without a Permit (**28-105.1**)
 - Working with an expired permit



SCAFFOLDS & SIDEWALK SHEDS (SWS)

Site Safety Oversight

Closed / Interrupted Work Sites

Common Violations

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT

Training

Per BC 3314.4.5.1: Training for Supported Scaffold Installers, Adjusters, Repairers, Maintainers, Inspectors, or Removers

- Ensure those working scaffolds are up-to-date on the mandatory training:
 - 4 hour scaffold user training is the minimum for supported scaffold use
 - 16 hours scaffold training is required for workers who install & remove, maintain, repair, adjust, use, and inspect **suspended** scaffolds
 - 8 hour refresher courses are mandatory every four years after the initial 16 hour completion
 - 32 hour erector department approved scaffold training
 - Required for supported scaffold supervisors and competent persons overseeing scaffold operations and inspections, and workers who install or remove supported scaffolds
 - 32 hour rigger suspended scaffold that use outrigger beams
 - Required for rigging supervisor in order to oversee operations

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT

Training

Per BC 3314.4.1.5: Notification of Adjustable Suspended Scaffold Installation and Removal

- Notify the department at least 24 hours, but no more than 48 hours, prior to the first installation and final removal of the suspended scaffold

Per BC 3314.2: Permit

- Be sure scaffold permit is up-to-date

NYC Buildings
Work Permit Department of Buildings

Permit Number: 123456 Issued: 1/2/2020 Expires: 1/2/2021
Address: 280 Broadway New York, NY 10007 Issued to: Huckleberry Finn
Business: Huckleberry Finn Corp.
Contractor No: 7890123
Description of Work: Heavy duty supported scaffold installation.
ALTERATION TYPE 2 - GRV: CONSTR

Review is requested under Building Code: Prior-to-1968 SITE FILL: NOT APPLICABLE

To see a Zoning Diagram (ZD) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/15/2003, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.

Emergency Telephone Day or Night: 311
Borough Commissioner: [Signature] Commissioner of Buildings: [Signature]

Tampering with or knowingly making a false entry in or failing to return this permit is a crime that is punishable by a fine, imprisonment or both.

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



SOURCE: DH Glabe & Associates

Scaffolds

Per BC 3307.6.4.5: Deck

- Check the platforms are fully planked
 - Per BC 3314.5.3, the minimum a plank can overhang is 6in
 - Per BC 3314.5.4.2, the maximum a plank can overhang is 18in

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



Scaffold

Per BC 3314.4.4: Safeguards

- Scaffold must be secured to building prior to start of work
 - This should be checked in the daily inspection by the competent person prior to use

Per BC 3310.4: Site Safety Monitoring Program & BC 3314.3.2: Suspended Scaffolds

- Scaffold must be depicted on Site Safety Plans per [28-110.1](#) and built in accordance with pertaining documentation per [BC 3310.4](#)
 - Scaffold designs are designed by a licensed professional per [BC 3314.3.2](#)

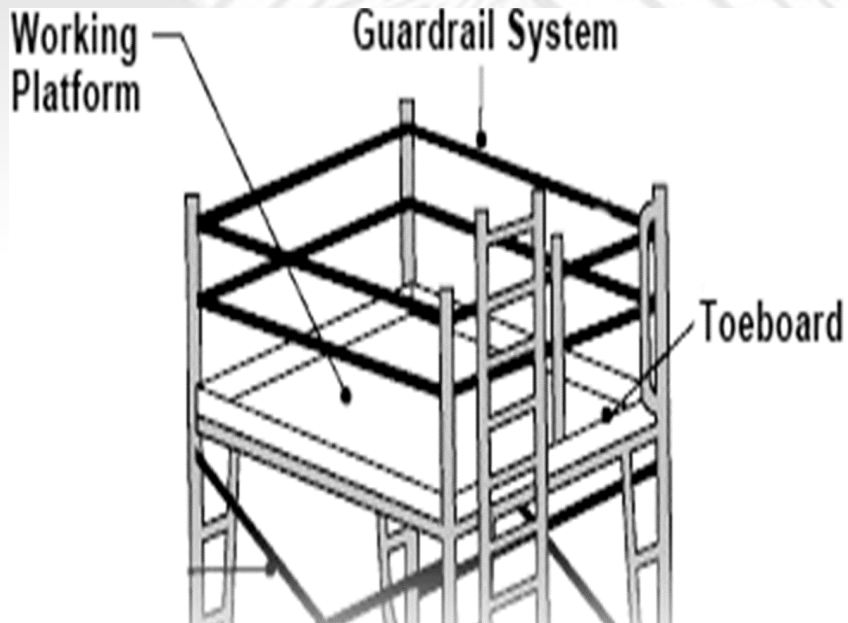
SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT

Scaffold

Per BC 3314.4.3: **Inspections** & BC 3307.6.4.2: **Design Loads**

- Scaffold inspections
 - Pre-shift inspections; to be conducted daily before use
 - After installation
 - After any modifications, repairs, or adjustments
- Inspections shall be conducted by a competent person and logged in their log book
- Scaffold atop SWS need to be on the SSP
 - SWS shall be heavy duty per **BC 3307.6.4.2**
- Housekeeping must be maintained to mitigate tripping hazards per BC 3303.4
- Scaffolds are constructed with flame resistant or flame retardant materials

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



SOURCE: MTNShop EU

Scaffold

Per BC 3314.6.3: **Lifelines and Suspension Ropes**; BC 3308.6.2: **Horizontal Safety Netting Systems Requirements**; BC 3314.8: **Guardrail System and Debris Netting**

- Make sure adequate fall protection measures are being followed
 - Personal Fall Arrest Systems (PFAS)
 - Workers should not be secured to the scaffold per **BC 3314.6.3**
 - Horizontal netting shall be used for falling debris, it is not an adequate means of fall protection for workers **BC 3308.6.2**
 - Guardrails on scaffolds shall have a top rail and toeboard per **BC 3314.8**

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



Scaffolds

Per BC 3314.4.4.6: **Winds**; BC 3314.6: **Footings and Anchorage**; BC 3314.4.3.5: **Pre-shift Inspection for a Supported Scaffold**

- Scaffolds are not to be used on days where wind gusts exceed 30mph per BC 3314.4.4.6
- Scaffold components manufactured by different manufacturers cannot be intermixed Per OSHA (29 CFR 1926.451(b) (10))
- Make sure footing is sound and scaffold is not overloaded per BC 3314.6
- Competent person inspects the scaffold prior to use daily (inspection results shall be documented) per BC 3314.4.3.5

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



- When performing work that requires a SWS, the SWS shall be installed before the commencement of such work and removed once that work is complete per BC 3307.6.2
 - SWS are not required when the pedestrian walkways is completely closed or if other means of overhead protection are provided
 - Removal of SWS requires DOB approval
- SWS must cover entire pedestrian walkway with an additional 5ft lengthwise for work up to 100ft in height and an additional 20 ft for work greater than 100ft in height per BC 3307.6.3
 - SWS must provide a clear path of at least 5ft wide and 8 ft tall per BC 3307.2.6 and 3307.6.4.7

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



Per **BC 3307.6.2**, Where required:

- When a sidewalk is located immediately below a scaffold, mast climber, or chute
- When a structure higher than 40ft or greater is to be constructed, and the sidewalk is within a perpendicular distance from the new structure that is equal to or less than half the height of the new structure
- When a portion of a façade is to be constructed, altered, maintained, or repaired, or a vertical or horizontal enlargement is to occur at a height of 40ft or more above curb level
- When a structure higher than 25ft is to undergo a full demolition, or when exterior partial demolition, other than that performed in conjunction with the construction, alteration, maintenance, or repair of a façade, is to occur at a height greater than 25ft above curb level

SCAFFOLDS & SIDEWALK SHEDS (SWS): SITE SAFETY OVERSIGHT



SOURCE: Crainsnewyork.com

- Check the platforms are fully planked and SWS is as close to the façade as possible per BC3307.6.4
 - Planks shall be laid closely and tightly together
- SWS shall be designed by a registered design professional per BC 3307.6.4
 - Exception: SWS prescribed and approved by the Commissioner or the Board of Standards & Appeals (BSA #351-74-SM) may be filed by an unregistered applicant

SITE SAFETY: SCAFFOLDS & SIDEWALK SHEDS (SWS)

- Provide warning signs where special danger exists (i.e. hoisting area) per **BC 3307.4**
- When conducting operations open to the public, a flag person must be present per **BC 3307.4**
- SWS must be ADA compliant per **BC 3307.2.6**:
 - Ramps provided when there is a change in elevation
 - Ramps that rise more than 6-inches have handrails
 - Mirrors at all blind corners

SITE SAFETY: SCAFFOLDS & SIDEWALK SHEDS (SWS)

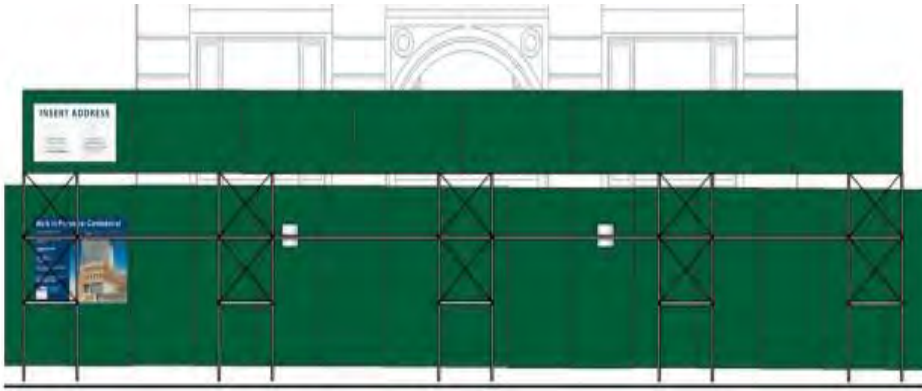


FIGURE 3301.9.2.2
PANEL POSTING ELEVATION DIAGRAM

- If the construction is over 100ft in height, be sure to use a heavy duty SWS per BC 3307.6.4.2
- Outer sides and end of SWS should be three and a half feet height per BC 3307.6.4
- Make sure SWS is not obstructing egress, fire escapes, DOT street signs, and driveways per BC 3307.6.2

- Be sure to visually inspect the SWS daily and follow up with more thorough inspections every 6 months per BC 3307.6.5.8 and BC 3307.6.5.10
 - All inspections shall be conducted by a competent person and recorded
- Be sure to maintain good housekeeping on top of the SWS by keeping the planks free of debris and sweeping daily per BC 3307.6.5

SITE SAFETY: SCAFFOLDS & SIDEWALK SHEDS (SWS)

SWS Permits and Documents

- Be sure to maintain all required documents on site including permits and drawings
 - All SWS require a permit from DOB per **BC 3307.6.1**
- Documents required for the SWS permit shall also be kept on site, including:
 - Electrical permit
 - Approved design drawings
 - Plot plans
 - Design loads

SITE SAFETY: SCAFFOLDS & SIDEWALK SHEDS (SWS)

SWS Specifications



- Be sure the SWS is painted hunter green and there are no private business signs or ads on the shed per **BC 3307.6.4.11**
- Ensure that any and all light fixtures are vandal-proof per **BC 3307.6.4.8**

SITE SAFETY: SCAFFOLDS & SIDEWALK SHEDS (SWS)

SWS Removal

- In order to remove a SWS from a major building jobsite, the must
 - Have completed all exterior work above second floor
 - No longer need temporary construction equipment and structures
 - Have debris-free roofs and setbacks
 - Contact CSC for removal request
 - Pass DOB inspection
 - 24-48 prior to removal, permit holder **must notify DOB** at (212) 393-2550 per **BC 3307.6.5.11**
- Non-major buildings
 - 24-48 hours prior to removal, permit holder **must notify DOB** at (212) 393-2550

SCAFFOLDS & SIDEWALK SHEDS: CLOSED/INTERRUPTED WORK SITE MAINTENANCE



- If SWS is designed and approved to be used for storage, then such materials and equipment should be secured prior to closing the site
 - Winds and other load should be taken into consideration when designing SWS per **BC 3307.6.4.2.1**
- Netting should be checked for holes and tears, this way, materials and equipment cannot fall off scaffolds, endangering the public

SCAFFOLDS & SIDEWALK SHEDS:COMMON SCAFFOLD VIOLATIONS



- Failure to maintain the scaffold in a Code-compliant manner (**BC 3314**)
- Scaffold built contrary to drawings (**BC 3314**)
- Scaffold built or maintained or in use contrary to plans (**BC 3314**)
- Erected or installed supported scaffold 40 feet or higher without a permit (**BC 3314.2** & **27-1042**)
- Failed to notify Department prior to use (**BC 3314.1.1** & **27-1050.1**)

SCAFFOLDS & SIDEWALK SHEDS:COMMON SCAFFOLD VIOLATIONS



- Failure to perform safe/proper inspection of suspended scaffold (**BC 3314.4.3.1 & 27-1045**)
- No record of daily inspection of Suspended Scaffold performed by authorized person at site (**BC 3314.4.3.1 & 27-1045(b)**)
- Erected, dismantled repaired, maintained, modified or removed supported scaffold without a scaffold certificate of completion (**BC 3314.4.5**)
- Use of supported scaffold without a scaffold user certificate (**BC 3314.4.6**)
- Failure to provide/use lifeline while working on scaffold (**BC 3314.6.3 & 27-1009**)

SCAFFOLDS & SIDEWALK SHEDS:COMMON SCAFFOLD VIOLATIONS



SOURCE: OSHA



SCAFFOLDS & SIDEWALK SHEDS:COMMON SCAFFOLD VIOLATIONS

- Pedestrian protection is not to Code (**BC 3307.1**)
 - Examples:
 - SWS not planked adequately
 - SWS is not ADA compliant
 - SWS is not adequately illuminated
- Failure to maintain adequate housekeeping (**BC 3303.4**)
- Work without a permit (**28-105.1**)
- Failure to provide SWS where required (**BC 3307.6.2**)
- Work does not conform to approved plans or documents (**28-105.12.2**)



EXCAVATION

*Site Safety Oversight, Closed/Interrupted Work Sites,
Common Violations*

EXCAVATION: SITE SAFETY OVERSIGHT

Plans & Documents

SURVEY & MONITORING NOTES:

1. MONITORING OF ADJACENT BUILDINGS/STRUCTURES SHALL CONFORM TO THE REQUIREMENT OF NYC BUILDING CODE AND TPPN #10/88.
2. WHEN PERMISSION TO ENTER ADJACENT PROPERTY IS GRANTED, A PRE-CONSTRUCTION (PRE-CONDITION) SURVEY OF THE ADJACENT BUILDING(S)/STRUCTURE(S) SHALL BE PERFORMED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND BE FAMILIAR WITH THE RESULTS OF THE SURVEY AND SHALL ALSO MAKE A VISUAL INSPECTION OF THE ADJACENT STRUCTURES (INSIDE AND OUT) PRIOR TO COMMENCEMENT OF THE WORK. INSPECTIONS OF THE ADJACENT BUILDINGS DURING CONSTRUCTION SHALL ALSO BE CONDUCTED IF REQUIRED AND PERMITTED.
3. **OPTICAL MONITORING CRITERIA:**
 - A LICENSED SURVEYOR SHALL BE ENGAGED TO MONITOR THE ADJOINING BUILDINGS AND STRUCTURES BY OPTICAL MONITORS SET UP AT ABOUT 25-FT INTERVALS FOR VERTICAL AND LATERAL MOVEMENT. THE OPTICAL MONITORING LOCATIONS SHOWN ON THE MONITORING/SOE PLAN ARE APPROXIMATE, FINAL LOCATIONS SHALL BE THOSE ON THE PLAN AND ELEVATION DRAWINGS PROVIDED BY THE SURVEYOR WHO SET UP THE MONITORS.
 - **OBTAIN BASELINE READINGS** (HORIZONTAL AND VERTICAL DATA) OF THE MONITORING POINTS PRIOR TO EXCAVATION AND NEW CONSTRUCTION.
 - PERFORM **OPTICAL SURVEYS AT LEAST TWICE PER WEEK** DURING EXCAVATION AND FOUNDATION CONSTRUCTION. IF MOVEMENTS OCCUR, INCREASE THE FREQUENCY OF THE READINGS AS RECOMMENDED BY ENGINEER.
4. **CRACK MONITORING:**
 - CRACK GAUGES SHALL BE INSTALLED ON OBSERVED (ADJOINING BUILDINGS/STRUCTURES) CRACKS TO MONITOR THE CRACK STATUS DURING SOE/UNDERPINNING FOUNDATION OPERATIONS IF APPLICABLE. BASELINE READINGS SHALL BE CONDUCTED UPON INSTALLATION OF CRACK MONITORS.
5. **VIBRATION MONITORING:**
 - VIBRATION MONITORS (SEISMOGRAPHS) SHALL BE PLACED ADJACENT TO OR WITHIN THE ADJACENT BUILDINGS (IF PERMITTED), CLOSE TO THE VIBRATION SOURCE.
 - VIBRATION MONITORING SHALL TAKE REAL-TIME READINGS.

Per BC 3301.7: Documents to be Kept on Site & BC 3309.4: Soil or Foundation Work Affecting Adjoining Property

- Be sure to have all required documents on-site, in an accessible location like a trailer per **BC 3301.7**
 - SSM Logs, SOE drawings, manufacturer specs, SSP, permits, special inspection reports for SOE, Pre-construction and Monitoring Surveys, etc.
- Be sure to have Excavation Monitoring Plans on site per **BC 3309.4**
- Protect the public from tripping hazards, such as dewatering hose and other conduits/pipes, with either ramps or raising it 8ft above the ground to prevent tripping hazard per **BC 3303.4.1.2**

EXCAVATION: SITE SAFETY OVERSIGHT

Notifications

Per BC 3304.3: Notifications

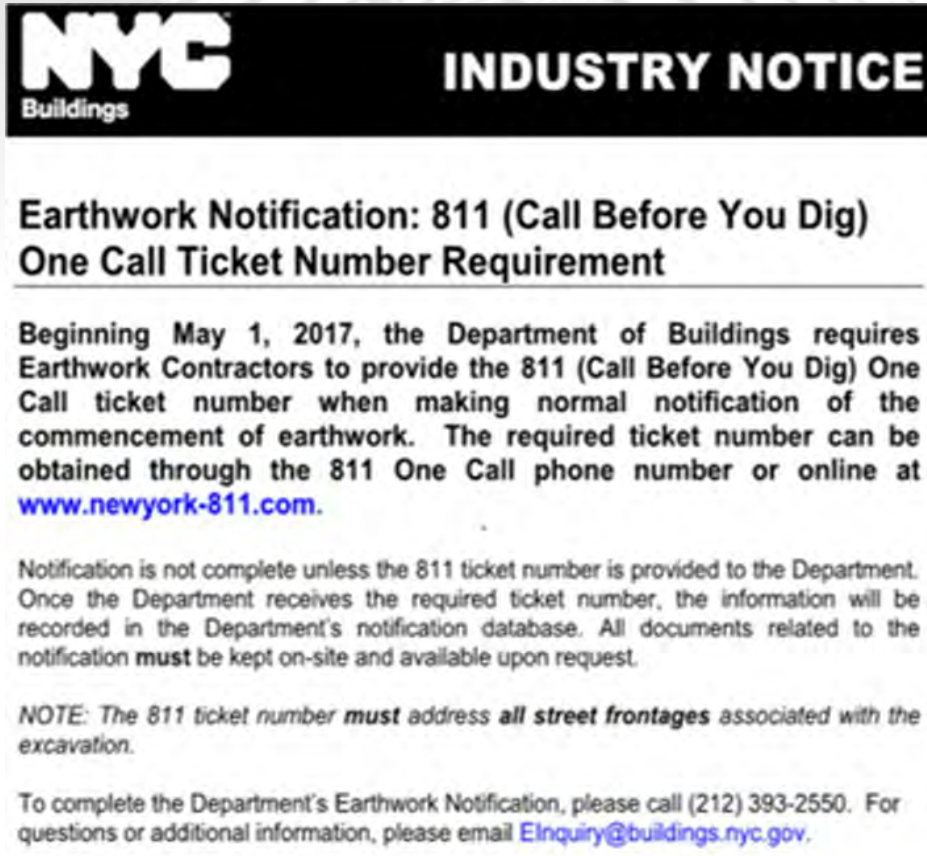
- Be sure all necessary parties have been notified
 - Per BC 3304.3.1, permit holders are required to notify DOB at least 24-48 hours prior to the commencement of any excavation work that is planned to be deeper than 5ft

NOTE: Confirmation #s have a start date and expiration date
 - DOB can be reached at (212) 393-2550
 - Permit holders or owners shall also **call 811** to verify and locate utilities)
 - Depending upon the site, DEP and/or adjoining property owner(s)



EXCAVATION: SITE SAFETY OVERSIGHT

Notifications



NYC Buildings **INDUSTRY NOTICE**

Earthwork Notification: 811 (Call Before You Dig) One Call Ticket Number Requirement

Beginning May 1, 2017, the Department of Buildings requires Earthwork Contractors to provide the 811 (Call Before You Dig) One Call ticket number when making normal notification of the commencement of earthwork. The required ticket number can be obtained through the 811 One Call phone number or online at www.newyork-811.com.

Notification is not complete unless the 811 ticket number is provided to the Department. Once the Department receives the required ticket number, the information will be recorded in the Department's notification database. All documents related to the notification **must** be kept on-site and available upon request.

*NOTE: The 811 ticket number **must** address **all street frontages** associated with the excavation.*

To complete the Department's Earthwork Notification, please call (212) 393-2550. For questions or additional information, please email Enquiry@buildings.nyc.gov.

Per BC 3304.3.1: Notification of the Department & BC 3304.3.3: Notification of the NYC Department of Environmental Protection (DEP)

- Per **BC 3304.3.1**, permit holders are required to notify DOB at least 24-48hrs prior to the commencement of any planned excavation work deeper than 5ft
- Per **BC 3304.3.3**, DEP shall be notified prior to the commencement of an excavation:
 - Deeper than 50ft is proposed in BX or above 135th St in MH
 - Deeper than 100ft is proposed in BK, QU, SI, or below 135th St in MH

NOTE: Obtaining a permit from DEP does not rid the notification requirement

EXCAVATION: SITE SAFETY OVERSIGHT

Notifications



Per BC 3304.3.2: Notification of Adjoining Property Owners

- Permit holders must notify the adjoining property owner no less than 10 days prior to the commencement of
 - Excavations 5-10ft in depth where the adjoining property is within 10ft
 - Excavations over 10ft in depth where the adjoining property is any distance
 - Notification shall be in writing and shall include:
 - description of the work to be performed
 - the timeframe and schedule
 - the contact information of the person causing the excavation and of the department

EXCAVATION: SITE SAFETY OVERSIGHT

Housekeeping



Per BC 3303.4: Housekeeping

- Maintain adequate housekeeping per BC 3303.4, for example:
 - Combustible materials and debris shall not pile up at all
 - Debris and materials that is exposed to public shall not be piled up over 3ft per BC 3303.4.7
 - Clear areas accessible to the public of all ice, snow, grease, equipment, debris, etc. per BC 3303.4.1.1
- In order to maintain good housekeeping, sites should have a sufficient amount of debris containers, like waste dumpsters, to keep up with the debris per BC 3303.4.2

EXCAVATION: SITE SAFETY OVERSIGHT



Monitoring and Underpinning

Per BC 3309.4.4: **Monitoring** and
Per BC 3309.5: **Underpinning**

- Monitoring plans are required for:
 - Buildings within a distance from the edge of the excavation that is equal to or less than the maximum depth of the excavation
 - Historic structures that are within a 90ft from the edge of an excavation site
- Sites shall underpin wherever necessary in order to protect the adjoining property

Structuremag.org

EXCAVATION: SITE SAFETY OVERSIGHT



- Excavations deeper than 5ft require a means of support along the sides of the excavation per BC 3304.4

EXCAVATION: SITE SAFETY OVERSIGHT



Theconstructor.org

Excavation Support

- There are many ways an excavation can be supported to avoid collapse
 - Sloping/ Angle of repose
 - Benching/stepping
 - Shoring
 - Trench box
 - Support of Excavation (SOE)
 - Other engineered mechanisms
- All means of support shall be on approved documents

EXCAVATION: SITE SAFETY OVERSIGHT

Support of Excavation (SOE) Plans

Per BC 3304.2: Support of Excavation Drawings

- SOE drawings shall:
 - Be site specific
 - Illustrate all related protection for all sides of excavation or embankment
 - Show the extent of all work dimensioned
 - Show all utilities and public infrastructure impacted
 - Include the specific location and dimensions of:
 - Sloping
 - Shoring
 - Stepping
 - Sheeting
 - Bracing
 - Guardrails
 - Fences (required per BC)

EXCAVATION: SITE SAFETY OVERSIGHT



- When underpinning at the perimeter of the site, there must be proper support to prevent soil loss and collapse of sidewalks and adjoining properties

EXCAVATION: SITE SAFETY OVERSIGHT



- Make sure that there is at least one mean of egress according to BC 3304.7 and workers should not travel over 25ft laterally to any means of egress per OSHA (29 CFR 1926.651(c)(2))
 - In order to achieve this, sites may move ladders due to logistical reasons and limit where workers can work within the excavation
 - Shall be noted as a minor revision on the SSP by the SSM or CS as long as its is in compliance with article 110 of title 28 (§28-110.1)
- Workers shall be wearing appropriate PPE at all times (typically include a hard hat, face mask, and safety glasses)
- Workers shall have their training cards on them while on-site

EXCAVATION: SITE SAFETY OVERSIGHT



- After rainfall and other hazard-increasing events, the excavation should be inspected to ensure the structural integrity of the sides of the excavation are maintained
 - Dewatering should then take place if necessary per **BC 3304.10**
 - Where necessary, pumping shall be used, provided proper permits are obtained from the New York City Department of Environmental Protection per **BC 3303.14.2**

EXCAVATION: SITE SAFETY OVERSIGHT



- There is an adequate concrete washout area provided
- Rebar is capped where necessary per OSHA regulations (29 CFR 1926.701(b))
 - All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement
- Workers operating cranes, excavators, and other heavy-machinery have proper training and certification

EXCAVATION: SITE SAFETY OVERSIGHT



- Excavations deeper than 6ft shall have fall protection around its edges in the form of guardrails per **BC 3304.4.4**
- Per **BC 3304.4.4**, guardrails must:
 - Have toeboards which shall be within $\frac{1}{4}$ " off the ground
 - Have a top rail which shall be able to withstand 200lbs of downward and outward force
 - Be located no less than 39" above the ground

NOTE: If netting is being used, it shall be secure and taut

EXCAVATION: CLOSED/INTERRUPTED WORK SITES



- Sites must be backfilled in three months or less if the site does not plan on resuming work per **BC 3303.13.3**
- Walk through and make sure the site is clean throughout and housekeeping is in compliance with **BC 3303.4**
- Heavy machinery is secured and locked
- Ensure proper lockout/tagout procedure is being followed for equipment
 - Especially cranes, derricks, hoists, and other heavy machinery
- Monitor any water accumulation
 - Accumulated water shall be pumped out when necessary

EXCAVATION: COMMON VIOLATIONS



- Work is non-conforming to plans (**AC 28-105.12.2**)
- Failure to monitor / Inadequate monitoring (**BC3309.4.4**, **BC3309.6**, and **BC1814.3**)
 - Operations that may cause the movement of adjoining property, such as vibrations or shaking, are in exceedance of threshold limitation during installation of SOE/production piles (**BC3309.6**)
 - Failure to conduct baseline and periodic monitoring
 - Failure to have monitoring equipment
- Failure to have preconstruction survey (**BC3309.4.3**)

EXCAVATION: COMMON VIOLATIONS

Poor Lagging Installation (AC 28-105.12.2)



EXCAVATION: COMMON VIOLATIONS



- Failure to maintain documents (**BC 3301.7**)
- No guardrails along the edges of excavations that are 6ft or deeper (**BC 3301.2** & **BC 3304.4.4**)
- Failure to protect utilities (**BC 3303.2.1**)
- No dewatering plans (**AC 28-105.12.2** & **BC 3304.10**)
- Failure to protect adjoining property during excavation activities (**BC 3309.4** & **AC 27-1031**)
- Underpinning section not properly braced or shored (**AC 28-105.12.2**, **BC 1814.1**, and **BC 3309.4.1**)



GUT REHAB & INTERIOR DEMO

Site Safety Oversight

Closed & Interrupted Work Sites

Common Violations

GUT REHAB



What is gut rehab?

- Building Occupancy Class: J2 Multiple Dwellings
- Building Height: ≥ 4 stories
- Construction Class: Old Code Class III. Principally structures with unreinforced masonry walls and wood floor joists. Possibly turn of century balloon framed dwellings, with brick noggin exterior walls
- Nearly all structures average in age between 60-100 years

GUT REHAB



- Seriously degraded structural systems (rotten/partially collapsed floors and walls) pose significant risk to construction workers, public, and adjoining property
- Because of this, existing structural systems shall be investigated by qualified person per **BC 3306.9**
- Per **28-104.7.1**, the applicant shall complete the required construction documents outlining the complete nature and location of the work proposed

GUT REHAB



- Be sure all necessary parties have been notified prior to the commencement of work per **BC 3304.3**
 - This includes DOB and may include the adjoining property owner and DEP
 - Follow the same notification regulations for excavations discussed in the Excavation section
- Be sure to have all required documents on-site, in an accessible location like a trailer or shanty per **BC 3301.7**
 - i.e. SSM Logs, approved drawings, manufacturer specs, SSP, permits, special inspection reports, (M)SDS sheets, tenant protection plans, etc.
 - For gut rehab projects, pre-construction and monitoring surveys are required on site as well

GUT REHAB



- Be sure to follow the proper sequence of operations per the approved plans per **28-105.12.2**
- Avoid removal of floor joists bottom-up interior demolition instead of top down
- Avoid removal of excessive numbers (or all) of floor joists at one time and de-stabilizing exterior walls

GUT REHAB



- Be sure not to remove too many floor joists at a time as it may cause destabilization of the exterior walls
- Never excavate beneath level of existing spread and column footings to increase the cellar slab-to-ceiling height without underpinning footing to lower depth per **BC 3304.11** and **BC 3306.8**

GUT REHAB



- When working in the cellar, underpinning, or underfooting to make the foundation deeper, be sure to support the foundation adequately.
- Per section **BC 3306.7**
 - Shoring
 - Bracing
 - Sheathing
 - Subflooring
 - Another type of engineered support
- Underpinning per **BC 3309.5**

GUT REHAB: SITE SAFETY



- Be sure the floor joists are properly connected with the masonry wall
- Be sure to firecut all wood floor joists per BC 2304.11.10
 - In the event of a fire, this would allow the floor joists to slide out rather than knock down the masonry wall

INTERIOR DEMO: SITE SAFETY



What is Interior Demolition?

- Removing horizontal or vertical structural elements in a systematic manner
- Columns, bearing walls, floor systems, etc.
- Typically done for the alteration of the layout of the structure

INTERIOR DEMO: SITE SAFETY



Per BC 3306.8: Sequence of Operations

- Any structural member that is being altered shall not support any load other than its own weight.
- Interior demolition shall advance from top down.
- Removal of interior partitions at lower floors before load has been removed at upper floors can lead to a collapse

Per 28-105.12.2: Approved Plans

- Conform to approved plans, all work must conform to approved construction documents

INTERIOR DEMO: SITE SAFETY



- Never remove any component of a building without understanding its structural significance
- Existing structural systems must be investigated prior to demolition
- Excessive load and corroded connections are the leading cause for failure

INTERIOR DEMO: SITE SAFETY



Per BC 3306.9.10.1: Bearing Partitions and Headers

- Interior demolition shall take place from top down
- Staying partitions/relieving walls prevent the floor joist from sagging beyond its ability to stay within the beam pocket
- All header beams and headers at stair openings and chimneys shall be carefully examined and, where required, shall be shored from the cellar floor through successive floors

INTERIOR DEMO: SITE SAFETY



Per BC 3306.9.11: Examination of Connections

- Lime-rich mortar used in older structures is susceptible to deterioration when exposed to moisture for long periods.
- Contractor must not add load to a suspect structural system.

Per BC 3306.8.2: Masonry Buildings with Wooden Floors

- The height of a free standing wall cannot be more than 22 times in height of its thickness.

INTERIOR DEMO: SITE SAFETY



- Existing joist-to-masonry (T anchors) condition should be verified
 - Often missing, especially at party walls of row dwellings
 - This condition can lead to a latent structural failure
 - Retrofitting may be required
- Ensure sequence on plans are followed and no connections are omitted prior to moving on to the next step
- These connections are integral during alterations to assure structural stability is not compromised

Per 28-105.12.2: Approved Plans

- Structural details on plans must be followed.

INTERIOR DEMO: SITE SAFETY



- Exterior wall framing must be properly braced. Gypsum sheathing is not an acceptable form of bracing
- When specifications call for gypsum sheathing in an exterior fire-proof wall assembly, alternate bracing details (cross bracing, strap bracing, metal diaphragm, etc.) must be provided

CLOSED/INTERRUPTED WORK SITES: GUT REHAB & INTERIOR DEMO

- Sites must be backfilled in three months or less if the site does not plan on resuming work per **BC 3303.13.3**
- Walk through and make sure the site is clean throughout and housekeeping is in compliance with **BC 3303.4**
- Monitor any water accumulation
 - Accumulated water shall be pumped out when necessary
 - Ensure maintenance of any temporary construction
 - SWS, fence, access ramps, etc.

COMMON VIOLATIONS: GUT REHAB & INTERIOR DEMO



- Work is contrary to plans (**28-105.12.2**)
- Underpinning section not properly braced or shored (**AC 28-105.12.2**, **BC 1814.1**, and **BC 3309.4.1**)

DEMOLITION EQUIPMENT: MECHANICAL

Equipment-Hydraulic Breaker



Equipment-Excavator



Photo Source: Constructionequipment.com



DEMOLITION

*Demolition Plans, Pre-Demolition, Demolition Notification,
Demolition Safety, Demolition Sign-off*



DEMOLITION PLANS

- *When Demo Plans are not Required*
- *When Plans are Required*
- *Plan Development*

WHEN ARE DEMOLITION PLANS NOT REQUIRED?



Photo Source: OSHA

Partial Demolition

- Demolition is limited to handheld devices (including handheld mechanical devices).
- Performed during the course of a minor alteration.

- OR -

- Ordinary repair do not require demolition submittal documents.
- Then a survey needs to be at the jobsite.

WHEN ARE DEMOLITION PLANS NOT REQUIRED?



Full Demolition

- Detached Buildings (not 1, 2, 3 Family Homes).
- Demolition is limited to handheld devices (including handheld mechanical devices).
- The floor area of the building is less than 5,000 sqft./floor.

WHEN ARE DEMOLITION PLANS REQUIRED?



- The job is a major building.
- Any structure that is attached to at least one side.
- Any structure that will be demolished by mechanical means.

PLAN DEVELOPMENT & PLAN EXAMINATION

- For more information regarding Plan Development and Plan Examination please attend or review the **(Site Safety & Demolition Plans: Code Requirements and Alternative Provisions on Thursday, 5/6 @ 10:00 am – 11:00 am)**
- Register for that upcoming course/when you participated in that course you obtained the entire scope of plan review and the requirements for approvals.



PRE-DEMOLITION

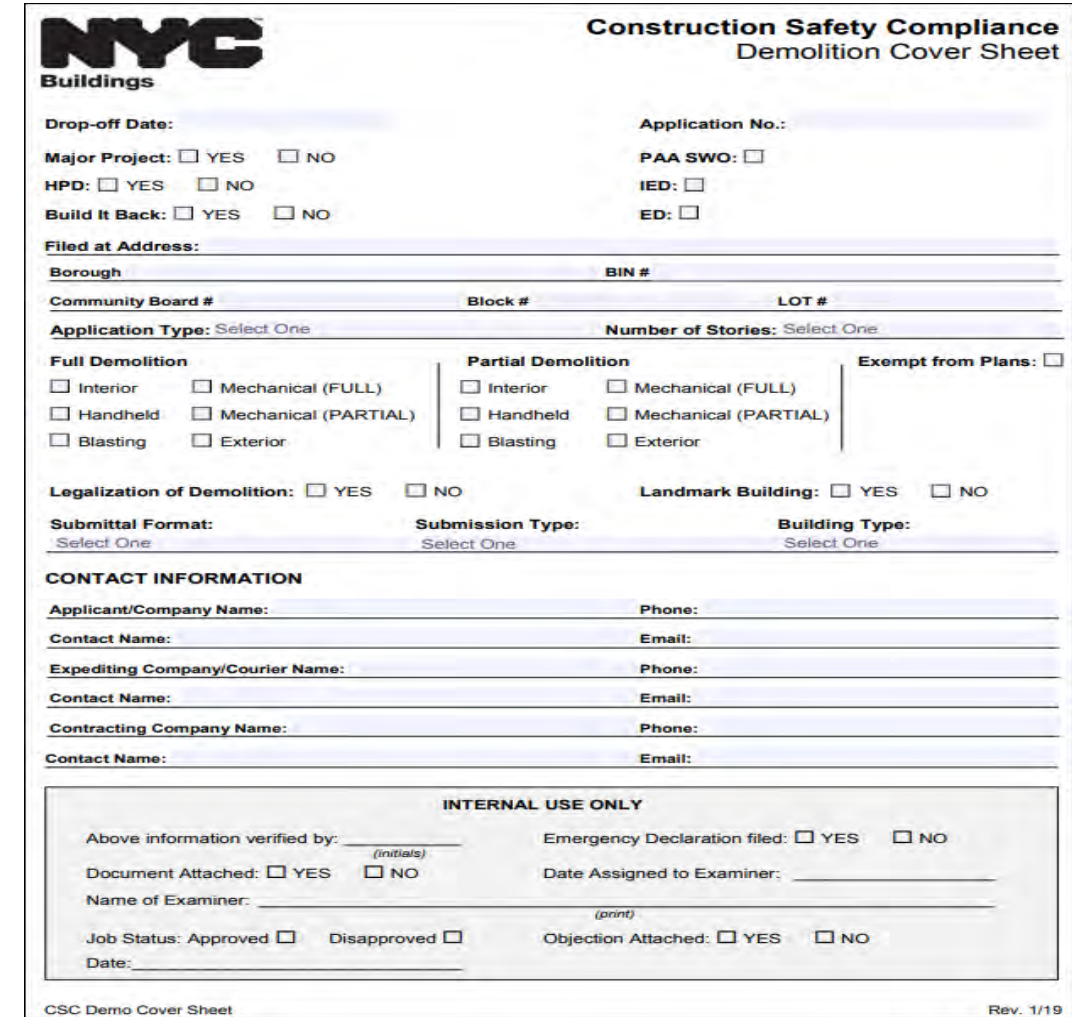
Inspection Appointment Request

Pre-Demo Inspection

Demo Permit

PRE-DEMO INSPECTION APPOINTMENT REQUEST

- To confirm the structure detailed on the plans will be demolished.
- The cover sheet and all of the applicable sections must be filled out.
- For example indicate the type of pre- inspection:
 - Full Demolition
 - Partial Demolition



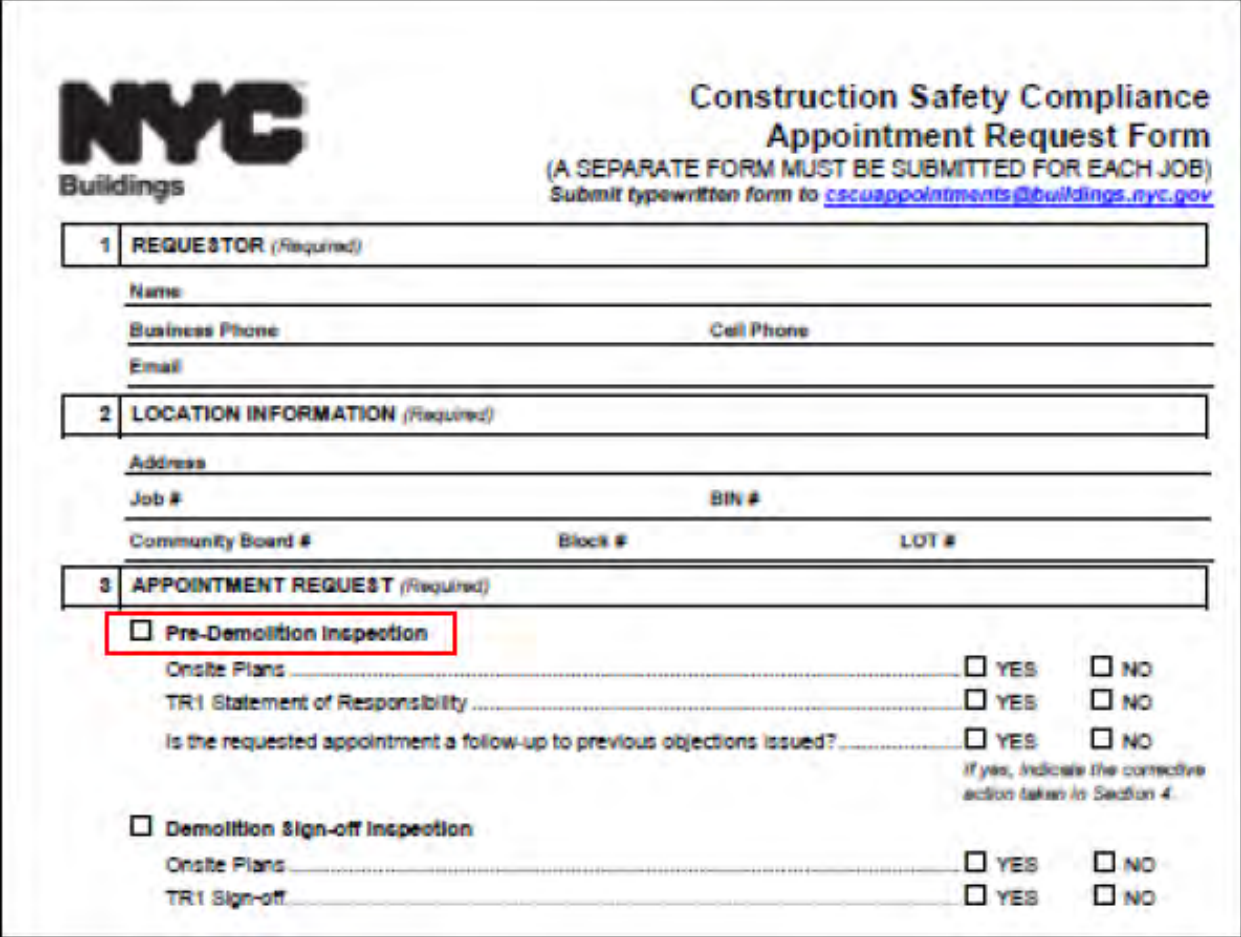
The form is titled "NYC Buildings Construction Safety Compliance Demolition Cover Sheet". It contains several sections for data entry:

- Buildings**: Includes fields for Drop-off Date, Major Project (YES/NO), HPD (YES/NO), Build It Back (YES/NO), Application No., PAA SWO, IED, and ED.
- Filed at Address:**: Includes Borough, BIN #, Community Board #, Block #, and LOT #.
- Application Type**: Select One. Includes checkboxes for Full Demolition (Interior, Mechanical (FULL), Mechanical (PARTIAL), Handheld, Blasting, Exterior) and Partial Demolition (Interior, Mechanical (FULL), Mechanical (PARTIAL), Handheld, Blasting, Exterior). Also includes an "Exempt from Plans" checkbox.
- Legalization of Demolition**: YES/NO. Includes a "Landmark Building" checkbox (YES/NO).
- Submittal Format**: Select One. Includes "Submission Type" and "Building Type" (both Select One).
- CONTACT INFORMATION**: Multiple fields for Applicant/Company Name, Contact Name, Expediting Company/Courier Name, and Contracting Company Name, each with associated Phone and Email fields.
- INTERNAL USE ONLY**: Includes fields for "Above information verified by:" (with initials), "Document Attached" (YES/NO), "Name of Examiner:" (with print name), "Job Status" (Approved/Disapproved), "Date:", "Emergency Declaration filed" (YES/NO), "Date Assigned to Examiner:", and "Objection Attached" (YES/NO).

At the bottom, it says "CSC Demo Cover Sheet" on the left and "Rev. 1/19" on the right.

PRE-DEMO INSPECTION APPOINTMENT REQUEST

- Submit to CSC to include a cover sheet.
- The form is to be submitted to:
cscuappointments@buildings.nyc.gov
- Indicate the type of appointment request.



The image shows a form titled "NYC Buildings Construction Safety Compliance Appointment Request Form". It includes instructions to submit a separate form for each job and to email the typewritten form to cscuappointments@buildings.nyc.gov. The form is divided into three main sections: 1. REQUESTOR (Required), 2. LOCATION INFORMATION (Required), and 3. APPOINTMENT REQUEST (Required). Section 1 includes fields for Name, Business Phone, Cell Phone, and Email. Section 2 includes fields for Address, Job #, BIN #, Community Board #, Block #, and LOT #. Section 3 contains two checkboxes: "Pre-Demolition Inspection" (which is highlighted with a red box) and "Demolition Sign-off Inspection". Each checkbox has associated fields for "Onsite Plans" and "TR1 Statement of Responsibility" (or "TR1 Sign-off" for the second checkbox), each with "YES" and "NO" options. A note indicates that if a "YES" is selected, the corrective action taken in Section 4 should be indicated.

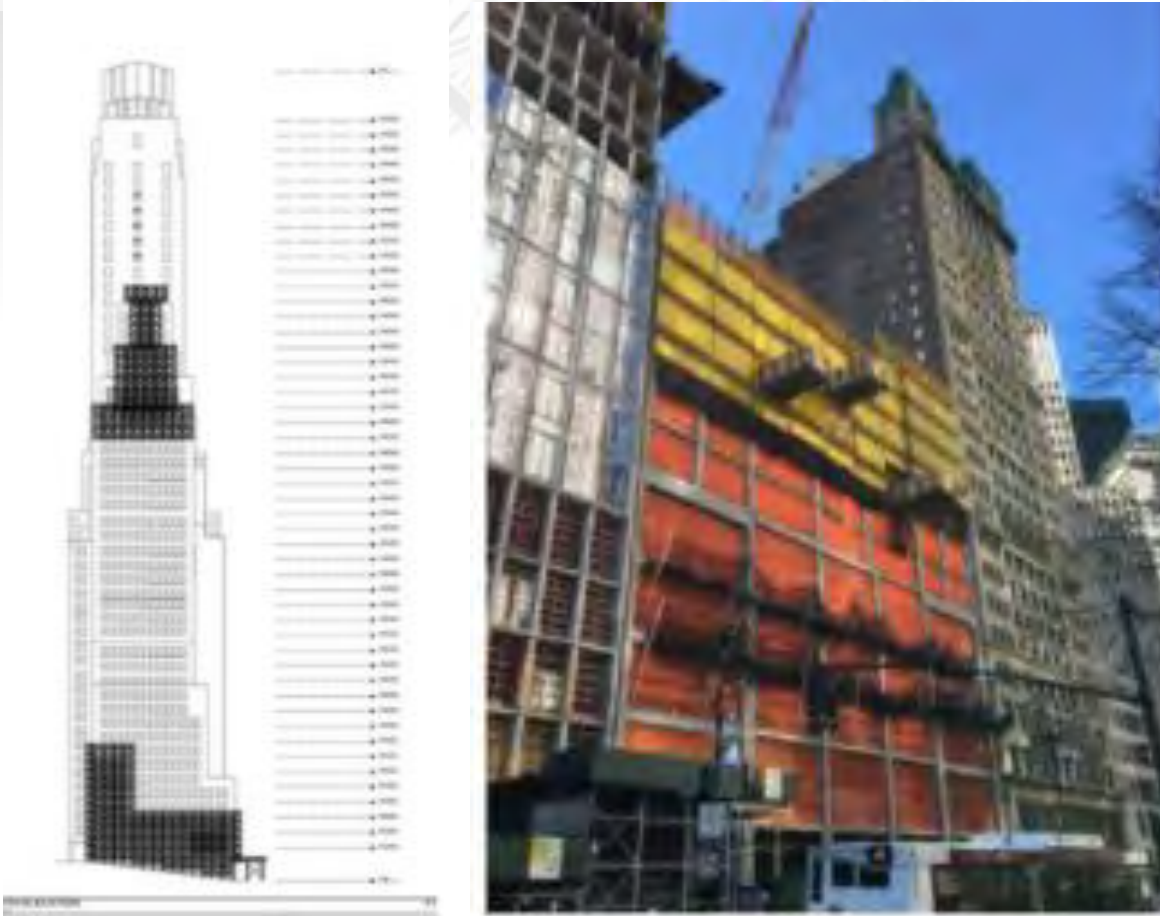
NYC Buildings Construction Safety Compliance
Appointment Request Form
(A SEPARATE FORM MUST BE SUBMITTED FOR EACH JOB)
Submit typewritten form to cscuappointments@buildings.nyc.gov

1 REQUESTOR (Required)
Name _____
Business Phone _____ Cell Phone _____
Email _____

2 LOCATION INFORMATION (Required)
Address _____
Job # _____ BIN # _____
Community Board # _____ Block # _____ LOT # _____

3 APPOINTMENT REQUEST (Required)
☐ **Pre-Demolition Inspection**
Onsite Plans _____ ☐ YES ☐ NO
TR1 Statement of Responsibility _____ ☐ YES ☐ NO
Is the requested appointment a follow-up to previous objections issued? _____ ☐ YES ☐ NO
If yes, indicate the corrective action taken in Section 4.
☐ **Demolition Sign-off Inspection**
Onsite Plans _____ ☐ YES ☐ NO
TR1 Sign-off _____ ☐ YES ☐ NO

PRE-DEMOLITION INSPECTION



- Verifies information provided in the plan.
- Verifies that there are no missing requirements/details from the plan e.g. OHP
- Identifies condition of the structure
- Height/stories of structure

PRE-DEMO INSPECTION



- Identifies number of standpipes
- Type of Standpipe
- Identifies FDNY connection
- Verifies work was not performed prior to the inspection.
- The structure **must** be unoccupied/vacant if not, the jobsite will not pass the inspection requirements.

PERMIT ISSUANCE



The image shows a sample NYC Buildings Work Permit form. At the top left is the 'NYC Buildings' logo. To the right is a QR code. Below the logo, the text 'Work Permit Department of Buildings' is displayed. The form contains the following fields and information:

- Permit Number: [Redacted]
- Issued: 09/12/2019
- Expires: 04/03/2020
- Address: MANHATTAN [Redacted]
- Issued to: [Redacted]
- Business: [Redacted]
- Contractor: [Redacted]
- Description of Work: FULL DEMOLITION - FULL DEMOLITION OF 5 STORY STRUCTURE, USING HAND HELD EQUIPMENT AND MECHANICAL MEANS ON GRADE ONLY. THIS PROPERTY HAS AN AKA ADDRESS OF [Redacted]
- Number of dwelling units occupied during construction: 0
- Review is requested under Building Code: 2014
- SITE FILL: ON-SITE
- To see a Zoning Diagram (ZD1) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/13/2009, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.
- Emergency Telephone Day or Night: 311
- Borough Commissioner: [Signature]
- Commissioner of Buildings: [Signature]
- Footer text: This permit copy created on 04/22/2020 reflects the Commissioner(s) as of such date. Tampering with or knowingly making a false entry in or falsely altering this permit is a crime that is punishable by a fine, imprisonment or both.

The permit is issued **only** after:

- Plans are reviewed and accepted by a DOB Plan Examiner.
- CSC performs a pre-demolition inspection.
- Pre-demo Inspection is approved by CSC.
- Only then will the Borough Office issue a demo permit.



DEMOLITION NOTIFICATION

- *Demolition Filing Process*
- *Notification Requirements*

DEMOLITION FILING PROCESS

- Demolition plans approved by the **CSC Plan Examination Unit**.
- The contractor/applicant can submit a request for a pre-demolition inspection to CSC.
- Upon passing the pre-demo inspection the applicant can request/apply for a permit.
- The permit can be obtained at the borough office (Manhattan, Bronx, Brooklyn, Queens, Staten Island).
- Notify DOB 24 hours prior to the start of the demolition by calling **(212)393-2550**.
- Demolition work cannot begin prior to date notified to DOB.
- Upon completion of the demolition submit a request for a sign-off Inspection to CSS.
- Upon passing the demolition sign-off inspection, CSC will enter the information into BIS.

DEMOLITION FILING PROCESS



Per Building Code: **SECTION BC 3303.3**

Demolition Notification

Per 3306.3.1 The permit holder shall notify the Department of Buildings via phone or electronically at least 24 Hours, but no more than 48 hours prior to the commencement of such work.

Per 3306.3.2 Adjoining property owners shall be notified of upcoming demolition operations in writing not less than 10 days prior to the scheduled starting date of the demolition.



DEMOLITION SAFETY

Preparing for Demolition

Full Demolition

Gut Rehab – Interior Demolition

PREPARING FOR DEMOLITION



- Ensure all safeguards are in place
 - Construction documents are up to date and on-site
 - Utilities are capped
 - Establish Safety Zone
- Ensure all required permits are obtained, include permits from other NYC agencies.
 - Ensure complying with all permits and the SSP.
- Hydrostatic Test of the entire standpipe system performed and passed

PREPARING FOR DEMOLITION



Per Building Code: **SECTION BC 3303.2.5**

Removing, relocating, or interrupting services

- Notify 72-hours in advance to utility company or City agency
- Prior to the removal of any service, the utility connection shall be disconnected and capped, and
- File certifications issued by the representative utility company with the department

PREPARING FOR DEMOLITION

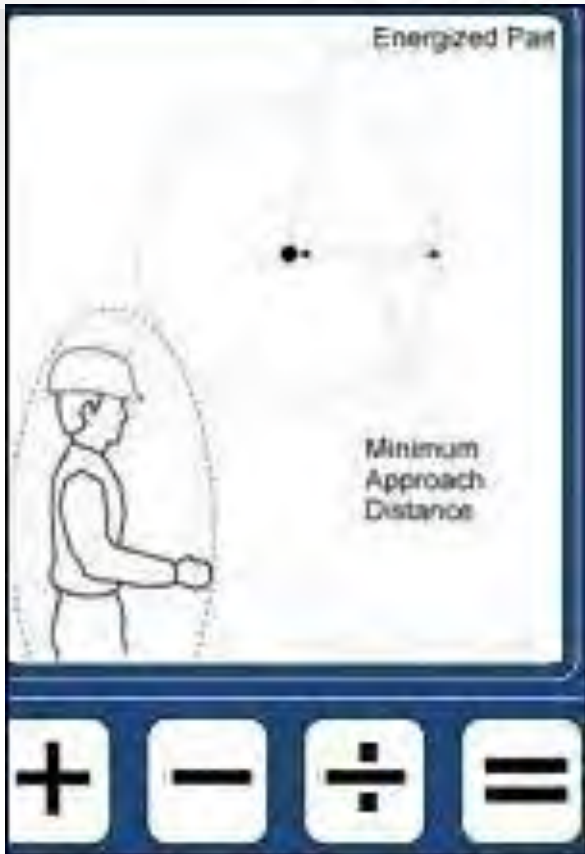


Photo Source: OSHA

Per BC 3306.9.1: Utilities and Service Lines

- All existing utilities and service lines
 - Locations shall be identified
 - Safeguard the public and property before such utilities are disturbed.

PREPARING FOR DEMOLITION



Photo Source: OSHA

Per Building Code: **SECTION BC 3306.2.1** Safety Zone

- Establish around all demolition areas
- Mechanical demolition is taking place safety zone shall be equal or greater than half the height of the building.

PREPARING FOR DEMOLITION



Photo Source: OSHA

Per Building Code: **SECTION BC 1704.24.1.3**

Removal of stories, including full demolitions

- Hydrostatic pressure tests of the entire system prior to demolition

Per Building Code: **SECTION BC 3303.8**

Standpipe systems during construction, alteration or demolition

- Fire standpipe to be in a state of readiness at 75 ft or higher
 - Painted red
- Maintained as dry standpipes

PREPARING FOR DEMOLITION



- Public and properties are properly safeguarded
 - **Public protection:** sidewalks, walkways, yards
 - **Roof/OHP protection:** adjoining roofs, skylights, chimney's, mechanical equipment

PREPARING FOR DEMOLITION



Per Building Code: **SECTION BC 3307.6** Sidewalk Sheds

- When demolition to take place on a structure higher than 25 ft.

Per Building Code: **SECTION BC 3309.10** Protection of Roofs

- When any buildings is to be demolished above the roof of an adjoining building
- Adjoining roof protection is required when demolition work will take place at 48 inches above the adjoining roof

DEMOLITION OPERATIONS



Per BC 3306.8: Demolition Sequence

- Any structural member that is being dismembered shall not support any load other than its own weight.
- No wall, chimney, or other structural part shall be left in such condition that it may collapse or be toppled by wind, vibration or any other causes.

DEMOLITION OPERATIONS



Per BC 3306.8.1: **Structural Steel, Reinforced Concrete, and Heavy Timber Buildings**

- Demolition of steel, concrete, and heavy timber buildings shall occur one column at a time and one floor at a time so as to not effect the stability of the structure
 - Structural members shall also be chained or tied in place to prevent uncontrolled movement

DEMOLITION OPERATIONS



Per BC 3306.8.2: **Masonry Buildings with Wooden Floors**

- Demolition of masonry buildings shall occur in sequence from top to bottom
 - All demolition work must be completed above each level before removing any structural members
- Masonry walls shall not be permitted to fall as it can effect the carrying capacity of the floors and structural support
- Walls shall be braced

DEMOLITION OPERATIONS



Per BC 3306.9.2: Party Wall Exits, Fire Exits

- During demolition operations the following safeguard shall be maintained:
 - Egress
 - Egress shall not be obstructed
 - Existing structural elements
 - Fire protection devices
 - Sanitary safeguards

DEMOLITION OPERATIONS



Photo Source: ELCOSH



Per BC 3306.9.3: **Dust**

- Any operations producing dust shall be wetted down

DEMOLITION OPERATIONS



Per BC 3306.9.4: **Water Accumulation**

- Demolition operations shall not interfere with natural surface drainage

Per BC 3306.9.5: **Temporary Elevators and Standpipes**

- Existing standpipes shall be maintained as dry standpipes during demolition operations

Per BC 3306.9.6: **Sprinkler Systems**

- Existing sprinkler systems with fire department hose connections shall be maintained as a nonautomatic sprinkler system

DEMOLITION OPERATIONS



Per BC 3303.14.1: Protection of Foundations

- Water shall not be permitted to accumulate in or damage neither foundation on the premises nor adjoining property's foundations

Per BC 3303.14.2: Drainage of Excavations

- Drainage of accumulated water shall be maintained throughout the project

DEMOLITION OPERATIONS



Per BC 3307.4.2: **Dangerous Areas**

- Areas where special danger exists, warning signs shall be provided
 - Special dangers include, but are not limited to: vehicle entrances & exits, hoisting areas, and areas where combustible materials are being stored



DEMOLITION OPERATIONS

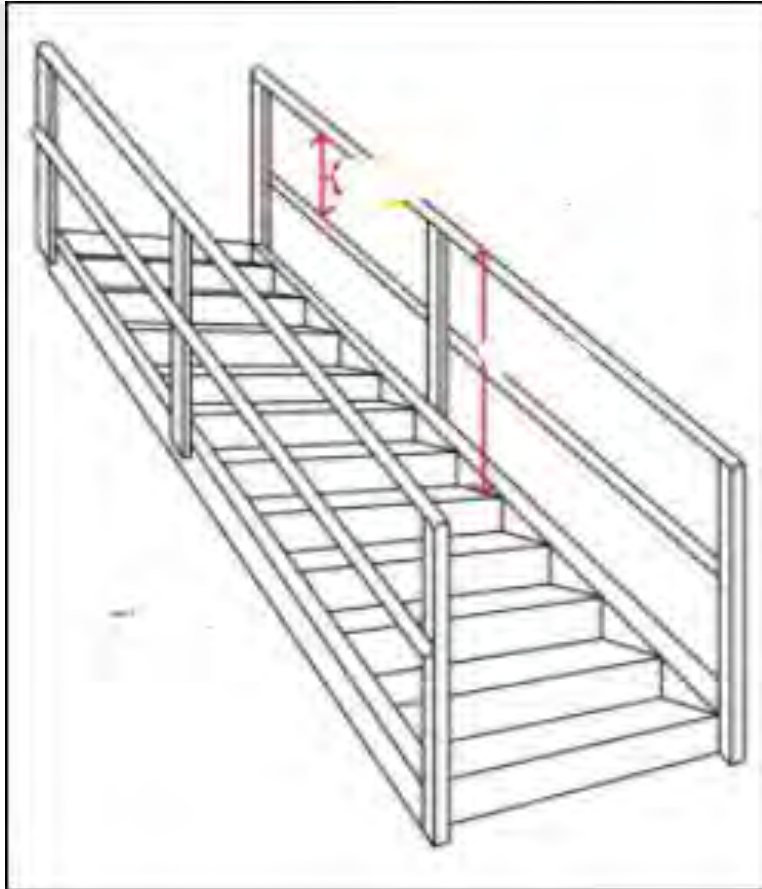
Per BC 3307.4.4: Areas open to non-workers

- For areas that are open to persons other than workers, a flag person shall be provided



Photo Source: OSHA

DEMOLITION OPERATIONS



Per BC 3306.9.9: Stairs

- Stairs shall be maintained and enclosed during demolition except for the top most floor being demolished

Photo Source: OSHA

DEMOLITION OPERATIONS



Per BC 3303.5.5: Debris Chutes

- Debris chutes shall conform to manufacturer's specifications and approved plan drawings
 - Plans shall indicate detailed information for how the chute shall be used

Per BC 3303.5.5.1: Debris Chutes

- Debris chutes at an angle of over 45° shall be enclosed on all sides
- Debris chutes at an angle of less than 45° may be open on the upper side

DEMOLITION OPERATIONS



Photo Source: OSHA

Per BC 3303.5.5.2: Debris Chutes

- Debris chutes shall be rigidly braced and supported for its entire length
- Chutes shall have metal plates inside to direct the flow of debris while falling
- A gate shall be provided at the lower end of the chute to control the material loading into trucks

Per BC 3303.5.5.2: Debris Chutes

- Chutes over 75ft in height shall be composed of non-combustible materials

DEMOLITION OPERATIONS



Per BC 3303.5.5: Debris Chute Permits

- Permits and design drawings are required for debris chutes
 - Design drawings shall be prepared by a registered design professional
 - Design and permit is not required for:
 - Chutes installed on buildings 40ft in height or less
 - Chutes installed in accordance with manufacturer's designs
 - Chutes not attached to nor impart a load on scaffolds

DEMOLITION OPERATIONS



Per BC 3309.9: Weatherproof integrity of Adjoining Property

- Adjoining properties whose waterproof integrity is compromised, the person causing the construction or demolition shall provide measures to permanently waterproof the adjoining wall or building

Per BC 3309.9: Adjoining Walls

- When an adjoining wall is exposed, the person causing the construction shall maintain, protect, brace, and monitor the wall
 - This includes maintaining egress



DEMOLITION SIGN-OFF

Inspection Appointment Request

Demo Sign-off Inspection

INSPECTION APPOINTMENT REQUEST

NYC
Buildings

Construction Safety Compliance
Appointment Request Form
(A SEPARATE FORM MUST BE SUBMITTED FOR EACH JOB)
Submit typewritten form to cscuappointments@buildings.nyc.gov

1	REQUESTOR (Required)
Name _____	
Business Phone _____ Cell Phone _____	
Email _____	
2	LOCATION INFORMATION (Required)
Address _____	
Job # _____ BIN # _____	
Community Board # _____ Block # _____ LOT # _____	
3	APPOINTMENT REQUEST (Required)
☐ Pre-Demolition Inspection	
Onsite Plans _____ ☐ YES ☐ NO	
TR1 Statement of Responsibility _____ ☐ YES ☐ NO	
Is the requested appointment a follow-up to previous objections issued? _____ ☐ YES ☐ NO	
If yes, indicate the corrective action taken in Section 4.	
☐ Demolition Sign-off Inspection	
Onsite Plans _____ ☐ YES ☐ NO	
TR1 Sign-off _____ ☐ YES ☐ NO	

- The purpose of a demo sign-off inspection is for the department to confirm the final condition of the job
- The form **must** include a cover sheet and all of the applicable sections must be filled out.
- Indicate it is a demo sign-off inspection

DEMO SIGN-OFF INSPECTION

Are you ready for demolition sign-off?

Any exposure at the adjoining property wall that needs to be inspected; it is okay to remove the job site fence if there is any:

- Ensure the site is graded, if it is not graded the plans should depict the final condition
- The plans should also indicate the site berm, if applicable, with a guardrail system
- The fence **needs** to be back at the lot line except when a **DOT** permit is active

DEMO SIGN-OFF INSPECTION

Are you ready for demolition sign-off?

Per BC 3306.11

Check the adjoining properties for weather proofing, parging (a thin coat of cementitious mortar applied to concrete or masonry) thoroseal (tar paper), vinyl siding

- Verify if the wall was parged or not and any holes opened at the mortar joint are filled
- The structure has been demolished.
- All debris has been removed from the site and fully backfilled.



THANK YOU