





# NORTHERN WAKE FIRE DEPARTMENT

## STANDARD OPERATING PROCEDURES

<b>TITLE:</b> Fire Hydrant and Water Point Testing	<b>SECTION/TOPIC:</b> OPERATIONS
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<b>REVISION DATES:</b>	<b>APPROVED BY:</b>  Gary Vickerson <hr/> <b>PRESIDENT – BOARD OF DIRECTORS</b>  Tim Pope <hr/> <b>FIRE CHIEF</b>

### I. PURPOSE

- A. The purpose of this Standard Operating Procedure is to define the process for testing fire hydrants.

### II. SCOPE

- A. This Standard Operating Procedure applies to all personnel within the Northern Wake Fire Department.

### III. PROCEDURE

- A. All fire hydrants will be tested once every 5-years utilizing the following steps:

a) TEST HYDRANT

- Record Test Hydrant ID number
- Remove 2 ½" Hydrant Cap
- Place Hydrant Cap gauge on 2 ½" Hydrant Orifice
- Open Hydrant Cap gauge bleeder
- Open Hydrant slowly and completely
- Close Hydrant Cap gauge bleeder
- Obtain and record Static Pressure reading

b) FLOW HYDRANT

- Record Flow Hydrant ID number
- Remove 2 ½" Hydrant Cap
- Determine 2 ½" Hydrant Orifice coefficient of discharge
- Place Hydrant Flow Pitot and Diffuser on 2 ½" Hydrant Orifice
- Open Hydrant slowly and completely
- Flow until the water discharge is clear
- Obtain and record Residual Pressure reading from the Test Hydrant
- Obtain and record Flow Pressure reading from the Flow Hydrant
- Close the Flow Hydrant slowly and completely
- Open the Test Hydrant Cap gauge bleeder

- Close the Test Hydrant slowly and completely
- Remove Hydrant Cap Gauge on 2 ½" Hydrant Orifice
- Remove Hydrant Flow Pitot and Diffuser on 2 ½" Hydrant Orifice
- Remove remaining Hydrant Caps
- Grease all Hydrant Threads
- Lubricate Hydrant Stem
- Remove all Hydrant Cap Chains
- Paint Hydrant Barrel Yellow if needed
- Paint Hydrant Bonnet and all Hydrant Caps the proper color based upon Hydrant Flow results corrected to 20 psi. Residual System Pressure
- Cut and remove any Grass, Weeds or Limbs that would obstruct Hydrant operations
- Provide the recorded Hydrant Test results to the person responsible for entering data into the Hydrant Testing Database.

B. All fire hydrants will be tested on the off-years utilizing the following steps:

a) TEST HYDRANT

- Record Test Hydrant ID number
- Remove 2 ½" Hydrant Cap
- Place Hydrant Cap gauge on 2 ½" Hydrant Orifice
- Open Hydrant Cap gauge bleeder
- Open Hydrant slowly and completely
- Close Hydrant Cap gauge bleeder
- Obtain and record Static Pressure reading
- Open the Test Hydrant Cap gauge bleeder
- Close the Test Hydrant slowly and completely
- Remove Hydrant Cap Gauge on 2 ½" Hydrant Orifice
- Remove remaining Hydrant Caps
- Grease all Hydrant Threads
- Lubricate Hydrant Stem
- Remove all Hydrant Cap Chains
- Re-paint Hydrant Barrel Yellow if needed
- Re-paint Hydrant Bonnet and all Hydrant Caps if needed
- Cut and remove any Grass, Weeds or Limbs that would obstruct Hydrant operations
- Provide the recorded Hydrant Test results to the person responsible for entering data into the Hydrant Testing Database.

C. All water points will be inspected and dry hydrants will be back flushed and tested annually utilizing the following steps:

a) Draft Sites

- Cut and remove any Grass, Weeds or Limbs that would obstruct drafting operations
- Provide the recorded inspection results to the person responsible for entering data into the Hydrant Testing Database.

b) Dry Hydrants

- Position apparatus for back flushing of the dry hydrant.
- Place 2 ½" x 4 ½" adapter on dry hydrant connection.
- Connect a 50-foot section of 3" hose from pump discharge to the dry hydrant adapter.
- Pump apparatus pump in gear and open correct discharge allowing the apparatus tank water to back flush the dry hydrant.
- Once the apparatus tank is emptied, take apparatus pump out of gear, close pump discharge valve, disconnect 3" hose and remove dry hydrant adapter.
- Remove apparatus pump intake valve and place a 4 ½" x 6" adapter on the dry hydrant connection.
- Connect a 6" suction hose directly between the apparatus pump intake and the dry hydrant adapter.
- Put apparatus pump in gear, prime pump and fill apparatus tank.
- Place a pitot adapter on deck gun.
- Open deck gun pump discharge valve and increase pressure until the point just before pump cavitation (~20mm Hg).
- Record pitot reading.
- Decrease pump discharge pressure, take apparatus pump out of gear, close deck gun pump discharge valve, remove pitot adapter from deck gun.
- Disconnect 6" suction hose and remove 4 ½" x 6" adapter from dry hydrant.
- Cut and remove any Grass, Weeds or Limbs that would obstruct dry hydrant operations
- Provide the recorded inspection results to the person responsible for entering data into the Hydrant Testing Database.