



Knightdale Fire Department

Fire Marshal's Office

950 Steeple Square Court Knightdale, North Carolina 27545



Certificate of Occupancy Checklist

Informational Bulletin

Below is a list of the most common items that we will be looking for in order to approve a Certificate of Occupancy for your project(s). Some of these items may not apply to your project, and there may be additional items discovered during routine site visits. It is important to emphasize that this list is a “basic list” that cannot cover everything, as different type occupancies may warrant specific requirements.

Fire Protection/Life-Safety System Documentation:

- Material and Test Certificate for fire sprinkler system, including both above ground and below ground piping.
- NFPA 72 Certificate for the building's fire alarm system.
- Certification of UL Central Station monitoring of fire alarm and fire sprinkler system.
- Installation and test reports for fire pump, emergency generator, and back-flow preventer.
- Drop Test Certificates for all automatic roll-down fire doors, fire shutters, WON Doors, etc.
- Certificates for any additional “specialized” fire protection/life-safety equipment/systems such as FM 200 or other clean agent suppression systems, kitchen hood extinguishing systems, specialized detection systems (i.e. VESDA, etc.), smoke control/removal systems, etc.
- Shop drawings for fire and life-safety systems on site and available for reference.

Fire Protection/Life-Safety Systems (signage/markings):

- Any room or enclosed space containing fire protection or life-safety system controls, valves, etc., shall be labeled as such (i.e. “Fire Pump Room”, “Fire Alarm Control Panel”, “Fire Sprinkler Valves”, etc.).
- Fire Department Connection (FDC) shall be labeled as follows:
 - a. For standpipe connection only: “*Dry Standpipe*” or “*Wet Standpipe*”.
 - b. For fire sprinklers only: “*Auto-Sprinkler Connection*”.
 - c. For combination sprinkler and standpipe connection: “*Combination Auto-Sprinkler and Standpipe Connection*”.



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d. Any FDC that serves different areas/buildings or specific floor levels shall indicate such (i.e. "Auto Sprinkler/Standpipe – Floors 1 through 15", "Parking Garage", "Retail Stores", etc.).

- Signs shall be metal with raised letters at least 1-inch in size. Where the location of the FDC is not readily visible to approaching fire apparatus, an additional sign with letters at least 6-inches in size that reads "FDC", with additional wording or an arrow at least 2-inches in size indicating its location, shall be posted. Multiple FDC will require the address number on the sign.
- For buildings classified as high-rise, an additional sign shall be posted at the standpipe connection indicating the minimum pressure required to meet the system demand, **but in no case more than 350psi**.
- The Fire Alarm Control Panel room or location shall include a zone map or zone chart clearly indicating location of all alarm initiating devices (pull stations, smoke detectors, sprinkler risers, etc.).

Other Signage:

- All electrical rooms, mechanical rooms, and similar rooms shall be labeled as such.
- All interior of stairway doors shall be posted with stairway designation utilizing letters and floor number (i.e. Stair A, Floor 1, Stair B, Floor 1, and so on), and stairs having access to roof shall be labeled as such (i.e. "To Roof"). Any fire protection and/or life safety system device located in stairways shall report to the fire alarm panel with nomenclature matching the stair designation (i.e. "Tamper Switch, Stair A, Floor 1, etc.).
- Exits and exit access shall be indicated with internally illuminated exit signs. During walk through site visits, it may be determined by the fire official that additional signage is warranted to indicate exit access.
- Any door leading to a room/space containing an open shaft or pit such as a sump pump, open vertical shaft, elevator pit, etc. shall be posted with a sign that reads "Open Pit".
- Any interior or exterior above-ground tanks containing flammable or combustible liquids, such as those for emergency generators, shall be labeled as such. If a tank or generator with an integral tank is located inside an enclosed room, the door leading to this room shall be posted with a hazardous material placard complying with NFPA 704M. "No Smoking" signs shall also be posted in this area.
- Street address numbers shall be clearly posted on exterior and numbers shall be a *minimum* size of 6-inches, be contrasting in color with background, and shall be clearly visible from street.
- At elevator lobbies, a sign that reads "In Case of Fire, Use Stairs" shall be posted. In addition, a map or diagram indicating location of closest stairway shall be posted in this area.



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- For areas, rooms and spaces used for “assembly” purposes and that can accommodate more than 50 persons, an Occupancy Load Placard indicating the maximum allowable occupancy shall be posted. This placard will be supplied by Knightdale Fire Department Fire Marshal's Office.

Common Standpipe Requirements:

- Hose valve connections shall be no closer than 3 -feet and no higher than 5-feet from floor.
- A minimum clearance of 1-inch is required around hose valve handle.
- Hose valves shall be located inside each stairway, and for *high-rise buildings*, an additional hose valve (i.e. hose valve cabinet) shall be located outside and with-in 5-feet of the stairway entrance doors.
- Standpipes located in stairways shall be located at each floor level, and NOT at intermediate levels.
- If hose cabinet cover is not transparent or glass, the cover shall be posted as “Standpipe Hose Valve”.
- All hose valve connections shall be fitted with threaded caps and shall be hand tightened.
- All standpipe installations shall comply with all other applicable provisions of NFPA 14 and the North Carolina Fire Code as it relates to locations of additional hose valves, etc.

Sprinklers and Back-flow Preventers:

- All valves controlling fire sprinkler water supply shall be fitted with tamper switches and shall monitored at the fire panel. This includes all main sprinkler valves, sectional valves, fire pump valves, fire line back-flow valves, etc.
- Fire pump room shall be provided with heat to maintain room temperature to at least 40 degrees Fahrenheit.
- All sprinkler heads shall be free of any loading such as paint, drywall, etc.



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Fire Alarm Systems:

- Fire alarm pull stations shall be located 42 to 48 inches from the floor level to the actuating handle of the fire alarm box.
- Fire alarm pull station(s) shall be red in color.
- Fire and/or heat detectors shall be installed in accordance with the applicable provisions of the North Carolina Fire and Building Codes, based on occupancy type.
- In “Assembly” occupancies with an occupant load of 1000 or more persons and Educational occupancies, activation of the fire alarm system shall include an emergency voice/alarm communication system in accordance with NFPA 72.
- In high-rise buildings, activation of automatic or manual fire alarm devices, as well as fire sprinkler water-flow alarms, shall include an alert tone followed by an emergency voice/alarm communications system complying with the requirements of the North Carolina Fire Code.
- Duct smoke detectors shall be installed where required by the North Carolina Fire and Mechanical Codes and shall activate a visible and audible supervisory signal at a constantly attended location.

Emergency Preparedness/Evacuation Plans:

- All occupancies with a fire alarm system are required to have an approved Fire Safety and Evacuation Plan completed and submitted for review and approval, prior to occupancy. Check with your inspector to determine if your project requires such plan.
- For buildings with a fire protection and/or life-safety system, provisions for a designated “Impairment Coordinator” shall be included in the Fire Safety and Evacuation Plan. This person shall be responsible for approving and overseeing all impairments of the fire protection and life-safety systems. The impairment program shall include provisions for “tagging” valves or portions of fire protection/life-safety systems out of service, verification of affected areas, notification to the Knightdale Fire Department of impairments, steps for restoring systems to service, etc. For further information, consult with your fire inspector.
- For buildings with a fire alarm or sprinkler system, a Knox Box shall be mounted at the entrance or location approved by the fire inspector. This box shall contain entry keys to the building, as well as keys to all mechanical and electrical rooms, elevator equipment rooms, fire alarm panel room, fire sprinkler valve/pump room, and other rooms required by your fire inspector.
- For High-rise buildings, there shall be no less than 5 sets of keys as indicated above. The Fire Command Center can contain these keys in a separate box labeled “Fire Department Keys”.



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Miscellaneous:

- A permit may be required based on use (assembly occupancy, etc.) or hazardous material storage/use, etc. Consult with the fire code official.
- Any privately installed and maintained fire hydrants will require to be painted in accordance with the requirements of City of Raleigh Public Utilities.
- All fire and life-safety systems (including emergency generator test of power transfer and testing of emergency lighting) will require that the fire code official witness acceptance testing of these systems. It will be the responsibility of the job superintendent(s) to ensure that all installers of these systems are present for the testing.
- All fire protection, suppression and life-safety systems shall be installed in accordance with the applicable standard(s).
- All acceptance testing documentation shall be uploaded to the compliance engine.