

# **New York City School Construction Authority**

## **Environmental Regulatory Compliance (ERC)**

### **Safety Unit**

## **Safety Manual**

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### **NOTE**

*Please note that this revision of the New York City School Construction Authority’s Safety Manual represents a major undertaking that was designed to make it easier for contractors to protect school children, teachers, people of the public and their employees, as well as SCA personnel while engaging in construction or renovation of New York City public schools. Traditionally, due to the nature of our work at the SCA, we have numerous health and safety standards that exceed beyond Federal OSHA standards, and those set forth by the New York City Department of Buildings. We recognize that this revision may create unintended conflicts or errors and omissions from any previous version of the Safety Manual, should any of these situations arise, the most stringent standards shall apply. Finally, it will be up to the director of the SCA Safety Unit to have final discretion in determining applicable standard for specific situations.*

# INTRODUCTION

The New York City School Construction Authority (NYC SCA) has established this Safety Program & Procedures Manual to guide and direct the management, staff, and Contractors working on all NYC school buildings.

NYCSCA wants to stress that management, staff, and Contractors working on all NYC school buildings are obligated to adhere to the policies and procedures detailed within the Safety Program & Procedures Manual in order to promote a safe work environment for all SCA personnel, school occupants, workers, and the general public.

The intent of this Safety Program & Procedures Manual is to assist the SCA in using every practicable means to protect school personnel, public, and workers from accidents and health hazards.

Additionally, every Contractor/Subcontractor is responsible for providing a safe working environment that meets all current City, State, and Federal safety laws, standards, and regulations for the safety of all employees.

- In the event there is a conflict between governing safety regulations, the highest standard established by either applies.
- The primary focus is to prevent injury and property loss or damage to the public; i.e., school occupants, pedestrians, and workers, as a consequence of negligence and wrongful acts of commission or omission by Contractor employees or SCA personnel.

NYCSCA is committed to safety and considers effective safety management a shared responsibility. Each employee of an Owner Controlled Insurance Program (OCIP) eligible Contractor, regardless of position, is required to accept safety responsibilities, and is held accountable for such performance.



If a situation arises that is not covered by the SCA Safety Manual or other safety documents, contact the SCA Project Officer or an assigned SCA Safety Officer.

## 1.1 Objectives of the Safety Program

Objectives of the Safety Program include:

- Develop and maintain a safe and healthful workplace that promotes safe behaviors, compliments production, and avoids both injuries to persons and damage to NYC School property and adjacent structures.
- Ensure the use of protective equipment and controls to minimize the potential hazards of the work or as the activity requires. This applies to all SCA and Contract operations.

Both the Construction Management Department and the SCA Safety Division are committed to the Safety Program and its strict enforcement.

## 1.2 The Mission of the SCA Safety Division

The goal of the SCA Safety Division is to implement and maintain an effective and comprehensive safety program to prevent and/or reduce potential exposure to construction hazards and minimize accidents/incidents. Its mission is to:

- Educate SCA Personnel, General Contractors, and Subcontractors on the current City, State, Federal, and SCA-mandated safety rules and regulations.



Accident prevention is an integral part of all Construction procedures.

- Enforce all current applicable safety rules and regulations in a firm, fair, and consistent manner.
- Provide optimum protection to the students, teachers, school personnel, and the general public during all new construction and renovation of NYC School Buildings.

## 1.3 The SCA's Safety Culture

The NYC SCA has a strong safety culture for a simple reason—children. Children are often attracted to construction sites and often try to gain access to what may seem to be great places to play. Therefore, it is the Contractor's responsibility to control the potentially dangerous areas that exist within its construction project at the NYC SCA's high standards.

From human resources practices, design, inspection, to construction management, NYCSCA is structured to support safety at all levels of the organization.

Serious accidents involving school occupants are devastating to the children, families, school, and to the NYCSCA.

Serious accidents also involve law enforcement, media, and political figures, and reflects poorly on the project and this public Authority.

- The safety of the children, teachers, administrative personnel, and the public is of the utmost importance.
- Performing construction activities in or near an occupied school demands the highest level of loss prevention.
- Every effort must be made to evaluate, eliminate and reduce the hazards posed to the school occupants and the public by projects that are concurrent with school activities.

Our children are totally dependent on us to create a safe place for them to learn, study and play. Any work-related condition deemed to be unsafe must be immediately corrected.

#### 1.4 Mandatory Availability of Safety Codes and Standards

Every Contractor/Subcontractor is responsible for having ready access to all current City, State, and Federal safety laws, standards, and regulations.

Access can be electronic, but if the standards are either not available on the Internet or the Internet is not available, print additions must be available on-site.

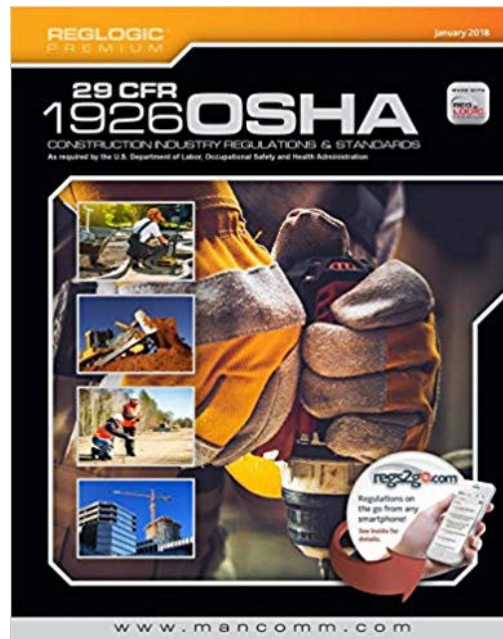
#### 1.5 OSHA 1926 and SCA Safety Standards

Prior versions of the SCA Safety Manual included material directly taken from **29 CFR 1926 OSHA Construction Industry Regulations & Standards** and formed the basis of the SCA Safety Manual; however, this updated edition highlights only SCA safety requirements, which may be more stringent than government standards.

Please note that [OSHA's Website and Manual](#) may be accessed at any time to review government safety standards information.



Printed copies of **1926 OSHA** are available and are located in the SCA Safety Division.



#### 1.6 Questions about this Procedure

Questions regarding the SCA Safety Manual should be directed to the [SafetyDirector@nycsca.org](mailto:SafetyDirector@nycsca.org).

The Environmental and Regulatory Compliance Safety Division (ERC) can be reached at 718.472.8153.









## 1.7 Terminology Used in this Manual

TERM	DEFINITION
<b>Capital Improvement Project (CIP)</b>	A smaller project consisting of one or more capital category, i.e., roof and boiler replacements, electrical work, security systems, room conversions, and transportable classrooms. CIP projects may not have their own budgets; many CIP projects will be funded by one Certificate to Proceed (CP).
<b>Competent person</b>	A person capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
<b>Contract</b>	A written agreement by and between the owner and a Contractor/Subcontractor or between a Subcontractor and their Subcontractor(s).
<b>Contractor, Subcontractor, Sub-Subcontractor</b>	Any individual, firm or corporation pre-qualified and/or approved by the SCA to perform work on a SCA Project.
<b>Emergency Work</b>	Work to be done immediately to correct a hazardous condition.
<b>Employer</b>	A Contractor, Subcontractor, or Sub-Subcontractor.
<b>General Contractor (GC)</b>	Prime Contractor performing the construction work.
<b>General Contractor Safety Representative</b>	Employee of the GC that is responsible to coordinate project safety with all Contractors and Sub-Contractors of any tier. The General Contractor Safety Representative works with the GC, the SCA, and insurance company personnel to promote a safe working environment on the specific SCA project.
<b>Insured</b>	Includes the owner, et al, and the CM, GC, Subcontractor or Sub-Subcontractor.
<b>Line Project</b>	A major project such as a new school, major modernization, addition or athletic field. Line projects may involve many capital categories or types of work in one project and are funded through their own OMB Certificate to Proceed (CP).
<b>Occupied School/Building/Premise/ project</b>	Any building occupied by school children, educational program participants, educational staff or school administrators at any time, including but not limited to, before and after school hours, weekends, and holidays.
<b>OCIP</b>	Owner Controlled Insurance Program – Owner (NYC SCA) provides liability and workmen's compensation for all approved Contractors and sub-Contractors.
<b>Owner, Owner's Representatives</b>	New York City Department of Education (DOE) New York City School Construction Authority (NYC SCA)

## 1.7 Terminology Used in this Manual, continued

TERM	DEFINITION
<b>Photo I.D.</b>	Information badge worn while on any occupied SCA project. The photo I.D. is to be readily visible at all times and is to contain a clear, current photo; the name of the person in the photo; the name of the company the person is working for; along with the address and phone number of the company.
<b>Public</b>	Any individual this is not part of the construction personnel.
<b>Qualified</b>	One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.
<b>Administrator of Insurance</b>	Those that provide claims servicing and auditing insurance related controls.
<b>Servicing Insurance</b>	The broker representing the NYC SCA who issues Certificate of Insurance to broker Contractors prior to working on projects.

## 1.8 Icons Used in the Procedure

Icon	How it is used
	The <b>NOTE</b> icon is used to point out additional information or the exception to a rule.
	The <b>IMPORTANT</b> icon is used to highlight a critical piece of information that, if overlooked, could cause an error.
	The <b>TIME SENSITIVE</b> icon is used to note that an action needs to be completed within a specific timeframe.
	The <b>POLICY</b> icon is used when briefly stating a policy or referring readers to relevant federal, state, or city policies.
	The <b>REFERENCE</b> icon is used to notify readers that additional information on a particular topic exists outside the document itself.
	The <b>LEGAL</b> icon is used when referring to a legal statute that provides relevant background on the information provided.
	The <b>DEFINITION</b> icon is used when a term, process, or any other information requires defining.
	The <b>EXAMPLE</b> icon when providing an example that relates to the surrounding text.
	The <b>OSHA</b> icon is used to provide links to the US Department of Labor Occupational Safety, and Health Administration's 926 Construction Industry Regulations & Standards website.
	The <b>NEW YORK STATE</b> icon is used to reference the NYS Department of Labor Guidelines.
	The <b>NYC Buildings</b> icon is used to reference the NYC Buildings codes.

# ROLES AND RESPONSIBILITIES/GUIDELINES

## General

All levels of School Construction Authority (SCA) Management are responsible for providing a work environment that maximizes occupational safety and minimizes hazards to the occupants, SCA and Contractor Personnel, and the public.

Employees are expected to provide complete support of all phases of safety programs. This includes:

- Compliance with established rules and regulations applicable to their own actions and conduct.
- The use of personal protective equipment; and otherwise performing their duties in a safe manner.
- Each employee is entitled to, as well as expected to, report all job-related unsafe and unhealthy working conditions to his/her supervisor.
- All supervisors are expected to correct adverse conditions brought to their attention.

Every SCA employee and every SCA representative is responsible to be properly attired, including:

- Possess and wear a photo identification tag in a visually prominent location.
- Wear appropriate personal protective equipment (PPE), including hard hat, safety glasses, and work boots, when physically present on any active SCA construction project.



## 2.1 Role of the SCA Safety Division

The role of the SCA Safety Division is to serve as principal staff advisor and technical consultant on safety matters.

The SCA Safety Division provides direction and guidance, and coordinates the efforts of both management and supervisors in planning, directing, and evaluating all safety program elements.

The SCA Safety Division has also been given the responsibility of interpreting safety policies and procedures, and to disseminate information by:

- Arranging and conducting ongoing safety training seminars for SCA Staff, Contingent Staff, Consultants, and Contractors.
- Providing technical assistance in the filing of accident and investigation reports to ensure accuracy and thoroughness.
- Collecting, analyzing, and disseminating data concerning the accident experience.
- Maintaining accident information and records.
- Developing recommendations for corrective measures and accident prevention programs.
- Reviewing Site Safety Plans submitted by Contractors.
- Preparing monthly safety status reports for the President and CEO, Vice President of Environmental and Regulatory Compliance (VP ERC), Director of the Safety Division, Vice President of Construction Management (VP CM), and Chief Project Officers (CPO's).
- Inspecting work sites and issuing safety inspection reports to Construction Management: Project Officers (PO), Senior Project Officers (SPO's), Chief Project Officers (CPO's), and the Vice President of Construction Management (VP CM).
- Verifying, through site inspections, that applicable safety rules and regulations are implemented, and code compliance is being applied.

## 2.2 Responsibilities of the SCA Safety Director

The SCA Safety Director's responsibilities include the following tasks:

- Make periodic field inspections of work areas to monitor Contractor's safety activities, and to enforce guidelines included in the School Construction Authority Safety Manual.
- Interface with Construction Management, and the General Contractor's senior management to promote safety preventatives that will allow for the total elimination of unsafe conditions and/or actions, as necessary.
- Advise the Project Officers in the following areas:
  - Accident investigation.
  - Preparation for pre-construction meetings, safety meetings, etc.
  - Required Contractor training.
  - Referring health and environmental issues such as asbestos and lead to the School Construction Authority Industrial & Environmental Hygiene Division (IEH).
  - Development of statistical information for accident/injury tracking and trending.
  - Accompany officials on inspections.
  - Determine personal protective equipment needs.
  - Provide education and reference materials as requested for specific safety related issues.
- Oversee the Safety Inspectors written reports, notices and orders:
  - Safety Compliance Inspection Reports.
  - Follow-up Inspection Reports.
  - 24-Hour and 48-Hour Notices.
  - Stop Work Orders.
  - Releases from Stop Work Orders.
- Provide direction to Safety Inspectors with regard to site specific emergency situations.
- Conduct Hazard recognition surveys (workers compensation and general liability) and furnishing reports to the Project Officer.
  - Copies to OCIP, and the SCA CPO, PO, CM, and GC as necessary.
- Produce the monthly safety report that summarizes loss control activity.
- Provide expert advice and support to SCA as requested.

### 2.3 Responsibilities of the SCA Safety Inspector

The SCA Safety Inspector's responsibilities include the following tasks:

- Review approved site safety plans to ensure Contractor's compliance.
- Review Contractor's training records, Permits and Licenses relevant to site specific construction activities.
- Conduct unannounced site-specific safety compliance inspections on all assigned projects. Inspections include, but are not limited to, the active work areas, staging/material storage areas, scaffolding and perimeter sidewalk bridging.
- Identify site specific safety deficiencies.
- Discuss safety recommendations for correction and compliance with the Site Supervisor and Project Officer (and sometimes the Competent Foreman of various trades).
- Provide written Safety Inspection Report and photos within 24 hours of conducting Safety Inspections. Reports are distributed to the Project Officers (POs), Senior Project Officers (SPOs), Chief Project Officers (CPOs), the SCA Safety Director, and the VP of Environmental and Regulatory Compliance.
- Issue Stop Work Orders to the Contractor to cease any operation(s) that poses an imminent danger to workers, school occupants, or pedestrians.
  - Stop Work Orders are issued to Contractors on projects requiring site safety plans and the Contractor has failed to provide them.
  - Stop Work Orders are distributed to the Contractor, Project Officer, Senior Project Officer, Chief Project Officer; VP of Construction Management, and the VP of Environmental and Regulatory Compliance (ERC).
- Conduct 72-hour re-inspection of a jobsite after a Stop Work Order has been issued.
- Conduct an accident/incident investigation as directed by the Safety Director and submitting a written report in regard to relevant circumstances.
- Discuss problems relating to safety with the SCA Safety Director; the SCA Project Officer; and appropriate site personnel.
- Attend and participate in safety meetings either during regular surveys or upon the request of SCA field representatives.
- Attend and participate in pre-construction meetings for major operations to introduce safety standards required of trades during the operation.

#### 2.4 Responsibilities of the SCA Senior Project Officer (SPO)

- Manage projects within their assigned borough.
- Enforce contract requirements for all safety procedures and programs.
- Prepare and issue written instructions to all supervisory and inspection personnel under his/her jurisdiction in accordance with the policy and directives of the SCA.
  - These instructions outline responsibilities for accident prevention and provide methods of enforcing the safety regulations at the jobsite.
- Assign a Project Officer (PO) to each school project.
- Hold periodic safety meetings with the SCA supervisory personnel and with the Contractor's senior management on site.
- Remain current of accident history and the accident prevention status of all work, including the maintenance of a continuing record of each Contractor's safety performance.
- Personally investigate all serious accidents and ensure that all other accidents are properly and fully investigated by SCA personnel.
- Oversee activities among POs; Construction Managers (CMs), and the General Contractor (GCs).
- Hold periodic meetings to assess safety compliance and activities with the PO, CM, and GC.

## 2.5 Responsibilities of the SCA Project Officers (PO)

The SCA Project Officer's (PO) responsibilities include the following actions:

- Plan and execute all work in compliance with the stated objectives of the SCA Safety Manual.
- Obtain a Site Safety Plan from the Contractor (prior to allowing the start of work), and submit it to the Safety Division for review.
  - Field work cannot commence until the Site Safety Plan is approved and returned to the PO, and the guidelines within the Site Safety Plan have been implemented at the worksite.



Two (2) copies of the Site Safety Plan and a Site Safety Plan Submission Form are submitted to the Safety Division.

- Require the General Contractor's (GC's) safety representative to be present for all weekly and/or other special scheduled safety meetings.
- Work in conjunction with SCA Safety Director as well as assigned School Construction Authority Safety Inspectors.
- Require compliance with all applicable federal, city, and state safety and health standards (e.g., NYC Chapter 33, Industrial Code Rule #23, OSHA 1910 where applicable, and OSHA 1926), and all SCA mandated safety requirements.
- Enforce the safety provisions of a contract.
  - Prompt action at the field level is taken to correct deficiencies.
  - If the PO cannot gain immediate compliance from the Contractor, the PO immediately refers the matter to the SPO and CPO for Construction Management.
  - The SCA PO verifies the Contractor's Safety compliance within 24 hours of receipt of the Safety inspection report.



The written verification response is distributed to the same recipients of the original Safety Report, i.e. CPO, SPO, PO, Safety Director, Safety Inspector, and Administrative Staff.

- Authorize necessary action when safety deficiencies remain uncorrected beyond the time frame established in the safety report.
  - The Project Officer is to initiate a work authorization request for an on-call Contractor to correct all open deficiencies in accordance with current Construction Management Policy & Procedures Manual.

## 2.5 Responsibilities of the SCA Project Officers (PO), continued

- Issue a Stop Work Order if all reasonable attempts to have the Contractor comply with the Site Safety Plan or other applicable safety procedures have failed.
  - Maintain a written record of the violation(s) found and steps taken to secure the Contractor's voluntary compliance.
  - Stop work immediately on any operation that poses an immediate danger to students, school occupants, SCA staff, pedestrians, or workers.



Contractor Evaluation – Stop Work Orders are reviewed by Construction Management to determine if the Contractor is to be issued an “unsatisfactory” or “marginal” evaluation.

- Review and sign all accident reports for accidents occurring at assigned jobsites.
- Ensure that reports are complete, and the action(s) indicated to prevent a recurrence is adequate and effective.



Where an action is deemed inadequate, the appropriate action is noted in the report. Steps are then taken to ensure that the appropriate measures are implemented.

- Walk through an on-site safety inspection with the assigned School Construction Authority Safety Inspector, or representative of the SCA Insurance Provider or Broker.
- Report all accidents, injuries, and occurrences at the time of the event to the SCA Safety Inspector. In addition, send an email to [noticeofaccident@nycsca.org](mailto:noticeofaccident@nycsca.org).
  - Obtain the required documentation from the injured worker/Contractor's Job Foreman or competent person of the operation involved in the injury or property damage; i.e., the SCA Injury/Illness Reporting form within 24 hours of the accident.
  - Notify the SCA's Insurance company within 24 hours of the accident and complete an Employer's First Report of Work-Related Injury/Illness Form (C-2 form).
- Contact the SCA Director of IEH (Industrial & Environmental Hygiene) immediately in the event of a potential asbestos or other hazardous materials release.



Refer to section [2.13.6 Jobsite Incident/Accident Report Format and Distribution](#).

## 2.6 Responsibilities of the Contractor(s) Personnel

The **General Contractor's** responsibilities include the following:

- Present a corporate Safety and Health Program. This program describes the policies and procedures for total management of the safety and health environment of the Contractor's personnel, and all other persons and property affected by its construction operations.
  - The program must be in the form of a Job Safety Analysis, or a detailed 'means & methods' addressing the anticipated exposures of the job.
  - Obtain all required permits and submit the required Site Safety Plans to the SCA Safety Division.
  - Prior to mobilization the contractor must submit a resume and credentials for a proposed competent site supervisor. In order to be considered as a competent site supervisor for a project, the candidate must have a minimum of two years' experience on similar type projects. Documented proof of experience acceptable to the SCA Safety Division Director and the Chief Project Officer of the borough must be submitted to the SCA. The contractor will schedule an interview for the candidate with the SCA Safety Division and SCA Construction Management for final acceptance.



Forms used to document this information can be found on the SCA website page entitled [Safety Manuals and Checklists](#).

- Ensure compliance with all City, State, and Federal safety laws and regulations, as well as SCA policies and procedures within the SCA Safety Manual.

The **Contractor's Superintendent or Safety Supervisor's** responsibilities include the following:

- Report accidents or injuries immediately upon occurrence, and no more than 24-hours after the occurrence.
  - **Form C-2** is to be completed and submitted to the SCA within 24-hours of the incident with all pertinent information. (Refer to the SCA webpage [Safety Manuals and Checklists](#).)
- Report to OSHA all in-patient hospitalizations, amputations, and losses of an eye within 24 hours of the occurrence.



- OSHA defines an in-patient hospitalization as a formal admission to the in-patient service of a hospital or clinic for care to treatment.
- Treatment in an Emergency room only is not reportable.

## 2.6 Responsibilities of the Contractor(s) Personnel, continued

- Report all incidents/accidents requiring ambulance transport to an off-site medical to the NYC DOB.



In accordance with Local Law 78 of 2017.

- Report a work-related fatality immediately to the School Construction Authority Safety Director, Project Officer, Local authorities, NYC DOB, and OSHA within eight (8) hours of the occurrence.
- Enforce the use of Personal Protective Equipment (PPE) as specified by OSHA 29 CFR, Part 1926 and the SCA Safety Manual.
  - PPE is also recommended in certain applications as dictated by the SCA. (Refer to the SCA website [Safety Manuals and Checklists](#).)
- Initiate corrective action(s) at the time of the safety inspection, but not more than 24-hours from issuance of the safety inspection report.
  - Immediate compliance is encouraged and noted as in the safety report.
- Provide written verification to the SCA Project Officer of the corrective action(s) taken for safety observations.
- Cooperate with SCA Project Management and the Safety Division during all pre-planning, audits and accident investigations.
- Conduct a Safety Orientation for newly-hired employees as described in the Contractor's Safety Program.
- Document notes from Daily Safety Inspections, Toolbox Meetings, and all Contractor Weekly Safety Meetings.
  - Submit notes to the SCA Project Officer.
- Maintain proper control of hazardous products.
- Recognize and control excessive noise levels.
- Contact all underground utilities companies for proper Mark Out before work begins.
- Provide approved and appropriate equipment for the project.
- Provide each employee with all required personal protective equipment for the assigned tasks.
- Report all accidents/incidents and damages immediately to the proper authorities and to SCA.





Refer to section [2.13.6 Jobsite Incident/Accident Report Format and Distribution](#).

## 2.7 Responsibilities of the General/Prime Contractor's Designated Competent Site Supervisor

The General/Prime Contractor's Designated Competent Site Supervisor's responsibilities include the following:

- Require each Subcontractor to comply with appropriate Federal, State and City safety requirements and with the School Construction Authority Safety Manual.
- Require each Subcontractor to submit a written site-specific Safety Program that describes job hazards and controls necessary during the Subcontractor's work.
  - Each Subcontractor must designate a Competent Foreman to implement their own program.
- Schedule, attend, and document Weekly Safety Meetings.
- Conduct daily Pre-shift/Pre-Task Safety Meetings to include a review of activities and tasks to be performed, specific safety concerns or risks associated with completing the work, and actions taken to eliminate or reduce anticipated hazards.
  - Documentation of the training must be maintained for each worker.
  - The meeting record must include the following information:
    - The date and time of the meeting.
    - The name, title, and company affiliation of each worker who participated in the meeting.
    - The name, title, and company affiliation of the competent person who conducted the meeting, along with the competent person's signature.



The Site Supervisor is not authorized to perform any physical work onsite.

- Cooperate with the SCA Project Officer, School Principal, and the school's custodial staff with regard to construction work to be performed.
- Require Contractors and each Subcontractor's Superintendent and Job Foreman to be familiar with provisions of the "Safety and Health Regulations for Construction" (Federal Register Title 29, Part 1926), applicable State and Local laws; and SCA Safety mandated requirements.
  - Familiarization with the provisions is acquired through training and by reviewing the SCA Safety Manual.

## **2.7 Responsibilities of the General/Prime Contractor's Designated Competent Site Supervisor, continued**

- Institute procedures for preparation of supervisory investigation reports on all accidents.
- Review accidents (to include near misses) and institute corrective action to prevent recurrence.
- Review Safety Meeting Reports submitted by the Contractor.
- Ensure that required Weekly Tool Box Safety Meetings are held by Contractor.
- Provide Contractor's Job Superintendents with appropriate material relevant to the site conditions or the work being conducted for use in conducting Weekly Tool Box Safety Meetings.
- Attend Contractor Weekly Tool Box Safety Meetings on a periodic basis and evaluate effectiveness.
- Conduct daily safety inspections of the job site.
  - Direct the Contractor safety representatives to take necessary corrective action(s) to eliminate unsafe acts and/or conditions.
- Cooperate with SCA Safety Inspectors and take necessary steps to implement appropriate recommendations.
  - Advise SCA regarding safety on the job, as requested.
- Coordinate all tours and visitors to the site.
  - All visitors must be identified, be accompanied by a Contractor representative, and have proper personal protective equipment (PPE); i.e., at minimum a hard hat, safety glasses, work boots, and proper photo Identification badge visibly worn.
- Require all employees to properly use PPE; i.e., hard hats, glasses, gloves, appropriate clothing, respiratory equipment, and others as needed.
- Provide project-specific safety orientation to all workers including Subcontractors.
  - Ensure full understanding of the SCA Safety Program and Procedures Manual.
- Prepare and maintain a current site-specific emergency evacuation plan at the jobsite.
- Stop any operation identified as an immediate danger to life and health (IDLH).

## **2.7 Responsibilities of the General/Prime Contractor's Designated Competent Site Supervisor, continued**

- Assure that a workable housekeeping program is in place.
  - Assign specific duties to individual Contractors.
  - Conduct a daily check of work areas
  - Keep records of conditions found and corrective action taken.
- Assist in the investigation of accidents with the safety representative to determine facts necessary to take corrective action.
  - Promptly copy the written results of investigation to the SCA Safety Inspector and the SCA Project Officer.
- Evaluate workers' experience prior to assignment to ensure the worker is both properly trained in the task and understands the hazards involved.

## 2.8 Responsibilities of the General/Prime Contractor's Safety Representative

The General/Prime Contractor's Safety Representative's responsibilities include the following actions:

- Assist in the investigation of accidents with the competent site supervisor to determine facts necessary to take correction action.
- Hold the Contractor and Subcontractor senior management responsible and accountable for the safety of their employees.
  - Conditions identified must be communicated to Contractor management for correction.
- Designate a Site Safety Representative.
  - Complete the Contractor's Designated Safety Representative form and hold it on the jobsite. (Refer to the SCA website [Safety Manuals and Checklists](#).)
- Enforce the corporate Safety & Health Program, SCA Safety Manual, and special controls issued by the SCA Safety Inspector or Project Officer.
- Participate in making a pre-job safety survey prior to commencement of job (and whenever requested) along with the Project Officer and SCA Safety Inspector.
- Communicate safety information to respective Contractors and Subcontractors regarding hazards that may arise from daily operations.
- Conduct daily tours through assigned construction areas with Contractors and Subcontractors, and submit a written report to the Project Officer.
  - Include comments from inspections on the following critical areas to include:
    - All rigging equipment, including ropes, slings, shackles, blocks, hooks, fall protection systems, elevated work platforms (scaffolds), and ladders.
    - Tools and pneumatic equipment.
    - Major equipment, such as cranes, derricks, hoists, tow motors, and welders.
    - Safety equipment.
- Review all accident scenes when notification is received from the Contractor or Subcontractor.
  - Complete the accident report as per Contractor's and SCA Safety Manual.
- Assist with developing and communicating safe job procedures for unusual or hazardous operation.
- Enforce compliance with federal, state, city, and/or other agency requirements.
- Assist in the investigation of accidents with the safety representative to determine facts necessary to take corrective action.
  - Promptly copy written results of the investigation to the SCA Safety Inspector, and SCA Project Officer.

## 2.9 Responsibilities of the Subcontractor

The **Subcontractor's** responsibilities include the following:

- Maintain the safety of its personnel and execute all work in compliance with the SCA Safety Manual, OSHA, and all applicable federal, state and NYC codes.
- Provide copies of a written Safety Program and Hazard Communication Program, with corresponding current Safety Data Sheets (SDS), to the Contractor's Project Safety Representative or the SCA's onsite representative.
- Attend the Safety Meetings scheduled by the SCA Project Officer or their representative.
- Communicate unsafe practices or conditions observed, which are not under the Subcontractor's jurisdiction, to the Contractor's Superintendent.
- Ensure that adequate First Aid Supplies are available.
  - Ensure that personnel are qualified to administer First Aid as required by State and/or Federal Regulations.
  - The First Aid kit must be stocked with necessary items relevant to operations.

The **Subcontractor's** or **Safety Supervisor's** responsibilities include the following:

- Report accidents or injuries immediately upon occurrence, and no less than 24-hours after the occurrence
  - **Form C-2** is to be completed and submitted to the SCA within 24-hours of the incident with all pertinent information. (Refer to the SCA webpage [Safety Manuals and Checklists](#).)



Refer to section [2.13.6 Jobsite Incident/Accident Report Format and Distribution](#).

- Report a work related fatality immediately to the SCA Safety Director, Project Officer, Local authorities, OSHA, and NYC DOB within eight (8) hours of the occurrence.
- Require all employees to properly use PPE; i.e., hard hats, glasses, gloves, appropriate clothing, respiratory equipment, and others as needed.
- Require all visitors to the site to properly use PPE; i.e., hard hats, glasses, gloves, appropriate clothing, respiratory equipment, and others as needed.
  - Visitors include, but are not limited to, architects, engineers, third party representatives, company owners, project managers, and delivery persons.
- Provide the SCA with Supervisory Investigation Reports on all accidents.
  - The Supervisory Investigation Report states recommendation(s) and action(s) taken to help prevent recurrences.

## 2.9 Responsibilities of the Subcontractor, continued

- Schedule and document Weekly Tool Box Safety Meetings for all employees.



Pre-printed forms with different topics are available from various industry sources.

The topics selected should be relevant to site conditions or the actual work being conducted.

- Perform regular (documented) safety inspections.
  - Take immediate action to correct unsafe practices or conditions when discovered or reported.
- Implement and maintain a Hazard Communication Program with corresponding Safety Data Sheets (SDS) for all hazardous materials on the job site.
  - Conduct necessary training and enforce required use of PPE.
  - Documentation must be maintained as per the hazard communication requirements and made available for review.
- Provide proper training to all employees

## 2.10 Responsibilities of the Subcontractor's Competent Job Foreman

The Subcontractor's Competent Job Foreman's responsibilities include the following actions:

- Evaluate workers' experience prior to assignment to ensure that the worker is both properly trained in the task and understands the hazards involved.
- Ensure all workers are trained in safe work practices and methods in accordance with the Subcontractor's Safety Program.
- Ensure all employees have and use proper protective equipment (PPE) and suitable tools for the job.
- Assure continuously that no unsafe practices or conditions are allowed to exist on any part of the job.
  - If unsafe conditions are identified, the Competent Job Foremen are responsible for eliminating or controlling them and, if outside their jurisdiction, reporting them to the Job Superintendent or Safety Representative.
- Assist in the investigation of accidents with the Safety Representative to determine facts necessary to take corrective action.
  - Promptly copy written results of the investigation to the Safety Manager, SCA Safety Representative, and the Project Officer.
- Conduct Weekly Tool Box Safety Meetings (pre-shift meetings) with employees to:
  - Promote safety awareness.
  - Review the hazards and controls needed to complete the work.
  - Discuss observed unsafe work practices or conditions.
  - Communicate policies and procedures.
- Assure prompt first aid is administered to injured employee, while professional medical care is summoned.
- Report immediately to the designated Competent Site Superintendent any observed unsafe conditions, practices, or violations of job security.
- For Subcontractors working on Line (new construction), Exterior, and Boiler projects, the Competent Job Foreman must successfully complete the Construction Site Fire Safety Manager (CSFSM) course.



Refer to section [2.12.3 Worker's Safety Education, Training, and Program – Introduction](#).

## 2.11 Meetings

### 2.11.1 Pre-construction Meeting

Prior to the start of construction activities on all SCA projects, a pre- construction meeting is convened by the Project Officer. Required attendees are as follows:

- Project Officer.
- General Contractor's Designated Safety Representative.
- Designated Competent Site Supervisor.
- Other Subcontractors, as required.

One of the agenda items must be safety. Additional items required for discussion include, but are not limited to, the following:

- Public protection.
- Ladder safety.
- Housekeeping.
- Fall Protection.
- Site-specific project exposures.
- Site Safety Plan and logistics of Staging area, fencing, etc.
- Planned controls to meet health and safety requirements of the project.
- Designated safety contacts.
- Roles and responsibilities.
- First aid and medical services.
- Accident reporting and investigation.
- Site security.
- Other safety related items.
- Egress Issues

Minutes of meeting are to be recorded by the SCA Project Officer and distributed to all those in attendance.



### 2.11.2 Weekly Contractor Safety Meeting

The Contractor's Safety Representative and/or designated Competent Site Supervisor are responsible for chairing and presenting appropriate subject matters at these meetings.

Contractor and Subcontractor attendance at these meetings is mandatory.

- The subject material is typed and reproduced for distribution at the meetings.
- A sign-in sheet must be maintained and be readily available for inspection by the SCA Safety Inspector.
- The actual meeting time does not exceed 30 minutes, except in unusual circumstances.
  - It is important to keep in mind that the length of the meeting is not necessarily an indication of its effectiveness.
  - Once established, the day, time, and place of the meeting should not be changed unless absolutely necessary.

The following items are covered at these meetings:

- Previous week's minutes.
- A discussion of the safety hazards for the upcoming week's work.
- A review of incidences that occurred since the previous meeting; i.e., near misses, first aid cases, and cases that required medical attention.
  - Include accident prevention methods to be initiated by individual Contractors.
  - The chairperson encourages group discussions on methods of correction, improvement, etc., of safety problem areas that may exist on the project.
- Review of the most frequently noted serious and non-serious, and repeated safety violations, including corrective actions that are necessary to eliminate their recurrence.
- A "safety topic-of-the-week" is chosen for discussion with a handout distributed.
  - These topics may be general in nature, but specific towards construction safety, e.g., scaffolds, ladders, personal protective equipment, etc.
  - These topics must be relevant to current site conditions and/or work underway.

The minutes of these meetings must be maintained. Distribution of the minutes is as follows:

- Attendees
- SCA Project Officer
- SCA Safety Inspector

### 2.11.3 Weekly Contractor/Subcontractor Tool Box Safety Meeting

Once a week each Competent Foreman holds a Safety Meeting with the workers to discuss work practices and conditions related to construction safety.

Attendance at these safety meetings is mandatory.

- The Contractor's Safety Representative attends these meetings periodically as an observer or to discuss safety matters of special concern.
- A written roster of those in attendance must be maintained and forwarded to the Contractor.
- Once established, the day, time and location of these meetings should not be changed unless absolutely necessary.
- Under normal circumstances, these meetings last no longer than 10 to 15 minutes.

Items of discussion at these meetings are restricted to safety-related matters.

- While the Competent Foreman is expected to discuss safety matters specifically related to the crew's upcoming activities, additional material such as the previous week's accidents and the "safety topic-of-the-week" are provided by the Contractor with respect to the last Contractor Safety Meeting.

Each Competent Foreman creates a record of the meeting by means of a form.

- The completed form is forwarded to the Contractor.
- The Contractor is required to acknowledge their review of this report and enter appropriate comments.
- These records are subject to monitoring by the SCA.

#### 2.11.4 Corrective Action Meeting

As soon as possible after notifications are made of the incident, a meeting is held at the worksite of the incident to ensure the cause has been determined and that proper corrective action has been initiated.

The following personnel attend this meeting:

- Contractor's representative.
- Contractor's corporate management and site safety representative.
- SCA Safety Director and/or his/her designee.
- SCA Senior Project Officer and/or SCA Project Officer
- Pertinent personnel as determined by the SCA Chief Project Officer or his/her designee.

## 2.12 Orientations and Programs

### 2.12.1 New Hire Safety Orientation

All new-hire Contractor employees are required to attend a Safety Orientation prior to beginning assigned duties.

- Attendees include craftsmen, supervisors, office staff, and Subcontractor personnel.

In addition to a Safety presentation, the following is discussed:

- **SCA and Contractor Safety Culture** – The importance of health and safety matters, including the desire to protect school children by complying with all safety regulations and the SCA Safety Manual.
- **Employees' Safety Responsibilities** – Employees are to protect the health and safety of themselves and other workers and to cooperate with the construction manager's safety effort.
- **First Aid** – Reporting procedures for occupational injuries and illness is reviewed. Every injury, no matter how slight, is reported to the employee's Foreman.
  - Any employee who has obtained outside medical treatment for an alleged work site injury or illness must report his/her injury or illness and name of attending physician to his/her supervisor no later than the first normal scheduled workday.
  - Failure to comply with this policy may result in denial of Workmen's Compensation benefits and may be cause for termination.
- **Tool Box Safety Meetings** – Every employee must be informed that attendance at scheduled weekly Contractor Tool Box safety meetings is mandatory.
  - Weekly Tool Box meetings allow employees to ask questions, offer suggestions, and air complaints regarding safety on the project.
- **Reporting of Unsafe Acts or Conditions** – Employees are expected to report all unsafe acts or conditions to their site foremen, who either resolves the problem or refers it to a higher project authority.
  - In cases of "imminent danger," the first Contractor or supervisor that can be contacted must be informed of the situation.
- **Employee Safety Warning Letters** – This letter is utilized to warn of unsafe acts by Contractor employees, and is issued by the Contractor's site safety representative.
  - The Safety Warning Letters are only used in cases that demonstrate an employee has repeatedly disregarded an established safety rule after being properly notified and instructed on proper procedures and rules.
  - Employees who receive a Safety Warning Letter are subject to immediate removal from the project.

### 2.12.1 New Hire Safety Orientation, continued

- **Personal Protective Equipment (PPE)** – Every Contractor employee is required to wear an approved hard hat, safety glasses and work boots at all times in designated areas.

- Each employee must be made aware that other forms of protective equipment (safety harnesses and lanyards, face shields, hearing protection, respiratory protection, etc.) may be required.
- If use of PPE is deemed necessary for a specific work task, its proper use is mandatory.
- Repeated non-use of PPE when required is cause for removal from a project.
- **Emergency Procedures** – Each employee is to be briefed on established project emergency procedures so that they may render assistance in case of serious injury, fires, evacuations, etc.



A written record of all worker safety orientations must be completed and signed by the individual worker. This record is maintained by the Contractor with copies made available to SCA safety representatives as needed.

## 2.12.2 Contractor Designated Competent Site Supervisor (Site Supervisor)/ Foreman Safety Orientation

The Contractor's designated Competent Site Supervisor's/Foreman's daily involvement is important to the success of the Contractors' Safety & Health Program.

Because all work is conducted in compliance with all applicable OSHA and NYC DOB regulations, it is necessary for the Contractor to orientate each Competent Site Supervisor/Foreman upon promotion or hire as to their safety responsibilities.

**Competent Site Supervisor/Foreman Orientation** includes the following topics:

- **Safe Work Areas** – The Competent Site Supervisor/Foreman is expected to become familiar with the crews' work areas and ensure that safe conditions are maintained.
  - If an unsafe condition should exist, it is the responsibility of the Competent Site Supervisor/Foreman to correct those conditions as soon as possible before the work tasks are started.
  - If correcting the unsafe condition proves to be unsuccessful, the appropriate Contractor's safety representative must be notified, who initiates corrective action.
  - The assistance of the SCA Safety Inspector is sought should complex problem areas of concern exist.
- **Safe Work Practices** – The Competent Site Supervisor/Foreman ensures that workers are instructed in safety practices, work methods, and PPE required.
  - Ensure the crew has proper PPE and use it at all times when the need exists.
  - Ensure suitable tools are being used for a specific work task.
- **Supervising for Safety** – The Competent Site Supervisor/Foreman constantly reviews safety practices and procedures being used and initiate corrective action as necessary when following the progress of crews' work assignment.
- **Conduct Daily Pre-shift/Pre-task Safety Meetings**
  - The Competent Site Supervisor/ Foreman conducts these meetings.
  - Topics include a review of activities and tasks to be performed, including specific safety concerns or risks associated with fulfilling such work.
  - Records of these meetings are maintained for each worker; i.e., a record of one Pre-shift Safety Meeting per week. Records include the following information:
    - The date, time, and detailed summary of the meeting.
    - The name, title, and company affiliation of each worker who participated in the meeting.
    - The name, title, and company affiliation of the competent person who conducted the meeting, along with the competent person's signature.

## 2.12.2 Contractor Designated Competent Site Supervisor (Site Supervisor)/ Job Foreman Safety Orientation, continued

- **Foremen's Safety Meeting**
  - The Contractor conducts the weekly Foremen's Safety Meeting.
  - The topic of discussion is safety as it relates to crew and work assignments.
  - Attendance at these meetings is mandatory.

The responsibilities of the **Competent Site Supervisor/Job Foreman** are as follows:

- **Tool Box Safety Meetings** – Conduct a weekly Tool Box Safety Meeting with the entire crew at a specified time and place using safety materials provided by the Contractor. S/he is also required to:
  - Obtain a list of employees attending meeting.
  - List employee comments, suggestions, and complaints aired for review by the Contractor's Site Safety Representative.
- **Emergency Procedures** – Become familiar with project emergency procedures in order to provide the needed leadership required in case of serious injury, fires, evacuations, etc.
- **Accident Investigations** – Actively participate in the reporting and investigation of incidents that result in:
  - Personal injury to a member of the crew.
  - Equipment or property damage.
  - Non-injury incidents (near misses) that have potential to cause serious injury or loss.



The Competent Site Supervisor/Job Foreman must be made aware that accident investigations are to determine facts, not faults, so recurrences can be prevented.

- **Fire Prevention** – Maintain a working knowledge of the FDNY Inspection Manual and a constant awareness as to potential fire hazard risks, and knows the location of fire extinguishers.
  - Hot Work permits must be obtained before Hot Work is initiated.
  - If a potential fire hazard exists or is noted, initiates corrective action or notifies appropriate personnel for initiation of emergency firefighting requirements from outside agencies.

### 2.12.2 Contractor Designated Competent Site Supervisor (Site Supervisor)/ Job Foreman Safety Orientation, continued

- **Electrical Safety** – The Contractor designates one or more competent persons capable of identifying existing and potential hazards in surroundings or working environment hazardous to employees.
  - These competent persons have authority to take prompt corrective measures to eliminate hazards.
  - These competent persons are trained in the use of GFCI, LOTO, etc.



A written record of all worker safety orientations must be completed and signed by the Competent Site Supervisor/Job Foreman. This record is maintained by the Contractor with copies made available to SCA safety representatives as needed.



### 2.12.3 Worker's Safety Education and Training Program – Introduction

The employer must instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury.



Refer to [OSHA 1926.21](#) – Safety Training and Education.

Prior to an employee beginning work at a SCA construction site, the General Contractor's Designated Competent Site Supervisor or the General/Prime Contractor's Safety Representative must review the employee's credentials and verify that the employee has the required credentials to work on the site.

- The General Contractor's Designated Competent Site Supervisor or the General/Prime Contractor's Safety Representative must make a copy of each employee's required credentials. If an employee's credentials have a QR code for verification, a copy of the QR code must also be made.
- The General Contractor's Designated Competent Site Supervisor or the General/Prime Contractor's Safety Representative must make every effort to verify that credentials are not fraudulent (e.g., scanning an OSHA card's QR code, using online E-Verify systems, or calling the training institute/instructor where the employee completed the training).
- Copies of all employee credentials must be presented in an organized manner.
  - The SCA Safety Inspector may ask to review a copy of an employee's credentials at any time.
  - All employees on site must carry their physical credentials with them at all times.
  - Photos or photocopies of credentials will not be accepted.
  - An employee must not be allowed to work on a SCA construction site if they do not have the required credentials, have a fraudulent credential, or their credentials have expired.
  - Any employee found working on a SCA construction site that does not have the required credentials will be asked to leave the premises immediately.
- All new-hire Contractor employees are required to attend a Safety Orientation prior to beginning assigned duties.
  - Refer to section [2.12.1 New Hire Safety Orientation](#) to review the requirements of the safety orientation.
- An employee who lacks the skill or understanding needed for safe work will be asked to be retrained at the discretion of the SCA Safety Inspector until proficiency is established.
  - Retraining is also required when additional or new hazards exist, or where there are inadequacies in an employee's work.
  - On NYC School Construction Authority projects all 10-hour and 30-hour OSHA certification shall be issued within the last five (5) years.

#### 2.12.4 Minimum Credentials – General Contractor’s Designated Competent Site Supervisor

The SCA follows [Local Law 196 of 2017](#) training requirements for all projects \$250,000 and above, regardless of scope.

- The General Contractor’s Competent Site Supervisor must provide a minimum of 62 hours of safety training by December 1, 2019 for all projects, regardless of scope.
  - **The General Contractor’s Competent Site Supervisor must have successfully obtained a Supervisor Site Safety Training (SST) card by December 1, 2019.**
- For all projects \$250,000 and above, the General Contractor’s Competent Site Supervisor must have successfully completed and passed a Construction Site Fire Safety Manager (CSFSM) course.
- For projects below \$250,000 (including, but not limited to, JOC projects and Emergency projects) the General Contractor’s Competent Site Supervisor must provide a minimum of 52 hours of safety training. This safety training must be demonstrated by successfully completing the following courses:
  - 30-Hour OSHA in Construction Safety and Health
  - 8-Hour Site Safety Manager Refresher/Chapter 33
  - 8-Hour Fall Prevention (must be a NYC DOB approved course)
  - 4-Hour Supported Scaffold
  - 2-Hour Drug and Alcohol Awareness
  - Construction Site Fire Safety Manager course (if hot work will be taking place on the project)

#### 2.12.5 Minimum Credentials – General/Prime Contractor’s Safety Representative

- For all projects \$250,000 and above, regardless of scope, the General/Prime Contractor’s Safety Representative must provide a minimum of 62 hours of safety training by December 1, 2019.
  - **The General/Prime Contractor’s Safety Representative must have successfully obtained a Supervisor Site Safety Training (SST) card by December 1, 2019.**
- For all projects \$250,000 and above, regardless of scope, the General/Prime Contractor’s Safety Representative must have successfully completed and passed a Construction Site Fire Safety Manager (CSFSM) course.

#### 2.12.5 Minimum Credentials – General/Prime Contractor’s Safety Representative, continued

- For projects below \$250,000 (including, but not limited to, JOC projects and Emergency projects) the General/Prime Contractor’s Safety Representative must provide a minimum of 52 hours of safety training. This safety training must be demonstrated by successfully completing the following courses:
  - 30-Hour OSHA in Construction Safety and Health

- 8-Hour Site Safety Manager Refresher/Chapter 33
- 8-Hour Fall Prevention (must be a NYC DOB approved course)
- 4-Hour Supported Scaffold
- 2-Hour Drug and Alcohol Awareness
- Construction Site Fire Safety Manager course (if hot work will be taking place on the project)

#### 2.12.6 Minimum Credentials – Subcontractor’s Competent Job Foreman

- For Subcontractors working on Line (new construction), Exterior, and Boiler projects, the Competent Job Foreman must have successfully completed and passed a Construction Site Fire Safety Manager (CSFSM) course.
- The Subcontractor’s Competent Job Foreman must provide a minimum of 48 hours of safety training on all SCA projects, regardless of scope. This safety training must be demonstrated by successfully completing the following courses:
  - 30-Hour OSHA in Construction Safety and Health
  - 8-Hour Fall Prevention (must be a NYC DOB approved course)
  - 4-Hour Supported Scaffold
  - 2-Hour Drug and Alcohol Awareness
  - 2-Hour Tool Box Talks
  - 2-Hour Pre-Task Safety Meetings
  - Construction Site Fire Safety Manager course (if hot work will be taking place on the project)

#### 2.12.7 Supervisor Site Safety Training (SST) Cards

For all projects \$250,000 and above, the General Contractor’s Designated Competent Site Supervisor and the General/Prime Contractor’s Safety Representative are required to complete their 62 hours of training by December 1, 2019.

- The General Contractor’s Designated Competent Site Supervisor and the General/Prime Contractor’s Safety Representative are required to have a Supervisor Site Safety Training (SST) Card by December 1, 2019.
- Once an individual completes the required 62 hours of safety training, the individual can apply for a Supervisor SST card from a [NYC Department of Buildings-approved Course Provider](#).
  - Supervisor SST cards expire after five years. Card holders will be required to take a refresher course every five years to renew their Supervisor SST card.
- The following is a list of courses needed to complete the 62 hours of safety training and obtain the Supervisor Site Safety Training (SST) card.

#### Supervisor Site Safety Training Card

<b>Training/Course</b>	<b>Hours</b>
30-Hour OSHA in Construction Safety and Health	30
8-Hour Fall Prevention	8
8-Hour Site Safety Manager Refresher/Chapter 33	8
4-Hour Supported Scaffold	4
2-Hour Drug and Alcohol Awareness	2
2-Hour Site Safety Plan	2
2-Hour Tool Box Talks	2
2-Hour Pre-Task Safety Meetings	2
General Electives	2
Special Electives	2
<b>Total Hours: 62</b>	

### 2.12.8 Minimum Credentials for Workers

The SCA follows [Local Law 196 of 2017](#) training requirements on all SCA projects for workers, regardless of scope.

- Workers must provide a minimum of 30 hours of safety training by December 1, 2019 for all SCA projects, regardless of scope.
- Workers must provide a minimum of 40 hours of safety training by September 1, 2020 for all SCA projects, regardless of scope.
  - **Workers must have successfully obtained a Site Safety Training (SST) card by September 1, 2020.**

There are currently two ways to meet the 30 hour training requirement by **December 1<sup>st</sup>, 2019**:

- **Option 1:** Complete a 30-Hour OSHA course in Construction Safety and Health.

Limited Site Safety Training Card - OSHA 30-Hour Card	
Training/Course	Hours
30-Hour OSHA in Construction Safety and Health	30
Total Hours: 30	

- **Option 2:** Complete a 10-Hour OSHA course in Construction Safety and Health, and complete 20 hours of training from the chart below.

Limited Site Safety Training Card - OSHA 10-Hour Card	
Training/Course	Hours
10-Hour OSHA in Construction Safety and Health	10
8-Hour Fall Prevention	8
8-Hour Site Safety Manager Refresher/Chapter 33, or; 4 hours General Electives and; 4 hours of Specialized Electives	8
4-Hour Supported Scaffold	4
Total Hours: 30	

### 2.12.8 Minimum Credentials for Workers, continued

By **September 1, 2020** workers must complete 40 hours of training and obtain a Site Safety Training Card. There are currently two ways to meet this requirement:

- **Option 1**

Site Safety Training Card - OSHA 30-Hour Card	
Training/Course	Hours
30-Hour OSHA in Construction Safety and Health	30
8-Hour Fall Prevention	8
2-Hour Drug and Alcohol Awareness	2
Total Hours: 40	

- **Option 2**

Workers with a valid OSHA 10-Hour Card	
Training/Course	Hours
10-Hour OSHA in Construction Safety and Health	10
8-Hour Fall Prevention	8
8-Hour Site Safety Manager Refresher/Chapter 33	8
4-Hour Supported Scaffold	4
2-Hour Drug and Alcohol Awareness	2
General Electives	4
Special Electives	4
Total Hours: 40	

### 2.12.9 New Entrants

Workers who start working after December 1, 2019 must complete the OSHA 10-hour course in Construction Safety and Health and complete the following courses to obtain the required 40 hours of training **before they start work**.

- A valid Site Safety Training (SST) card is required.

New Entrants (after December 1, 2019)	
Training/Course	Hours
10-Hour OSHA in Construction Safety and Health	10
8-Hour Fall Prevention	8
8-Hour Site Safety Manager Refresher/Chapter 33	8
4-Hour Supported Scaffold	4
2-Hour Drug and Alcohol Awareness	2
General Electives	4
Special Electives	4
Total Hours: 40	

### 2.12.10 Site Safety Training (SST) Cards for Workers

Workers are required to complete 40 hours of training by September 1, 2020.

- By September 1, 2020, Workers must have a Site Safety Training (SST) Card.
  - Once a worker completes the required 40 hours of safety training, s/he can apply for a SST card from a [NYC Department of Buildings-approved Course Provider](#).
  - Card holders are required to take a refresher course every five years to renew their SST card (SST cards expire after five years).

### 2.12.11 How to Find Approved Training

To find a Course Provider:

- Visit the NYC Department of Buildings webpage [Find a Department-approved Course Provider](#).
- Locate an [OSHA-authorized Trainer](#).
- Review the [Course Provider Map](#) for safety training providers and worker information centers citywide.



For additional information on Local Law 196 for 2017 for Workers, visit the [NYC Buildings website](#).

### 2.12.12 Those Who do NOT Require Training

Certain service providers are not required to follow Local Law 196 of 2017 training requirements when visiting SCA construction sites; however, in order to be allowed on a SCA construction site, these individuals are required to have, at a minimum, a 10-hour OSHA Construction Safety and Health certification issued within the previous five (5) years from the visit.



This does not exclude these individuals from being required to obtain other training certifications that they may need for their line of work (e.g., a Professional Engineer will still be required to have, at a minimum, a 4-Hour Supported Scaffold User certification to use a supported scaffold on a SCA project, etc.).

- The following service providers are NOT required to follow Local Law 196 of 2017 training requirements on SCA construction sites:
  - Delivery persons.
  - Concrete testing laboratories/concrete inspectors.
  - Security guards.
  - Service technicians.
  - Consultants.
  - Professional engineers.
  - Registered architects.



### 2.12.13 Additional Required Training for Workers – Scaffolding

It is the responsibility of the General Contractor and/or Subcontractor to ensure that workers have the required training to perform their designated tasks.

The Contractor's Designated Competent Site Supervisor or the General/Prime Contractor's Safety Representative must verify daily that every worker on site has valid certifications.

- Any employee or person using any type of supported scaffold must have, at a minimum, a NYC Department of Buildings 4-hour Supported Scaffold User certification.
- Any employee or person installing or dismantling any supported scaffold must have, at a minimum, a NYC Department of Buildings 32-Hour Supported Scaffold Installer/Remover certification, or an 8-hour Supported Scaffold Installer/Remover Refresher certification.
- Any employee or person using a suspended scaffold must have, at a minimum, a NYC Department of Buildings 16-hour Suspended Scaffold User certification or an 8-hour Suspended Scaffold User Refresher certification.



Certain work operations require additional certifications/credentials not listed above (e.g., confined space training, fall protection training, FDNY Certificates of Fitness, etc.).

- No one is permitted onsite with expired credentials.

### 2.12.14 Daily Training Log

The General Contractor is required to maintain a daily log that identifies each construction or demolition worker and supervisor (including construction superintendents, site Safety Representatives, site safety managers, concrete safety managers or competent persons) on the construction site and their proof of training.

- The General Contractor's Designated Competent Site Supervisor or the General/Prime Contractor's Safety Representative must use the log form created by the Department of Buildings, on the [Department of Buildings website](#).
- The log may be maintained in a physical or digital format, and must be provided upon request.



For further information on the daily training log requirement, please refer to the [Department of Building Service Update Change, March 2018](#).

## 2.12.15 Employees' Right to Know – Hazard Communication Program

The **Hazard Communication Program** includes the following elements:

- A management policy statement indicating the employee's right to know of hazardous materials in the work site or work area, and how management intends to comply with the standard.
- Identification of exposed employees by taking an inventory of hazardous materials used.

### **Labeling**

Labels include the following information in accordance with OSHA's new Globally Harmonized System:

- Signal Word.
- Pictogram.
- Hazard Statement.
- Precautionary statement(s).
- Name, address, and telephone number of the chemical manufacture or importer.

Trade Contractors are required to identify, train, and protect employees' handling of hazardous chemicals in accordance with OSHA's new [Globally Harmonized System of Classification and Labeling of Chemicals](#).

Different trade Contractors working in the same areas of the project are responsible for providing hazard information to others. This ensures that all workers are aware of, and properly alerted to, the hazards of the materials being used.

The responsibilities of the Contractor's **Site Safety Representative** are as follows:

- Review each Trade Contractors Hazard Communication Program for completeness.
- Maintain current Safety Data Sheets (SDSs) on file. (The latest format requires 16 specific sections.)
- Request SDSs from the manufacturer of the supplier for each material on inventory.
  - The SDS provides detailed health and safety information, handling procedures, and emergency response procedures.
- Maintain copies of all SDSs in a central location on site and in appropriate work areas.
- Develop a mechanism to ensure the SDS file is kept current with all changes, additions, and deletions of materials.

#### **2.12.15 Employees' Right to Know – Hazard Communication Program, continued**

- Train all exposed employees in the following:
  - Safe handling procedures for each material.
  - Location of Safety Data Sheets (SDS).
  - How to use the SDS to gather information.
  - Understanding labeling information.
  - The use and maintenance of required PPE.
- Document training and refresher training sessions and give written exams to assure participants fully understand subject matter.
- Train new or transferred employees who will be exposed to hazardous substances.
- Inform other Contractors of hazards of materials present.
- Inform other Contractors to provide information concerning the hazards of materials that they will be using.

## 2.13 Claims and Accidents

### 2.13.1 Employees' Right to Know

Following the procedures as outlined below results in prompt and accurate reporting, thorough accident investigations, and an accurate determination of appropriate Workers' Compensation benefits.

The **Employer of the affected worker** completes the following tasks:

- Notifies the General Contractor (GC) and Project Officer (PO) of the incident.
- Completes an [Employer's First Report of Work-Related Injury/Illness Form, \(C-2\)](#).
- Completes an [Injury/Illness Reporting Form](#) within 24 hours of the incident.



Include the project LLW number on both the Employer's First Report of Work-Related Injury/Illness Form (C-2) and the Injury/Illness Reporting Form.

- Delivers the originals and two (2) copies of both reports to the GC.
  - The GC reviews both reports for accuracy.
  - If the reports are not properly completed, the GC returns them to the Employer for correction.

The **GC** distributes both reports as follows:

- Mails the (reviewed) originals and one (1) copy of both reports to:
  - The current OCIP provider for the SCA.
- Contacts the insurance broker and speaks to someone in the claims department.
- Any questions should be directed to the SCA Insurance Team at 718-472-8778.
- Emails both reports to [noticeofaccident@nycsca.org](mailto:noticeofaccident@nycsca.org).
- Please visit the SCA [Incident Response and Investigation Guidelines](#) - Reference for how to handle incidents and investigations at a jobsite.

Responsibilities of the **PO**:

- If the injury is serious or loss time contemplated, a telephone report must immediately be made by the SCA Project Officer and sent to the OCIP Provider.
- Files a Jobsite Incident Report, and provides additional assistance as required. The Jobsite Incident Report is created from the following two forms:
  - [Employer's First Report of Work-Related Injury/Illness Form, \(C-2\)](#).
  - [Injury/Illness Reporting Form](#).

### 2.13.2 General Liability Claims

Reports of personal injuries sustained by anyone, including employees or damage to property of others, must be completed immediately following occurrence of an accident.

- All liability claims must be reported to the Employer of the affected worker who, in turn, report the incident to SCA.
  - It is essential that all claims be thoroughly investigated by the SCA Director, the OCIP Provider, and the Contractor's management.
- All available facts and information, including the names of witnesses, must be secured as soon as possible while the information is still available.
  - Unless prompt action is taken in this respect, witnesses disappear, facts become obscure, and the further handling of the claim may be prejudiced.
- The Employer of the affected worker promptly reports claims by a telephone call to the Liability Claims contact person at SCA.
- The Subcontractor files a Jobsite Incident Report, and provides additional assistance as required.
  - The General Contractor (GC) assists the Subcontractor in completing two forms that create the Jobsite Incident Report:
    - [Employer's First Report of Work-Related Injury/Illness Form, \(C-2\)](#).
    - [Injury/Illness Reporting Form](#).
- The GC assists in the investigation; however, it is the responsibility of the General Contractor and, if applicable, the subcontractor, to ensure all third-party injury or property damage claims are thoroughly investigated and promptly reported to SCA.

### 2.13.3 Builder's Risk Reporting Procedure

Upon learning of any occurrence that might possibly give rise to a claim under any of the policies of insurance provided by Owner pertaining to Builder's Risk Insurance (i.e., flood, collapse, fire, windstorm, etc.), the Contractor/Subcontractor follows these guidelines:

- Immediately notifies the GC of the occurrence.
  - The GC reports the occurrence to the NYC SCA's Risk Management Department, Risk Control Manager.
- Notifies the PO and OCIP provider of the occurrence.



It is essential that each occurrence be thoroughly investigated by the SCA Safety Director and OCIP Provider.

#### 2.13.4 Enforcement Procedure

The success of the SCA Safety Program is dependent upon employee cooperation and strict compliance with established safety rules, regulations, policies, etc.

While management and labor share safety responsibilities, the Contractor must establish a policy by which habitual safety offenders are disciplined.

- Individuals who repeatedly refuse to cooperate with the SCA's and the Contractor's efforts in providing a safe place of employment for all employees is notified of their infraction(s) in writing and is subject to removal from the project.
- The safety orientation provided for new employees, as part of the Contractor's safety program, reinforces the verbal message that violations of the Occupational Safety and Health Act and/or the SCA Safety Manual may result in disciplinary action, noted as follows:

##### **First Offense**

- **Verbal Warning** – When an employee is observed committing an unsafe act, the worker is to be informed that his/her actions are jeopardizing his/her or others' safety.
  - The exact nature of the violation and what is acceptable is to be thoroughly detailed to the employee.
  - The violation is to be brought to the attention of the employee's supervisor.
  - An informal written note must be filed in both the Contractor's and safety representative's offices.
- **Immediate Removal** – Certain infractions to project rules are grounds for immediate removal (i.e., fighting, verbal abuse, physical abuse, use of alcohol or drugs, lack of documented training, immediate danger to life and health [IDLFH] situations, etc.).

##### **Second Offense**

- **Warning Letter** – When an employee is observed committing a second unsafe act, a formal safety warning letter is issued. This letter explains in detail the nature of the safety violation.
  - The warning letter must be signed and dated by the employee who committed the unsafe act. The warning letter must be filed in both the Contractor's and Safety Representative's offices.
  - An informal written note must be filed in both the Contractor's and Safety Representative's offices.

##### **Third Offense**

- **Removal from Project** – If an employee continues to engage in unsafe work practices and/or willfully violates safety procedures, s/he is subject to removal from the project.

### 2.13.5 Reporting Accidents involving Injury and/or Property Damage Procedure

All workers must be aware that they are obligated to report any accident involving injury or property damage, no matter how slight or small.

The Contractor's **Competent Site Supervisor/Job Foreman** or a competent person must take the following actions

- Initiate appropriate action to seek medical treatment (i.e., appropriate medical personnel and/or public rescue service).
- Notify the Director of Safety and/or the SCA Safety Inspector immediately of any accident/incident.
  - The SCA Project Officer may also make the notifications.
  - The Director of Safety immediately informs the VP of ERC, VP of Construction Management, the SCA's insurance company, and the IG's Office.



All incidents/accidents that require ambulatory treatment off-site must be notified to the NYC DOB as per Local Law 78 of 2017.

- Remove and/or keep back all non-essential personnel from the scene of the accident/incident.
- Take additional safety measures as necessary to protect against further injury when the possibility of fire, explosion, or electrical injury exists.
- Make no comments to the media, general public, or all others. Refer all inquiries to the SCA Project Officer.
- No on-site photographs are to be taken except on approval of the SCA Project Officer.
- Within immediate area of accident scene, nothing is to be disturbed nor removed after the proper evacuation of injured employee(s). Investigating personnel must be able to inspect the undisturbed scene.
- Prepare the SCA Job Site Incident Report within 24 hours of an incident for presentation to the SCA Project Officer.
- Provide necessary information to the injured worker's Employer in order to prepare and submit Form C-2 to the SCA within 24 hours of the incident.

### **2.13.5 Reporting Accidents involving Injury and/or Property Damage Procedure, continued**

The **SCA Project Officer** must report all accidents and incidents as per the guidelines outlined as follows

- Notify the Director of Safety and/or the SCA Safety Inspector immediately of any accident/incident.
- Initiate a full investigation and ensure that a Jobsite Incident Report is completed within 24 hours of the accident/incident.
- Notify the SCA's insurance company within 24 hours of the accident/incident.
- Complete and submit an Employer's First Report of Work-Related Injury/Illness Form (C-2 form).
- Complete the Injury/Illness Reporting Form. (Refer to [Section 2.13.6 Jobsite Incident/Accident Report Format and Distribution](#).)
- Fax a copy of the Injury/Illness Reporting Form and the Employer's First Report of Work-Related Injury/Illness Form (C-2 form) to the IG's office within 24 hours of any accident or injury.
- Review and sign all accident reports.
  - Ensure the reports are complete and the action indicated to prevent a recurrence is adequate and effective.



### 2.13.6 Jobsite Incident/Accident Report Format and Distribution

The **SCA Project Officer** ensures the Jobsite Incident Report and C-2 form (if required) is completed within 24-hours of the incident's/accident's occurrence.

- Once completed, these forms must be sent via email to [noticeofaccident@nycsca.org](mailto:noticeofaccident@nycsca.org).

An accurate, detailed, narrative description of the operation being performed at the time of the incident is of extreme importance. A minor miscalculation of movement may have been the generating force that triggered the sequence of events which resulted in the accident.

The SCA Project Officer Distributes the Jobsite Incident Report and a C-2 form, if required.

- This Jobsite Incident Report is completed by the Contractor's Competent Site Supervisor/Job Foreman.
- The C-2 form, is completed by the injured worker's Employer.

Refer to the following Table for distribution guidelines.

**TABLE 1: JOBSITE INCIDENT REPORT DISTRIBUTION GUIDELINES**

Receiver	Jobsite Incident Report	C-2 Form
Director, SCA Safety Division	Original	Copy
SCA Chief Project Officer	Copy	Copy
General Contractor	Copy	Copy
Subcontractor	Copy	Copy
OCIP Insurance Broker	Copy	Original
Office of SCA Inspector General	Copy	Copy
SCA Safety Inspector	Copy	Copy
Email to <a href="mailto:NoticeofAccident@nycsca.org">NoticeofAccident@nycsca.org</a>	Copy	Copy

# GENERAL SAFETY AND HEALTH PROVISIONS

In addition to the specific regulations that follow, note that all requirements detailed in the SCA Safety Manual apply to every project.



**For projects above \$250,000:** The General Contractor complies with all the requirements detailed in the SCA Safety Manual, including, but not limited to, the submission of a Site Safety Plan to the SCA Safety Division for review and approval prior to start of work.

## Fire

The Contractor is responsible for the development and maintenance of an effective fire protection and prevention program at the job site throughout all phases of the construction, repair, alteration, or demolition work in accordance with FDNY Regulations.

- All required permits for Hot Work must be obtained prior to work.
- Provides photo identification (ID) badges for all workers (including their Subcontractors) on occupied schools, and ensures they are prominently worn at all times while on school property.



Occupied School Building/Premise is defined as any building occupied with school children, educational program participants, educational staff or school administrators.



Employees must be asked to leave the site if not in compliance!

## Training

Refer to section [2.12.3 Workers Safety Education and Training Program – Introduction](#)

## Personal Protective Equipment (PPE)

- The Contractor must issue hard hats to all of their workers and enforce the use of head protection at all times while on site.
- Workers are prohibited from wearing the following on a construction site:
  - Sneakers (including those with steel toe).
  - Short pants.
  - Sleeveless shirts (tank tops).
  - Open toed shoes.

## CHAPTER 3 GENERAL SAFETY AND HEALTH PROVISIONS, continued

### Noise Mitigation

In accordance with Local Law 113 of 2007, all construction sites must establish a noise mitigation plan, offering alternatives for contractors to continue their important construction tasks while having less noise impact on the surrounding environment.



Noise Mitigation is enforced by NYC DEP. Refer to NYC DEP [Noise Mitigation](#) guidelines.

### Required Documentation

At minimum, the following documentation must be maintained at every construction site in a safety folder and made available for on-site review.

The following table details the minimum documentation requirements.

**TABLE 2: DOCUMENTATION REQUIREMENTS**

Document	Requirement
Approved Site Safety Plan	As Required
Safety and Health Program	All Contractors/Subcontractors
Hazcom Program	All Contractors
Safety Data Sheets (SDSs)	Hazardous Substances
Emergency Evacuation Plan	Site Specific
Fire Protection/Prevention Program	Site Specific
Emergency Numbers (posted)	Notify PO (pre-task meetings)
Weekly Project Safety Meeting Documentation	All Contractors
Weekly Toolbox Meeting Documentation	All Project Foremen
OSHA 300 Log	Current and Maintained
Fall Protection Program	Where Applicable
Daily Inspection Checklist	Where Applicable
All Required Permits	After Hours, Scaffold, Shed, Work, Citywide Comp. Gas, etc.
All Required Certificates of Fitness	Welding & Burning, Powder Activated Tools, Fireguard, Suspended Scaffold/Hoist Operation
All Required Roof Hoist Permits (CD-5)	Outrigger Beams, 2pt Suspension Scaffold, Riggers License
All Required Training	OSHA 10-hour/Local Law 196/Local Law 52

## CHAPTER 3      GENERAL SAFETY AND HEALTH PROVISIONS, continued

### Occupied Schools

- Contractors are prohibited from working within any *occupied school* during normal school hours. The Contractor must work during the hours mandated by the contract.

### Smoking

- Smoking is not permitted on SCA job sites. This includes, but is not limited to e-cigarettes, vaping, etc.



All safety deficiencies must be corrected immediately!

The Project Officer verifies compliance of safety deficiencies within 24 hours of receipt of the Safety Inspection Report.

### 3.1 Special Projects

SCA Safety considerations apply where applicable on special projects officiated by other agencies at public schools (e.g., TPL, Out-to-play, Robin Hood, etc.).

#### 3.1.1 Capital Task Force (CTF) Projects

- The Construction Manager and the General Contractor conduct an initial walk-through of the job site. The SCA Safety Division is notified of the walk through and a designed SCA Safety Inspector attends.
- If it is determined by the SCA Safety Inspector that a Site Safety Plan is required based on the scope of work, the General Contractor prepares the Site Safety Plan and submits it for review and approval to the SCA Safety Division.

#### Projects \$250,000 and Below

- The Safety Division must be notified of the initial walk-through of the job made by the Construction Manager and General Contractor.
- A designated SCA Safety Inspector must attend the initial walk-through of the job.
- If the Safety Inspector determines that a Site Safety Plan is required based on the scope of work, the General Contractor prepares the Safety Plan and submits it to the SCA Safety Division for review and approval.
  - In lieu of a Site Safety Plan, the General Contractor may submit a written site-specific Safe Work Plan and submit it to the designated Safety Inspector for review and approval prior to the start of work.

The Safety Work Plan includes, but is not limited to, the following information:

- Protection of Public (school population; i.e., Flagman, barricades, temporary fence, etc.)
- Construction equipment used; i.e., ladder, man lift, scissor lift, scaffold, etc.

#### 3.1.1 Capital Task Force (CTF) Projects, continued

- Safety measure implemented; i.e., site supervision; i.e., Competent Person with the required OSHA and/or DOB training, fall protection, fire prevention, housekeeping, temporary lighting, etc.
- All additional requirements of the SCA Site Safety Program and manual apply to these projects as well.

### **Projects Above \$250,000**

The General Contractor must comply with all the requirements of the SCA Safety Program and manual, including, but not limited to, the submission of a Site Safety Plan to the SCA Safety Division for review and approval prior to the start of work.

#### **3.1.2 Job Order Contracting (JOC) Projects**

- The Safety Division must be notified of the initial walk-through of the job made by the Construction Manager and General Contractor.
- A designated SCA Safety Inspector must attend the initial walk-through of the job.
- If the Safety Inspector determines that a Site Safety Plan is required based on the scope of work, the General Contractor prepares the Safety Plan and submits it to the SCA Safety Division for review and approval.
  - JOC projects require a site-specific Safe Work Plan that includes, but is not limited to, the following information:
    - A brief description of the Job Scope.
    - The equipment to be used; i.e., ladder, scaffolds, etc.
    - Safety measures to be implemented; i.e., fall protection, housekeeping, temporary lighting, fire prevention, etc.
    - Plans for the protection of both the job site and the school population; i.e., doors leading to construction area to be secured, marked, etc.
    - Work hours.
    - The designated Competent Site Supervisor with the required OSHA and DOB training credentials.
    - Receipt of SCA Safety manual.



Refer to:

- NYC DOB [Local Law 196 of 2017](#) – Safety Training.
- [OSHA Subpart C, 1926.20 – 35](#) – General Safety and Health Provisions.
- [OSHA Subpart D – 1926.50 – 57](#) – Occupational Health and Environmental Controls.

## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

### **SCA Personal Protective Equipment (PPE) Requirements**

- The minimum PPE to be worn on all SCA projects is as follows:
  - Work boots.

- Hard Hats.
- Long pants.
- Shirts with sleeves to cover the shoulders.
- Safety Glasses.
- **Occupied schools:** Contractor's employees are required to wear a photo I.D. on their person at all times while on site.



Short pants, shorts, sneakers, or sleeveless shirts are prohibited when working on construction sites.



Refer to the following:

- [OSHA 1926.95\(a-c\)](#) – Criteria for Personal Protective Equipment.
- [OSHA 1926.96](#) – Occupational Foot Protection.

## 4.1 Head Protection

All employees working on SCA Projects must wear protective helmets (hardhats) at all times.



[ANSI Z89.1 -1971](#) and [ANSI Z89.2-1971](#) on the ANSI website may be accessed to review head protection standards; however, please note these documents must be purchased to view the standards.

In view of the limited useful life of protective helmets and the length of time (over 40 years) since OSHA last updated these standards, the SCA believes that protective helmets currently are not available or in use that manufacturers tested in accordance with the requirements of ANSI Z89.1-1969 and ANSI Z89.2-1971.

Therefore, to bring the construction standard up to date and to ensure consistency across OSHA standards, OSHA is amending [29 CFR 1926.6 – Lead](#) and [1926.100 – Head Protection](#) to permit compliance with ANSI Z89.1-1997, ANSI Z89.1-2003, or ANSI Z89.1-2009.

- Helmets for the protection of employees against impact and penetration of falling and flying objects must meet the specifications contained in [ANSI Z89.2-1971](#).
- Helmets for the head protection of employees exposed to high voltage electrical shock and burns must meet the specifications contained in [ANSI Z89.1 -1971](#).

## 4.2 Hearing Protection

- Protection against the effect of noise exposure must be provided when sound levels exceed those shown in [Table 3](#) when measured on the A-scale of a standard sound level meter at slow response.
  - When employees are subjected to sound levels exceeding those listed in [Table 3](#), feasible administrative or engineering controls must be utilized.
    - If the controls fail to reduce sound levels within the levels of [Table 3](#), personal protective equipment (PPE), must be provided and used to reduce sound levels within the levels of the table.
  - If variations in the noise level involve maxima at intervals of one (1) second or less, it is to be considered continuous.
  - In cases where sound levels exceed the values shown on [Table 3](#), a continuing, effective hearing conservation program must be administered.

## 4.2 Hearing Protection, continued

- When the daily noise exposure is composed of two (2) or more periods of noise exposure of different levels, the combined effect must be considered, not the individual effect of each.
  - Exposure to different levels for various periods of time must be computed.
- Ear protective devices inserted in the ear must be fitted or determined individually by competent persons.
- Plain cotton is not an acceptable protective device.

**TABLE 3: PERMISSIBLE NOISE EXPOSURES (OSHA TABLE D-2)**

Duration per day, hours	Sound level dBA slow response
8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2.....	102
1.....	105
1/2.....	110
1/4 or less.....	115



#### 4.3 Eye and Face Protection



Refer to [OSHA 1926.102\(a-c\)](#) –Eye and Face Protection.

#### 4.4 Safety Belts, Lifelines, and Lanyards



Refer to [OSHA 1926.104\(a-f\)](#) – Safety Belts, Lifelines, and Lanyards.

#### 4.5 Safety Nets



Refer to [OSHA 1926.105\(a-f\)](#) – Safety Nets.

#### 4.6 Working Over or Near Water



Refer to [OSHA 1926.106\(a-d\)](#) – Working Over or Near Water.

# FIRE PROTECTION AND PREVENTION

Full compliance with New York City Building Codes and the current 2014 Fire Code including Fire Department Rules (Title 3 and Title 14 of the Rules of the City of New York) and all other applicable laws, rules and regulations must be enforced.

SCA Fire protection requirements are as follows:

## Exits/Entrances/Holding Areas

- School exits/entrances or holding areas must not be obstructed/altered or blocked without prior approval from FDNY and DSF.
  - Filing an alternate evacuation plan with the DOB may be required.
  - A site visit must be conducted with the Safety Division, FDNY, DSF, SCA CM, and Contractor to verify all parties are satisfied with the alternate evacuation plan.
  - Schools that have “holding areas” (i.e., Architectural Barrier Rooms; ABR) must have safe access provided and maintained in accordance with local FDNY requirements.
- NYC Fire Department inspection deficiencies must be immediately corrected.

## Temporary Heat

- Temporary heat is permitted on *Line Projects* with proper permits from the New York City Fire Department. All FDNY rules and regulations apply.
  - The General Contractor (GC) submits a temporary heating plan to the Safety Division for review prior to use of temporary heat. (Refer to the [SCA Website – Minimum Requirements for Temporary Heating Plan](#).)
  - The temporary heat plan must include, at minimum:
    - Scope of work.
    - Known or likely hazards.
    - Hazard controls.
    - Equipment that will be used (with specification sheets for heaters and tarps).
    - Trained Fireguard.
    - Ventilation for carbon monoxide emissions.
  - All FDNY rules and regulations apply, including training requirements for the supervision of temporary heat. (Refer to [FDNY S-93: Certificate of Fitness](#).)

## CHAPTER 5: FIRE PROTECTION AND PREVENTION, continued

### Hot Work

- The Fire Watch must maintain an up-to-date Fire Watch Logbook during Hot Work activities.
  - An Inspection entry in the Fire Watch Logbook is required every 30 minutes and the inspection entry must be signed by the Fire Watch.
  - Inspection entries are not permitted to be completed in advance; i.e., if the current time is 6:30 p.m., but the inspection entry signed off by the Fire Watch was entered as 8:00 p.m.
  - One Fire Watch is not permitted to oversee two different Hot Work Operations, even if they are in the same vicinity.
  - At least one Fire Watch must be present for each Hot Work operation taking place on a SCA construction site.
- A permit from FDNY is required to conduct Hot Work using oxygen and a flammable gas.
  - A 48-hour notification must be made to the SCA Safety Inspector prior to any Hot Work activity. The SCA Safety Inspector schedules a site meeting to review SCA, FDNY, and DOB regulations.
  - The Competent Site Supervisor/Foreman overseeing all Hot Work activity must have successfully completed the [FDNY Construction Site Fire Safety Manager Course](#).
  - During Hot Work operations, a Fire Watch is required to:
    - Be present at all times.
    - Make continuous inspections of the work area that could be affected by the hot work operation.
    - Make an inspection entry in the Fire Watch Logbook every 30 minutes.
  - A Stop Work Order must be issued for deficiencies noted in the safety procedures for Hot Work, and a licensed NYC Site Safety Manager is required for the duration of the Hot Work.
  - The fire watch shall make continuous inspections for at least to (2) hours after hot work has ceased.



Hot Work must not take place on any SCA project when the school premise is occupied.

## CHAPTER 5: FIRE PROTECTION AND PREVENTION, continued

### Fire Watch

- The Fire Watch prepares and signs an inspection report confirming the safety conditions of the premises. The reports must be readily available for inspection.
  - The Fire Watch completes hourly rounds when temporary heating devices are in operation. The rounds must be documented.
  - The Fire Watch inspects scaffolding and sidewalk bridging at the end of each shift, including perimeter of school.
- The Fire Watch must maintain an up-to-date Fire Watch Logbook during Hot Work activities.
  - An Inspection entry in the Fire Watch Logbook is required every 30 minutes and the inspection entry must be signed by the Fire Watch.
  - Inspection entries are not permitted to be completed in advance; i.e., if the current time is 6:30 p.m., but the inspection entry signed off by the Fire Watch was completed at 8:00 p.m.
- One Fire Watch is not permitted to oversee two different Hot Work Operations, even if they are in the same vicinity.
- At least one Fire Watch must be present for each Hot Work operation taking place on a SCA construction site.

### Temporary Heating Plan Procedure

- *CIP Projects* require a written Temporary Heating Plan Procedure be designed and submitted to the SCA Safety Division prior to use. The following minimum information must be included in the plan:
  - Type of equipment to be used.
  - Trained Fireguard.
  - Manufacturers use and instructions.
  - Clearly defined fire exits/egress.
  - Ventilation for Carbon Monoxide emissions.
  - Permits for use.
  - All Fire Department of New York (FDNY) rules and regulations apply. (Refer to the [SCA Website – Minimum Requirements for Temporary Heating Plan](#).)
- No open flame is permitted on any New York City School project, including but not limited to open 55-gallon drums.
  - Heaters with open flames are not permitted for use.



Refer to OSHA [OSHA1926.154\(a\)\(1-2\)](#) – Ventilation.

## CHAPTER 5: FIRE PROTECTION AND PREVENTION, continued

### Temporary Boilers/Fuel Storage Tanks

- When placed on the street or sidewalk, temporary boilers and fuel oil storage tanks must be protected on all sides by concrete Jersey barriers.

- Recommended practices and standards of the National Fire Protection Association (NFPA) and the [NYC Fire Code \(2014\)](#) must be followed in the development and application of Project Fire Protection Programs. Essential considerations for the Fire Protection Plan must include:
  - Availability of private and public fire protection.
  - Safe installation and protection of temporary buildings and other structures.
  - Adequate job site fire protection and proper site preparation.
  - Minimization of inherent construction fire hazards.
  - Installation of permanent safeguards as construction progresses.
  - Adequate indoctrination of employees.



Refer to [OSHA1926.150\(a\)\(1\)](#) – Fire Protection.

### **Removal and Replacement of Boilers**

- All applicable NYCSCA, City, State, and Federal codes and standards shall be strictly followed.
- A site-specific safe work plan for demolition of boilers shall be developed and maintained onsite.
- A site-specific fall prevention plan shall be prepared by a licensed Professional Engineer and submitted to the SCA Safety Inspector for review.
- A site-specific fall protection system shall be designed by a licensed Professional Engineer. An inspection with the PE and the SCA Safety Inspector must be conducted to ensure that the fall protection system has been installed as per the design drawings.
- A site-specific fire prevention plan for demolition of boilers shall be prepared by a Certified Fire Safety Manager.
- Any scaffold that will be used to demolish a boiler shall be designed and inspected by a PE.

### **Hazardous Materials**

- All permits for storage, use, and handling of hazardous materials or combustible materials must be obtained from FDNY.

### **Housekeeping**

- Housekeeping must take place daily at all schools, and the debris removed from the school premises. (Refer to section [6.2 Housekeeping and Clean-up.](#))

## CHAPTER 5: FIRE PROTECTION AND PREVENTION, continued

### Occupied School Property

- While working in an occupied or existing school property, the Contractor must adhere to and work within the existing Fire Protection Plan of the building.
- School exits/entrances or holding areas must not be obstructed/altered or blocked without prior approval from FDNY and DSF.
  - Filing an alternate evacuation plan with the DOB may be required.
  - A site visit must be conducted with the Safety Division, FDNY, DSF, SCA CM, and Contractor to verify all parties are satisfied with the alternate evacuation plan.
  - Schools that have “holding areas” (i.e., Architectural Barrier Rooms; ABR) must have safe access provided and maintained in accordance with local FDNY requirements.
  - NYC Fire Department inspection deficiencies must be immediately corrected.
- The storage of compressed gas cylinders or LPG gas cylinders on an occupied school premise is NOT permitted.



Hot Work must not take place on any SCA project when the school premise is occupied.

## 5.1 Tar Kettle Use

A permit from the FDNY is required to store, use, or handle a Tar Kettle.

- Roofing activities that require a Tar Kettle require a City Wide Permit. This permit is issued by the Fire Commissioner.
  - The City Wide Permit is valid for one year.
  - Renewal of the City Wide Permit must be in accordance with the New York City Fire Department.
  - The City Wide Permit must be presented to any Fire Department representative upon request.
  - The original City Wide Permit or a copy of the Permit must be available at each job location site for inspection by the Fire Department.
  - A Permit must be obtained when required to store and use fuel for heating Tar Kettles in accordance with Chapter 4 of Title 27 of the Administrative Code.
- The Tar Kettle must be inspected and tagged with an inspection tag from the New York City Fire Department.



Periods of activity (Hot Work) in excess of 30 days at any one location require a site-specific permit.

- In accordance with NYC 2014 Fire Code (NYC Administrative Code, Title 29); Tar kettles must not be utilized inside or on the roof of a building or structure.
- The Tar Kettle must be continuously supervised by a Certificate of Fitness holder.
  - All users of the Tar Kettle and/or Torches must obtain a current Certificate of Fitness from the New York City Fire Department and comply with the following:
    - Only Interstate Commerce Commission shipping cylinders not exceeding 100 pounds' capacity are used as containers for the liquefied petroleum gas.
    - Only gas heaters approved by the Board of Standards and Appeals, and so labeled, are used.
    - The handling of the liquefied petroleum gas cylinders and the operation of the heating device must be under the supervision of a person holding a Certificate of Fitness from the FDNY (G 40 and G 44)
    - The connecting of liquefied petroleum gas cylinders to The Tar Kettle unit must be conducted outdoors.
    - Liquefied petroleum gas cylinders in use must be adequately supported in an upright position and safeguarding such fuel.
    - No excess cylinders may be stored on the job site.

## 5.1 Tar Kettle, continued

- Each portable Tar Kettle unit must have an extinguisher for the Carbon Dioxide or Dry Chemical type, containing at least four (4) pounds of extinguishing agent of sufficient pails of sand.

- It is unlawful for any person to operate, maintain, or use a kindled Tar Kettle under the following circumstances:
  - In any building, or on roofs, or any structure, unless the roof is of incombustible construction.
  - Within 15 feet of a hydrant.
  - On, or within two (2) feet of, the surface of any asphalt pavement, except for the purpose of repairing, removing or construction of the pavement.
  - The absence of a pressure regulator and excess flow check valve approved by the Underwriters laboratories and/or Board of Standards and Appeals;
  - The absence of a shut off valve at the cylinder.
  - The General Contractor must notify the Division of Fire Prevention if a tar kettle is going to be used at any SCA construction site.
    - Notification must be made in writing and provided to the Division of Fire Prevention at least 48 hours in advance of the tar kettle being used.



Hot Work must not take place on any SCA project when the school premise is occupied.



## 5.2 Housekeeping and Clean-up

Daily cleanup of scrap material, sawdust, rags, oil, paint, grease, flammable solvents and other residue of construction operations is required.

- All construction areas and storage yards must be cleared of combustible materials before lumber and other combustible construction materials are delivered to the jobsite.
- Access to all available firefighting equipment must be maintained at all times.

## 5.3 Portable Firefighting Equipment (Fire Extinguishers)

Fire extinguishers that have been listed or approved by a nationally recognized testing laboratory only are used to meet SCA fire safety requirements.

As structures are completed, fire extinguishers are provided where needed.

### Recharging

- Fire extinguisher recharging must be done by a licensed contractor.
  - Fire extinguishers must be recharged every six (6) months, or after each use.
  - All fire extinguishers must be maintained by an FDNY-approved company at least once a year.

### Specifications

- All extinguishers must be a minimum of 2A 20:BC rated with maximum travel distance to any fire extinguisher not to exceed 75 feet.
  - Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.
  - One 55-gallon open drum of water with two fire pails may be substituted for a fire extinguisher having a 2A rating.
  - If more than five (5) gallons of flammable or combustible liquids, or five (5) pounds of flammable gas are being used, a fire extinguisher rated not less than 10B must be provided within 50 feet of where they are being used, unless required otherwise.
- Fire extinguishers and water drums must be protected from freezing.
- When welding and burning, provide water hose.

## 5.3 Portable Firefighting Equipment (Fire Extinguishers), continued

### Portable Fire Extinguishers

- Portable fire extinguishers must be inspected monthly.
  - Inspection dates must be recorded on a tag attached to the extinguisher.
  - All portable fire extinguishers must be maintained in accordance with [NFPA No. 10A – Maintenance and Use of Portable Fire Extinguishers](#).



[NFPA No. 10 A – Maintenance and Use of Portable Fire Extinguishers](#) can be found on the on the National Fire Protection Association's website; however, please note this document must be purchased to view the standards.

### Locations

- One fire extinguisher per every 1500 square feet must be provided.
  - Additional portable fire extinguishers must be provided where flammable and combustible liquids are stored, handled and used.
- Fire extinguishers are hung on a wall or stand at a height of approximately 3 feet.
  - All firefighting equipment provided by the Employer must be conspicuously located.
  - Fire Extinguisher locations must be conspicuously marked and kept clear of any obstructions (e.g., equipment, supplies, trash, etc.).
  - Access to all available firefighting equipment must be maintained at all times.
- Fire extinguishers must be provided at each stairway on all floor levels.
  - One or more fire extinguishers rated not less than 2A must be provided on each floor.
  - In multistory buildings, at least one fire extinguisher must be located adjacent to the stairway.

## 5.4 Flammable and Combustible Liquids Requirements

All storage and use of flammable and combustible liquids must be in accordance with [FDNY NYC Fire Code – Chapter 34](#) – Flammable and Combustible Liquids.

- Flammable or combustible liquids must not be stored in areas used for exits, stairways, or any passage normally used for the safe transit of people.
- Only approved containers and portable tanks may be used for the storage and handling of flammable and combustible liquids.
  - Approved metal safety cans must be used for the handling and use of flammable liquids in quantities greater than one gallon; however, this does NOT apply to flammable liquid materials that are highly viscid (extremely hard to pour). These materials may be used and handled in their original shipping containers.
  - For quantities of one (1) gallon or less, the original container or approved metal safety can must be used for storage, use, and handling of flammable and combustible liquids.



An 'approved metal safety can' is defined as a metal can with a flash arresting screen, spring closing lid, and properly labeled with its contents.

- Metal safety cans must be colored as follows;
  - Red = gasoline
  - Blue = kerosene
  - Yellow = diesel

### 5.4.1 Indoor Storage of Flammable and Combustible Liquids

Indoor storage of flammable and combustible liquids must adhere to the following guidelines:

- Not more than 25 gallons of flammable or combustible liquids may be stored in a room outside of an approved storage cabinet.
  - Quantities of flammable and combustible liquid in excess of 25 gallons must be stored in an acceptable room or approved metal cabinet.
- Not more than 60 gallons of flammable or 120 gallons of combustible liquids may be stored in any one storage cabinet.
  - Not more than (3) three storage cabinets may be located in a single storage area.
- Materials that react with water and create a fire hazard must not be stored in the same room with flammable or combustible liquids.
- Flammable and combustible liquids in excess of the permitted quantities specified must be stored off-site or outside of buildings in accordance with [OSHA 1926.152\(c\)](#) – Storage Outside Buildings.

#### 5.4.2 Outdoor Storage of Flammable and Combustible Liquids

Storage of flammable and combustible liquids outside buildings must adhere to the following guidelines:

- Storage of containers (not more than 60 gallons each) must not exceed 1,100 gallons in any one pile or area.
  - Piles or groups of containers must not be less than 20 feet from a building.
- A 12-foot wide access way to permit approach of fire control apparatus must be maintained within 200 feet of each pile of containers.
- The storage area must be graded in a manner to divert possible spills away from buildings or other exposures, or be surrounded by a curb or earth dike at least 12 inches high.
  - If curbs or earth dikes are used, provisions must be made for draining off accumulations of ground, water, spills, or flammable / combustible liquids.
  - Drains must terminate at a safe location and be accessible to operation under fire conditions.

#### 5.4.3 Outdoor Portable Tank Storage

- Portable tanks must not be less than 20 feet from any building.
- Two or more portable tanks grouped together having a combined capacity in excess of 2,200 gallons must be separated by a 5-foot clear area. (This does not apply to occupied school job sites.)
- A 12-foot wide access way to permit approach of fire control apparatus must be maintained within 200 feet of each portable tank.
- Conspicuous and legible signs prohibiting smoking and open flame must be posted on all flammable and combustible liquid storage tanks.
- Storage areas must be kept free of weeds, debris, and other combustible material not necessary to the storage.
- All Portable tanks must be provided with emergency venting, and other devices as required by [NYC Fire Code Chapter 34 – Flammable and Combustible Liquids Code](#).



Refer also to:

[NFPA 30 – 1960, Chapters III and IV – Flammable and Combustible Liquids Code](#).



[NFPA 30 – 1960, Chapters III and IV – Flammable and Combustible Liquids Code](#) can be found on the on the National Fire Protection Association's website; however, please note this document must be purchased to view the standards.

#### 5.4.4 Fire Control for Flammable or Combustible Liquids Storage

- At least (1) one portable fire extinguisher having a rating of not less than 20- B units must be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids.
- At least (1) one portable fire extinguisher having a rating of not less than 20- B units must be located not less than 25 feet nor more than 75 feet from the flammable liquid storage area located outside.
- At least (1) one portable fire extinguisher having a rating of not less than 20- B: C units must be provided on all tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids.

#### 5.4.5 Handling Liquids at Point of Final Use

- Flammable liquids must be kept in closed approved containers when not in use.
- Leakage or spillage of flammable or combustible liquids must be disposed of promptly and safely.

#### 5.4.6 Liquefied Petroleum Gas (LPG) – Approval of Equipment and Systems

- Each system must have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.
- All cylinders must meet the Department of Transportation specification identification requirements published in [49CFR Part 178](#) – Shipping Container Specification.
- Welding is prohibited on LPG containers.

#### 5.4.7 Container Valves and Container Accessories

- Valves, fittings, and accessories connected directly to the container, including primary shutoff valves, must have a rated working pressure of at least 250 psig, and be of a material and design suitable for LPG service.
- Connections to containers (except safety relief connections), liquid level gauging devices, and plugged openings must have shutoff valves located as close to the container as possible.

#### 5.4.8 Safety Devices

- Every container and every vaporizer must be provided with one or more approved safety relief valves or devices.
  - Safety relief valves must be arranged to afford free vent to outer air with discharge not less than (5) five feet horizontally away from any opening into a building that is below the discharge.
- Shutoff valves must not be installed between the safety relief device and the container, equipment, or piping to which the safety relief device is connected.
  - Exception: A shutoff valve may be used if it is arranged in such a manner that full required capacity flow through the safety relief device is always afforded.

#### 5.4.9 Dispensing Fuel

- Filling of fuel containers on the jobsite is prohibited.

#### 5.4.10 Requirements for Appliances

- LPG consuming appliances must be approved.

#### 5.4.11 Containers and Regulating Equipment Installed Outside of Buildings or Structures

- Containers must be upright, set upon firm foundations, and firmly secured.
- The possible effects on the outlet piping or settling must be guarded against by a flexible connection or special fitting.

#### 5.4.12 Containers and Equipment Used Inside of Buildings or Structures

Containers and equipment must be permitted to be used inside of buildings or structures in accordance with OSHA standards under the following conditions:

- When operational requirements make portable use of containers necessary.
- When their location outside of buildings or structures is impracticable.



Refer to [OSHA 1926.153\(h\)\(2-11\)](#) – Liquefied Petroleum Gas (LPG).



**Containers in use:** Connected for use.



A fire watch is required for all hot-work involving compressed gas.

#### Location

- Containers, regulating equipment, manifolds, pipe, tubing, and hose must be located to minimize exposure to high temperatures or physical damage.
- Storage of containers awaiting use must be in accordance with OSHA standards.



Refer to [OSHA 1926.153\(j\)\(k\)](#) – Liquefied Petroleum Gas (LPG).

#### Water Capacity

- Systems using containers with a water capacity greater than 2½ pounds (nominal 1 pound LPG capacity) must be equipped with excess flow valves.
  - Excess flow valves must be either integral with the container valves or in the connections to the container valve outlets.
- Containers having a water capacity greater than 2½ pounds (nominal 1 pound LPG capacity) connected for use must stand on a firm and substantially level surface, and be secured in an upright position.
- The maximum water capacity of individual containers must be 245 pounds (nominal 100 pounds LPG capacity).

## 5.4.12 Containers and Equipment Used Inside of Buildings or Structures, continued

### Regulators/Valves

- Regulators must be either directly connected to the container valves, or to manifolds connected to the container valves.
  - The regulator must be suitable for use with LPG.
  - Manifolds and fittings connecting containers to pressure regulator inlets must be designed for at least 250 psig service pressure.
- Valves on containers having water capacity greater than 50 pounds (nominal 20 pounds LPG capacity) must be protected from damage while in use or storage.
- Aluminum piping or tubing must not be used.

### Hose

- Hose must be designed from a working pressure of at least 250 psig.
  - The suitability of the design, construction, and performance of hose and hose connections is determined by the listings in a nationally recognized testing agency.
  - The hose length must be as short as practicable.
    - Hoses must be long enough to permit compliance with spaced provisions of OSHA standards without kinking or straining or causing the hose to be so close to a burner as to be damaged by heat.



Refer to [OSHA 1926.153\(h\)\(1-13\)](#) – Liquefied Petroleum Gas (LPG).



## 5.4.12 Containers and Equipment Used Inside of Buildings or Structures, continued

### Heating

- For temporary heating, heaters (other than integral heater-container units) must be located at least six (6) feet from any LPG container.
  - Placing heaters six (6) feet from an LPG container must not prohibit the use of heaters specifically designed for attachment to the container.
  - Placing heaters six (6) feet from an LPG container must not prohibit the use of heaters specifically designed for attachment to a supporting standard, provided that they are designed and installed so as to prevent direct or radiant heat application from the heater onto the containers.
  - Blower and radiant type heaters must not be directed toward any LPG container within twenty (20) feet.
- If two or more heater-container units of either the integral or non-integral type are located in an un-partitioned area on the same floor, the container or containers of each unit must be separated from the container or containers of any other unit by at least twenty (20) feet.
  - If heaters are connected to containers for use in an un-partitioned area on the same floor, the total water capacity of containers manifold-ed together for connection to a heater or heaters must not be greater than 735 pounds (nominal 300 LPG capacity), and must be separated by at least 20 feet.
- Portable heaters, including salamanders, must be equipped with an approved automatic device to shut off the flow of gas to the main burner and pilot if used in the event of flame failure.
  - Portable heaters having inputs above 50,000 B.T.U. per hour must be equipped with either a pilot, which must be lighted and proved before the main burner can be turned on, or an electrical ignition system.
  - The Contractor must ensure proper ventilation for workers during the use of temporary heat.
- Container valves, connectors, regulators, manifolds, piping, and tubing must not be used as structural supports for heaters.



The provisions of [OSHA 1926.153\(h\)\(8\)](#) – Liquefied Petroleum Gas (LPG) do not apply to portable heaters under 750 B.T.U. per hour input when used with containers having a maximum water capacity of 2½ pounds.

#### 5.4.13 Containers Valves and Accessories

- Valves in the assembly of multiple container systems must be arranged so that replacement of containers can be made without shutting off the flow of gas in the system.



This provision is not to be construed as requiring an automatic changeover device

- Heaters must be equipped with an approved regulator in the supply line between the fuel cylinder and the heater unit.
  - Cylinder connectors must be provided with an excess air flow valve to minimize the flow of gas in the event the fuel line becomes ruptured.
- Regulators and low-pressure relief devices must be rigidly attached to the cylinder valves, cylinders, supporting standards, the building walls, or otherwise rigidly secured.
- Regulators and low-pressure relief devices must be installed in a manner that keeps them protected from the elements.

#### 5.4.14 Storage of LPG Containers

- Storage of LPG within buildings is prohibited.
- Storage of LPG below grade is prohibited.

#### **Storage Outside of Buildings**

- Storage of LPG must be in accordance with New York City Fire Codes.
- LPG cylinders must be stored in a manner and number as specified by the Fire Department Permit.
- In no case may the number of cylinders exceed the amount permitted, whether they are located within the storage facility or elsewhere on the construction site.

#### 5.4.15 Clearance and Mounting – Ventilation and Heaters

**Ventilation** – Fresh air must be supplied in sufficient quantities to maintain the health and safety of workers. If a natural means of fresh air supply is inadequate, mechanical ventilation must be provided.

- Temporary heating devices may be installed to provide clearance to combustible material not less than 36". Refer to [Table 4 – Temporary Heating devices](#).
  - Temporary heating devices that are listed for installation with lesser clearances may be installed in accordance with the approval of the NYC SCA.
- Heaters not suitable for use on wood floors must not be set directly upon them or other combustible materials.
  - Heaters not suitable for use on wood floors must either rest on suitable heat insulating material, or on at least 1-inch concrete or equivalent.
    - The insulating material must extend beyond the heater by two (2) feet or more in all directions.
- Heaters used in the vicinity of combustible tarpaulins, canvas, or similar coverings must be located at least ten (10) feet from the coverings.
  - The coverings must be securely fastened to prevent ignition or upsetting of the heater due to wind action.



Refer to [OSHA 1926.154](#) – Temporary Heating Devices.

**TABLE 4: TEMPORARY HEATING DEVICES (OSHA TABLE F-4)**

Heating appliances	Minimum clearance, (inches)		
	Sides	Rear	Chimney Connector
Room heater, circulating type.....	12	12	18
Room heater, radiant type.....	36	36	18

## 5.4.15 Clearance and Mounting – Ventilation and Heaters, continued

### Stability

When in use, heaters must be set horizontally level, unless otherwise permitted by the manufacturer's markings.

### Solid Fuel Heater

Solid fuel heaters are prohibited.

### Oil-fired Heater

- Flammable liquid-fired heaters must be equipped with a primary safety control to stop the flow of fuel in the event of flame failure.
  - Barometric or gravity oil feed must not be considered a primary safety control.
- Heaters designed for barometric or gravity oil feed must be used only with integral tanks.
- Heaters that are not designed for flue connection must be equipped with integral tanks having a capacity of not more than two (2) gallons.
- Heaters specifically designed and approved for use with separate supply tanks may be directly connected for gravity feed or an automatic pump from a supply tank.

## 5.5 Sprinkler and Standpipe Requirements

### Standpipes

NYC Building Code requires a standpipe when in the course of erection or demolition the building reaches a height of 75 feet with a floor system in place.

- Standpipes in buildings under construction and demolition must be maintained as dry systems
- When demolition is started, the standpipe risers must be capped above the outlet on the floor below the floor being demolished so as to maintain the standpipe system on all lower floors for Fire Department Use.
- No standpipe may be considered to be in a state of readiness unless it is painted red.



Refer to [NYC Building Code Section 3303.8](#) – Standpipe Systems During Construction, Alteration or Demolition.

## 5.5 Sprinkler and Standpipe Requirements, continued

### Dry Standpipe Systems

- Dry standpipe systems utilized during construction or demolition operations must be designed by a registered design professional.
- Dry standpipe systems utilized during construction or demolition operations must be provided with an air pressurized alarm system. The following provisions must apply to the air pressurized alarm system:
  - Pressure must be maintained in the standpipe and cross connections at all times and must not exceed 25psig.
    - The supervisory pressure must be 10psig and 15psig.
  - The alarm must be automatically activated when the pressure drops below the supervisory pressure of 10psi, or if it rises above the maximum pressure of 25psig.
  - The air compressor must be designed to automatically cut in when the pressure drops below 15psig and cuts out at 25psig.
  - During working and non-working hours, the alarm system must utilize pressure switches and control equipment to annunciate a local audible alarm on site.
  - The standpipe alarm system must be connected to an active dedicated power supply at all times, and a check valve installed to prevent water from entering the air compressor.
  - All control valves must be chained and locked in the open position.
  - Three-inch iron hose plugs with gasket in the Fire Department connection swivel must be provided.
  - A minimum 2.5-inch manual air release connection must be provided.
  - Provisions must be made to drain water in any trapped sections of the dry standpipe system that are subject to freezing.
  - Signage must be provided at all Fire Department connections indicating that the dry standpipe is pressurized and showing the location of the manual air release.
  - A system of pressure gauges must be installed at the compressor and at the most remote points of the system from the compressor.
  - Standpipe systems must not be put out of service unless approved by the Fire Department.

## 5.5 Sprinkler and Standpipe Requirements, continued

### Sprinklers

- Sprinkler systems with Fire Department connections in structures undergoing demolition must be maintained as a non-automatic sprinkler system.
- The NYC Department of Buildings and the FDNY have established a uniform procedure, known as a Technical Policy and Procedure Notice to process variance requests for the removal of damaged existing sprinkler systems in buildings undergoing demolition or gut rehab.



Refer to [NYC Building Code, Chapter 33, 3303.7.4.3](#) – Removal of Damaged Sprinklers.

## 5.6 Temporary Elevator or Hoist

- If construction or demolition work reaches a height greater than 75 feet, at least one elevator or a hoist meeting the requirements of the NYC Building Code, must be kept in readiness at all times for Fire Department use.



Refer to:

- [NYC Building Code, Chapter 30](#) – Elevators and Conveying Systems.
- [NYC Building Code 3318](#) – Personnel Hoists.



Failure to provide an elevator in readiness in accordance with the following codes results in the issuance of a Violation Order by FDNY:

- [Building Code 3303.12](#) – Elevators and Hoists during Construction or Demolition.
- [Building Code 3318](#) – Personnel Hoists.
- [NYC Building Code, Chapter 30, 3003.3](#) – Elevators and Conveying Systems (Elevator in Readiness)

## 5.7 Requirements for Fire Guards

Fire Guards are required at sites when construction, alteration, or demolition:

- Exceeds 10,000 square feet when fronting one street.
- Exceeds 20,000 square feet when fronting two (2) streets.
- Whenever the building exceeds 75 feet in height.

Fire Guards require a Certificate of Fitness from the FDNY.

- When the construction, alteration, or demolition site exceeds 10,000 square feet or 20,000 square feet and is completely enclosed by a substantial fence:
  - The area limitations must be increased by 50 percent to, therefore, require one (1) Fire Guard per 15,000 square feet when fronting one street, or one (1) Fire Guard per 30,000 square feet when fronting two streets.
- Fire Guards must be on duty when operations are not in progress.
  - When construction workers leave for the day, Fire Guards must be present onsite from the end of the construction workers' day until 2400 hours.
  - Between 2400 hours and 0800 hours, Fire Guards are not required to be present. During these hours a competent Watch Person must be present.
- Fire Guards must patrol the site hourly and cover all areas of the building.
- Fire Guards must maintain a log of inspections/patrols of the building site.
  - Fire Guards' logs must contain the results of inspections, including any deficiencies discovered and the name of the Fire Guard who conducted the inspections.
  - Fire Guards' logs must be present for FDNY inspection at the site.

## 5.8 Requirements for Watch Person Services

Watch Person service is to be conducted by a competent person. No certificate of fitness or other documentation is required by FDNY to be a Watch Person.

- A competent Watch Person must be on duty during all hours when:
  - Operations are not in progress.
  - Fire Guards are not present.
- One (1) Watch Person must be present when a building being constructed or demolished occupies an area of 5,000 square feet up to 40,000 square feet.
  - If the area is greater than 40,000 square feet, an additional Watch Person must be on the premises.
- Watch Persons must know the location of the nearest fire alarm box, and transmit an alarm to the FDNY immediately upon any indication of fire.

## 5.9 Requirements for Portable Fire Appliances

- One (1) 2 ½ gallon water-type extinguisher must be provided for every 2,500 square feet of construction, or 5,000 square feet of demolition of floor area.
  - A building that has a permit for alteration must comply with the more stringent requirement of providing one (1) portable fire appliance per 2,500 square feet.
- One (1) 2 ½ gallon water-type extinguisher must be provided on each floor where wood scaffolding has been erected to a height greater than 40 feet. This extinguisher must be readily accessible to the scaffold.



# SIGNS, SIGNALS, AND BARRICADES

- All traffic concerns in relation to direction of flow, names of streets along with fire hydrants, and signs must be indicated on ALL Site Safety Plans for all project types.
- Temporary walkways must be protected by the use of barriers constructed of precast concrete when the walkway is in the street.
  - Wooden timbers or plastic/PVC water filled barriers are NOT acceptable for use when the temporary walkway is in the street.
  - Temporary walkways must be installed and maintained in accordance with DOT Permit stipulations.



Refer to the [Manual on Uniform Traffic Control Devices \(MUTCD\)](#) for specific requirements of signs, signals, and barricades.



Refer to the following for additional details:

- [OSHA 1926.200](#) – Accident Prevention Signs and Tags.
- [OSHA 1926.201](#) – Signaling.

## 6.1 Signaling

### Flagmen

- When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, Flagmen or other appropriate traffic controls must be provided.
- Signaling directions by Flagmen must conform to the standards set in the [Manual on Uniform Traffic Control Devices for Streets and Highways \(MUTCD\)](#), (2009).

## 6.1 Signaling, continued

### Traffic Controllers

- Traffic Controllers must use the following equipment and personal protective gear:
  - Hard hat.
  - High Visibility Apparel (i.e., Vest, T-Shirt, or 3 Season Jacket)
    - High Visibility Apparel must meet approved ANSI/ISEA 107-2004, Performance Class II standards.
  - 24-inch stop/slow paddle, or Red flag (24in by 24in).
    - The paddle is the preferred device, but the flag may be used at intersections where the stop/slow paddle would offer contradicting information to drivers traveling in opposite directions/legs of the intersection or during emergency situations.
  - A red wand flashlight, if working at night, and portable.
  - Warning garments worn at night must be of reflector material.

### Crane and Hoist Signals

Regulations for crane and hoist signaling are found in applicable American National Standards Institute standards. [ANSI].

Persons performing signaling for crane operations must complete a Signalperson Training Program as per the new OSHA and NYC DOB guidelines.



Refer to [OSHA 1926 Subpart CC](#) – Cranes and Derricks in Construction.

# MATERIALS HANDLING, STORAGE, USE AND DISPOSAL

## 7.1 General Requirement

Occupied schools: materials and equipment must not be stored outside of a secure staging area (as per the approved Site Safety Plan) or in any area that is accessible to the public.



Refer to [OSHA 1926.250\(a\)\(1-4\)](#) – General.

## 7.2 Material Storage



Refer to [OSHA 1926.250\(b\)\(1-7\)](#) – Material Storage.

## 7.3 Lumber Storage



Refer to [OSHA 1926.250\(b\)\(8\)](#) – Material Storage.

## 7.4 Cylindrical Materials

Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, must be stacked and blocked so as to prevent spreading or tilting.

## 7.5 Housekeeping

Storage areas must be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

## 7.6 Fire Protection

- Combustible waste, including rubbish, scrap lumber, and construction and demolition material, shall not be allowed to accumulate and shall be removed from the immediate work area as the work progresses.
- Portable fire extinguishing equipment, suitable for the fire hazard involved, shall be provided at convenient, conspicuously accessible locations in the yard area and staging area. Portable fire extinguishers, rated not less than 2A, shall be placed so that maximum travel distance to the nearest unit shall not exceed 75 feet.

## 7.6 Fire Protection, continued

- All materials shall be stored, handled, and piled with due regard to their fire characteristics.



Refer to:

- [OSHA 1926.151](#) – Fire Prevention
- [OSHA 1926.252\(c\)–\(e\)](#) – Disposal of Waste Materials

Refer to NYC Fire Code – [Chapter 14](#) – Fire Safety during Construction, Alteration and Demolition

## 7.7 Dock Boards (Bridge Plates)

- Portable and powered dock boards must be strong enough to carry the load imposed on them.
- Portable dock boards must be secured in position, either by being anchored or equipped with devices which will prevent slipping.
- Handholds, or other effective means, must be provided on portable dock boards to permit safe handling.
- Positive protection must be provided to prevent railroad cars from being moved while dock boards or bridge plates are in position.

## 7.8 Rigging Equipment for Material Handling



Refer to:

- [OSHA 1926.251\(a\)](#) – General.
- [OSHA 1926.251\(a\)\(1\)](#) – Rigging Equipment for Material Handling.

## 7.9 Wire Rope



Refer to [OSHA 1926.251\(c\)](#) – Wire Rope.

## 7.10 Natural Rope and Synthetic Fiber



Refer to [OSHA 1926.251\(9\)\(d\)](#) – Natural Rope and Synthetic Fiber.

### 7.11 Synthetic Webbing (Nylon, Polyester, and Polypropylene)



Refer to [OSHA 1926.251\(e\)](#) – Synthetic Webbing (Nylon, Polyester, and Polypropylene).

### 7.12 Shackles and Hooks



Refer to [OSHA 1926.251\(f\)](#) – Shackles and Hooks.

### 7.13 Disposal of Waste Materials



Refer to [OSHA 1926.252](#) – Disposal of Waste Materials.

# TOOLS – HAND AND POWER

## SCA Hand and Power Tools Requirements

Every effort must be made by General Contractors, Subcontractors, and employees to implement dropped object prevention on their work sites; e.g., tool tethers, tool attachments, devices designed to carry or transport tools and equipment to and from heights, etc.

Dropped object prevention should adhere to standards set in [ANSI/ISEA 121-2018](#).



Following the standards set in ANSI/ISEA 121-2008 is not currently a requirement; however, it is considered a “best practice” to follow these guidelines.

- **Powder-actuated tools:** Training documentation from the manufacturer, and the New York City Fire Department Certificate of Fitness must be provided for each type of powder-actuated tool used.
  - Workers using a powder-actuated tool must have a valid Certificate of Fitness (E-21) – Storage and Use of Powder Actuated Tools.
  - The General Contractor must ensure that copies of these credentials are kept in an organized manner and made available for review.
  - Workers are required to carry the certification cards on their person and show them to the SCA Safety Inspector upon request.
  - Photos or copies of certification cards will not be accepted as proof of training.
- Guards must be used on all power-operated grinding tools as provided.
- If power operated tools are designed to accommodate guards, the tools must be equipped with the guards when in use.
  - Any power operated tool that does not have a guard, but is designed to accommodate a guard, must be removed from the work area until a guard has been installed.
- Personal Protective Equipment (PPE) to include, but not limited to, eye protection, hearing protection, and hand protection must be used during the operation of tools.



Refer to The SCA Safety Manual, [CHAPTER 5 FIRE PROTECTION AND PREVENTION – Fire Watch](#).



Refer to [OSHA 1926.300](#) – General Requirements.

## 8.1 Hand Tools



Refer to [OSHA 1926.301\(a-d\)](#) – Hand Tools.

## 8.2 Electric Power-operated Tools



Refer to [OSHA 1926.302\(a\)\(1-2\)](#) – Electric Power-operated Tools.

## 8.3 Pneumatic Power Tools



Refer to [OSHA 1926.302\(b\)\(1-10\)](#) – Pneumatic Power Tools.

## 8.4 Fuel-powered Tools



Refer to [OSHA 1926.302\(c\)](#) – Fuel-powered Tools.

## 8.5 Hydraulic Power Tools



Refer to [OSHA 1926.302\(d\)](#) – Hydraulic Power Tools.

## 8.6 Powder-actuated Tools



Refer to [OSHA 1926.302\(e\)](#) – Powder-actuated Tools.

## 8.7 Abrasive Wheels and Power Tools



Refer to [OSHA 1926.303\(a\)](#) – Abrasive Wheels and Power Tools.

### 8.7.1 Guarding



Refer to [OSHA 1926.303\(b\)](#) – Guarding.

### 8.7.2 Use of Abrasive Wheels



Refer to [OSHA 1926.303\(c\)\(1-9\)](#) – Use of Abrasive Wheels.

## 8.8 Woodworking Tools



Refer to [OSHA 1926.304 \(a-f\)](#) – Woodworking Tools.

## 8.9 Radial Saws



Refer to [OSHA 1926.304\(g\)\(1\)](#) – Woodworking Tools.

## 8.10 Other Requirements



Refer to [OSHA 1926.303\(d-e\)](#) – Abrasive Wheels and Tools.



# WELDING AND CUTTING

Applicable technical portions of the [American National Standards Institute \(ANSI\), Z49. 11967, Safety in Welding and Cutting, and Allied Processes](#) applies to all SCA Projects.

## SCA Welding and Cutting Requirements

- Any person welding or cutting must hold a current Certificate of Fitness from the New York City Fire Department.
  - The Certificate of Fitness must be carried on their person at all times when on the job site.
  - A Fire Watch must carry a current Certificate of Fitness.
- Whenever practicable, all arc welding and cutting operations must be shielded by noncombustible or flameproof screens.
  - Welding screens protect employees and other persons working in the vicinity from the direct rays of the arc.
- Storage of oxygen, acetylene, or LPG gas is NOT permitted on *occupied schools*.
  - Only quantities that are needed for the shift's work activity is permitted and must be removed from the school premise at the end of each work shift.
- Storage of compressed gases and LPG gas is permitted on *Line Projects* with a Permit for Storage and Use from the NYC Fire Department.
  - With regard to *occupied schools* where an addition is taking place, storage of compressed gases and LPG gas on the premise is at the discretion of the Local Fire Department.
- Prior to any Hot Work activity, 48-hour notification must be made to the SCA Safety Division.
- During all Hot Work activities, a Fire Watch must be present, and located in the area(s) to effectively monitor the situation.
- The fire watch shall make continuous inspections for at least two (2) hours after hot work has ceased.



Hot work is defined as any work that can give off a source of ignition, or that in any way can start a fire.

## 9.1 Transporting, Moving, and Storing Compressed Gas Cylinders

- Valve protection caps must be in place and secured.
- Cylinders must be secured on a cradle, sling board, or pallet when hoisted.
  - Cylinders must NOT be hoisted or transported by means of magnets or choker slings.
- Cylinders must be moved by tilting and rolling on the bottom edges.
  - Cylinders must NOT be intentionally dropped, struck, or permitted to strike each other violently.
- Cylinders must be secured in a vertical position when transported by powered vehicles.
- Valve protection caps must not be used for lifting cylinders from one vertical position to another.
  - Bars must NOT be used under valves or valve protection caps to pry cylinders loose when frozen.
    - Warm, not boiling, water must be used to thaw cylinders.
- Regulators must be removed and valve protective caps put in place before cylinders are moved. (Unless cylinders are firmly secured on a special carrier intended for this purpose.)
- A suitable cylinder truck, chain, or other steadying device must be used to keep cylinders from being knocked over while in use.
- Cylinder valves must be closed when:
  - Work is finished.
  - Cylinders are empty.
  - Cylinders are moved.
- Compressed gas cylinders must be secured in an upright position at all times. (Except, if necessary, for short periods of time while cylinders are actually being hoisted or carried.)
- Oxygen cylinders in storage must be separated from fuel gas cylinders or combustible materials (especially oil or grease):
  - At a minimum distance of 20 feet from one another.
  - By a noncombustible barrier at least 5 feet high, having a fire resistance rating of at least one-half-hour.
- On the inside of a building, cylinders must be stored in a well-protected, well ventilated, dry location, at least 20 feet from highly combustible materials such as oil or excelsior.
  - Cylinders must be stored in assigned places, away from elevators, stairs, or gangways.
    - Assigned storage places must be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons.
    - Cylinders must not be stored in unventilated enclosures such as lockers and cupboards.

# ELECTRICAL

## SCA Electrical Requirements

All electrical conductors and equipment must be in accordance with SCA technical specification requirements.

- Assured Equipment Grounding Programs are not permitted.

- Extension cords are not permitted to be spliced or taped. Refer to the [NAFP website](#). (NEC Section 110.3.)
- All temporary electric wiring & lighting must be listed, tested, and approved by a qualified testing laboratory.



Refer to [OSHA 1926.403\(a\)](#) – General Requirements.

- CM Project Officers must request inspections of all temporary electrical installations by a CID Inspector.
- Permits must be readily available on site. Refer to [NYC Local Law 39](#).
- The Written Lock Out Tag Out Program is to be readily available onsite when applicable.



Refer to [OSHA 1926.417](#) – Lock Out and Tagging of Circuits.

- Power Strips, power surge protectors, and Relocatable Power Taps (RPTs) are not permitted for use on SCA construction sites.
- Extension cords not listed as heavy duty are not permitted for use on SCA construction sites.
- The use of Romex™ Wire and/or Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS are not permitted on SCA Projects. Refer to [NYC Local Law 39, Article 334 \(2011\)](#).



Romex™ is a common type of residential wiring that is categorized by the National Electrical Code (NEC) as underground feeder (UF) or non-metallic sheathed cable (NM and NMC). It is prohibited as schools are non-residential.

## CHAPTER 10: ELECTRICAL, continued

### SCA Electrical Requirements, continued

- The Licensed Electrician responsible for installation of the temporary electrical service is to provide a Certificate of Inspection from the NYC DOB Electrical Division attesting that the temporary service has been installed in accordance with all applicable codes.
  - A Certification Letter executed by a NYC Licensed electrician may be used in lieu of an inspection.
- Flexible cords used with temporary and portable lights must be designed for hard or extra-hard usage.
- Single strand single insulated wire must not be used for temporary wiring or temporary lighting.



Refer to [OSHA 1926.405\(a\)\(2\)\(ii\)\(J\)](#) – Wiring Methods, Components, and Equipment for General Use.

### 10.1 Examination, Installation, and Use of Equipment

The Employer must ensure that electrical equipment is free from recognized hazards that are likely to cause death or serious physical harm to employees.



Refer to [OSHA 1926.403\(b\)](#) – Examination, Installation, and Use of Equipment.

### 10.2 Guarding Live Parts



Refer to [OSHA 1926.403\(i\)\(2\)](#) – Guarding of Live Parts.

### 10.3 General Requirements for Temporary Wiring



Refer to the following:

- [OSHA 1926.405\(a\)\(1-2\)](#) – General.
- [OSHA 1926.405\(j\)\(1\)\(v\)](#) – Fixtures.
- [OSHA 1926.403\(i\)\(2\)](#) – Guarding of Live Parts.
- [OSHA 1926.405\(j\)\(1\)\(i\)](#) – Live Parts.

### 10.4 Cabinets, Boxes and Fittings

All temporary electric service panels and installations are to be designed for exterior use or enclosed in a weatherproof cabinet that is secured in an elevated manner where the base is not lower than three feet (3') above the walking/working surface



Refer to [OSHA 1926.405\(b\)](#) – Cabinets, boxes, and fittings.

### 10.5 Fixture Wires - General



Refer to [OSHA 1926.405\(j\)\(1-3\)](#) – General.

#### 10.5.1 Circuit Breakers



Refer to [OSHA 1926.403\(h\)](#) – Identification of Disconnecting Means and Circuits.

### 10.6 Equipment for General Use



Refer to [OSHA 1926.405\(j\)\(1\)](#) – General.

## 10.7 Interrupting and Isolating Devices



Refer to [OSHA 1926.408\(a\)\(2\)\(i\)](#) – Circuit Breakers.

### 10.7.1 Fused Cutouts



Refer to [OSHA 1926.408\(a\)\(2\)\(ii\)](#) – Fused Cutouts.

## 10.8 Mobile and Portable Equipment



Refer to [OSHA 1926.408\(a\)\(3\)\(i\)](#) – Power Cable Connections to Mobile Machines.

### 10.8.1 Guarding Live Parts



Refer to [OSHA 1926.408\(a\)\(3\)\(ii\)](#) – Guarding Live Parts.

## 10.9 Protection of Employees



Refer to [OSHA 1926.416\(a\)\(1-3\)](#) – General Requirements.

## 10.10 Passageways and Open Spaces



Refer to [OSHA 1926.416\(b\)](#) – Passageways and Open Spaces.

### 10.11 Load Ratings



Refer to [OSHA 1926.416\(c\)](#) – Load Ratings.

### 10.12 Fuses



Refer to [OSHA 1926.416\(d\)](#) – Fuses

### 10.13 Cords and Cables



Refer to [OSHA 1926.416\(e\)](#) – Cords and Cables.

### 10.14 Lockout and Tagging of Circuits



Refer to [OSHA 1926.417\(a-c\)](#) – Lockout and Tagging of Circuits.

### 10.15 Deteriorating Agents



Refer to [OSHA 1926.432\(a\)](#) – Deteriorating Agents.

### 10.16 Protection Against Corrosion



Refer to [OSHA 1926.432\(b\)](#) – Protection Against Corrosion.

# SCAFFOLDS

## SCA General Scaffold Requirements

When using any type of scaffold system on any SCA project, the following provisions, as appropriate to the system in use must be met.

Furthermore, requirements of current NYC Building Codes and Local Laws must apply.

- Permits must be obtained from the Building Department for the school premise where the work is taking place. The permit is to be posted on the job site.
- The PE designed and Department of Buildings (DOB) stamped and approved scaffold design drawing must be kept readily available onsite for inspection.
- All ground level public perimeter protection as detailed on the approved Site Safety Plan must be completed prior to the installation of any exterior scaffolding.
- The PE of record must inspect and certify the scaffold as being installed in accordance with the filed plans and drawings prior to commencing work on the scaffold.
  - The only work allowed on the scaffold prior to it being inspected by the PE of record is installation/modification of the scaffold.
  - Deviations in the field demand the plans be revised and re-filed with DOB for approval.
  - A licensed engineer designated by the Engineer of Record may also inspect and certify the scaffold as long as the licensed engineer is employed by the same firm as the Engineer of Record, and is covered under the firm's Professional Liability insurance.
- All employees must have training and documentation of completion of training.
  - Workers using any supported scaffold, regardless of height, must have completed a NYC DOB approved 4-hour Supported Scaffold User training program.
  - Workers involved in the erection, dismantling, or modification of any supported scaffold must have completed a NYC DOB approved 32-hour Supported Scaffold Installer/Remover training program or a NYC DOB approved 8-hour Supported Scaffold Installer/Remover Refresher training program.
  - Anyone using a suspended scaffold must have completed a NYC DOB approved 16-hour Suspended Scaffold User training program or a NYC DOB approved 8-hour Suspended Scaffold User Refresher training program.
  - As per the 2014 NYC Construction Codes, 3314.4.5.3, a NYC DOB 32-hour Suspended Scaffold Supervisor course or a NYC DOB 8-hour Suspended Scaffold Supervisor Refresher course is required by the NYC DOB for individuals supervising suspended scaffold projects on construction sites in New York City.
  - All workers must carry documentation of training on their person. Photocopies of certifications or photos of certifications will not be accepted.



## CHAPTER 11    SCAFFOLDS, continued

### 11.1    Capacity



Refer to [OSHA 1926.451](#) – General Requirements.

### 11.2 Criteria for Supported Scaffolds

- A Professional Design Drawing is required for all supported scaffolds with a height to base width ratio (including outrigger supports, if used) of more than four to one (4:1). Prior to the initial use of the supported scaffold, the PE of Record must certify that the supported scaffold has been installed as per the design drawings. The inspection by the PE must take place in the presence of the SCA Safety Inspector.
  - Details for tiebacks must include substrate construction (cavity, structural beam, etc.).
  - The PE must also consider the layout of the site, including any metal grating, stairs, lower roofs, etc., that may be used to support the scaffold.
  - The PE of record must re-inspect and re-certify the scaffold at minimum every six (6) months, or at the request of the SCA Safety Director/Safety Inspector. The inspection by the PE must take place in the presence of the SCA Safety Inspector.
  - All PE drawings and Inspection letters must be readily available for inspection on site by a SCA Safety Inspector.
  - A licensed engineer designated by the Engineer of Record may also inspect and certify the scaffold as long as the licensed engineer is employed by the same firm as the Engineer of Record and is covered under the firm's Professional Liability insurance.
- A daily inspection/maintenance log of the supported scaffold must be maintained by the competent person and be readily available for inspection as per DOB regulations.
  - Regardless of the height of the scaffold, daily inspections of supported scaffold must be conducted by a scaffold erector/dismantler. Inspections must be conducted before the start of each work shift.
  - The erector/dismantler must have successfully completed the 32-hour NYC DOB Supported Scaffold Installer/Remover training course.
  - Pre-filled daily inspections are not permitted (e.g., photocopying check marks for the inspection checklist).
- A permit-required supported scaffold must have at least two (2) workers who have successfully completed the 32-hour NYC DOB Supported Scaffold Installer/Remover training course to assist in modification, repair, or alteration while work is in progress.

## 11.2 Criteria for Supported Scaffolds, continued

- All exterior supported scaffolds must be provided with vertical fire-retardant fine mesh debris netting for their full height and width when exposed to the public, adjacent property, or site employees.
  - This includes any exterior supported scaffold that is opposite a street, sidewalk, public walkway, employee walkway, any open area intended for public use, or is opposite any side of a rear lot line.
  - The vertical netting is required in addition to the sidewalk sheds, fences, or railings required by the site safety plan.
  - Fine mesh fire-retardant debris netting is required on all exterior supported scaffolds on all SCA projects (i.e., both Line projects and CIP projects).
- In addition to the scaffold's cross braces, a top-rail, mid-rail, and toe board are to be installed along every unprotected platform edge.
  - All open sides and ends of scaffold platforms must be provided with a guardrail system (top rail, mid-rail, and toe board), regardless of height.

### Exceptions:

- A guardrail system is not required while the scaffold is being installed or removed, but must be in place before the scaffold is used.
- A guardrail system is not required along the edge of a scaffold facing a building or structure, provided the distance from the edge of the scaffold platform to the face of the building or structure is:
  - For an outrigger scaffold, 3 inches (80 mm) or less;
  - For a scaffold used in conjunction with plastering and lathing operations, 18 inches (460 mm) or less; or
  - For all other scaffolds, 14 inches (360 cm) or less.



Previous versions of the NYCSCA Safety Manual exempted scaffold platforms 6 feet (3048 mm) or less above the ground from requiring guardrails or toe-boards. This exemption is not carried over to the 2020 NYCSCA Safety Manual.

Except where the scaffold meets the provisions of exceptions, all open sides and ends of scaffold platforms require a guardrail system, regardless of height.

- Lighting must be provided on scaffolds throughout all platforms and all stair towers up to and including the work area(s).
  - Lights are to remain lit at all times while work is taking place.
  - Stair towers must be outside of the system so as to not impede walkways.
  - Stair towers must be lit 24/7 on all SCA construction sites.

## 11.2 Criteria for Supported Scaffolds, continued

- All temporary lighting must be in accordance with BEC, NEC and NYC DOB codes and regulations.
  - Temporary lighting must be inspected by a NYC licensed electrician.
    - A letter of the inspection must be kept on site and be made readily available for inspection.
- Wiring must not be in direct contact with any metal component of the scaffold.
  - Wiring must be suspended from approved insulations or non-conductive hangars.
- Outrigger platforms (bicycles) may only be used as work platforms for individuals; therefore, a fully planked platform on the scaffold frame bearer must be provided for material handling and access.
  - The fully planked platform is to be within a maximum of six (6) feet above or below the outrigger and secured.
- Scaffold planks must be inspected before installation. Any rotted and/or damaged planks must be removed from service and replaced immediately.
- Scaffold platforms and outriggers must be cleaned daily of work materials and debris.
- All platforms and planks shall be tied down or otherwise positively restrained by hooks or equivalent means to prevent dislodgment in all directions. Any loose planks must be removed.
- Scaffold platforms and planks must not be erected on scaffold tie-ins, or in any manner not in keeping with the scaffold manufacturer's specifications.
- Scaffolding pins must be installed where required.
- A New York State licensed PE must inspect and certify any equipment attached to or on the scaffold, including, but not limited to, electrical hoists, material chutes, tarps, etc.
  - The inspections must be conducted in the company of an SCA Safety Inspector.
  - A stamped letter of approval/acceptance from the inspecting PE must be kept onsite and be readily available for examination.
  - A copy of the stamped review letter from the PE must be provided to SCA Safety.
- Stair towers must be provided as the means of access to scaffold working levels above or below ground.
  - If the nature or the progress of the work prevents installation of stair towers, ladders or other safe means of access must be provided.

## 11.2 Criteria for Supported Scaffolds, continued

- A minimum of one (1) stair tower must be installed on each building elevation; however, the travel distance on the scaffold between stair towers must not exceed 300 feet.
- A PE must provide a stamped review letter that addresses wind loads and proper means of attachment prior to installing tarps on any portion of exterior supported scaffolds.
- The space between the top rail and toe board must be enclosed with a wire screen composed of not less than no.18 steel wire gage, with a maximum ½ inch (13mm) mesh or equivalent synthetic safety netting where it is possible for the public to pass under, or next to a scaffold.



The term “where it is possible for the public to pass under, or next to a scaffold” is defined as follows: When the setback from the scaffold to the area used by the public is a distance equal to or less than half the height of the scaffold

- Any scaffold tie-in/tie-back that is protruding into the egress path must be padded.
- All components of the scaffold system must be installed as per manufacturer's recommendations.
  - If different components are used, the PE of record must certify in writing that the structural integrity of the scaffold is not compromised.
- Notification must be made to the SCA Safety Inspector prior to the installation of scaffolding.
- The SCA Safety Inspector must be notified of the removal of the scaffold on SCA projects.
  - A meeting must be scheduled with the SCA PO and Safety Inspector to discuss the means and methods the contractor will use to remove the scaffold.
    - The SCA Safety Inspector will review safe procedures in dismantling the scaffold and discuss all applicable codes, public protection, required credentials, feasibility of fall protection, access/egress, scaffold tie-ins, etc.
    - The meeting attendees are to include the General Contractor's Designated Site Competent person, the General Contractor's Designated Safety Representative, the competent person for the scaffold removal, the employees involved in dismantling the scaffold, the SCA Safety Inspector, and the SCA Project Officer.
- All dance floor scaffolds or custom scaffolds must be designed by a PE, regardless of height.



Refer to [OSHA 1926.451\(c\)\(1-3\)](#) – Criteria for supported scaffolds

### 11.3 Criteria for Suspension Scaffolds

- All suspended scaffolds are to be designed by a PE licensed in the State of New York.
  - A copy of the design drawing must be maintained at the jobsite.
- Prior to the initial use of the suspended scaffold, the PE of Record must certify that the suspended scaffold has been installed as per the design drawings.
  - The inspection by the PE must take place in the presence of the SCA Safety Inspector.
  - The certification documentation must be kept on site and made available for examination by the SCA Safety Inspector. A copy of the certification documentation must be provided to the SCA Safety Inspector.
  - The PE of record must re-inspect and re-certify the suspended scaffold at minimum every six (6) months, or at the request of the SCA Safety Director/Safety Inspector. The inspection by the PE must take place in the presence of the SCA Safety Inspector.
  - A licensed engineer designated by the Engineer of Record may conduct the certification as long as s/he is employed by the same firm as the PE, and is covered under its Professional Liability insurance.
- All suspended scaffolds must be inspected before each shift by the licensed rigger, or the designated Rigger's Foreman.

- A record of the inspections must be kept and maintained at the jobsite and be readily available for examination upon request.
- The record must be signed by the individual responsible for the inspection and must also include the individual's name clearly and legibly printed.
- Pre-filled inspections are not permitted (e.g., photocopying check marks for the inspection checklist).



[NYC DOB, Chapter 33: 3314.4.3.4 – Pre-shift Inspection for a Suspended Scaffold.](#)

- All suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps, and similar devices, shall rest on surfaces capable of supporting at least 4 times the load imposed on them by the scaffold operating at the rated load of the hoist (or at least 1.5 times the load imposed on them by the scaffold at the stall capacity of the hoist, whichever is greater). The Professional Engineer (PE) of Record must certify the structural integrity of these surfaces.
  - A licensed engineer designated by the Engineer of Record may conduct the certification as long as s/he is employed by the same firm as the PE, and is covered under its Professional Liability insurance.
  - All components must be consistent with the manufactured system and the manufacturer's recommendations.

### 11.3 Criteria for Suspension Scaffolds, continued

- A counterweight system must be designed by the PE.
- A Designated Riggers' Foreman must be present on site while using a suspended scaffold.
  - The Rigger's Foreman must have in his possession a valid DOB-issued "tear-off" card.
- A Certificate of Fitness must be issued to each suspended scaffold user by the Master Rigger, Special Rigger, or Rigging Foreman.
- The Special Rigger must have an original copy of the Riggers License readily available for review on site.
- The Special Rigger must be on site when the suspended scaffold is moved to a new location.
- Vertical fire-retardant fine mesh debris netting must be provided on the exterior side of all suspended scaffolds.
  - The vertical netting is required in addition to the sidewalk sheds, fences, or railings required by the site safety plan.
- Suspending scaffolds by parapet hooks is prohibited except under the following circumstances:
  - When due to unusual roof types using the outrigger type scaffolding may not be possible, suspending scaffolds by hooks from parapets is acceptable (as a last resort) under the following conditions:
    - The building is a new school or addition only. (This does not apply to existing buildings or C.I.P. projects).
    - The Architect or Engineer of record certifies, in writing, the reason the outrigger type scaffolding is not feasible.
    - The Contractor must protect the coping, parapet and the surrounding construction from damage due to the Contractor's operations.

- If the Contractor damages the coping, parapet, or the surrounding construction, s/he must repair and/or replace the damage at no cost to the SCA.
- The scaffold must not be suspended from the parapet before the parapet can develop the strength to support the imposed loads.
- A PE licensed to practice in the State of New York certifies that such parapet is adequate to support the loads intended to be imposed thereon.
  - The certification documentation must be kept on the job site and be available for examination.

### 11.3 Criteria for Suspension Scaffolds, continued

- Upon delivery of the scaffold equipment to the site, the Supplier must furnish a certificate from either an independent testing laboratory or a licensed PE stating that physical tests of a prototype of the equipment were conducted, and the equipment proved capable of withstanding at least four (4) times the maximum allowable live loads.
  - The certificate must be kept at the field office and be available for inspection by representatives of the SCA and the N.Y.C. Department of Buildings (DOB).
- Scaffolds must be tied into the building or structure, and means of tying must be provided.
  - Window cleaners' anchors, window frames, mullions, or similar elements must not be used as tie-in anchors or brace-back points.
  - Details on tie-backs must be provided by the PE of Record, who will inspect the scaffold system when it has been installed.



Refer to [OSHA 1926.451\(d\)\(1-3\(i\)\)](#) – Criteria for suspension scaffolds.

### 11.4 Criteria for Mast Climbers

- The installation and use of Mast Climbers must be in accordance with New York City Department of Buildings Cranes and Derricks (C&D) Unit.
  - Anyone using a mast climber on a SCA construction site must have successfully completed a NYC DOB approved 4-Hour Mast Climber User and Operator Training course.
  - Training cards must be required for users of Mast Climbers in accordance with Local Law 52 regulations.



Refer to:

- [NYC Local Law 52-05.](#)

- Daily inspection checklists of mast climbers must be conducted and documented. These inspections must be conducted prior to each work shift. Daily inspection documentation must be readily available for review upon request.

## 11.5 Access



Refer to the following:

- [OSHA 1926.451\(e\)\(1-4\)](#) – Access

## 11.6 Use



Refer to [OSHA 1926.451\(f\)\(1-17\)](#) – Use

## 11.7 Fall Protection

- Fall protection on all scaffolds must meet the requirements of all Local, State, and Federal laws, whichever is most stringent.



Refer to [OSHA 1926.451\(g\)](#) – Fall Protection

Refer to [OSHA 1926.502\(d\)](#) – Personal fall arrest systems



Refer to The SCA Safety Manual, [CHAPTER 12 FALL PROTECTION](#).

Refer to NYC DOB [Chapter 33 – 3314 - Scaffolds](#)

## 11.8 Falling Object Protection

- Falling object protection on all scaffolds must meet the requirements of all Local, State, and Federal laws, whichever is most stringent. Any struck by hazards on SCA projects must be abated/corrected immediately.



Refer to [OSHA 1926.451\(h\)](#) – Falling object protection

## 11.9 Aerial Lifts

- All workers using aerial lifts require documented proof of training to use the equipment. Workers must be trained and certified by the manufacturer of the aerial lift for the specific aerial lift being used.
- All employees using the aerial lift must wear a personal fall arrest system or a personal fall restraint system and have their lanyard tied off to the aerial lift's designated anchor point. Workers must follow the manufacturer's recommendations at all times.
- 100% fall protection is required when using all aerial lists on all SCA construction sites.
- Aerial lifts must have an adequate guardrail system that meets all Federal, State, and Local regulations.
- Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to jobsites above ground:
  - Extensible boom platforms.
  - Aerial ladders.
  - Articulating boom platforms.
  - Vertical towers.
  - A combination of any such devices.



Refer to [ANSI A92.2, 2015](#) on the ANSI website; however, please note this document must be purchased to view the standard.



Refer to [OSHA 1926.453](#) – Aerial lifts



### 11.10 Scissor Lifts

- 100% fall protection is required when using all scissor lifts on SCA construction sites.
- The scissor lift must have an adequate guardrail system that meets all Federal, State, and Local regulations.
- Employees using scissor lifts must wear a personal fall arrest system or a personal fall restraint system and have their lanyard tied off to the scissor lift's designated anchor point.
- Workers must be trained and certified by the manufacturer of the scissor lift for the specific scissor lift being used. Workers must follow the manufacturer's recommendations at all times.

### 11.11 Training Requirements

The Contractor must have each employee who performs work while on a scaffold trained by a qualified person.

- Employees must be able to recognize the hazards associated with the type of scaffold being used and understand the procedures to control or minimize those hazards.
- Training must meet the requirements of [Local Law 52-05](#) where required.

Training must include the following areas, as applicable:

- The nature of electrical hazards, fall hazards, and falling object hazards in the work area.
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the Fall Protection systems and Falling Object Protection systems being used.
- The proper use of scaffolding, and the proper handling of materials on the scaffold, to include the maximum intended load and the load-carrying capacities of the scaffolds used.
- The Contractor must have each employee who is involved in erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold trained in accordance with:
  - NYC DOB.
  - The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
- If the Employer has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use, or dismantling of scaffolds, the Employer must retrain the employee, and ensure the requisite proficiency is regained.
  - Retraining is required in the following situations, at minimum:
    - When changes at the worksite present a hazard for which the employee has not been previously trained.
    - When changes in types of scaffolds, Fall Protection, Falling Object Protection, or other equipment present a hazard for which an employee has not been previously trained.
    - When inadequacies in an affected employee's work involving scaffolds indicate the employee has not retained the requisite proficiency.
    - At the request of the SCA Safety Inspector.

# FALL PROTECTION

## SCA Fall Protection Requirements

Fall Protection must be strictly enforced on all SCA projects.

- Employers must not permit any employee to use a floor, passageway, walkway, scaffold, platform, or other elevated working surface which has known slipping hazards.
  - Ice, snow, water, grease, and any other foreign substance which may cause slippery footing must be removed, sanded, or covered to provide safe footing.
- Exterior tarps, netting systems, or covers are not to be secured or attached to the top rail of the guardrail system.
  - Attachment to the mid-rail may be permitted based on a design provided by a Licensed Professional Engineer (PE).
- All employees must be protected from falling objects in manners consistent with all applicable federal, state, and local codes and the SCA Safety Manual.
  - In the event of a conflict between provisions in the codes or Safety Manual, the more stringent requirement[s] must apply.
  - A fall protection plan designed by a NYS PE may be required at the discretion of the SCA Safety Director.
- Toe boards must be a minimum of 3 ½ inches in vertical height from their top edge to the level of the walking/working surface. They must have not more than ¼ inch clearance above the walking/working surface
- A site-specific fall retrieval/rescue plan addressing emergency procedures to rescue personnel exposed to a fall must be prepared and maintained at the site.
- All employees on SCA projects must be trained in Fall Protection. They are required to obtain an eight (8)-hour NYC DOB training card.



Refer to [OSHA 1926.501\(b\)\(2\)](#) – Leading Edges.

## 12.1 Unprotected Sides and Edges



Refer to [OSHA 1926.501\(b\)\(1\)](#) – Unprotected Sides and Edges.

## 12.2 Leading Edges

- A controlled access zone may be established for leading edge work. The following minimum requirements apply:
  - A safety warning line (minimum ¼ inch wire rope) adequately secured may be used in lieu of a guardrail a minimum ten (10) feet from the leading edge.
- Each employee who is constructing a leading edge six (6) feet or more above a lower level must be protected from falling with guardrail systems, safety net systems, or personal fall arrest systems.



It is If it is not feasible to implement a fall protection system because it would create a greater hazard to workers, the Employer must implement a fall protection plan for the specific workplace situation in lieu of implementing a fall protection system.



Refer to [OSHA 1926.502\(g\)\(1\)](#) – Fall Protection Systems Criteria and Practices.

## 12.3 Hoist Areas



Refer to the following:

- [OSHA 1926.501\(b\)\(2\)](#) – Leading Edges.
- [OSHA 1926.501\(b\)\(3\)](#) – Hoist Areas.

## 12.4 Holes



Refer to [OSHA 1926.501\(b\)\(4\)](#) – Holes.

## 12.5 Formwork and Reinforcing Steel



Refer to [OSHA 1926.501\(b\)\(5\)](#) – Duty to have Fall Protection.

## 12.6 Ramps, Runways, and Other Walkways



Refer to [OSHA 1926.501\(b\)\(6\)](#) – Duty to have Fall Protection.

## 12.7 Excavations



Refer to [OSHA 1926.501\(b\)\(7\)](#) – Duty to have Fall Protection.



Refer to The SCA Safety Manual, [CHAPTER 13 EXCAVATIONS](#)

## 12.8 Dangerous Equipment



Refer to [OSHA 1926.501 \(b\)\(8\)](#) – Duty to have Fall Protection.

## 12.9 Overhand Bricklaying and Related Work

Overhand bricklaying is prohibited on SCA projects.

## 12.10 Roofing Work on Low Slope Roofs



Refer to [OSHA 1926.501 \(b\)\(10\)](#) – Duty to Have Fall Protection.

## 12.11 Steep Roofs

- Fall protection plans must be designed by a licensed NYS Professional Engineer (PE).
- The installation of fall protection equipment in accordance with site specific fall protection plans must be inspected by the PE of record in the presence of an SCA Safety Inspector.
- Each employee must be trained in Fall Protection as described in the [OSHA Fall Protection Regulations \(OSHA 1926.503\)](#).



Refer to [OSHA 1926.501 \(b\)\(11\)](#) – Duty to have Fall Protection.

## 12.12 Pre-cast Concrete Erection



Refer to [OSHA 1926.501 \(b\)\(12\)](#) – Duty to have Fall Protection.

## 12.13 Wall Openings



Refer to [OSHA 1926.501 \(b\)\(14\)](#) – Duty to have Fall Protection.

## 12.14 Walking/Working surfaces Not Otherwise Addressed



Refer to [OSHA 1926.501 \(b\)\(15\)](#) – Duty to have Fall Protection.

## 12.15 Protection from Falling Objects – Shaft Openings

### SCA Protection from Falling Objects – Shaft Openings Requirements

Locations must be provided with suitable overhead protection where persons are required to work under, or pass near, either the lower section or the bottom of a shaft that is or may be exposed to falling material or objects.

- A secure cover consisting of planks at least two inches thick full size, and of exterior grade plywood at least three-quarter inch thick (or material of equivalent strength) must be installed so as to cover the entire cross-sectional area of the opening.
- The secure cover must be located at a point in the shaft not more than two stories or 30 feet in height, whichever is less, starting from the lowest level.



Refer to the [NYS Department of Labor Guidelines - #23.2.5](#)

- In lieu of a secure platform, an approved safety net installed in compliance with the SCA Safety Manual may be provided.
- When erecting a canopy structure, keep potential falling objects far enough from the edge of the higher level so that those objects do not go over the edge if accidentally displaced.
  - Overhead protection must consist of tightly-laid sound planks, at least two inches thick full size, and of exterior grade plywood at least three-quarter inch thick (or material of equivalent strength)
  - The overhead protection must be provided with a supporting structure capable of supporting a load of 100 pounds per square foot.
  - The area where objects could fall must be barricaded to prohibit employees from entering.



Refer to [OSHA 1926.501\(c\)](#) – Duty to have Fall Protection.

# EXCAVATIONS

## SCA Excavations Requirements

- An [SCA Notice of Excavation form \(NOE\)](#) must be submitted to the Office of the SCA Safety Division a minimum of 48-hours prior to the start of any excavation five (5) feet or more in depth.
  - Office of the SCA Safety Division: [noe@nycsca.org](mailto:noe@nycsca.org).
- All employees entering any excavation must be appropriately trained in ways consistent with OSHA requirements.
  - Evidence of training must be maintained on site for review.



Refer to [OSHA 1926.21\(b\)\(2\)](#) – Safety Training and Education.

- All excavations must be configured and protected in a manner consistent with the SCA Safety Manual, OSHA, and the NYC Department of Buildings (DOB).
  - If there is a discrepancy, the stricter requirements must apply.



Refer to the following:

- [OSHA 1926 Subpart P](#) – Excavations.
- [NYC DOB Chapter 33, section 3304](#) – Soil and Foundation Work.

- All protective systems for excavations greater than five (5) feet in depth must be designed by a NYS Professional Engineer (PE) or architect.
- The PE of record must inspect and certify that the protective system is installed in accordance with the design drawings.
  - The SCA Safety Inspector must be present during the inspection.
- A person competent with respect to excavation activities is required to be onsite at all times during excavation operations.
  - The competent person must be identified in writing by the NOE form.
  - The NOE form must be maintained on site at all times for review.
- All excavations must be protected from trips and falls by effective perimeter warning lines, guardrails, and/or barricades.
- A step or ladder must be provided at all personnel points of access where there is a break of elevation of 19 inches or more, and where no ramp, runway, sloped embankment, or personnel hoist is provided.

## CHAPTER 13: EXCAVATIONS, continued

### Earthwork (Excavation) Notification Fast Track Initiative FACT SHEET

To help ensure that earthwork is conducted safely and according to the Building Code, the NYC DOB is launching a Fast Track Initiative: Earthwork (Excavation) Notification.

This initiative aims to strengthen the enforcement of the [Department of Buildings Rule 1 RCNY § 52-01](#).

- Effective October 25, 2006, all permit holders conducting earthwork (excavation) must notify the Buildings Department of the date and time of excavation at least 24 - 48 hours before the start of earthwork by calling (212) 227-4416.
- This notification is now a requirement as per 1 RCNY § 52-01.
- The Buildings Department audits a sample of all notices received.
  - The audit consists of unannounced site visits by the Forensic Engineering Unit and the Building Enforcement Safety Team (BEST) during the time specified on the notification.
  - While onsite, the inspectors photograph the excavation and adjacent areas. and review the following:
    - Ensure the Engineer is onsite.
    - Excavation depth.
    - Pumping operations.
    - Pile driving operations.
    - Sheet piling/shoring/bracing.
    - Angle of repose.
    - Forms bracing.
    - Underpinning.
    - Ground water.
    - Work as per plan.



## CHAPTER 13: EXCAVATIONS, continued

### Earthwork (Excavation) Notification Fast Track Initiative FACT SHEET, continued

- All excavations must be drained and the drainage maintained as long as the excavation continues or remains.
  - Where necessary, pumping must be used, provided proper permits are obtained from the New York City Department of Environmental Protection.
- The Commissioner may issue a minimum three-day Stop Work Order if work is found to violate any of the provisions of the Building Code, Zoning Resolution, or other applicable laws, rules or regulations at a site where proper notice was not provided as required.



While the DOB monitors excavation work, this does not relieve Site Engineers and Contractors from their professional responsibilities.



Refer to:

- [OSHA 1926.500](#) – Scope, Application, and Definitions.
- [OSHA 1926.501](#) – Duty to have Fall Protection.
- [OSHA 1926.502](#) – Fall Protection Systems Criteria and Practices.
- [OSHA 1926.503](#) – Training Requirements.

# CONCRETE AND MASONRY CONSTRUCTION

## SCA General Concrete and Masonry Requirements



Refer to:

- [OSHA 1926.701](#) – General Requirements.
- [OSHA 1926.702](#) – Requirements for Equipment and Tools.

### 14.1 Lockout and Tagout Procedures



Refer to [OSHA 1926.702\(j\)\(1-2\)](#) – Requirements for Equipment and Tools.

### 14.2 Silica – OSHA

The Crystalline Silica Standard applies to all exposures of respirable crystalline silica, except where exposure stays below the OSHA Action Level of 25 µg/m<sup>3</sup>; 8-hour time-weighted average.

It is important that Contractors follow [OSHA 1926.1153\(c\)\(1\), Table 1 – Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica](#).

- Permissible exposure limit (PEL): The employer must ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of 50 µg/m<sup>3</sup>, calculated as an eight-hour time weighted average (TWA).
- The Crystalline Silica Standard makes controlling silica dust the primary method to reduce employee exposure.
  - Rules about personal protective equipment (PPE) are included, but PPE would be a last resort to reduce exposure.
- The Action Level requires Employers to conduct periodic exposure monitoring for employees.
- Employees who are NOT exposed to this much silica are not covered by the standard.

## 14.2 Silica – OSHA, continued

- Employee exposures GREATER than the Action Level require the Employer to develop a Silica Exposure Control Plan.
  - The Plan includes the following:
    - Descriptions of the tasks and hazards involving exposure to respirable crystalline silica.
    - Engineering controls, work practices, and respiratory protection for each task.
    - Housekeeping measures used to limit exposure; e.g., no dry sweeping or compressed air, to ensure silica exposure is limited.
    - Procedures used to restrict access and protect employees from exposure when necessary to limit exposures.
  - A formal annual review of the Silica Exposure Control Plan is required.
- The proposed rule also includes:
  - Provisions for measuring how much silica workers are exposed to.
  - Limits on workers' access to areas where silica exposures are high.
  - Medical exams for workers with high silica exposure.
  - Training for workers on silica-related hazards and how to limit exposure.



Refer to [OSHA 1926.1153\(1-2\)](#) – Respirable Crystalline Silica.

## 14.3 Universal Waste

Standards for Universal Waste apply to the management of certain batteries, pesticides, thermostats, and other mercury-containing equipment, and lamps.

Refer to New York Codes, Rules and Regulations: [6 NYCRRR Part 374-3](#)

## 14.4 Asbestos

The Asbestos Control Program sets the local regulations governing asbestos.

Refer to the following:

- [NYC DEP Title 15 – Chapter 1](#): Asbestos Control Program – sets the local regulations governing asbestos.
- [12 NYCRR Part 56](#) (DOL ICR 56): Asbestos – sets the state regulations governing asbestos

## 14.5 Mold

Licensing of Mold Inspection, Assessment and Remediation Specialists, and Minimum Work Standards all list licensing and certification requirements for regulated mold remediation projects.

A Mold Assessor makes this determination, and prepares a mold remediation plan to be carried out by a licensed contractor (i.e., Mold Abater).



Refer to [NYSDOL Article 32](#)

## 14.6 Hazardous Materials

- Guidelines for dealing with hazardous materials must be strictly followed.
- Appropriate PPE is required for dealing with specific hazards.



Refer to [OSHA 1926.65](#) – Hazardous Waste Operations and Emergency Response.

## 14.7 Lead

- Standards set in the EPA's Residential Property Renovation guidelines must be followed for all renovations performed for compensation that may disturb lead-based paint in child-occupied facilities.
  - Refer to [EPA 40 CFR Subpart E](#).
- All appropriate EPA abatement activities must be followed when lead-based paint is detected during construction.
  - Refer to [EPA 440 CFR Subpart L](#).
- Standards outlined in the NYC Health Code – School-based Programs for Children Ages Three through Five must be followed. (Sets standards for school-based programs for 3-5 year olds for lead-based paint hazards and lead in soil.)
  - Refer to [NYC Health Code – Article 43](#).
- Standards outlined in the NYC Health Code – General Provisions Governing Schools and Children's Institutions must be followed. (Sets standards for kindergartens and lead-based paint hazards and lead in soil.)
  - Refer to [NYC Health Code – Article 45](#).
- Applicable standards outlined in the NYC Health Code – Hazardous Substances must be followed. (Sets standards for performance of work impacting lead based paint, including clearance requirements.)
  - Refer to [NYC Health Code – Article 173](#).
- Standards outlined in OSHA's Lead in Construction Standard must be followed.



Refer to [OSHA 1926.62](#) – Lead in Construction Standard.

## 14.8 Requirements for Cast in Place Concrete



Refer to [OSHA 1926.703 \(a\)\(1-2\)](#) – Requirements for Cast in Place Concrete.

### 14.8.1 General Requirements for Formwork

- To verify that they conform to the construction documents and form design drawings, formwork including shores, re-shores, braces, and other supports, must be inspected prior to placement of reinforcing steel.
  - Inspections must be performed by a qualified person designated by the Contractor.
  - Inspections must be performed periodically during the placement of concrete.
  - During and after concreting, the elevations, camber, and vertical alignment of the formwork systems must be inspected using tell-tale devices.
  - A record of all inspections must be kept at the site and be available to SCA Safety Inspectors.
  - The names of both the persons responsible for the inspections and the Foreman in charge of the formwork, must be posted in the field office.
- In addition to the inspections by the Contractor, visual observations of the formwork to assess the general conformance with the design intent must be performed by any the following personnel:
  - The Formwork Designer, or
  - An employee of the Formwork Designer under his/her direct supervision, or
  - A registered design professional retained by the Formwork Designer, or an employee of the retained registered design professional who is under his/her direct supervision.

#### 14.8.1 General Requirements for Formwork, continued

- If the individual performing the formwork observation pursuant to [NYC DOB Chapter 33 - Section 3305.3.3.2](#) discovers a discrepancy from the formwork design, the discrepancy must be immediately brought to the attention of the concrete contractor and the SCA Project Officer.
  - If the discrepancy affects site safety in any manner, the discrepancy must be immediately brought to the attention of the SCA Safety Inspector.
  - The Contractor is responsible for correcting the discrepancy.
  - Follow-up observations to confirm corrective action must be made by the Formwork Designer or his/her qualified designee.
- Horizontal formwork deck panels and beam formwork located within 16 feet from the building perimeter must be, at a minimum, positively attached to all formwork support systems.



Refer to [OSHA 1926.703 \(a\)\(1-2\)](#) – General Requirements for Formwork.

#### 14.8.2 Shoring and Re-shoring



Refer to [OSHA 1926.703 \(b\)\(1-10\)](#) – Shoring and Reshoring.

#### 14.9 Removal of Formwork

Precautions must be taken during form stripping and removal to prevent pieces of the form work from falling onto work or public areas below.

- Debris generated as a result of stripping operations must be immediately contained and removed at reasonable intervals.
- Stripping operations on concrete structures must not be performed more than three (3) stories below the story being formed.



Refer to [OSHA 1926.703 \(1-2\)](#) – Removal of Formwork.

#### 14.10 Requirements for Masonry Construction



Refer to [OSHA 1926.706 \(a-b\)](#) – Requirements for Masonry Construction.

### 14.11 Concrete Safety Manager

- A concrete safety manager must be designated by the Concrete Contractor when the portion of the project involves the pouring of a minimum of 2,000 cubic yards of concrete.

### 14.12 Concrete Washout Water

All concrete washing operations must conform to the following requirements:

- Concrete washout water must not be allowed to enter any sewer, catch basin, drain, or body of water.
- Concrete washout water must not be allowed to leach into the ground.
- All concrete washout water must be collected and contained in or on the concrete mixer truck or in pre-manufactured watertight containers specifically designed and fabricated for the purpose of collecting and containing concrete washout water.
  - Containers must be of sufficient quantity and size to accommodate all rinsing operations on-site.
  - Containers must be protected from breach or overflow at all times.
- Rinsing operations and concrete washout water containers must not be located less than 30 feet from any sewer, drain, catch basin, or body of water.
- Collected concrete washout water must be transported off site for treatment and disposal or contained on site until completely evaporated.
  - Any hardened concrete remaining after the evaporation must be disposed of, reused, or recycled.



# STEEL ERECTION

This Chapter details the requirements necessary to protect employees from the hazards associated with steel erection activities involved in the construction, alteration, and/or repair of single and multi-story buildings, bridges, and other structures where steel erection occurs.

- The requirements apply to Employers engaged in steel erection, unless otherwise specified.



Electrical transmission towers, communication and broadcast towers or tanks are not covered in this Chapter.

## 15.1 Scope



Refer to [OSHA 1926.750](#) – Scope.

## 15.2 Approval to Begin Steel Erection



Refer to [OSHA 1926.752\(a\) – \(a\)\(2\)](#) – Approval to Begin Steel Erection.

## 15.3 Commencement of Steel Erection



Refer to [OSHA 1926.752\(b\)](#) – Commencement of Steel Erection.

### 15.3.1 Site Layout



Refer to [OSHA 1926.752\(c\) – \(c\)\(2\)](#) – Site Layout.

### 15.3.2 Pre-planning of Overhead hoisting Operations

- All hoisting operations in steel erection must be pre-planned to ensure that the requirements of section [15.4.1 Working under Loads](#) are met.

### 15.3.3 Site-specific Erection Plan

- If Employers elect to develop alternate means and methods that provide employee protection due to conditions specific to the site, a site-specific erection plan must be developed by a qualified person in accordance with section [15.4 Hoisting and Rigging](#), section [15.8 Open Web Steel Joists](#), or section [15.10 Landing and Placing Loads](#).
  - Guidelines for establishing a site-specific erection plan are contained in [OSHA 1926, Subpart R, Appendix A](#).
  - The site-specific erection plan must be available at the work site and available for review.

## 15.4 Hoisting and Rigging

- All rigging operations must be conducted in a manner consistent with:
  - All New York City Department of Buildings Codes, Rules & Regulations.
  - All OSHA standards.
- No unauthorized persons must be within the immediate lifting areas.

### 15.4.1 Working under Loads



Refer to [OSHA 1926.753\(d\) – \(d\)\(2\)\(iii\)](#) – Working Under Loads.

### 15.4.2 Multiple Lift Rigging

Multiple lift rigging is NOT permitted to take place on SCA Projects.

## 15.5 Structural Steel Assembly

Structural stability must be maintained at all times during the erection process.

### 15.5.1 Multi-story Requirements



Refer to [OSHA 1926.754\(b\) – \(b\)\(3\)](#) – Multi-story Requirements.

## 15.5.2 Walking/Working Surfaces – Shear Connector and Other Similar Devices

### Tripping Hazards



Refer to [OSHA 1926.754\(c\)\(1\)](#) – Tripping Hazards.

### Installation of Shear Connectors on Composite Floors, Roofs, and Bridge Decks



Refer to [OSHA 1926.754\(d\) – \(d\)\(3\)](#) – Installation of Shear Connectors on Composite Floors, Roofs, and Bridge Decks.

## 15.5.3 Plumbing-up



Refer to [OSHA 1926.754\(d\) – \(d\)\(3\)](#) – Plumbing-up.

## 15.5.4 Metal Decking: Hoisting, Landing, and Placing Metal Decking Bundles



Refer to [OSHA 1926.754\(e\)\(1\) – \(e\)\(1\)\(v\)](#) – Metal Decking: Hoisting, Landing and Placing Metal Decking Bundles.

## 15.5.5 Roof, Floor Holes, and Openings



Refer to [OSHA 1926.754\(e\)\(2\) – \(e\)\(2\)\(iii\)](#) – Roof, Floor Holes, and Openings.

## 15.5.6 Covering Roof and Floor Openings



Refer to [OSHA 1926.754\(e\)\(3\) – \(e\)\(3\)\(iv\)](#) – Covering Roof and Floor Openings.

#### 15.5.7 Decking Gaps Around Columns



Refer to [OSHA 1926.754\(e\)\(4\)](#) – Decking Gaps Around Columns.

#### 15.5.8 Installation of Metal Decking



Refer to [OSHA 1926.754\(e\)\(5\) – \(e\)\(5\)\(ii\)](#) – Installation of Metal Decking.

#### 15.5.9 Derrick Floors



Refer to [OSHA 1926.754\(e\)\(6\) – \(e\)\(6\)\(ii\)](#) – Derrick Floors.

### 15.6 Column Anchorage

#### 15.6.1 General Requirements for Erection Stability



Refer to [OSHA 1926.755\(a\) – \(a\)\(4\)](#) – General Requirements for Erection Stability.

#### 15.6.2 Repair, Replacement, or Field Modification of Anchor Rods



Refer to [OSHA 1926.755\(b\) – \(b\)\(2\)](#) – Repair, Replacement, or Field Modification of Anchor Rods.

### 15.7 Beams and Columns

#### 15.7.1 General Requirements for Erection Stability



Refer to [OSHA 1926.756\(a\) - \(a\)\(2\)](#) – General Requirements for Erection Stability.

### 15.7.2 Diagonal Bracing



Refer to [OSHA 1926.756\(b\)](#) – Diagonal Bracing.

### 15.7.3 Double Connections at Columns or at Beam Webs Over a Column



Refer to [OSHA 1926.756\(c\)\(1\) – \(c\)\(2\)](#) – Double Connections at Columns or t Beam Webs Over a Column.

### 15.7.4 Column Splices



Refer to [OSHA 1926.756\(d\)](#) – Column Splices.

### 15.7.5 Perimeter Columns



Refer to the following:

- [OSHA 1926.756\(e\) – \(e\)\(2\)](#) – Perimeter Columns.
- [OSHA 1926 Subpart R Appendix F](#) – Perimeter Columns: Non-Mandatory Guidelines for Complying with § 1926.756(e) To Protect the Unprotected Side or Edge of a Walking/Working Surface.

## 15.8 Open Web Steel Joists

### 15.8.1 General Requirements for Erection Stability



Refer to [OSHA 1926.757\(a\) – \(a\)\(7\)](#) – General Requirements for Erection Stability.

### 15.8.2 Field Bolted Joists



Refer to [OSHA 1926.757\(a\)\(8\) – \(a\)\(10\)](#) – Field Bolted Joists.

### 15.9 Attachment of Steel Joists and Steel Joist Girders



Refer to [OSHA 1926.757\(b\) – \(b\)\(4\)](#) – Attachment of Steel Joists and Steel Joist Girders.

### 15.10 Landing and Placing Loads



Refer to [OSHA 1926.757\(e\) - \(e\)\(5\)](#) – Landing and Placing Loads.

### 15.11 Systems Engineered Metal Buildings



Refer to [OSHA 1926.758](#) – Systems Engineered Metal Buildings.

### 15.12 Falling Object Protection



Refer to [OSHA 1926.759](#) – Falling Object Protection.

#### 15.12.1 Securing Loose Items Aloft



Refer to [OSHA 1926.759](#) – Securing Loose Items Aloft.

## 15.12.2 Fall Protection

### General Requirements



Refer to [OSHA 1926.760\(a\)-\(a\)\(1\) and 1926.760\(a\)\(3\)](#) – General Requirements.

### Connectors



Refer to [OSHA 1926.760\(b\) - \(b\)\(3\)](#) – Connectors.

## 15.12.2 Fall Protection, continued

### Controlled Decking Zone (CDZ)



Refer to [OSHA 1926.760\(c\) - \(c\)\(7\)](#) – Controlled Decking Zone (CDZ).

### Criteria for Fall Protection Equipment



Refer to [OSHA 1926 Subpart R Appendix G - 1926.502 \(b\)-\(e\)](#) – Criteria for Fall Protection Equipment.

## 15.12.2 Fall Protection, continued

### Custody of Fall Protection



Refer to [OSHA 1926.760\(e\) - \(e\)\(2\)](#) – Custody of Fall Protection.

# DEMOLITION

## SCA Demolition Requirements

- Proper permits must be obtained prior to the commencement of any demolition activities
  - Permits are obtained from the New York City Department of Buildings (DOB) for the type of demolition to take place; i.e., hand or mechanical.
  - Permits must be readily available on site for review.
- Proper sidewalk bridges must be in place, as necessary, on all demolition projects as indicated by the Approved Site Safety Plan.
- Demolition on any portion of an occupied school premise must take place after school hours, including, but not limited to, after school programs and scheduled activities.
- Protection of adjacent structures, property, and sidewalks must be accomplished prior to commencement of demolition activities.
- Proper personal protective equipment (PPE) must be worn throughout demolition process.
  - PPE includes, but not limited to hard hats, work boots, safety glasses, and fall protection.
- If dust presents a health hazard, environmental hazard, or damage to property, dust control must be implemented to eliminate the hazards/damage.
- Entry points and gate openings must be closed and secured during all demolition activities.
- Demolition debris must not remain on any portion of a roof top or sidewalk bridge structure.
  - Rooftops and sidewalk bridge structures must be cleaned daily.
- Where applicable, a plan approved by the NYC DOB Demolition must be maintained on site at all times.
- A pre-demolition survey by a NYS Licensed Professional Engineer (PE) must be conducted for roofs or floors occupied by workers before or during demolition. (Including abatement contractors performing pre demolition work.)
- A Fall Protection Plan for open roofs or floors must be developed.
  - Systems such as static lines, or fall protection systems utilizing part of the structure to be demolished, must be developed by a NYS Licensed PE.



## CHAPTER 16 DEMOLITION, continued

- To detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material during demolition, a competent person must conduct continuing inspections as the work progresses.
  - These inspections must be documented.
  - Employees are not permitted to work in a location where hazards exist until the hazards are corrected by shoring, bracing, or other effective means.



Refer to section [14.2 Silica – OSHA](#)



Refer to [OSHA 1926.1153\(a\)](#) – Scope and Application

### 16.1 Torch use or Cutting

- If torches or other open flame devices are used to cut steel, rebar, or other material, proper hot work procedures must be followed as indicated in [CHAPTER 5 FIRE PREVENTION AND PROTECTION, Hot Work](#), and applicable FDNY regulations.
- Prior to use of open flame devices, a Hot Work Meeting must be arranged by the SCA Project Officer and the Safety Division.
  - The Hot Work Meeting may be held independently, or as part of a Pre-demolition meeting.



Refer to **OSHA Subpart T – Demolition** sections as follows:

- [OSHA 1926.850](#) - Preparatory Operations.
- [OSHA 1926.851](#) - Stairs, Passageways, and Ladders.
- [OSHA 1926.852](#) – Chutes.
- [OSHA 1926.853](#) - Removal of Materials through Floor Openings.
- [OSHA 1926.854](#) - Removal of Walls, Masonry Sections, and Chimneys.
- [OSHA 1926.855](#) - Manual Removal of Floors.
- [OSHA 1926.856](#) - Removal of Walls, Floors, and Material with Equipment.
- [OSHA 1926.857](#) – Storage.
- [OSHA 1926.858](#) - Removal of Steel Construction.
- [OSHA 1926.859](#) - Mechanical Demolition.
- [OSHA 1926.860](#) - Selective Demolition by Explosives.

# STAIRWAY AND LADDER REQUIREMENTS

## SCA Stairways and Ladders Requirements

- Prior to beginning work, the Subcontractor/competent person or Superintendent (for self-perform work) must evaluate all tasks that require individuals to work at elevated heights.
  - It is the expectation that the tasks are performed using methods other than using a ladder.
  - The use of lifts and portable scaffold devices must be the preferred method to perform this type of work.
- Ladder use on SCA projects are allowed only after it has been determined that to use all other options to complete the task is not feasible.
- No Metal/Aluminum ladders may be used on SCA projects.
- If ladders must be used, the following requirements apply:
  - Either the General Contractor (for self-perform work) or the Subcontractor must conduct a Pre-task Plan meeting.
    - The Pre-task Plan meeting must include a discussion with workers to include:
      - The day's expected activities and tasks to be performed on the ladder.
      - Potential hazards or specific safety concerns in using the ladder.
      - Actions taken to eliminate or reduce the hazard; (e.g. engineering controls, administrative controls, personal protective equipment, etc.).
    - The Pre-task Plan meeting must be documented in the form of a Job Hazard Analysis and signed by all those in attendance.
  - The Subcontractor must complete the [Construction Ladder Use Permit](#) and have it reviewed and approved by the Project Superintendent.
  - Workers must maintain three (3) points of contact at all times when working from a ladder.
  - 100% fall protection devices must be worn when working at a height greater than six (6) feet.
  - A Ladder Safety Inspection must be conducted and documented for each ladder prior to starting work each shift.
- Platform ladders must be the ladder of choice on SCA projects.
- Prior to using a ladder, the Project Superintendent must review and approve the Job Hazard Analysis, Pre-task Plan, and Ladder Use Permit.
- Ladders must be inspected daily, before each work shift.
- Ladder inspections must be documented on an inspection tag affixed to the ladder.
- Stilts are prohibited on SCA projects.

## CHAPTER 17 STAIRWAY AND LADDER REQUIREMENTS, continued

### SCA Stairways and Ladders Requirements, continued

- The daily inspection verifies the following:
  - A frame ladders must not be used while closed.
  - The top two (2) steps of the A frame ladder are not to be used.
  - The surface on which a ladder is to be set must be free of obstruction and slip hazards.
  - Ladders are not to be used on scaffolds to increase the working level height of employees.
  - Defective ladders are to be removed from service and tagged **DO NOT USE**.
- When Working in an occupied school:
  - No school furniture such as chairs and desks may be used to gain access to a higher level when working in an occupied school.
    - The Contractor must supply ladders for the type of work they are conducting.
    - Buckets are not permitted to be used to gain access to a higher level.
  - Ladders must be properly stored or removed at the end of each work shift and prior to the start of any and all school sessions.
  - Ladders are not to be left in areas that are accessible to school occupants and/or the public.
- Unstable objects must not be used as a base support for ladders or stair treads, nor must they be used to form stair treads.
- Stairways are to remain unobstructed and free of slip, trip, and fall hazards.



Refer to [OSHA 1926.1050 Subpart X](#) – Stairways and Ladders

# CONFINED SPACE

## SCA Confined Space Entry Requirements

- The Contractor/Subcontractor must provide a written Site-Specific Confined Space Entry Work Plan to the SCA Safety Inspector for Confined Space and Permit Required Confined Space.
  - The Work Plan and permit(s) must be kept on-site.
- All persons involved in working in confined spaces must be trained in and documentation of current training must be provided on-site as required by OSHA 1926 Subpart AA.
- Prior to working in confined spaces, the General Contractor must set up a Confined Space Meeting with the SCA Safety Inspector. Meeting attendees must be the General Contractor's Competent Site Supervisor, the General Contractor's Designated Safety Representative, and all persons involved in the confined space work.
- A designated competent entry Supervisor must be on-site at all times while permit-required confined space work is being conducted as required by OSHA.



Refer to [OSHA 1926 Subpart AA](#) – Confined Spaces in Construction.

## 18.1 Designated Competent Entry Supervisor Responsibility

- A designated Competent Entry Supervisor is responsible for the area permit-required) where the confined space is located, and for the implementation of safety procedures as required by OSHA.
  - It is the responsibility of the Competent Entry Supervisor to understand all the stipulations necessary to successfully meet all of the requirements of confined spaces set forth by OSHA, NYC DOB, SCA, and the location of the confined space.
  - It is the responsibility of the Competent Entry Supervisor to keep the people involved in the confined space work free from any recognized hazard.



Refer to [OSHA 1926.1210](#) – Duties of Entry Supervisors.

## 18.2 Testing and Monitoring Permit-required Confined Spaces

- Testing and monitoring must be performed in order to evaluate the conditions within the space where entry is to be made.
- Continuous monitoring is required of the duration of the entry or until the permit is canceled.



Refer to:

- [OSHA 1926.1204\(e\)\(1-2\)](#) – Confined Spaces in Construction.
- [OSHA 1926.1203](#) – General Requirements for Confined Spaces in Construction.

## 18.3 Post Entry Review

- The Contractor's Safety Department will immediately facilitate a review of specific entry operations under the following circumstances:
  - Unauthorized entry.
  - Detection of hazards not addressed on a permit.
  - Complaints of the effectiveness of entry procedures.
- Subsequent entries will not be authorized until the review is completed with all necessary revisions made.



Refer to: **OSHA 1926 Subpart AA – Confined Spaces in Construction** sections as follows:

- [OSHA 1926.1201](#) - Scope.
- [OSHA 1926.1203](#) - General Requirements.
- [OSHA 1926.1204](#) - Permit-Required Confined Space Program.
- [OSHA 1926.1205](#) - Permitting Process.
- [OSHA 1926.1206](#) - Entry Permit.
- [OSHA 1926.1207](#) – Training.
- [OSHA 1926.1208](#) - Duties of Authorized Entrants.
- [OSHA 1926.1209](#) - Duties of Attendants.
- [OSHA 1926.1210](#) - Duties of Entry Supervisors.
- [OSHA 1926.1211](#) - Rescue and Emergency Services.
- [OSHA 1926.1212](#) - Employee Participation.
- [OSHA 1926.1213](#) - Provision of Documents to Secretary.
- [OSHA Defined Permit Required Confirmed Spaces.](#)

# CRANES, DERRICKS, ELEVATORS AND HOISTS

A minimum of 48-hours' written notification must be given (via e-mail or fax) to the SCA Safety Director and/or the SCA Managing Inspector under the following circumstances:

- A crane is brought onto a jobsite and/or is to be assembled.
- An assist crane is used or professionally engineered.
- A crane requires the assistance of a master rigger.

To provide the notifications, a completed Notification of Crane (NOC) Form is sent to [noc@nycsca.org](mailto:noc@nycsca.org).



Notification to the SCA Safety Division for the use of a crane via the NOC Form does not satisfy, supersede, or replace the crane notification requirements set by the NYC Department of Buildings Cranes and Derricks Division.

- [DOB Crane Notification Web Form Information](#)
- [DOB Crane Notification Form](#)

## 19.1 Crane Requirements



Specific crane requirements as mandated by the NYC Department of Buildings Cranes and Derricks Division can be found at the [DOB C&D homepage](#).

The following must be considered when filing the NOC:

- The PE must meet with the SCA Safety Inspector onsite for the placement of a crane inspection.
  - Any unsafe or hazardous conditions must be brought to the attention of the SCA Safety Inspector.
- The Professional Engineer (PE) must provide a Survey Letter for the placement of a crane.
  - A PE Survey Letter for placement of a crane possessing a CD2 permit must be obtained by the Contractor for all crane placements when a DOB filing is not required (Master Rigger supervised crane operations where the effective boom length is less than 250 feet) or limited use permit (On-site waiver).
  - The PE Survey Letter may be waived if the following have been filed with NYC DOB Cranes and Derricks:
    - A CD4 Form along with CD8 Forms.
    - Master Rigger crane filings for combined boom/jib lengths exceeding 250 feet.

## 19.1 Crane Requirements, continued

- An after-hours Work Variance is required from the NYC DOB Cranes and Derricks when a crane is operating beyond 6:00 P.M. during weekdays, and at all times when the crane is operating on Weekends and holidays and is placed on the street or adjoining property.
  - If a crane is within the property lines of the construction site, a regular after-hours work permit from the NYC DOB is required.
  - The Work Variance must be for work involving a crane (e.g., a weekend permit for masonry work cannot be used for lifting a ventilation unit.)



### [DOB Procedures to Obtain After-hours Permits for Cranes and Derricks](#)

- A valid CD2 permit registered with the NYC DOB Cranes and Derricks is required.
- DOT permits for machinery on a street or public sidewalk is required.
- A Transit Approval Letter must be received from any authority when the crane is located above or within a reasonable distance from a subway tunnel, vault, or other underground transit culvert.
- A valid crane operator's license (HMO-Hoisting Machine Operator) is required as per the NYC DOB, Cranes and Derricks Division and NYC DOB Licensing Division.
- A [Pre-lift Inspection Checklist](#) form must be completed by the Lift Director prior to crane usage.
  - The [Sample Mobile Crane/Lifting Activities](#) checklist can be used to ensure all standards have been addressed.
- Cranes used in new building construction or major alterations must have the following:
  - A CN filed with the NYC DOB.
  - An approved CD-4 along with a signed/sealed 10E/10F form.
  - Prior to the crane lift operation, the Professional Engineer or the Professional Engineer's designated representative, must meet with the SCA Safety Inspector on site for the signing of the 10E.
- The Professional Engineer or his/her designated representative must inspect the crane in the presence of the SCA Safety Inspector and communicate any hazardous or unsafe conditions noted in the inspection.
- The Professional Engineer or his/her designated representative must ensure the following:
  - The crane meets all applicable NYC Department of Buildings codes.
  - All items inspected conform to the crane's plans produced by the PE.
  - No hazardous conditions exist within the scope of the inspection.

## 19.1 Crane Requirements, continued

- If any hazardous conditions are found, the corrections must be made prior to the start of the crane operations. The correction of hazardous conditions must be to the satisfaction of the Professional Engineer or his/her designated representative.
- The SCA Safety Division must be notified if an assist crane is to be utilized.
- The SCA Safety Division must be notified when the assembly/disassembly of a crane or derrick is taking place.



### [DOB Cranes and Derricks Industry Notice](#)

- A copy of licenses for responsible onsite personnel must be kept available. Responsible onsite personnel includes the following:
  - Rigging Supervisor.
  - Lift Director.
  - Hoisting Machine Operator.
  - Assembly/Disassembly Director and/or person supervising hoisting operations.
- All SCA projects must have a designated Lift Director.



### [NYC Rules for Lift Director](#)



## 19.2 Crane Inspections

All cranes and derricks operating on SCA project sites must be inspected and in full compliance with all NYC DOB and OSHA inspection requirements.

- Inspections must be performed by a competent person and include, but not be limited to, the following inspections:
  - Frequent inspection (Pre-shift).
  - Parking/securing inspection.
  - Periodic inspection.
  - Cranes and derricks not in regular use.
  - Inspections for a certificate of on-site inspection.
  - Special Inspections as mandated by the NYC Building Code including CD8, CD8-TR, and CD8-AD.



Annual renewal of the Certificate of Operation is part of the inspection process as well.



[On-site Inspection Application.](#)

- Copies of all inspection reports must be readily available upon request for all cranes located on SCA construction sites.
- The NYC DOB Cranes and Derricks has specific Crane and Derrick Log Requirements that must be strictly adhered to as well.



[Crane and Derrick Log Requirements.](#)

- Any defects revealed by an inspection must be corrected immediately.
  - If a deficiency is found at the start of the shift, the device must not be used until repairs are made.
  - If the deficiency is found after operations have commenced, the device must be taken out of service at the first possible moment without compromising safety.
  - Once the repair is made, an inspection must be performed by a competent person.
  - Inspection results must be documented, remain on site, and be readily available.
  - If the detected defect constitutes a safety hazard, the Safety Division must be immediately notified of the situation, of the corrective action being taken, and of the successful re-inspection after repair.

## 19.2 Crane Inspections, continued

- If service or repairs have been performed on any of the lifting parts/structural components of the crane within the last three (3) months, a documented re-inspection by a qualified person must be maintained by the crane owner and be made available to the SCA Safety Division upon request.

## 19.3 Crane Restrictions

- NYCSCA does not permit the use of a crane or derrick with a suspended personal platform.
- The hoisting of personnel with a crane or derrick is prohibited.
  - This includes but is not limited to personnel riding on structural steel members, formwork, loading platforms, or building cocoon systems that are attached to the load line of a crane or derrick.



### [Prohibiting the Use of a Crane or Derrick to Hoist Personnel.](#)

- No crane or derrick operator may start an operation if the wind speed either exceeds 30 mph (three-second wind gust) or is predicted to reach 30mph before the operation can be completed.
  - Cranes or derricks must not be operated when the wind speed exceeds 30 mph, or when the wind speed exceeds the threshold specified by the crane/derrick manufacturer, whichever is lower.
- Cranes must not be operated in severe weather; e.g., thunderstorms, fog, snow, icy conditions, etc.
- Loads must not be hoisted or swung over any occupied building, pedestrian pathway, vehicular traffic, occupied school parking lots, school play yards, or arterial means of travel.
- No crane may be erected on or near unstable soils, slopes, retaining walls, excavations, sheeting/shoring/bracing, manholes, tunnels, underground vaults, or voids without proper paperwork submitted by a Professional Engineer (PE) to the NYC Department of Buildings (DOB), Cranes and Derricks Division.
  - Other applicable agencies (i.e., NYC MTA, LIRR, National Grid, DEP, Con Edison) may also have to be consulted.
  - Proof of receipt by all agencies contacted, as well as any pending approval, is necessary prior to lifting on an SCA project.

## 19.4 Crane Filing

A Notification of Crane (NOC) form must be submitted a minimum of 48 Hours (two business days) prior to the crane arriving onsite.

The following documentation must be made available onsite for review by the SCA Safety Inspector:



Verification of the documents is the responsibility of the SCA Project Officer.

- A current and valid CD2 permit for all cranes, as defined by NYC DOB.
- Current, stamped approved Crane Notice – CN Application (CD-4), On-site Waiver (CD-25), or Request for Inspection Master Rigger Application (CD-21).
- Approved plans showing crane placement locations.
- A valid crane operator license issued by the NYC DOB.
- All current inspection records.
- Completed, signed, and sealed CD8 Forms, including CD8-TR and CD9-AD, if applicable.
- Copies of licenses for responsible onsite personnel. Onsite personnel include the following:
  - Lift Director
  - Master Rigger.
  - Designated Foreman and/or Site Safety Representative.
  - Copy of CD12 Form, if applicable.
- Evacuation letter from adjacent properties, if applicable.
- NYC DOB-approved after hour's variance specifying use of crane.



Refer to the following:

- [Crane Notice - CN](#)
- [Crane Notice Checklist](#)
- [Cranes and Derricks – Forms](#)
- [Safeguards During Construction or Demolition: Cranes and Derricks](#)



Additional resources for Crane and Derrick Information:

- NYC Department of Building, Cranes and Derricks Division: 212-566-4696.
- Occupational Safety and Health Administration (OSHA): 212-337-2378.

## 19.5 Rigging Requirements

All crane usage must be supervised by a licensed Rigger or his/her assignee when the following guidelines are met:

- If the total weight of any one (1) load on the crane's hook is 2000 lbs. or more.
  - A Master Rigger, recognized by the NYC DOB Cranes and Derricks Unit, must be present.
  - The Master Rigger may elect to assign a certified Rigging Foreman working directly under his/ her supervision.
    - All Rigging Foreman must have proof of certification.
- If the total weight of any one (1) load on the crane's hook weighs less than 2000 lbs.
  - A Special Rigger, recognized by the NYC DOB Cranes and Derricks Unit must be present.
  - The Special Rigger may elect to assign a certified Rigging Foreman working directly under his/her supervision.
    - All Rigging Foreman must have proof of certification.



The Master Rigger may also oversee any of the above-referenced scenarios.

- Critical picks, as defined by NYC DOB/OSHA, must be overseen by a NYC Licensed Master Rigger only.
- All personnel involved in the movement, rigging, or control of any load, must be trained in the task, and employed by the rigging company, crane owner, or other related company.



No unauthorized persons may be within the immediate lifting areas.

- The licensed Rigger or his/her assignee must notify the General Contractor's Competent Site Supervisor, the General Contractor's Safety Representative, the Foreman, the SCA Project Officer, and the SCA Safety Inspector of any noticed violation.
- If a violation is noted, all rigging operations must stop immediately and corrective action taken by the responsible party.
  - If the violation is not corrected, the NYC DOB must be notified.

## **19.5 Rigging Requirements, continued**

- Prior to the start of every shift, the Lift Director must conduct a meeting with the following personnel:
  - Hoisting Machine Operator.
  - Rigging Supervisor.
  - Signal Persons.
  - Members of the rigging crew.

The Lift Manager reviews the following:

- The day's planned operations.
- Roles of personnel.
- Objects to be lifted/lowered, including a review of their weights, lifting points, and any special considerations.
- Rigging and equipment to be used, including inspection of the equipment.
- If using synthetic slings, softening mechanisms, including an inspection of the items.
- Site conditions.
- Pick and landing zones.
- Fall, crush, electric and other hazards.
- Pedestrian and traffic control.
- Permit validity.
- Wind speed threshold for the crane.
- Procedure and sequence to park and secure the crane in accordance with the wind action plan should the wind speed be exceeded.

## 19.6 Operating Cranes Near Power Lines

- Cranes and derricks may NOT be operated if any part of the machine (or its load) comes within 15 feet of an energized power line.
  - If a crane or derrick will be operating in locations where the clearance is less than 15 feet; special permission must be obtained.
    - A written statement by Con Edison Engineering Division must be provided describing the appropriate protective measures implemented by Con Edison personnel.
    - The written statement must be in the possession of the appointed person responsible for the operation.
    - The written statement must be made available for inspection by the SCA Safety Inspector.
- Before the commencement of operations near electrical lines, the appointed person responsible for the operation must notify the owners of the lines, or their authorized representatives, provide them with all pertinent information, and request their cooperation.
- Any overhead wire must be considered to be an energized line unless and until:
  - The person owning the line or the electrical utility authorities certifies that it is not an energized line.
- Grounding: Each crane, which may be operated in the vicinity of a live power line, must be effectively grounded.
- A person must be designated to observe clearance of the equipment and give timely warnings for all operations where it is difficult for the operator to maintain the desired clearance by visual means.

## 19.7 Knuckle Boom and Articulated Boom

Knuckle booms and articulated booms must not be used for construction on any SCA project. The use of these hoisting and lifting devices is strictly for the delivery of material. All Safe Lifting practices must be strictly followed.

## 19.8 Mini Cranes

The use of mini cranes on SCA projects is strictly prohibited.

Special approval to use these devices may be granted on a case-by-case basis.



[Regulatory Requirements for Use of Mini Cranes.](#)

## 19.9 Derricks

All derricks in use must meet the applicable requirements for design, construction, installation, inspection, testing, maintenance and operation as prescribed in [American National Standards Institute \[ANSI\] B30.6-1969, Safety Code for Derricks](#).

## 19.10 Material Hoists, Personnel Hoists, and Elevators

### 19.10.1 General Requirements

The Employer (Contractor, Subcontractor and/or all employees) must comply with the manufacturer's specifications and limitations applicable to the operation of all hoists and elevators.

If manufacturer's specifications are not available, the limitations assigned to the equipment must be based on the determinations of a professional engineer competent in the field.

- Rated load capacities, recommended operating speeds, and special hazard warnings or instructions must be posted on cars and platforms.
- Wire rope must be removed from service when the following conditions exist:
  - In hoisting ropes, six (6) randomly distributed broken wires in one rope lay, or three (3) broken wires in one strand in one rope lay.
  - Abrasion, scrubbing, flattening, or penning, causing loss of more than one-third of the original diameter of the outside wires.
  - Evidence of heat damage resulting from a torch, or damage caused by contact with electrical wires.
  - Reduction from nominal diameter:
    - More than three (3) sixty-fourths of an inch for diameters up to and including three-fourths of an inch.
    - One (1) sixteenth of an inch for diameters seven-eighths to one (1) and one-eighth inches.
    - Three (3) thirty-seconds of an inch for diameters one (1) and one-quarter to one (1) and one-half inches.
- Hoisting ropes must be installed in accordance with the wire rope manufacturers' recommendations.
- The installation of live booms on hoists is prohibited.
- Temporary work platforms installed inside elevator shafts must be designed by a New York State licensed Professional Engineer
- The use of endless belt-type man-lifts on construction is prohibited.
- Material hoisting equipment must be maintained in good repair and proper operating condition with sufficient inspections to ensure such maintenance at all times.
  - All defects affecting safety must be immediately corrected by either necessary repairs or replacement of parts, or immediately removed from the job site.
- Only trained, designated persons may operate hoisting equipment, and hoisting equipment must be operated in a safe manner at all times.

### 19.10.1 General Requirements, continued

- Operators of material hoisting equipment must remain at the controls while a load is suspended.
  - Material hoisting equipment must not be loaded in excess of the live load for which it was designed as specified by the manufacturer.
  - Where there is a hazard to persons, all loads must be properly trimmed to prevent dislodgment of portions of the loads during transit.
  - Suspended loads must be securely slung and properly balanced before they are set in motion.
- The owner, or person directly in charge of any hoisting equipment, must immediately notify the Commissioner following any accident involving hoisting equipment.
  - Following an incident, no person may permit the following, without the permission of the Commissioner of the equipment:
    - The use of the hoisting equipment.
    - Removal of the hoisting equipment, or any part of it, from the area of the job site.

### Temporary Elevator or Hoist

- The maximum distance between the highest accessible floor from a temporary elevator or hoist and the working deck of the building under construction or demolition must be no more than **75 feet** (13 716 mm) or 7 floors.
  - In concrete construction, the working deck is the floor being formed.
  - In steel construction, the working deck is the floor where the metal decking and steel components are being placed before concrete is poured.
  - If the travel of the hoist cannot be increased due to inclement weather, it must be increased by the end of the next working day



Refer to [OSHA 1926.1417](#) – Operation.



### 19.10.2 Operators and Signalpersons

- Material hoists must be operated only in response to a signal system.
  - All Operators and Signalpersons must be able to comprehend the signals readily, and execute them properly.
- If an overhead hazard exists, the Operator of a hoisting machine must be provided with overhead protection equivalent to tight planking, not less than two (2) inches thick which is supported to develop its full strength.
- The area or space occupied by the hoisting machine and its operator must be protected from the elements.
  - The area must be heated in cold weather to a temperature of at least 60 degrees Fahrenheit at times when the area is occupied.
- Loads having a tendency to swing or turn freely during hoisting must be controlled by tag lines.
- Riding on loads, buckets, slings, balls or hooks, or material hoisting equipment is prohibited.
- The Signalperson must receive required training as required by OSHA and the NYC DOB.
  - The signalperson must provide certification of training.

### 19.10.3 Hoisting Machines

#### **Hoist Brakes**

- Hoist brakes, capable of stopping and holding 150 percent of the rated capacity of the hoist, must be provided for every material hoist.
  - Each manually-operated material hoist must be equipped with an effective pawl and ratchet capable of holding the rated load capacity when the load is suspended.
  - Each electric motor-driven material hoist must be provided with a mechanical automatic motor brake, or an electrical or mechanical device that will stop and hold 150 percent of the rated capacity of the hoist automatically in case of power failure.

#### **Hoisting Machine Anchorage**

- Hoisting machines must be constructed, installed, and secured in place to prevent tipping or dislodgment.
- No repairing, cleaning, or lubricating of machinery may be done unless the machinery is at rest.

#### 19.10.4 Rigging, Rope, and Chains for Material Hoists

All hoisting materials must be inspected prior to use.

##### Hoisting Ropes

- Only wire rope of the improved plow steel classification or equivalent and having a safety factor of not less than six (6) may be used with power-driven hoisting machinery.
  - Exception: Winch heads or capstan hoists where fiber rope may be used.
  - The ends of wire rope must be securely attached to the hoist drums and at least four (4) turns of rope must remain on each drum at all times.
- Fiber rope must be first-grade Manila hemp or synthetic fiber.
  - A means to prevent chafing must be provided where necessary.
  - Properly sized blocks to accommodate the rope must be used.
  - Fiber rope must be protected if acid or any other harmful or corrosive agent or chemical is used.
  - All fiber rope must be stored in a dry condition and in a dry place protected from the elements.
  - Fiber rope that is unsound in any way, or that shows the effects of severe wear, deterioration, or abrasion must not be used and must be removed from the job site.
  - Frozen rope must be thawed before being used.
- The ends of wire rope must be securely attached to the hoist drums and at least four turns of rope must remain on each drum at all times.
- Means must be provided to prevent accidental contact with or damage to any hoisting rope; e.g., substantial covering, fencing, or guarding by location.
  - A softening mechanism must be used to prevent damage due to sharp edges.
- The spacing between clips must be at least six (6) times the diameter of the rope.
- The U-bolts of clips must be placed over the short ends of the ropes.

#### 19.10.4 Rigging, Rope, and Chains for Material Hoists, continued

##### Hoisting Ropes, continued

- If clips are used as fastenings, the number used must be in accordance with standards set by the NYS Department of Labor. Refer to [Table 5: Rope Clip Requirements](#).

TABLE 5: ROPE CLIP REQUIREMENTS (NYS DEPT. OF LABOR STANDARDS)

TABLE XVI	
ROPE CLIP REQUIREMENTS	
Rope diameter	Minimum number of clips
Up to and including 7/16 inch .....	2
Up to and including 5/8 inch .....	3
Up to and including 1 inch .....	4
Up to and including 1 1/4 inches .....	5
Up to and including 1 5/8 inches .....	6
Up to and including 1 3/4 inches .....	7
Up to and including 2 1/2 inches .....	8
Up to and including 3 inches .....	9

#### **19.10.4 Rigging, Rope, and Chains for material Hoists, continued**

##### **Sheaves**

- Load-bearing sheaves for wire rope must be of proper diameter and grooving to accommodate the rope, but in no case must the diameter be less than 20 times the diameter of the rope.
  - Sheaves must be maintained properly lubricated.
  - Sheaves and blocks that are so excessively worn, damaged, deteriorated, or otherwise defective as to cause or threaten to cause failure of the equipment must not be used.
  - Sheaves intended for use with fiber rope must not be used with wire rope.

##### **Fittings**

- All hooks, shackles and other fittings subject to tension or shear must be drop-forged.
  - The use of deformed or damaged hooks, shackles, chains, or other fittings is prohibited.
  - All suspended pulley blocks, sheaves, well wheels, or similar devices must be moused or securely fastened, or safety hooks must be used.

##### **Chains**

- Chains must not be used as slings in hoisting operations.

#### 19.10.5 Material Platform or Bucket Hoists

##### Design Requirements

- Every material platform or bucket hoist erected on SCA Projects must be designed by a professional engineer (PE) licensed to practice in the State of New York.
  - The design plans and specifications for any hoist must be kept on the job site available for examination.
  - Installation must be filed and a NYC D.O.B. permit obtained as per [Local Law 52-05](#).

##### Riding

- Riding on a material hoist by any person is prohibited, except for necessary inspection, maintenance and repairs.
- Signs must be posted in conspicuous locations on both sides of the crosshead or side members and at every entrance to any hoist, stating that riding on a material hoist is prohibited.
  - The legend on the sign must read as follows: "WARNING – RIDING BY ANY PERSON PROHIBITED."
  - The letters in the legend must not be less than one and one-half inches in height, and be placed on contrasting colored background.

#### 19.10.6 Temporary Personnel or Workmen's Hoists

- Temporary personnel hoists must not be placed in service until the installation has been filed and permits have been granted by the Department of Buildings (DOB).
  - The requirements of the approval must be applied in conjunction with all other requirements, and with [Local Law 52-05](#).

#### 19.10.7 Mast Climbing Work Platforms (Mast Climbers)

All mast climbers used on SCA construction projects must conform to the rules set forth by NYC DOB.



[Rules Pertaining to Mast Climbers.](#)

## CHAPTER 20

### PUBLIC SAFETY ON NYC SCHOOL CONSTRUCTION AUTHORITY PROJECTS

Public safety protocols must comply with current NYC Building Code requirements (Chapter 33: “Safeguards During Construction and Demolition”), NYC Code Industrial Code (Part 23: “Protection in Construction, Demolition, and Excavation Operations”), all safety instructions found in the SCA Safety Manual, and all applicable Federal, State, and City regulations including SCA safety-mandated requirements.

- Discuss the work activities to be performed with the school administrator or designated person prior to the commencement of construction activity.
- A pre-construction survey of the site property, adjacent utilities, properties, streets, and operations must be performed prior to mobilization to assess surrounding exposures and current conditions of soils and nearby structures. This pre-construction survey must be conducted with the General Contractor, the SCA Project Officer, and the SCA Safety Inspector.
  - The findings of the survey must be documented and maintained as part of the planning process for the safety of persons and property during construction operations.
  - The findings must also be reflected on the Contractor’s Site Safety Plan.
- Day work during school occupancy needs the approval of the Construction Management Vice President.
- The requirements of NFPA 101, Life Safety Code for Occupied Schools, must be maintained during construction.
  - Construction activities must not be able to interfere or interrupt the normal teaching schedule.
  - Dust and noise must be controlled properly to ensure the school maintains its teaching schedules without interruption.
    - Treat every request or complaint as real and immediately establish control measures.
  - Separate atmospheres must be maintained between the school area in full occupancy and areas under construction.
    - Separate and protect work areas from occupied areas with cones, barriers, or other temporary barricades if workers must leave a work area unattended momentarily.
  - Means of egress for the school occupancy must be maintained free of obstruction, kept clean, and illuminated.
    - While this may be a function of the school custodian, no construction-related operation must be allowed to cause an impairment of the normal means of egress.

## CHAPTER 20

### PUBLIC SAFETY ON NYC SCHOOL CONSTRUCTION AUTHORITY PROJECTS, continued

- Existing smoke detection, communications, fire suppression, and alarm systems must be maintained during construction.
  - Inspections must be documented and made readily available for review.
- Never leave tools and equipment unattended while in occupied areas.
- No Hot Work is permitted in a school where children and teachers/staff are present. All proper FDNY and SCA mandated regulations must be followed. Exceptions may be made at the discretion of the Vice President of Construction Management (CM), Vice President of Environment and Regulatory Compliance (ERC) and the SCA Safety Director.
- Each Contractor is responsible for the general housekeeping of their work area.
  - Maintain good housekeeping at all times.
  - Work areas must be contained and kept free of debris on a daily basis.
    - Never create piles of debris or materials in areas occupied by children/teachers and leave the piles unattended.
    - Remove debris before the end of each work day. Do not leave any debris overnight at the worksite.
  - Construction supplies (roofing, etc.) must be secured to minimize the potential of materials blowing off open areas.
    - Only proper securing methods should be used. The use of bricks, concrete blocks, wood, or other loose material to secure tarps or plastic covers is prohibited.
    - Overhand bricklaying is prohibited on SCA projects.
  - In cases where more than one Contractor is working in an area, the responsibility of housekeeping is shared accordingly.
- Subcontractors must report site security issues to the designated site security guard(s) and the General Contractor's Project Safety Representative.
- The Contractor must provide a level, unobstructed, and safe walkway for pedestrians.
  - The walkway must be adequately illuminated at all times.
  - Walkways (and any required sidewalk bridge protection) must meet the requirement of the NYC Building Codes.
- Ensure doors or gates are closed/secured when they open directly into occupied areas.
  - Use a security service if necessary.
- Traffic to and around the site must be controlled by the Contractor.
  - If introducing heavy equipment, extra wide loads, or other unusual road hazard, the Contractor must:
    - Notify the proper authorities.
    - Instruct the appropriate trade to provide a flag person(s) to direct local traffic.
  - All requirements of the NYC Department of Transportation (DOT) apply (including obtaining appropriate permits, as necessary).

## CHAPTER 20

### PUBLIC SAFETY ON NYC SCHOOL CONSTRUCTION AUTHORITY PROJECTS, continued

- A minimum eight-foot high (8') fence with fine mesh netting must be installed around the perimeter of the construction areas. This area includes, but is not limited to:
  - The staging area.
  - Storage area.
  - Construction trailer areas.
  - Exposed areas.
  - Dumpsters.
  - Anything that may be on the sidewalk and/or street/roadway.
  - Please note that all construction trailer areas on the street must be entirely enclosed within concrete jersey barriers.
- Fence construction and location must meet the requirements of the NYC Building Code and Contractor's permit application, including the approved Site Safety Plan.
- Exit doors throughout the premise are not permitted to be permanently closed, altered, locked, or blocked by the school, contractor, or SCA without first obtaining an on-site inspection from FDNY.
- Holding areas must not be blocked.
  - Proper access must be provided in accordance with FDNY regulations.
- Never leave compressed gas cylinders unattended or overnight on occupied school property.
- Never leave electrical box panels exposed, even during breaks.
  - Cover exposed boxes physically with the panel cover.
  - Protect the area with barricades, if necessary.
  - Keep electrical rooms/closets locked.
- Tour all work areas regularly.

#### 20.1 Security Guards

Once site mobilization activities have commenced, Security Guards must be onsite, as per contract requirements.

- Security Guards are to make periodic rounds of the worksite. These periodic rounds must be documented.
- Security Guards must be alert, not distracted, and awake at all times.
- Security Guards must have all visitors to the site sign into a designated logbook.
- Security Guards must not allow the general public to have access to the worksite for any reason.
  - Security Guards are to address trespassing individuals politely, but firmly.
  - If an unauthorized individual is found on the property, the Security Guard must immediately report the incident to the NYC Police Department, the General Contractor's Project Safety Representative, and the General Contractor's Designated Competent Site Supervisor.



# PUBLIC PROTECTION

All provisions of this section must govern the conduct of all construction activity on SCA work sites with regard to the safety of the public and property.

Public protection is required when the public sidewalk/walkway is within one-half the horizontal distance from the highest working point, regardless of the height of the building.



The “highest point” is defined to include the working platform being used and NOT the height of the work on facades or other elements of the building or project. The highest working point must include, but not be limited to, the following: scaffold platforms, stair towers, hoists, suspended scaffolds, outrigger beams, and mast climbers.



Employees are not permitted to perform maintenance or repairs on equipment (such as compressors, mixers, screens, or pumps).

Every effort must be made to minimize the impact on the school, and intrusion onto adjoining property.

- All work must be in accordance with NYC DOB Codes, OSHA regulations, the SCA Safety Manual, and requirements of all other governing agencies that apply.
- The SCA requires a Site Safety Plan produced by a licensed NYC DOB Site Safety Manager during the design of various projects, indicating the required safety zones as required by the NYC Building Code and the SCA, which may exceed minimum code provisions.
  - The Site Safety Plan must reflect the approved fall zones.
- All pedestrians and property protection plans must be reviewed by the SCA Safety Division during the Contractor’s development of the Site Safety Plan.
  - A meeting must be convened with the Contractor, SCA, CM, SCA Safety Division, and SCA Community Relations to review the Plan and ensure it is complete.
  - All areas with a horizontal distance equal to one-half the height of the highest working point, must be considered for protection, including, but not limited to the following: courtyards, walkways, plazas, rooftop decks, balconies, backyards, side yards, playgrounds, etc.
- In addition to the provisions of the [NYC Building Code, Chapter 33, sections 3307, 3308, and 3309](#), the Site Safety Plan must indicate protection immediately overhead at any height and any areas on immediately adjoining properties including open backyards, sidewalks, pathways, and other areas available to the property owners or the public.

## CHAPTER 21 PUBLIC PROTECTION, continued

- The use of any alternative public protection, other than closure of an area or installation of sidewalk bridges/sheds or fences, must only be used with prior concurrence from the Vice President of Construction Management (CM), the Vice President of Environmental & Regulatory Compliance (ERC), and the Director of the Safety Division.
  - A CCD1 is required for these alternate means of protection as a code variation.
  - All code variations must contain the required information as stated in the NYC Building Code, Chapter 33, and be submitted with all required documents as described in the Code.
  - CCD1 applications must be approved by SCA BCC after the request is made by SCA CM.

### 21.1 Site Safety Plan

Prior to the start of any construction activity on SCA projects, a Site Safety Plan (SSP) must be submitted for review and acceptance by the SCA Safety Division. Any exceptions must be made at the discretion of the Vice President of CM, the Vice President of ERC, and the Director of the Safety Division.

- Two (2) copies of the Site Safety Plan(s) prepared and signed by a NYC DOB Licensed Site Safety Manager must be submitted to the SCA (or its consultant) for review.
  - The Plan(s) must be complete and reflect the entire site.
  - The Plan(s) must show any phased protection.
- The Site Safety Plan must include the following verbiage as per the NYC DOB, 790-A:

“All workers employed on the site will receive a Site Specific Safety Orientation program addressing hazardous activities on each job.”

## 21.1 Site Safety Plan, continued

- The Site Safety Plan(s) must include but not be limited to the following:
  - Notes.
  - Sidewalk bridges.
  - Scope of work.
  - Phasing of work, where applicable.
  - Fall zones.
  - Fences.
  - Egress.
  - Scaffolding.
  - Scaffold stair tower locations.
  - Fire protection.
  - Location of alternate means of protection (CCD1), if applicable.
  - Crane locations.
  - FDNY holding areas.
- The Site Safety Plan(s) must address any potential interaction between the building occupants or general public, and exposure to the construction process.
- The Site Safety Plan(s) must address all areas outside and within the property lines, as well as within the building, as required.
- The Site Safety Plan(s) should address any multiple phasing periods by preparing separate drawings to represent each phase.
- Other than full street closing (i.e., sidewalk-street-sidewalk), no partial closing is allowed, notwithstanding [NYC Building Code, Chapter 33](#).
- The Contractor/CM is required to install and maintain sidewalk sheds.
  - The Contractor/CM is not permitted to obtain partial closing permits.
- All sheds must be installed with approved lighting maintained by the CM/Contractor as per [NYC Building Code, Chapter 33](#).
- The areas within the property lines must receive protection via sheds, fences, etc. necessary to provide proper protection to the school population, workers, and pedestrians.
- The installation of sidewalk sheds and/or fences must be performed in the most conservative manner.

## 21.1 Site Safety Plan, continued

- The installation of sidewalk sheds and/or fences must be in place prior to the start of any work.
  - As work operations are completed, the sidewalk sheds and/or fencing must not be removed until the last operation of work (which requires sheds and/or fences and all required technical inspections are completed and provided to the SCA Project Officer).
- The Site Safety Plan must indicate locations of high voltage power lines which may impact the installation of sidewalk bridging and scaffolding.
- The movement of sidewalk sheds along the sidewalk to follow the movement of the hanging scaffold or window replacement is not permitted.
  - Sidewalk sheds and or fences must be installed and maintained continuous around the sidewalk until the last operation of work which requires sheds and all technical inspections are completed and provided to the SCA Project Officer.
- Upon receipt and review of the Site Safety Plan(s), the PMs must meet with the school principals to discuss the proposed Plan(s)' impact on school security and phasing.
- Subject to the terms of the contract, changes to the Site Safety Plan(s), sidewalk sheds, fencing, security, etc. may not constitute a basis for a change order for extra work.

## 21.2 Sidewalk Sheds and Bridges

Sidewalk sheds are required for all projects, including but not limited to the following: roof repair or replacement, any type of work that takes place on the roof, parapet repair or replacement, exterior masonry repair, replacement of windows and/or window guards, and new construction.

Sidewalk sheds may be erected on SCA projects as specified in the Approved Site Safety Plan and filed with the NYC DOB/SCA Building Code Compliance Unit as directed by the SCA.

- All free-standing sidewalk bridges/sheds must be specifically designed to prevent movement, tipping, or displacement.
- Sidewalk sheds that provide a base for scaffold or contractor's shed must be designed by a New York State licensed Professional Engineer (PE).
- The ground in which the shed is to be constructed must be examined by a Professional Engineer to determine if it is capable of supporting the total load.
- Workers installing sidewalk sheds must have, at a minimum, a 32-hour Scaffold Erector/Dismantler certification from either NYCDOB or an approved NYC DOB training facility.
- A vertical parapet at least three (3) feet, six (6) inches high, as measured from the deck of the sidewalk shed, must be constructed along the edges of the sidewalk shed.
- Sidewalk sheds must be painted the color of hunter green.
- Sidewalk bridges must be inspected before each shift.
  - A daily maintenance log as required by DOB must be maintained onsite at all times
- Sidewalk bridges must be lit at all times.
  - The underside of the sidewalk shed must be lighted at all times by either natural or artificial light.
    - The level of illumination must be the equivalent of that produced by 200 watts, 3400 lumen minimum.
    - Standard incandescent lamps must be enclosed in vandal-proof fixtures and spaced fifteen (15) feet apart, and at eight (8) feet high above the floor level.

- Broken lights, missing cages or repairs to defective parts must be replaced/fixed no later than 24 hours after notification of the defect.

## **21.2 Sidewalk Sheds and Bridges, continued**

- All posts must be padded and taped up to a height of five (5) feet at the following locations:
  - Near school exits/doors.
  - School play grounds.
  - Schools that accommodate grades Pre-K to Grade 5.
- Work material and/or debris are not to be stored on top of any part of the sidewalk bridge.
- A Professional Engineer (PE) letter must be obtained confirming the sidewalk bridge, including catchalls, has been constructed to hold a minimum of 300 pounds per square foot (PSF).
- The PE of record must inspect and certify the sidewalk bridge installation prior to erection of scaffolding on top of the bridge.
  - A licensed engineer designated by the Engineer of Record may conduct the inspection and certification as long as the licensed engineer is employed by the same firm as the PE of record, and is covered under the firm's Professional Liability insurance.
- The PE of record must re-inspect and re-certify the sidewalk bridge a minimum of six (6) months after erection of the bridge, or at the request of the SCA Safety Division. This inspection must be conducted in the presence of the SCA Safety Inspector.
  - A licensed engineer designated by the Engineer of Record may conduct the re-inspection and re-certification as long as the licensed engineer is employed by the same firm as the PE of record, and is covered under the firm's Professional Liability insurance.
- The PE of record must re-inspect and re-certify the sidewalk bridge if the sidewalk bridge has suffered structural damage (for example, if a vehicle drove into the sidewalk bridge).
- Doors located on the occupied school premise must not be blocked or impeded.
- Sidewalk bridges may not be removed until all work and the BCC/CID inspections are completed above the first floor windowsill.
- Protection must be provided to the public during the installation and removal of the sidewalk bridge; (i.e., barriers, flag persons, signs, caution tape, etc.)
- Mesh netting and chain link fence must be installed from the full underside of the sidewalk bridge deck to the ground, in accordance with the Approved Site Safety Plan.
- Mudsills upon which the Sidewalk Shed are on must not be rotted or damaged. Rotted or damaged mudsills must be replaced immediately.
- Sidewalk Shed posts must be nailed to the mudsill as required.

## **21.2 Sidewalk Sheds and Bridges, continued**

- Protection for the full width of the sidewalk must be provided.
  - Catchalls must be provided on all outward facing perimeter edges of the sidewalk bridge deck, including ends, when full coverage of the sidewalk cannot be obtained, and all times where half the height of the building requirement is not met.
  - Wire mesh or mesh netting is not to be used in lieu of a solid catchall.
  - Sidewalk sheds must extend parallel with the curb and to the line of exposure at least twenty (20) feet beyond the ends of all faces of the structure property.
- Gaps created between the parapet boards and sidewalk bridge decks are to be covered in sufficient strength and manner so as to prevent materials from falling through the openings.
- All PE inspections/designs must be made by a PE registered in the State of New York.
- The Contractor must ensure that all catchalls are cleaned of snow after a snow fall. Icicles on the sidewalk shed must also be removed.
- Mirrors must be placed at all blind corners of the sidewalk bridge.
- Vertical members must be placed at least seven (7) feet from the edge of the curb cut or vehicular access point, or where placed closer, the vertical members nearest the curb cut or vehicular access point must be protected against displacement by vehicles, or must be identified with high visibility marking.
- Vertical members placed on the sidewalk must not be placed closer than 18 inches from the face of the curb line.

### 21.3 Sidewalk Bridge Electrical Requirements

- The Contractor must provide a schematic layout of sidewalk shed lighting.
- The sidewalk bridge must be grounded on occupied schools in accordance with the following:
  - All temporary wiring must be installed in accordance with the requirements of the Bureau of Electrical Control, NEC, and NYC Building Code.
  - Conduits must be permanently grounded to the permanent building ground system.
    - In addition to the permanent ground, a temporary grounding system must be provided, and must consist of driven rod electrodes with a resistance to ground not to exceed 25 ohms.
    - Where the resistance is above 25 ohms, additional electrodes connected in parallels must be used.
  - The path from circuits, equipment, structures and conduit or enclosures to ground:
    - Must be permanent and continuous
    - Must have ample carrying capacity to conduct or enclosures to ground must be permanent and continuous, have ample carrying capacity to safely conduct the currents liable to be imposed on it.
    - Must have the impedance sufficiently low to limit the potential above ground and to result in the operation of the over-current devices in the circuit.
  - Grounding circuits must be checked to ensure the circuit between the ground and the grounded power conductor has a resistance, which is low enough to permit sufficient current to flow to cause the fuse of the circuit breaker to interrupt the current.
- Provide vandal resistant light fixtures with wire guard, and with incandescent or self-ballasted compact fluorescent lamps.
- Provide and maintain temporary lighting at all times, including making repairs due to vandalism.
- Temporary lighting wiring must be run in rigid galvanized conduit (RGC).
  - The conduit must be run exposed and secured below the shed, in an approved manner.
- The Contractor must provide branch circuit wiring from a panel in the building and run three (3) THW conductor (Black-White-Green) per circuit.
  - Core drill (2 inches) the conduit entrance into the building and insert a 1 ½ inch threaded sleeve.
- The Contractor must remove the LB conduit and wires, and place a threaded cap on the sleeve through the building after temporary lighting is removed.

## 21.3 Sidewalk Bridge Electrical Requirements, continued

### Licensed Electrician

- The Licensed Electrician responsible for installation of the temporary electrical service must provide a Certificate of Inspection from the NYC Bureau of Electrical Control.
  - In lieu of a Certificate of Inspection, a Certification Letter executed by the Licensed Electrician attesting the temporary service has been installed in accordance with all applicable codes, and meets the following minimum requirements:
    - All power to the electrical shed installation is ground fault interruption (GFI) protected as per NEC [NYC amended section 590.6](#).
    - The installation is properly grounded and bonded as per [NEC Article 250](#).
    - The raceways are terminated and supported properly as per [NEC Article 300](#).
    - The installation does not pose a safety hazard to the public.
    - Each statement must be on the Licensed Electrician's company letterhead and must be signed and sealed by the Licensed Electrician.

## 21.4 Fasteners, Bolts, and Nuts

- All fasteners and connections used in the construction of sheds must be a tamper-resistant type.
  - Tamper-resistant fasteners must be installed in such a manner as to prevent unauthorized removal or loosening of any part of the shed.
  - Specialized tools are required for removal of tamper-resistant fasteners.
  - Tamper-resistant fasteners are to be provided on components and materials of the shed to include, but not limited to the following:
    - Pipe bracing.
    - Pipe railings.
    - Beam clamps.
    - Couplings.
    - Outriggers.
    - Extensions.
    - Protective guards.
    - Enclosure walls built around the perimeter of the shed deck.
  - Bolts must have tamper-resistant heads.



## 21.4 Fasteners, Bolts, and Nuts, continued

- Nuts must meet the following requirements:
  - Conical shape with multiple slots, requiring a specialized socket tool for installation and removal.
  - Corrosion resistant zinc alloy (Zamac 5 – AC41A).
  - Compressive strength, 87,000 psi.
  - Shear strength, 38,000 psi.
  - Impact strength (CHARPY), 48 ft. lbs.
  - Hardness, BHN, 91.
  - Size and threads as required to suit studs and bolts.
- Remove all sharp edges from nuts.
- Provide zinc plated hex nuts, cylindrical spacers, and/or washers beneath tamper-resistant nuts where required for a proper connection.
  - Fully tighten the entire assembly for tamper resistance.
    - The diameter of the tamper-resistant nut must not exceed the outside dimension of a hex nut or spacer beneath it in order to prevent unauthorized removal.
  - Fully tighten all fasteners.
    - When using a standard nut, it is to be fully tightened and a tamper-resistant nut installed over it to prevent unauthorized removed.
    - When using though bolts or rods, provide tamper-resistant devices at both ends, or weld one end to prevent turning.
- Have all nuts and bolts taped and padded up to a height of five (5) feet.

## 21.5 Temporary Fences

- Temporary chain link fence with base supports which do not penetrate ground are not permitted for use as a construction Fence.



Exceptions to the use of a temporary fence are determined on a site-specific basis by the SCA Safety Division.

- Chain link fence must have a top, mid, and bottom rail installed.
  - Fine mesh debris netting must be installed plumb against the fence.
- Construction fence gates are to be in-swinging at all times.
- All temporary construction fences must be designed in accordance with NYC DOB regulations.
- Temporary fencing installed on sidewalks/streets must conform to DOT regulations and are subject to approval by the SCA Safety Division.
- The use of water-filled Jersey barriers on SCA Projects is prohibited.

## 21.6 Sidewalk Work

- Prior to the start of any scheduled work on the sidewalk, the General Contractor must notify the SCA Safety Inspector.
- The areas of the sidewalk where work is taking place must be enclosed within a minimum eight-foot high (8') fence.
- Temporary fencing installed on sidewalks must conform to DOT regulations. However, NYCSCA requirements may be more stringent, in which case the General Contractor must follow the more stringent requirements.
- Sidewalks must be kept clear and free of debris, and any tripping hazards that are exposed to the public must be removed immediately.