

## ESCAMBIA COUNTY FIRE-RESCUE

*Rules, Policies, and Guidelines*

**1225.025**

### **Hydrant Testing**

Implemented:02/15/11

Revised:

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*Paul Williams*, *Fire Chief*

#### **PURPOSE:**

The purpose of this directive is to formalize policy and procedures for conducting fire hydrant flow testing for Escambia County Fire Rescue. This testing is necessary to determine the quantity of water available for fire protection and includes the actual measurement of static pressure, residual pressures, and flow rate from hydrants.

#### **OBJECTIVE:**

Fire flow tests determine the rate of water flow available for firefighting at various locations within the distribution system by measuring the flow from hydrants and recording the pressures corresponding to the flow, the number of gallons available at any pressure, or the pressure available at any flow, which is determined through calculations. In addition, this procedure provides ECFR personnel an opportunity to identify any and all deficiencies related to fire hydrants within our jurisdiction and a procedure by which to report these deficiencies to the proper agency for repairs.

#### **SCOPE:**

All Personnel

#### **PROCEDURE**

Fire hydrant flow testing should be conducted every five (5) years by ECFR companies.

A review of the procedures to be utilized when conducting hydrant testing shall be provided for all ECFR personnel prior to testing.

Fire hydrant flow test records shall be entered in the Firehouse Report System as soon as possible when testing is completed.

Fire hydrant testing shall be in accordance with the International Fire Service Training Association (IFSTA) Manual, Chapter Four, Water Supplies for Fire Protection (Fourth Edition).



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**EQUIPMENT REQUIRED**

A static cap with gauge, water diffuser assembly with gauge, hydrant wrench

**PROCEDURE CONTINUED**

- a. When flowing hydrants consideration should be given to potential interference from traffic and/or water damage to the surrounding environment.
- b. Prior to testing on private property, notification must be made to the owner/manager. Specific location information regarding where testing will occur may be required for privately owned/operated utilities.
- c. The water distribution system, i.e.: E.C.U.A., People's Water, etc, should be notified of the scheduled testing prior to the fire department performing any tests.
  1. Locate the static hydrant. Static and residual pressure readings shall be generated from this hydrant
  2. Locate the flow hydrant. This will provide the hydrant flow rate (PSI)
- d. Procedures for conducting available water testing:
  1. Personnel shall be positioned at both the static hydrant and the flow hydrant to be tested.
  2. Personnel at static hydrant should remove one 2.5" cap then open the hydrant fully to determine whether the hydrant is operational. Any deficiencies shall be identified and the hydrant completely closed. Attach the static cap with gauge to the hydrant. Open the hydrant fully. The static pressure will be indicated on the gauge. Record the static pressure.
  3. Personnel at the flow hydrant shall remove one 2.5" cap, place the diffuser on the hydrant and open fully. Record the flow rate reading and the psi reading on the Flow Test Record Sheet.
  4. While the flow hydrant is fully open, the person at the static hydrant takes another reading from the static cap (the residual pressure) and records this reading.



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5. When readings have been recorded close both the static and flow hydrants and remove static cap and diffuser. Place caps back on the hydrants and allow the hydrant to drain properly. **REMEMBER: Open and close hydrants slowly to prevent water hammer or system damage.**
  6. Record the hydrant's exact location using the Global Positioning System (GPS) if available.
  7. When the hydrant flow test is completed, the readings shall be entered into the Firehouse Hydrant Program, i.e., static, residual, flow rate (psi). The water available at 20 psi shall be calculated and recorded on the proper form.
- e. Recording information on Fire Hydrant Flow Test Record Sheet.
1. Record pressure hydrant information first to include the hydrant number, hydrant make and the location (i.e., closest building or address of nearest residence). Second, record the static and residual pressures and the overall condition of the hydrant.
  2. Record flow hydrant information, using the same steps as outlined in Number 1, above.
- f. Recording information on Hydrant Maintenance Form.
- Item B - Enter the date, station/shift and the name of the individual recording the information, site or nearest building and hydrant number.
- Item C - Identify any obstructions or impairments to the hydrant.
- Item D – Identify any hydrant deficiencies.
- Item E – If a hydrant is found to be completely out of service, meaning no water flows or you cannot open the hydrant, place it Out-of-Service to the fire dispatcher and the water distribution authority.
- g. Safety precautions to consider during flow testing.
1. Certain precautions must be observed during and after conducting hydrant flow tests in order to avoid injuries to those participating in the testing or to passersby. Efforts must also be made to minimize damage to property from the flowing stream. Both pedestrian and automobile traffic must be controlled during all phases of the testing.

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Other safety measures include:

- a. Tighten caps on hydrant outlets when not in use.
- b. Stand away from closed caps.
- c. Never lean over the top of the hydrant when in operation.

Property damage control measures include opening and closing hydrants slowly to avoid water hammers. Check downstream to see where water will flow, since flowing water across a busy street could cause an accident. It is imperative that proper measures be taken before hand to slow or stop traffic.

IF PROBLEMS EXIST IN COMPLETING A FLOW TEST, THOUGHT MUST BE GIVEN TO SOLUTIONS TO ALLOW TESTING TO BE COMPLETED WITHOUT DISRUPTIONS OR PROPERTY DESTRUCTION.

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