

Model Site Safety Plan

During construction, a building is at its most vulnerable state. Buildings under construction or renovation may have any of the following conditions that support fire development and spread:

- Combustible material and waste material are present.
- Buildings under construction are generally unprotected. Fire protection systems, detection systems, and compartmentation may be unavailable or incomplete.
- Hot work such as welding, cutting, soldering, brazing, and grinding is performed.
- Fire apparatus access and fire protection water supply may be limited or hampered due to conditions present at the construction site.
- Use of temporary heating and cooking devices.

This requirement prescribes minimum safeguards for new building construction and significant building alteration projects to provide a reasonable degree of safety to life and property from fire. It is based on Chapter 33 of the North Carolina Fire Code and NFPA 241. This requirement shall not be construed to be in lieu of any other applicable State or Federal law or regulation related to construction site safety. The general contractor or other designee of the building owner shall be responsible for compliance with these standards. When the term “shall” is used in this document, it means a mandatory requirement.

Site Safety Plan (SSP)

A written Site Safety Plan (SSP) complying with Chapter 33 of the *North Carolina Fire Code* (NCFC) and *National Fire Protection Association Standard for Safeguarding Construction, Alteration, and Demolition Operations* (NFPA 241) shall be developed for each construction project. It must be completed before proceeding past foundation work or demolition. A hard copy must be available on-site. Projects of any size require a SSP when a building permit is required. The SSP should be scaled to the size and scope of the project. (*Note: The terms Site Safety Plan and Fire Safety Program are interchangeable. The terms Site Safety Director and Fire Prevention Program Manager are interchangeable.)

Components of the SSP:

- Name and contact information of the Site Safety Director (SSD)
- Documentation of training for SSD and fire watch personnel

- Emergency reporting procedures
- Fire department vehicle access routes
- Location of fire protection equipment (extinguishers, standpipes, FDCs, hydrants)
- Smoking and cooking policies and signage
- Temporary heating equipment safety plan
- Hot work permit plan
- Combustible waste control and housekeeping plan
- Trash chute safety plan (if applicable)
- Storage and use of flammable/combustible liquids and hazardous materials
- Site security provisions (locks, guard service)
- Change management procedures
- Special hazard considerations
- Site personnel responsibilities during incidents
- Site address and building identification signage
- Fire protection systems:
 - Construction: Install as construction progresses
 - Alteration: Preserve existing systems
 - Demolition: Preserve existing systems
- Notification procedures for temporary fire protection changes
- Emergency evacuation procedures
- Protection of existing structures and equipment
- Documentation of inspections, tests, training, and drills
- Life safety plan:
 - Personnel alerting
 - Provide clear egress paths

- Ensure lighting and markings are provided
 - Designate assembly points
 - Temporary utilities:
 - Gas supply safety (NFPA 55, 58)
 - CO monitoring for direct-fired heaters
 - Leak checks for temporary piping
 - Bonding and grounding verification
 - Portable equipment safeguarding
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Access and Parking

Fire Department Access Roadways

- Must be provided at project start and maintained throughout
- Access within 100 ft of FDCs and 150 ft of all portions of exterior walls
- Capable of supporting fire apparatus under all weather conditions
- Minimum 20 ft width and 13.5 ft vertical clearance
- Turnarounds required for dead ends >150 ft
- No obstruction by vehicles, staging, or storage

If access cannot be provided, an approved fire protection system must be installed. Bridges used for access must support fire apparatus loads.

Premises Identification

- 911 address must be posted at jobsite start
- Temporary or permanent address signage required
- Address signage must be visible from the street
- Temporary street name markers required if permanent street signs are not yet installed

Vehicle Parking

- No parking within 20 ft of buildings under construction
 - Exceptions:
 - Temporary loading/unloading (attended)
 - Private vehicles in Type I garages with sprinklers and protected openings
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Site Security Considerations

- Fencing to prevent climbing
- Fire watch required for buildings over 40 ft or as specified in SSP
- Controlled access points
- Security guards for after-hours patrols

Where Guards and Fencing Required by AHJ

- Guards must be trained in:
 - Emergency notification
 - Fire protection equipment
 - Fire hazards
 - Construction elevator use
 - Guards must be informed of emergency equipment status
 - Security fences and locked entrances required
 - Egress paths must remain unobstructed
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Fire Protection Systems

Fire Hydrants

- Shall be installed and operational before combustible materials arrive on site

Standpipes

- Required when construction exceeds 40 ft
- Hose connections at usable stairs
- Extend to within one floor of highest secured decking
- 2½-inch valve outlets per floor
- Class III standpipes require fire pumps and water mains

Fire Resistance Rated Construction

- Fire-rated assemblies, exit stairs, and doors shall be prioritized and installed as soon as practical

Fire Sprinkler Systems

- Install and activate as soon as possible
- Test and inspect piping after each floor
- Connect to riser and uncover heads after inspection
- Protective caps allowed during drywall/painting but must be removed after
- Exterior alarm bell may be installed before monitoring system
- Sprinklers must remain in service during alterations unless approved
- SSD must verify sprinkler valves are open daily
- It is unlawful to occupy any portion of a building until tested and approved

Fire Extinguishers

ANY fire shall immediately be reported to the fire department, even if it has been extinguished

- Required at each usable stairway

- Max 75 ft travel distance
- Max 5 ft mounting height
- Minimum 2A:10B:C rating
- SSD must ensure personnel are trained
- Vehicles and equipment must have extinguishers per NCFC/NFPA 10

Fire Department Connections (FDCs)

- Must be accessible from fire access roads

Smoking

- Prohibited except in approved areas
- Signage and non-combustible ashtrays required (NCFC Section 310)

Emergency Reporting

- Emergency phone or equivalent communication required
- Site address and fire department number must be posted

Exit Requirements

- All exits must be identified in the SSP
- Two means of egress required unless AHJ approves otherwise
- Describe impacts to existing egress in occupied areas
- Provide revised signage and egress plans
- Maintain adequate escape facilities at all times
- At least half of final required exits should be available during construction

Stairways (≥50 ft or 4 stories)

- At least half of required stairs must be available
- Extend stairs upward with construction
- Must be lighted

- Install stair ID signs with floor level and direction

Flammable and Combustible Liquids and Gasses

Storage of Flammable and Combustible Liquids

- Follow NFPA 30 guidelines unless otherwise specified.
- Limit storage of Class I and Class II liquids to 227 L (60 gal) within 15 m (50 ft) of the structure.
- Maintain storage areas free of weeds, debris, and unnecessary combustible materials.
- Prohibit open flames and smoking in storage areas.
- Clearly mark areas as “No Smoking” zones.
- Use NFPA 704 markings for appropriate hazard identification.

Tank Installation

- Submit plans and obtain permits for >60 gallon tanks before delivery

Handling of Flammable and Combustible Liquids

- Follow NFPA 30 guidelines
- Use approved safety containers.
- Provide means to contain and safely dispose of spills or leaks.
- Dispense only in areas free of open flames or ignition sources.

Storage and Handling of Flammable and Combustible Gases

- Follow NFPA 54 and NFPA 58 guidelines.
- Prohibit open flames and smoking in flammable gas storage areas.

Combustible Materials

- Store 30 ft from buildings under construction
- Exceptions:
 - Materials staged for installation

- Storage in Type I garages with sprinklers and protected openings

Waste Disposal

- Dumpsters must be emptied or moved 35 ft from structures daily
- Garbage chutes must comply with NFPA 241
- Combustible debris removed daily
- Oily rags stored in approved containers

Special Equipment

Motorized Equipment

- Fuel stored outside
- No refueling during operation
- Exhausts must not discharge toward combustibles
- Pipe exhaust to outside when possible

Temporary Heating

- Shall be listed and installed per manufacturer
- Keep clear of combustibles
- Secure heaters and refuel safely

Asphalt and Tar Kettles

- 20 ft clearance from combustibles
- Attendant required within 100 ft (unless thermostatically controlled)
- Fire extinguisher (40B:C) within 25 ft
- Roof extinguisher (3A:40B:C) required

Sample Compliance Checklist:**Site Safety Plan (SSP)**

- SSP developed before foundation or demolition work
- SSP available on-site
- Site Safety Director (SSD) designated
- Emergency reporting procedures posted
- Fire protection equipment locations marked
- Hot work permit system in place
- Combustible waste control plan
- Temporary heating/cooking safety plan
- Flammable/combustible liquid/gas storage/use plan
- Site security and fire watch plan
- Emergency evacuation procedures
- Life safety plan with egress and assembly points
- Temporary utilities safety plan

Access & Parking

- Fire access roads within 100 ft of FDCs and 150 ft of building
- 20 ft width and 13.5 ft vertical clearance maintained
- Turnarounds for dead ends >150 ft
- Address signage posted and visible
- Vehicles parked 20 ft from buildings (with exceptions)

Fire Protection Systems

- Hydrants installed before combustible materials arrive
- Standpipes installed at 40 ft construction height
- Sprinklers tested and activated floor-by-floor
- Fire extinguishers within 75 ft travel distance
- FDCs accessible from fire access roads

Exit Requirements

- Two means of egress maintained
- Exit signage and lighting provided
- Stairways extended with construction
- Stair ID signs installed

Hazardous Materials

- Flammable liquid storage areas weed-free and marked
- Containers approved and closed when not in use
- Secondary containment provided
- Fueling done outside structures
- Aboveground tank permits submitted

Combustible Materials

- Stored 30 ft from buildings (unless exempted)
- Dumpsters 35 ft from structures at shift end
- Daily removal of combustible debris
- Oily rags in approved containers

Compressed Gases

- Cylinders stored upright and secured
- 10 ft clearance from combustibles
- Protective caps in place when not in use
- Hazard class separation maintained

Special Equipment

- Fuel stored outside buildings
- Exhausts directed away from combustibles
- Temporary heaters listed and installed per instructions
- Tar kettles 20 ft from combustibles with fire watch

Hot Work

- Hot work permit issued
- Combustibles cleared 35 ft from work area

- Fire watch in place for 30 minutes post-work
- PPE and ventilation provided
- Confined space procedures followed

Fire Watch

- Fire watch trained and equipped
- Patrols every 15 minutes
- Log maintained
- No other duties while on watch

Evacuation Planning

- Evacuation plan posted and distributed
- Fire wardens assigned
- Fire drills conducted
- Alarm/sprinkler outages mitigated with fire watch