



DRY HYDRANT SPECIFICATIONS

CITY OF LACONIA FIRE PREVENTION DIVISION
848 NORTH MAIN STREET, LACONIA, NH 03246
Call (603) 524-6881 for appointments and information

**FIRE
PREVENTION**
Fire Department
Access and Water
Supply

800-3

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The City of Laconia expects the design and construction of all dry hydrants to be trouble free and last for many years. The following specifications apply to dry hydrants required for residential and commercial properties:

LOCATION AND ACCESS:

1. Dry hydrants shall be spaced in accordance with the current adopted edition of NFPA 1: 18.5.2 for detached one- and two-family dwellings and 18.5.3 for buildings other than detached one- and two-family dwellings.
2. Each dry hydrant must be cited by a New Hampshire Registered Engineer or Registered Surveyor and approved by the Fire Department.

CAPACITY:

1. The Laconia Fire Department shall calculate the water source capacity based on the largest building to be constructed within the development. The calculation shall derive from the latest edition of NFPA 1142, *Standard on Water Supplies for Suburban and Rural Firefighting*.
 - a. No dry hydrant shall be constructed of less than 30,000-gallon capacity water source. Dry hydrants may require a larger minimum capacity for commercial applications.
 - b. No dry hydrant shall have a flow rate of less than 750 gallons per minute. Dry hydrants may require a greater flow rate depending on the building. Applicant must provide certification from a registered professional engineer or registered hydrologist.

DESIGN & INSTALLATION REQUIREMENTS:

1. The design of the dry hydrant and natural water source shall be submitted to the Fire Department for approval prior to construction. All plans submitted must be signed and stamped by a New Hampshire licensed/registered professional engineer.
2. Dry hydrants shall be designed and installed in accordance with NFPA 1142 and submittals must include appropriate calculations for verification.
3. Water depth must be maintained 2 feet above the strainer level at the 50-year drought level with a clearance of at least 1 foot below the strainer.
4. Maximum lift (riser connection to strainer) should not exceed 15 feet in elevation change.
5. Piping below the natural water level should be 6" (for distances less than 100 feet) or 8" (for distances greater than 100 feet) PVC (minimum schedule 80 where possible) with

glued joints and in all cases any exposed piping shall be primed and painted red.

6. Any transition to steel piping (minimum 6" schedule 40 welded steel) shall be made at or below the natural water level.
7. The dry hydrant connection and piping shall be capable of withstanding the forces applied by 6" suction hose and adapters flowing 1,000 gallons per minute, without damage to the piping or other system appurtenances.
8. The fire department connection shall be 6" NH male threads with cover and screen assembly. The cover shall be connected to the piping with a chain; the screen shall be commercially manufactured and field replaceable.
9. The center of the drafting port shall be 24 inches above grade level where the apparatus will park.
10. The dry hydrant shall be located between 5 to 8 feet from the edge of the pavement.
11. The inlet of the suction piping shall be provided with an anti-vortex plate assembly.
12. Dry hydrants installed in natural water sources shall have a strainer approved by Laconia Fire Department.

ACCESS AND PROTECTION

1. An approved, paved fire department access road of at least 20 feet in width shall be provided to the dry hydrant.
 - a. Where a fire department apparatus turn around is required, it shall be provided such that the apparatus operating at the dry hydrant does not obstruct a vehicle turn around.
 - i. Turn arounds shall comply with Laconia Fire Prevention Regulation governing dead-end roads and turn arounds.
2. The dry hydrant, water source, and access road must be provided in an easement dedicated to public use (Laconia Fire Department) in fee simple ownership.
3. Approved fire lane/no parking signs and pavement markings shall be provided 10 feet on either side of the dry hydrant. An approved dry hydrant sign shall be provided behind and above the hydrant.
4. Two (2) bollards shall be installed in locations to prevent mechanical damage to the dry hydrant assembly, allowing for sufficient working room to make or break connection to the dry hydrant.
5. Bollards shall be a minimum of 6 inch diameter steel concrete filled tubes 8 feet in length, a minimum of 42 inches will project above the grade. The section of bollard above grade shall be painted red in color.
6. Bollards shall be set in a minimum 12 inch diameter concrete base.

TESTING & ACCEPTANCE

1. The entire dry hydrant is to be inspected by the Fire Department prior to backfilling.

2. A written agreement must be on file with the Fire department as to who will be responsible for maintenance of the dry hydrants.
3. Flow test of the cistern must be on file with the Fire Department prior to acceptance.
4. Laconia Fire Department will conduct yearly flow tests of the dry hydrant.
5. **No occupancy permits will be issued until the cistern is inspected, tested, and approved by the Fire Department.**