

5-Inch Storz FDC Requirement — City of Asheboro

1. Purpose & Scope

- 1.1. To ensure compatibility, reliability, and sufficient flow capacity at fire department connections serving sprinkler, standpipe, and combined systems within the City of Asheboro.
- 1.2. This policy applies to all **new, renovated, or upgraded** fire protection systems (sprinkler, standpipe, or combined systems) for which an FDC is required under the North Carolina Fire Prevention Code (NCFPC) and Asheboro's adopted fire prevention regulations.
- 1.3. Existing systems not undergoing modification are exempt from upgrade, unless the Fire Code Official deems an upgrade necessary for life safety or operational consistency.

2. Authority & Code Basis

- 2.1. Asheboro has adopted the North Carolina Fire Prevention Code (with amendments) as its fire code.
- 2.2. Under Section 912 ("Fire Department Connections") of the Fire Code, FDCs must be installed according to the applicable NFPA standard for the system design (e.g., NFPA 13).
- 2.3. The Chief Fire Inspector (or Fire Code Official) is authorized to approve or require alternate connection types if justified, but this policy sets the default expectation of 5-inch Storz for consistency.

3. Technical Requirements

3.1. Connection Type & Configuration

- All new or upgraded FDCs shall be equipped with a **single 5-inch Storz** connection (or multiple 5-inch Storz connections, as necessary for flow/pressure demands).
- The orientation vertical, 30° downturn shall be approved by the Fire Code Official or Fire Department, to facilitate connection and minimize hose strain.

3.2. Hydraulic Capacity & Sizing

- The design of the FDC(s) (i.e., number of inlets, supply piping, internal sizing) must meet or exceed the hydraulic demand of the system (sprinkler or standpipe), per NFPA design standards.
- The design shall demonstrate (via hydraulic calculations) that the available water supply plus any anticipated boost from fire apparatus can supply the system demand through the 5-inch Storz(s) without excessive friction loss.

3.3. Location & Accessibility

- FDCs shall comply with the location constraints in the Fire Code: visible, accessible, unobstructed, close to fire apparatus access roads, within a reasonable distance of a fire hydrant (commonly 100 ft).

- Clear space around the FDC must be maintained
- Height: the inlet must be located typically between 24 in and 4 ft above finished grade.

3.4. Marking & Signage

- Each FDC shall be clearly identified with a reflective sign (e.g., “FDC”) with letter height not less than 6 inches (or as required by Fire Code)
- Where multiple FDCs serve a single building, signs shall indicate what portion of the building each FDC serves.
- The sign shall be mounted to be visible from the street or fire apparatus access path.

3.5. Protective Features & Maintenance

- Approved caps shall be provided and secured to prevent tampering or damage.
- The fire Code Official may require bollards or guard posts to protect the FDC from vehicular impact.
- All exposed piping associated with the FDC must be painted red (or approved color) for visibility.
- Routine inspection, maintenance, and testing shall be part of the fire protection system’s ongoing requirements.

4. Exceptions & Variances

4.1. The Fire Code Official may approve alternate connection types (e.g., Siamese or threaded) in special circumstances where hydraulic and operational justification is provided and where the fire department confirms capability to connect.

4.2. Emergency repairs or retrofit constraints may allow temporary alternative connections, but an upgrade to 5-inch Storz may be mandated at the next major renovation.

4.3. Systems with marginal demand (e.g., small sprinkler systems) may be allowed alternate FDCs if approved by the Fire Code Official and the fire department.

5. Implementation & Transition

- All new permit applications submitted on or after a designated effective date (e.g., 60 days after adoption) must comply.
- Existing fire protection systems undergoing permit review, renovation, or extension shall comply when the FDC is replaced or modified.
- Systems without change may continue under prior connection types, unless the Fire Code Official deems an upgrade necessary for life safety or operational consistency.
- The Fire Department shall maintain an inventory or capability to supply hose adapters or fittings compatible with 5-inch Storz and ensure training and equipment readiness.

6. Enforcement & Compliance

- Compliance with the FDC requirement is mandatory for permit issuance, certificate of occupancy, or approval of fire protection system changes.

- The Fire Department or Fire Marshal's Office shall inspect installed FDCs during system acceptance testing, ensuring that the 5-inch Storz is properly installed, unobstructed, and functional.
- Noncompliant installations may be required to be corrected at the owner's expense before system acceptance or occupancy.

7. Justification / Rationale (for records)

- Standardizing on 5-inch Storz ensures consistency with modern engine hose inventories and reduces the need for adapters, reducing deployment delays and mismatch risk.
- Given the increasing demand for sprinkler systems and the limitations of smaller connections, a 5-inch Storz provides better hydraulic performance and flexibility for future demand.
- The policy encourages hydraulic-based design rather than arbitrary sizing, ensuring that the FDC capacity aligns with system demands and fire department capability.