



MOUNTAIN BROOK FIRE DEPARTMENT

POLICY NO. 105.01 VOLUME: 1

SUBJECT: Water Supply, Hydrants

SIGNED: _____ DATE: 11/7/2018 - revised
Chris J. Mullins, Fire Chief

SCOPE AND PURPOSE: A city's water distribution system is one of the key factors considered when rating the fire protection capabilities of a city. Recognizing this important fact, it is paramount that fire departments be as knowledgeable regarding the distribution system as possible; therefore, the following guidelines have been established to aid fire personnel within the Mountain Brook Fire Department in maintaining and understanding the City's fire protection water distribution system.

POLICY: The policy is offered as a centralized guideline which should be followed and consulted in an effort to standardize all operations regarding fire hydrants. Responsibility and authority have been clearly defined so that the system should function with each individual knowing his/her duties regarding fire hydrants. All safety precautions should be followed when performing any hydrant work, including wearing a safety vest.

HYDRANT IDENTIFICATION: All fire hydrants used by the department have an identification number assigned by The Birmingham Water Works Board. Territory/Map Books, located on the fire apparatus and in Battalion 1, display the hydrant locations. At each hydrant location there is an identification number. The numbers are divided into three different series:

1. All 5000 and larger numbers, (i.e. 11459) are Birmingham Water Works Board identification numbers. These represent the vast majority of the over 460 fire hydrants used by the department. When notifying the Water Works of hydrant problems, it is best to use the hydrant **LOCATION** (address) for a reference. The **HYDRANT NUMBER** may also be used to specify the exact hydrant.

EXAMPLE: Hydrant #5711 – River Oaks Lane/River Oaks Circle

2. The 2000 series numbers are those privately owned hydrants that are within the city limits, but are not installed at the request of the City. Most of these were installed by occupancies that need extra protection, such as businesses, churches and schools.

EXAMPLE: Hydrants #2120, 2121, 2122, & 2123 – Brookwood Baptist Church, 3449 Overton Road

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MAIN MAPS: The water system used by the department is owned and operated by The Birmingham Water Works Board. The Board uses and has provided us with maps that display all of the underground water piping in this area:

1. Updated main maps of the water system used by the department are located at each fire station and the training office.
2. Water main maps show the underground locations, sizes, valving and connections of the system. Also included are: the methods of “looping” and redundancy.
3. These maps are available for department use and for public information.

MAINTENANCE: All public hydrants used by the department will have any and all necessary **REPAIRS** made by the Birmingham Water Works. All private hydrants will be repaired by their owners and the private contractors that they choose. Minor maintenance, such as lubrication and testing will be performed by this department.

1. **Obstructions** such as grass, weeds, posts, fences, trees, bushes, etc. will be noted by the company officer assigned to that area. Twice annually, in the spring and in the fall, these conditions will be inspected and corrected. These conditions will also be corrected at any other time when needed or required by the on-duty company in that area.
2. A **Form Letter** is used by the department to notify property owners of conditions at or near a hydrant that requires correction. The company officer will notify (via phone or written memo) the Fire Marshal and Water Supply Officer of any problems. The Fire Marshal will complete the form letter and handle the notification and any compliance problems that may arise. He will see that a copy is left with the property owner and follow-up to see that the condition is corrected within thirty (30). When a hydrant is not in good condition and it constitutes a severe hazard, the period of correction can be reduced by the water officer as required in the interest of public safety.
3. Assigned duty crews will perform any **Cleanup (Weed abatement)** that needs to be done around hydrants as this is considered minor maintenance and is necessary so the hydrant can be viewed with ease.

TESTING: All fire hydrants used by the fire department will be tested in accordance with departmental standards and procedures.

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1. **Each Spring**, March - April and **Each Fall**, September - October all fire hydrants will be tested. These semi-annual tests are done to determine if there has been any significant change in the water pressure or flow rate since the hydrant was last tested.
2. The **Testing Procedure** to follow is listed below. This is also the procedure recommended by the Birmingham Water Works Board to prevent damage to the mains and distributors.

Gated wyes shall not be used in the testing process. The high operating pressures within the Mountain Brook area water distribution system coupled with mains that are in poor condition makes the use of such devices too risky with regard to water hammer.

Step 1: Loosen and tighten the 5" cap to make sure it moves freely.

Step 2: Remove one of the 2 ½" caps and place the test gauge on the outlet.

Step 3: Open the hydrant **slowly** and fully bleed the air from the hydrant.

Take the static pressure reading.

Slowly close the hydrant completely.

Step 4: After closing the hydrant, leave the test gauge attached and remove the other 2 ½" cap.

Step 5: Attach a stream diversion adapter if necessary to prevent property damage. If automobile traffic is a problem, stop or re-direct traffic until it can safely pass.

After taking precaution to prevent property damage, **slowly** open the hydrant completely.

Record the flow pressure reading.

Step 6: Flow the hydrant until the water clears of sediment. If it will not clear, leave the hydrant flowing at a **slow rate** and notify the Birmingham Water Works. If the sediment does clear, close the hydrant slowly.

Step 7: Check for proper hydrant drainage. A property drained hydrant will not freeze during cold weather.

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Step 8: Record and report hydrant data.

3. Each test period will include **Static Tests on ALL HYDRANTS** and will also include flow pressures and available water computations on hydrants or locations as indicated by the water officer.
4. Where **Available Water Computations and Information** are required, they can easily and quickly be obtained by entering the necessary data in the station computer and it will calculate Available Water for you.
5. All Test Data, information, Available Water computations and information will be reviewed and entered into the FireHouse Hydrant database. Company officers should keep a copy of all field work sheets until all hydrant data has been entered for that season. When all data has been entered, all original paperwork should be sent to the Safety Training Officer.

HYDRANT PAINTING/MINOR MAINTENANCE PROCEDURES: Hydrant painting is a function of the fire department, to assure that all fire hydrants are easily visible to fire suppression companies and to look presentable to the general public. Minor maintenance includes: removing growth that impedes the use of the hydrant, the exercising of the valves, and freeing of the caps.

1. Hydrants used by the fire department will be painted every other year or when requested by a property owner. Currently this means that fire hydrants will be painted during odd years: 2007, 2009, 2011, etc. Newly installed hydrants will be painted within thirty (30) days after notification that the hydrant is in service.
2. A **Color Code** will be used for painting hydrants used by this department. The barrels of city hydrants and caps will be painted yellow. Hydrants with less flow than 500 gpm will be painted red on the bonnet only. Hydrants with a flow of 500 to 999 gpm will be painted with orange on the bonnet only. Hydrants with a flow of 1000 to 1499 gpm will be painted with green on the bonnet only. Hydrants with a flow of 1500 gpm or greater will be painted with light blue on the bonnet only.
3. Privately owned hydrants will be painted in a similar fashion. Hydrants in other adjacent districts/cities, used by this fire department, will follow the color codes espoused by the NFPA or by their own choosing. The companies that this will affect should be familiar with those hydrants.
4. Maintenance surveys should include, but should not be limited to the following:

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- A. Check for obstructions, fences, bushes, mailboxes.
- B. Check to see that the outlets are facing the best possible direction.
- C. The hydrant should have 15 inches of clearance from the bottom of the lowest outlet to the ground (BWW can raise or lower a hydrant if needed).
- D. Check for mechanical damage; has the hydrant been struck by a car?
- E. Check for excessive rust or corrosion.
- F. Check to see if the flow is of normal character.
- G. Check all threads for damage and lubricate.
- H. Check all gaskets and replace as needed.
- I. Is excessive force needed to operate the hydrant?

HYDRANTS OUT OF SERVICE OR UNDER REPAIR: During normal use, fire hydrants may become unusable. This will be noted during the testing and maintenance period and/or at other times. These problems may be the result of age, misuse, or accident. In the event a hydrant is determined to be non-functional or unserviceable, then the following steps should be followed:

1. **Hydrants in need of repair should** be reported to the Water Officer during normal business hours. After hours, weekends, and holidays, problems in need of immediate attention should be reported to the Birmingham Water Works by contacting dispatch. Forward by e-mail to Water Officer, all hydrant problems to insure completion of needed repairs.
2. **If the hydrant is one owned by the Birmingham Water Works Board**, notify Fire Dispatch and request that they notify the Water Works. Enter these facts and data on information board. Be sure to list the problem, the date, the time, and location of the hydrant. Notify the Water Officer giving the pertinent information. The Water Officer will notify the Active 911 coordinator when hydrants are OOS and back in service. The Water Officer will be responsible for tracking the repair progress and notifying fire alarm and the other stations. Once the repair has been made, supervisors should enter the information on the information board.
3. **If the hydrant is a privately owned hydrant**, the company officer will notify the Water Officer who will then notify the occupants who are being served by the hydrant and inform them that it is their responsibility to get the problem corrected. The company officer will enter the information in the Station Daily Log or information board. The Water Officer will notify all other stations. The Water Officer will track the repair progress. Once the repair has been made, department personnel will test the hydrant, enter the information in the Station Daily Log or information board and notify the Water Officer.
4. **If the hydrant is owned by another water system**, follow the same procedure as a privately owned hydrant.

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5. **NOTICE:** WHEN A HYDRANT IS PLACED OUT OF SERVICE, IT SHOULD BE PLACARDED AS SUCH. THE PLACARD SHOULD BE REMOVED ONLY WHEN THE REQUIRED REPAIRS ARE MADE AND THE HYDRANT HAS BEEN EXAMINED BY THE APPROPRIATE FIRE COMPANY. PLACARDS SHOULD BE CARRIED ON THE APPARATUS WITH ADDITIONAL PLACARDS STORED BY THE WATER OFFICER.