



## August 2008

There has been a sizable effort made by the District of Columbia Water and Sewer Authority (DC WASA) and DC Fire and Emergency Medical Services (FEMS) to provide the District with state-of-the-art fire protection, by maintaining public hydrants in good working order and by improving communication and information tools to quickly locate hydrants during an emergency (property owners are responsible *for maintaining* hydrants on *private* property.)

## How Do Hydrants Really Work

A fire hydrant is tied into the water main that runs below the street or sidewalk. To use the hydrant for firefighting, a hose is attached to the nozzle, the cap is removed, and the valve must be turned—usually requiring a special tool carried by firefighters. Only trained personnel should open a hydrant, as others may be injured or may cause damage to the hydrant or the water infrastructure.

Hydrants come in a variety of shapes and colors. Fire flow is not determined by the attractiveness or color of the hydrant, nor does a missing cap or slight defect render it inoperable. Sometimes hydrants are tagged with rings for minor repairs, while still being fully operational for firefighting.

## Fire Hydrant Upgrade Program

DC WASA launched an aggressive \$26.5 million Fire Hydrant Upgrade Program in 2006 to replace nearly 3,000 public hydrants (approximately 35 percent of the District hydrants) over a five-year period. The Plan called for approximately 600 hydrants to be installed each year. In FY 2007, DC WASA exceeded this goal by installing 803 hydrants. In FY 2008, WASA is on pace to install over 1,000 hydrants.

As part of this program, DC WASA and FEMS agreed to standardize hydrants and adopt the national standard. This standard enables engine companies from Virginia and Maryland to assist DC Fire and EMS during major emergencies in the District without the need for a special adapter.

DC WASA and FEMS partnered to validate the hydrant inventory while FEMS performs condition assessments of all District hydrants. FEMS has committed to perform hydrant inspections twice a year between March and December, while DC WASA is responsible for repair, maintenance and/or replacement of hydrants found defective through the FEMS condition assessment. FEMS completed all the condition assessments in September 2007 and resumed inspections in March of 2008. Due to the tremendous efforts of both agencies, by December 2008, FEMS will have inspected more than 9,100 public hydrants at least three times over a relatively short period of time.

In addition to these steps, in the fall of 2007, DC WASA appointed a liaison to the fire department who responds on-site to all two-(or more) alarm fires, bringing maps and checking out the hydrants both before and after firefighting.



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Further, FEMS and DC WASA are collaborating to incorporate state-of-the-art technology in firefighting and water supply planning. As they inspect public fire hydrants, FEMS is using hand-held GPS units to locate hydrants, capture the hydrant attributes and upload the information to DC WASA's database. This process provides nearly real time hydrant status, which is critical information during an emergency. Other jurisdictions are monitoring our progress with this new, innovative technology closely.

## Monitor Public Hydrant Status Using Google Earth®

DC WASA makes available to the public the status of individual fire hydrants in a couple of ways. Anyone with broadband Internet may access status information through a tool powered by Google Earth®. People may locate a specific hydrant by address and get information that includes its identification number, current operational status and last inspection date. Additionally, customers can report a problem regarding a specific hydrant with the new web tool. Individuals without DSL or cable modem (broadband) can use computers at a public library. The District of Columbia Public Library offers public access to the Internet at various library branches and can be contacted at (202) 727-0321 for more information.

Or, customers may also contact DC WASA's 24-Hour Command Center at (202) 612-3400 to determine the status of a particular hydrant or to report a hydrant that may be leaking or damaged. In the future, DC WASA will be launching additional tools for customers without broadband capabilities.

*A more extensive version of the Google Earth® tool is available to DC FEMS personnel to assist in decision making and emergency preparedness.* The fire department can quickly identify and locate hydrants that are currently out of service by Battalion and Engine Company, and determine which hydrants to use. This application allows FEMS personnel to see the identification number, description, address, and operational status, compliance to National Fire Protection Association standards, last inspection date, and flow rating. This tool will eventually link the hydrant status information stored in DC WASA's Asset Management System to the GIS mapping system.

## New Hydrant Look

*Another new enhancement* is the use of a system of colored bands. A hydrant with a colored band or tape indicates it is an upgraded hydrant that meets the national standard. White designates the hydrant has a standard 4.5-inch nozzle; blue, red, green or orange identifies that the hydrant has the 4.5-inch nozzle and also the flow rate the firefighter should expect from that hydrant.

*Circular rings may be the most familiar new communications tool.* An "out-of-service" ring identifies a particular hydrant as not being available for firefighting use on that day. Out-of-service rings are placed on hydrants by both DC WASA and FEMS for different reasons; even though firefighters are provided regular updates on the condition of hydrants directly, the intent of the ring is to provide one more alert to the firefighter that this hydrant is currently not available. This information is an important extra precaution for firefighters who frequently make quick decisions to protect property



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and lives. The water distribution system is redundant so the firefighters have many other hydrants in the area available to them during an emergency and they can quickly eliminate those with rings.

Typical reasons why a hydrant may be out-of-service include:

- **Obsolete hydrants** - If DC WASA cannot repair the hydrant or the hydrant is a model that cannot be retrofitted to the national standard, then the hydrant is placed on the construction schedule for replacement. A hydrant is typically replaced within three weeks of this determination.
- **Inaccessible hydrants** - Hydrants that cannot be accessed by the firefighter are placed out-of-service. These are typically found at construction sites and roadway repairs where there is fencing or barriers that prevent the firefighter from hooking up to the hydrant (road or sidewalk reconstruction/repairs that interfere with a firefighters ability to operate the hydrants may also result in an out-of-service designation.)
- **Main repairs** – DC WASA must shutoff mains to make repairs, which in turn can restrict water flow to the hydrants. DC WASA crews will place out-of-service rings on these hydrants until water is restored.

A “Requires Maintenance” ring indicates that a hydrant is fully operational and available for use during a fire. Typical reasons why a “Required Maintenance” ring is placed on a hydrant include: a defect was found during the condition assessment such as a missing chain, a missing cap, or a leak that needs to be attended to at some point in time, but that does not render the hydrant unusable.



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