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March 23, 2020

Mr. Kent A. Chandler  
Executive Director  
Kentucky Public Service Commission  
P.O. Box 615  
Frankfort, KY 40602-0615

**Re: *Alternative Rate Adjustment Filing of Farmdale Water District  
Case No. 2020-00021***

Dear Mr. Chandler:

Enclosed for filing in the above-referenced matter is Farmdale Water District's Response to Commission Staff's First Request for Information.

Very truly yours,

Stoll Keenon Ogden PLLC

A handwritten signature in blue ink that reads "Katelyn Brown".

Katelyn L. Brown

KLB  
Enclosure

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**ALTERNATIVE RATE ADJUSTMENT )  
FILING OF FARMDALE WATER ) CASE NO. 2020-00021  
DISTRICT )**

**RESPONSE OF  
FARMDALE WATER DISTRICT  
TO  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
DATED MARCH 18, 2020**

**FILED: March 23, 2020**

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**ALTERNATIVE RATE ADJUSTMENT    )  
FILING OF FARMDALE WATER        ) CASE NO. 2020-00021  
DISTRICT                                )**

**RESPONSE OF FARMDALE WATER DISTRICT TO  
COMMISSION STAFF’S FIRST REQUEST FOR INFORMATION**

Comes Farmdale Water District, for its Response to Commission Staff’s  
First Request for Information, and states as shown on the following pages.



---

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*Counsel for Farmdale Water District*

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**


**In the Matter of:**

**ALTERNATIVE RATE ADJUSTMENT )  
FILING OF FARMDALE WATER ) CASE NO. 2020-00021  
DISTRICT )**

**CERTIFICATION OF RESPONSE OF FARMDALE WATER DISTRICT  
TO COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**

This is to certify that I have supervised the preparation of Farmdale Water District's Responses to Commission Staff's First Request for Information. The response submitted on behalf of Farmdale Water District is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

Date: 3/23/2020

  
\_\_\_\_\_  
Brian Armstrong, Manager  
Farmdale Water District

# FARMDALE WATER DISTRICT

## CASE NO. 2020-00021

### Response to Commission Staff's First Request for Information

#### Question No. 1

**Responding Witness: Brian Armstrong**

**Q-1. In Appendix D to the November 22, 2019 Order in Case No. 2019-00041,<sup>1</sup> the Commission Ordered Farmdale District to submit the following information within six months of the date of the Order. Provide the current status for each item in the following list and provide a written copy of the listed items that Farmdale has completed.**

- a. The results of the tests of its meters that are ten years old or older;**
- b. A meter testing schedule;**
- c. Documentation of fire department water usage;**
- d. A standard written procedure for when there is a line break due to excavation that ensures that line break repairs are charged to the appropriate offender;**
- e. A written policies and procedures manual;**
- f. A written safety training schedule;**
- g. A written safety manual;**
- h. A written policy regarding theft of water service; and**
- i. The results of a comprehensive water audit.**

A-1.

- a. **Meter Test Results.** None of Farmdale's meters are over 10 years old. In 2012, all of Farmdale's meters were replaced with Sensus iPERL "radio-read" meters. Thus, none of them have been tested.

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<sup>1</sup> Case No. 2019-00041, *Electronic Investigation Into Excessive Water Loss by Kentucky's Jurisdictional Water Utilities* (Ky. PSC Nov. 22, 2019).

- b. **Meter Testing Schedule.** Farmdale has approximately 2,675 meters in service. All of them will be 10 years old in 2022. It will be physically impossible to test all of them and replace the meters that are reading too slow during calendar year 2022. Therefore, Farmdale plans to test the meters over a 30 month period beginning in July 2020 and ending in December 2022. Farmdale plans to test an average of 90 meters per month (90 meters per month x 30 months = 2,700 meters).
- c. **Fire Department Usage.** Please see the attached Fire Department Water Usage documentation.
- d. **Line Breaks Caused by Excavators.** Farmdale does not have a standard written procedure for billing excavators that cause water line breaks within Farmdale's distribution system.
- Farmdale has been very fortunate over the past few years with respect to water line breaks caused by excavators. Farmdale office staff can only remember two (2) occasions when this happened. In each case, Farmdale sent a bill to the excavator. The bill included: (1) cost of materials and supplies; (2) reimbursement for the value of the time spent by Farmdale's employees to make the repairs; and (3) the cost of

the estimated amount of water lost because of the excavator-caused break.

Although Farmdale does not have a written procedure for billing excavators, it is considering the use of the attached form or a modified version of it. The form is currently being used by at least one other water district in the central Kentucky area.

- e. **O & M Manual.** In response to this question, Farmdale District has attached its Distribution System Operation & Maintenance Manual in its entirety.
- f. **Safety Training Schedule.** Please see the attached Safety Meeting Schedule.
- g. **Safety Manual.** Please see pages 30 through 42 of Farmdale District's Distribution System Operation & Maintenance Manual attached to this response. This section addresses Farmdale District's policies and procedures regarding safety.
- h. **Theft of Water Service.** Please see the attached Theft of Service policy.
- i. **Comprehensive Water Audit.** The Comprehensive Water Audit will be performed by the Kentucky Rural Water Association, Inc. ("KRWA"). It is still a work in progress. Within a few days following

the November 22, 2019 PSC Order in Case No. 2019-00041, Farmdale's attorney, who is also the attorney for KRWA, contacted KRWA and requested KRWA to perform the Comprehensive Water Audit for Farmdale.

KRWA staff members have visited Farmdale on several occasions since then to familiarize themselves with Farmdale's distribution system and its zone meters. In addition, KRWA staff members have worked with Brian Armstrong numerous times and provided him with more advanced water leak detection training.

Before the COVID-19 outbreak, KRWA was confident that it would complete the Farmdale Comprehensive Water Audit before the May 22 deadline. KRWA staff will need to spend two (2) or three (3) days in the Farmdale office reviewing and analyzing billing and water usage records as part of the Comprehensive Water Audit. This work has not yet begun. Depending upon the length and severity of the COVID-19 State of Emergency in Kentucky, it might become necessary to obtain an extension of time for KRWA to complete the Comprehensive Water Loss Report.



Attachment to Question No. 1(c)

Farmdale Water District

Fire Department Usage (2018)

January	-----	0 gal
February	-----	2000 gal
March	-----	1500 gal
April	-----	2100 gal
May	-----	500 gal
June	-----	1000 gal
July	-----	1000 gal
August	-----	500 gal
September	-----	0 gal
October	-----	500 gal
November	-----	30500 gal
December	-----	0 gal
Total:		39,600 gal

Fire Department Usage (2019)

January	-----	5500 gal
February	-----	1000 gal
March	-----	1000 gal
April	-----	1000 gal
May	-----	1000 gal
June	-----	4800 gal
July	-----	1000 gal
August	-----	640 gal
September	-----	19200 gal
October	-----	2000 gal
November	-----	2000 gal
December	-----	1000 gal
Total:		40,140 gal

Attachment to Question No. 1(d)

# CONTRACTOR DAMAGE

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CONTRACTOR NAME: \_\_\_\_\_

BILLING ADDRESS: \_\_\_\_\_

DISTRIBUTION SYSTEM IMPACT DISCRIPTION BRIEFING (I.E. WBA; # of Customers, Size and Material)

\_\_\_\_\_

CONTRACTOR NAME -PERSON IN CHARGE: (On Site) / License #: \_\_\_\_\_

DESCRIPTION OF DAMAGE: \_\_\_\_\_

\_\_\_\_\_

FOLLOW UP REQUIRED: YES \_\_\_ NO \_\_\_ IF YES, DESCRIBE:

\_\_\_\_\_

\_\_\_\_\_

CONTRACTOR'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

MISC NOTES: \_\_\_\_\_

\_\_\_\_\_

Attachment to Question No. 1(e)

# **Farmdale Water District**

## **Distribution System Operation & Maintenance Manual**

**100 Highwood Drive  
Frankfort, KY 40601  
Telephone: 502-223-3562  
Fax: 502-223-3562**

**PWSID#: KY0370128  
AI#: 33876**

**Last Update – 6/27/2018 (Safety)**

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## APPENDICES

Flushing Record Form.....	A
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Line Break/Repair Log.....	E

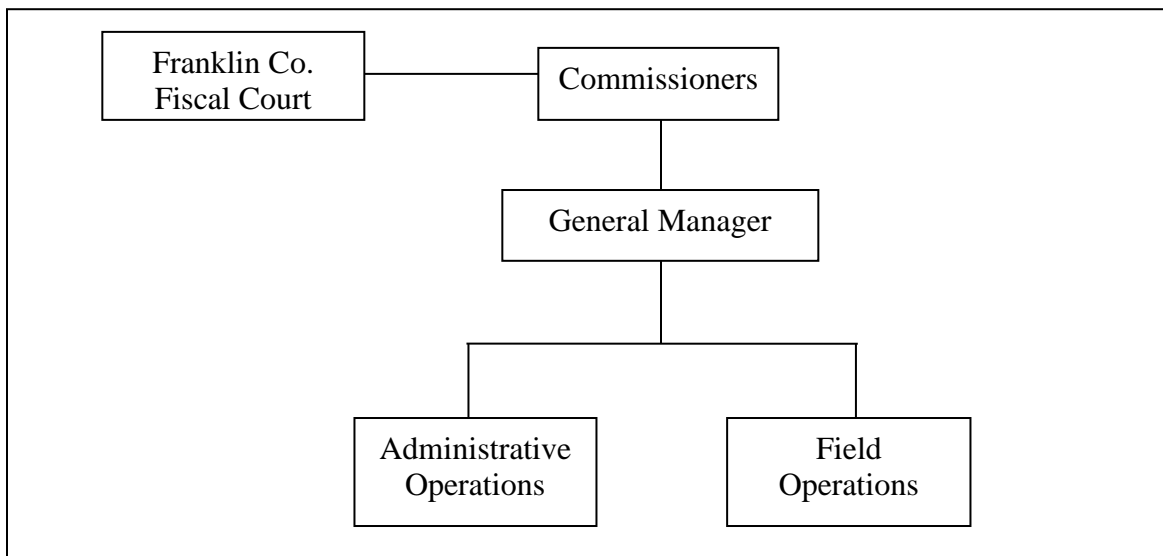
## INTRODUCTION

In compliance with Kentucky Administration Regulation 401 KAR 8:020, Section 2 (13), this Operation and Maintenance Manual has been compiled to facilitate efficient operation and maintenance procedures for water distribution at the Farmdale Water District. Management will ensure the accessibility of this manual to all employees and it will be made available for review by all regulatory agencies. All personnel of the Farmdale Water District will be encouraged to familiarize themselves with and utilize the practices and procedures set forth within this manual.

## ORGANIZATIONAL STRUCTURE

The Farmdale Water District was created and organized in 1961 by the Franklin County Fiscal Court subject to the provisions of Kentucky Revised Statutes (KRS) Chapters 74 and 65. As a water district, Farmdale Water District is also considered a Special District. "A Special District means any agency, authority or political subdivision of the state which exercises less than statewide jurisdiction and which is organized for the purpose of performing governmental or other prescribed functions within limited boundaries. It includes all political subdivisions of the state except a city, a county, or a school district." For most purposes, a water district is considered a political subdivision of the county. A water district is regulated by the Kentucky Division of Water (DOW) and the Kentucky Public Service Commission (PSC).

The Farmdale Water District was created as a single county district. The Board of Commissioners of the water district consists of five (5) members appointed by the County Judge/Executive and approved by the Franklin County Fiscal Court. The term of each commissioner is four (4) years. A resolution from the Franklin County Judge/Executive for each appointment should be on file at the water district office.





## **BOARD RESPONSIBILITIES**

The Board of Commissioners (board) is granted all powers as provided under the KRS Chapters 74 and 278, and specifically KRS 74.076, which includes but is not limited to: acquiring, installing and operating a water system for a district and may make contracts with persons, municipalities or other agencies for water supply. The board may also prosecute and defend suits, hire necessary employees and other activities as provided under the Kentucky statutes.

In its role as overseer, it is critical that board members have an overall understanding of the operations of the water district, thoroughly review the background materials provided in advance of the meetings, participate in discussions, and request additional information as needed. Board members must use the expertise of each other and of their General Manager in determining the appropriate actions for the water district. Commissioners should be knowledgeable of laws and regulations pertinent to the water district. Commissioners should be loyal to the water district. Commissioners should, to the best of their ability, aid the water district in accomplishing its mission; operate morally, ethically, and within applicable laws and regulations. Commissioners should never knowingly participate in any illegal act or deception, should cooperate fully with proper investigations, and report any wrongdoing to the board.

## **MANAGEMENT RESPONSIBILITIES**

It is the responsibility of the manager to utilize the available resources in a timely manner to accommodate growth of the water utility while operating and managing the system efficiently. Management is the bridge between finance and operations whose duties include directing, administering and coordinating all operational, engineering, maintenance, construction, and financial activities of the water utility's operation within the scope delegated by the governing board. This position has responsibility to bridge administration and field operations to achieve short and long-term system objectives in accordance with local policy and direction, sound engineering principles, safety consciousness, and federal, state, and local regulatory requirements.

## **OPERATOR RESPONSIBILITIES**

The water distribution operator is vital to the health of the community by ensuring the delivery of safe drinking water at every tap. As a certified professional, this individual is responsible for the operation and maintenance of all infrastructure and processes needed to distribute drinking water in compliance with state and federal laws.

## DISTRIBUTION SYSTEM OPERATION

### Distribution System Overview

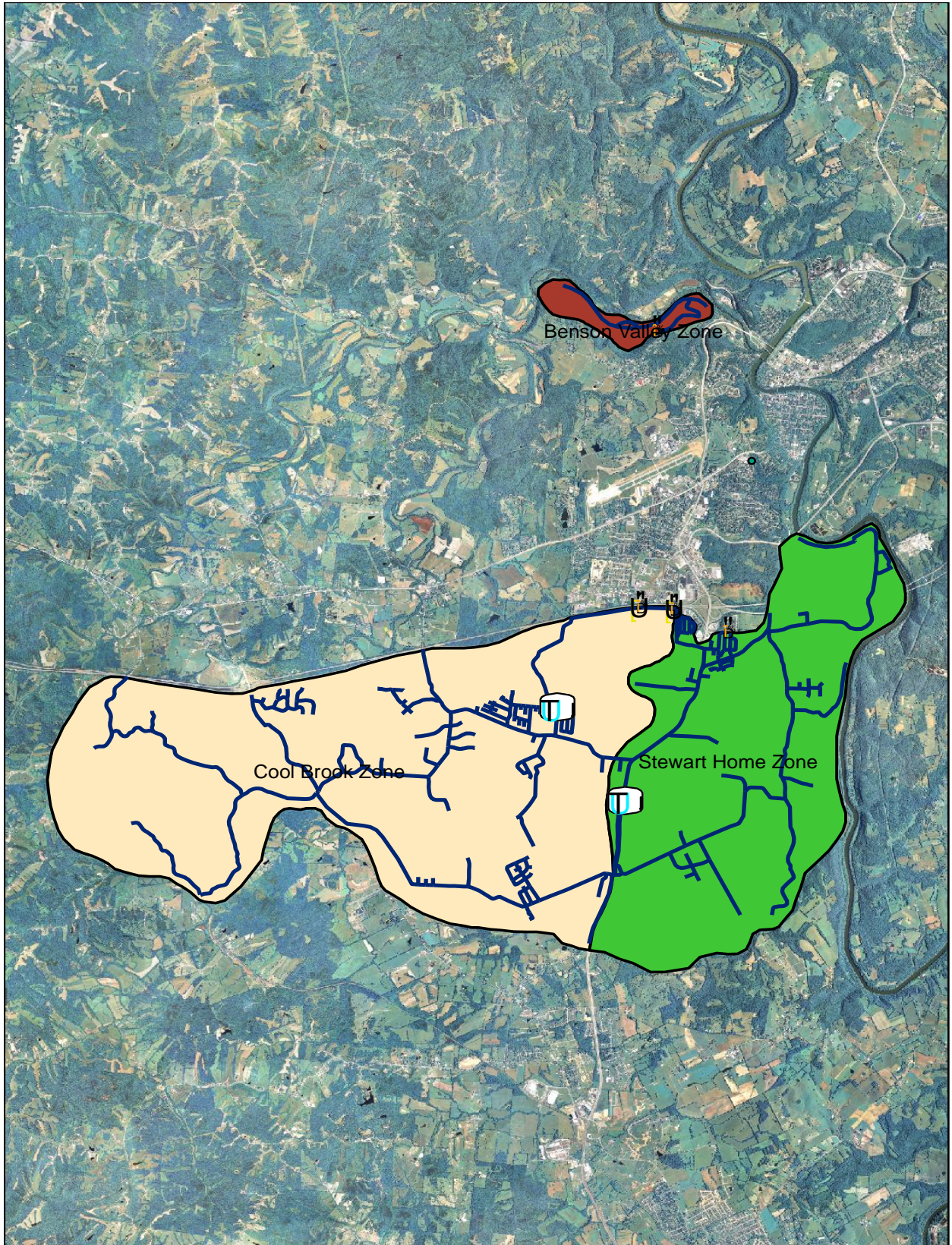
The distribution system consists of 68.7 miles of pipeline, two water storage tanks, two pump stations, 162 hydrants and 2,600 meters. All of the water is purchased from the Frankfort Electric Plant Board at four master meter locations. Farmdale maintains three hydraulic zones; Zone 1 is supplied through the Stewart Home master meter; Zone 2 is supplied through the Cool Brook and Bentwood master meters; and Zone 3 is supplied by Benson Valley master meter (Pressure Zone Map). Highway 127 is the approximate dividing line between Zones 1 & 2. These zones maintain adequate pressures (43 – 150 psi) through the distribution system. The high pressure areas are controlled with pressure reducing valves on the main line and customer service lines. The Cool Brook and Stewart Home tanks are filled by two duplex pump stations located on Twilight Trail by their respective master meters. The pump stations and tank levels are controlled by radio telemetry. The current design plans and “as-built” maps of the distribution system, depicting line location, line size, and the location of all valves and hydrants, are maintained at the Water District office.

Routine Workflow Chart		
Daily	Monthly	Annual
<ol style="list-style-type: none"> <li>1. Read all master meters</li> <li>2. Check pump station</li> <li>3. Check total chlorine in each zone</li> <li>4. Check tank level</li> </ol>	<ol style="list-style-type: none"> <li>1. Read meters first week</li> <li>2. Collect 5 Bac-t's in first week</li> <li>3. Inspect pump stations bi-weekly</li> <li>4. Inspect PRV's</li> <li>5. Seven day pressure test</li> <li>6. Collect 4 Bac-t's in third week</li> <li>7. Monthly Operating Report</li> <li>8. Water Loss Report</li> </ol>	<ol style="list-style-type: none"> <li>1. Test large meters</li> <li>2. Flush system bi-annually</li> <li>3. Test 10% of residential meters</li> <li>4. Monthly Operating Report Statistics page</li> <li>5. Water loss report</li> <li>6. Consumer Confidence Report</li> </ol>

### Distribution Maintenance

The procedures outlined in this manual are twofold: 1) to guide an experienced certified operator in the general processes required to operate and maintain the Farmdale distribution system; and 2) used as a training guide to educate new personnel pursuing an operator license. Specific details regarding the operation, calibration and maintenance of hydrants, valves and meters can be found in the O&M manual addendum. This addendum, located at the District office is a compilation of manufacturer operating manuals. Recordkeeping forms for distribution maintenance are included in Appendix A.

# PRESSURE ZONE MAP



## SYSTEM SPECIFICATIONS

### Distribution Lines & Valves

SIZE	FEET / PIPELINE MATERIAL		
	PVC	AC	Line Valves
2"	7,896	11,907	5
3"	65,855		11
4"	95,747	27,780	23
6"	124,685	17,119	28
8"		4,328	2
10"	5,447		2
12"		2,031	2
Totals	299,630	63,165	73

### Storage Tanks

Name	Type	Volume	Overflow Elevation	Year Constructed	Last Cleaned
Stewart Home	Standpipe	155,000	986'	1967	1997
Cool Brook	Standpipe	223,000	970	1978	1997
Total Storage		378,000			

### Pump Stations

Name	Type	Capacity (gpm)	H.P.	Service	TDH
Stewart Home	Centrifugal	300	10	480 / 3p	Unk
Cool Brook	Vertical Can	450	20	480 / 3p	Unk
Nineveh Rd BPS	Centrifugal	Unk	7	220 / 3p	Unk
S. Benson RD BPS	Centrifugal	Unk	7	220 / 3p	Unk

### Hydrant

#### Pressure Control

Size	Count	Low Set	High Set
4"	4		80
¾"	270	30	70
Total	274		

Size	Count	Isolation Valves
5 ¼"	80	62
4 ½"	54	28
2"	28	0
Total	162	90

### Meters

Size	Count	Type	Read Type	Test Freq.
4"	2	Compound	Manual	Annual
2"	4	Turbo		3 years
1"	78			

1 ½"	1	Positive Displacement		
5/8"x3/4"	2,615		Radio	10% Annually

## SYSTEM FLUSHING PLAN

The purpose of the flushing program is to provide a safe high quality water supply to the customers of the Farmdale Water District. Debris can enter and accumulate in a water distribution system and disinfectant residuals can deplete due to low usage, especially during warm weather. Disinfectants may also combine with materials in the system to form Disinfection Byproducts. Each of these situations may be corrected by an adequate flushing program.

### Process

A systematic flushing of the entire distribution system should be conducted bi-annually in the spring and fall; however drought conditions may preclude the fall flushing. This will be accomplished by flushing from the source of water to the storage tanks, then downstream to the ends of line by utilizing hydrants and blow offs. The flushing program will ensure that:

- 1) Drinking water standards are met;
- 2) Dead end and low usage mains are flushed periodically;
- 3) Sediment and air are removed;
- 4) The optimal free chlorine residual is maintained; and
- 5) Flushing will be performed so as to adequately scour the interior of the main.

System-wide flushing should be coordinated with the Frankfort Water Treatment Plant and performed in concert with Frankfort's flushing schedule and under the guidance of a certified distribution operator. Flushing crews will take steps to protect pavement and property to reduce potential damage during flushing. Customers will be notified prior to system wide flushing. The notification will include expected date and time of the areas to be flushed. The method of notification may include any of the following: local media, door hangers, bill messages and signs.

Routine flushing will occur as needed based on customer complaints of taste, odor, discolored water, or when water quality deteriorates as determined by daily chlorine residual monitoring. Routine flushing will commence when Total Chlorine samples fall below 2.0 mg/l.

Water lines will be flushed following repairs to remove air and sediment from the repaired section of line. Flushing will cease when the optimal Total Chlorine can be maintained. If disinfection is necessary to due to possible contamination, the line will be flushed to remove the high chlorine content. During flushing, water containing high chlorine concentrations will be directed to the sanitary sewer system or flushed on relatively flat ground so as not to contaminate a receiving stream or body of water.

## **Record Keeping**

Records of each flushing will be maintained by the Distribution Operator. These records will include the following for each flush point: Forms used to record flushing are in Appendix A.

- |                        |                                    |
|------------------------|------------------------------------|
| 1) Date/time           | 5) Static and dynamic pressure     |
| 2) Location            | 6) Gallons flushed                 |
| 3) Persons responsible | 7) Total chlorine                  |
| 4) Length of flushing  | 8) Other information deemed useful |

## **Flushing Procedure**

System flushing begins at the source of water and proceeds throughout the distribution system to the end of each line.

1. Stand to the side and carefully remove one of the nozzle caps. Always assume that the hydrant barrel is pressurized. Use a hydrant operating wrench.
2. If flow control is necessary, attach a valve to the nozzle. Attach a hose, deflector, or diffuser to prevent damage to the surrounding area.
3. Open the hydrant slowly to prevent an excessive surge in the distribution system. Using the operating nut or nozzle valve open the hydrant to a full open position.
4. Continue flushing until the water becomes clear and the desired disinfectant residual is obtained.
5. Close the hydrant slowly. Avoid damage to the main valve or stem coupler by over-tightening or use of excessive force.
6. Replace the nozzle cap hand tight plus  $\frac{1}{4}$  turn.
7. Complete appropriate records.

## Valve Exercise

The location and operational status of line valves is necessary to maintaining and repairing the distribution system. Functioning line valves allow operators to perform leak detection, directional flushing and repairs with minimal disruption of service. All valves in the distribution system are to be exercised at least once per year and records maintained on any maintenance performed. A valve record form is included in Appendix B.

### Valve Exercise Procedure

1. Locate valve using maps
2. Clean valve box of all debris
3. Do not close valves on main feed lines while pumps are running
4. Operate valve (close valve, open three turns, close again, open completely)
5. Take note of turns to determine valve size
6. If valve box is low use valve box risers to raise to desired height
7. Paint valve box lid (blue)
8. Install concrete collar (if in yard)
9. Install valve marker (if in yard)
10. If valve is in the road mark the size and direction of flow (if not in road mark offset from edge of pavement)
11. Take G.P.S. coordinates
12. Fill out valve exercise and service form
13. Mark area that has been located on small map
14. Mark valves located on big map with green marker
15. If valves are closed call Distribution Office and Water Plant before opening
16. If valves will not move; do not force. Fill out Work Order and replace with new valve. ( don't forget to call B.U.D. to get located, and if it is a state highway make sure to obtain a state encroachment permit)
17. Only repair valves if they are newer style; replace all old style valves if they no longer work

### REPLACE LIDS AND VALVE BOXES AS NEEDED

#### Valve Status Codes

L.O. – leave off  
S.O. – stub out  
F.V. – foot valve  
H.W. – hand wheel  
N.R. – needs replaced

#### Gate Valve Cycle Chart

4" - 13-14 TURNS  
6" - 19-20 TURNS  
8" - 24-25 TURNS  
10" - 32-33 TURNS  
12" - 38-39 TURNS

## HYDRANT MAINTENANCE

Hydrants spend most of their time unused and ignored, yet they are called upon in a moment's notice to provide fire flow for the protection of a business or home. In addition to fire protection, hydrants are an integral component to maintaining public drinking water quality. There are 162 hydrants maintained by water district personnel.

### Preventative Measures

When performing any sort of flow test or flushing of hydrants, there is the potential to damage infrastructure and affect water quality. The two main dynamics of improperly operating a hydrant that must be understood are; water hammer and discolored water.

Water hammer is caused by an abrupt change in the velocity of flowing water and is most often the result of closing a valve too quickly. Since water does not compress it will not absorb any of the energy it gives off by being forced to suddenly decelerate. Therefore, the water mains, hydrants, control valves and the ground have to absorb all of the energy. If a valve is closed too quickly, the weakest link in the system will fail first. **This is a reason for slowly opening and very slowly closing hydrants.**

Discolored water may be caused by several factors, however improperly operating a fire hydrant a sure-fire way to trigger customer complaints. During normal conditions, water velocity is slightly higher through the center portion of a water main because of friction loss between water and the wall of the pipe. As the average velocity increases, so too will the velocity of the water close to the wall of the pipe. As the water velocity increases, it begins to pick up sediment that usually stays at the bottom of the pipe. This sediment becomes suspended and does not settle out until the velocity decreases. **This is another reason for slowly opening and very slowly closing hydrants.**

### Hydrant Uses

Line Flushing: The hydrants ease of operation and high flow capability make it a natural for use in flushing distribution system main lines. Flushing is an ideal time to perform hydrant inspections.

System Testing: Hydrants are used to test the hydraulic capabilities of the distribution system to provide data for hydraulic models. These tests, when possible should be conducted in conjunction with normal hydrant maintenance or flushing to reduce unnecessary water loss.

Fire Protection: Farmdale Water District is designed specifically for the distribution of potable water to its customers. The system is not intended to provide fire protection.

### Dry Barrel Hydrants

All hydrants in the system are "dry barrel hydrants." Dry barrel hydrants are manufactured in accordance with AWWA Standard C-502. Dry barrel hydrants have the main valve located below



ground and the section that extends above ground is void of water except during operation. These hydrants are equipped with drain valves or weep holes to allow the portion of the hydrant above the main valve to automatically drain.

### **Routine Inspection**

All hydrants should be inspected annually. Performing hydrant inspection and maintenance in conjunction with biennial line flushing will conserve water loss and maximize staff time. Routine inspection of common fire hydrants by experienced operators should take approximately 30 minutes per hydrant unless maintenance and/or painting are required. If a hydrant is found to be inoperable during inspection or operation or is in need of major repairs it should be reported to the utility manager and fire department. **Note: any lubricant used for hydrant maintenance must be certified food grade.**

1. Communication.
  - a. Notify the utility office. This allows the office staff to better field customer complaints.
  - b. Customer complaints regarding low pressure should be recorded.
  - c. Notify water treatment plant.
2. Visually Inspect the Area Around the Hydrant.
  - a. Hydrants are required to have a minimum clearance of 3 feet in all directions.
  - b. Remove any weeds or brush.
  - c. In order to protect landscape, vehicles, etc. in the surrounding area, it may be necessary to use a diffuser or hose to direct water away from the area.
3. Visually Check the Hydrant for any Defects.
  - a. Remove all caps and check the threads. Remove the first cap slowly to ensure there is no pressure on the hydrant. Clean threads with a wire brush and lubricate the threads if necessary.
  - b. Check for water or ice in barrel. The presence of water indicates:
    - i. Leakage of the main valve.
    - ii. Drains are below the water table.
    - iii. Drains are obstructed.
    - iv. Nozzle replaced prior to allowing the barrel to drain.
  - c. Replace caps.
  - d. If hydrant is equipped with safety chains, ensure the chains are loose and do not bind on the cap. Lubricate the chain race on the cap.
  - e. Check the breakaway flange for damage or loose bolts.
  - f. Lubricate the operating nut if required. Kennedy hydrants have grease fitting on the operating nut that requires grease. Detailed manufacturer specific instructions for most hydrants are available in the utility office or online.

#### 4. Hydrant Barrel Test:

- a. Tighten all caps except one for air venting.
- b. Slowly turn valve to fully open.
- c. Tighten cap after all air has escaped and water appears.
- d. Check nozzles, flange connections and seals for leakage.
- e. Slowly close the main valve then remove the 2 ½" nozzle cap.
- f. Place hand over opening. A strong suction will indicate that the hydrant is draining properly.

#### 5. Operating Test:

- a. Take note of main valve operation during the barrel test. The operating nut should turn smoothly, if not, check and add fresh oil thru the oil port till full.
- b. If operating nut is still stiff remove the operating lock down nut and remove all old grease on, around, and inside the operating nut (use Emory cloth if necessary).
- c. If accessible clean the threads on the operating stem with a wire brush.
- d. Using, fresh hydrant oil, lubricate the operating nut, stem, & lockdown nut.
- e. Reinstall the hydrant operating parts and fill the hydrant with fresh oil thru the oil port until full.
- f. If the main valve is still difficult to open, mark for repair on the inspection record.

#### 6. Pressure Test

- a. Remove the 2 ½" cap and slowly open hydrant 3 – 5 turns to fill the barrel then slowly close hydrant.
- b. Install pressure gauge on the 2 ½" nozzle and open petcock.
- c. Open the hydrant slowly then close petcock when flowing a steady stream.
- d. Continue to slowly open the hydrant until the pressure has stabilized.
- e. Check for leaks at the flanges, operating nut, nozzles and nozzle caps and record the pressure.
- f. Slowly close the hydrant and open the petcock to relieve pressure.
- g. Remove the pumper nozzle cap and close pressure gauge petcock.
- h. Attach hose or diffuser if necessary to protect surrounding area.
- i. Attach meter, pitot tube, orifice plate, or other device to measure the hydrant flow and total gallons flushed.

#### 7. Flow test and hydrant operation:

- a. Open the hydrant SLOWLY approximately 3 to 5 turns to allow time for the air to escape from the hydrant barrel. Then continue to SLOWLY open hydrant to the full open position to check operation.
- b. When the hydrant is flowing full, a flow test can be conducted.
- c. Record dynamic pressure and flow.
- d. Check nozzles, flange connections and seals for leakage.

- e. Allow the water to flow for a minimum of 3 to 5 minutes to flush the hydrant and water lines.
8. Complete flow test:
- a. Look for discoloration and debris. A sample collected in a solid white cup is useful for checking water clarity.
  - b. Continue to flush hydrant until water is clear.
  - c. Once the water is clear, close down hydrant VERY SLOWLY.
    - i. Be aware that some hydrants may not seem to slow down when you turn them. This usually means the hydrant may slam (it will have some slop in the stem and may make a thump sound when closing). This causes water hammer and could cause major damage to the water distribution system. This is why it is imperative that hydrants are closed VERY SLOWLY.
9. Closing the hydrant:
- a. Wait to make sure the hydrant stops dripping. It should not be necessary to close the hydrant with great force.
  - b. If the hydrant does not shutoff completely, there may be debris stuck between the disc and seat. Over tightening of the hydrant can do permanent damage to the disc. Open the hydrant to flush the debris and then close the hydrant again.
  - c. After the hydrant is closed, back off on the operating nut about 1/4 turn. This removes the pressure from the operating nut and stem. The main valve will remain closed.
  - d. Ensure that water drains from the hydrant barrel. If not, clean weep holes or pump out hydrant to remove water from the barrel.
  - e. Remove any fittings or hoses and replace the caps.
  - f. Tighten the cap and then back off slightly. Caps should be tight enough to prevent removal by hand but loose enough to be removed with ease using a spanner wrench.
10. Paint hydrant according to NFPA standard as needed.
11. Repair any damages from running water.
12. Complete the hydrant maintenance form (Appendix C).
13. Notify the utility office and treatment plant when you are done for the day.

### **Guidance Manuals and Publications**

The following publications should be used when installing, testing or inspecting fire hydrants.

- Installation, Field Testing, and Maintenance of Fire Hydrants (AWWA M17)
- Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (NFPA 25)
- Standard for the Installation of Sprinkler Systems (NFPA 13)
- Recommended Practice for Fire Flow Testing and Marking of Hydrants (NFPA 291)
- AWWA Standard for Dry-Barrel Hydrants (C502-94)
- AWWA Standard for Disinfecting of Water Mains (C651-99)
- AWWA Standards for Installation of Pipe (C600 thru C606)

## CROSS CONNECTION

Farmdale Water District is aware of a potential threat to the health and safety of those served by the public water supply from cross-connections. The possibility of backflow due to a cross-connection within the customer's premises can be extremely dangerous because, when it occurs, the potable water supply may become contaminated with bacteria, toxic materials, and/or other hazardous substances.

The District shall take reasonable precautions to protect the public water system from cross-connections originating from the customer's system that may degrade the quality of the water in the distribution system. This program is designed for the detection and elimination of potentially hazardous cross-connections and the prevention of the creation of new cross-connection.

Customers with a meter size larger than 5/8 x 3/4 inches or whose use of water poses a higher degree of hazard than that normally associated with use at a typical single family residence will be evaluated regarding water use and potential cross-connections at the customer's premises. Also, existing customers will be re-evaluated where any modification, additions, or changes to their property are made requiring a plumbing permit issued by the local authority or where the plans must be approved by the Fire Marshall.

Farmdale Water District staff shall make all evaluations of the cross-connection hazards which exist in supplying a customer's water system and may use surveys and on-site inspections of premises for that purpose. An approved backflow prevention device shall be required at any point of connection between the public water supply and the customer's water system where the District determines that a present or potential contamination or pollution hazard to the public water system may exist. All service connections considered as low hazard applications shall have at a minimum a dual check valve backflow preventer installed between the water meter and the residence.

Farmdale will maintain records for each location requiring a backflow prevention device. A separate file shall be created and maintained for each location. Records are to include, but are not limited to:

The customer contact information	Degree of hazard rating
Type of backflow preventer	Installation review by Plumbing Inspector
Backflow device information	Test reports

The charts on the following pages are used by the District staff to determine the degree of hazard and the appropriate backflow application needed to protect the public.

<b>Cross Connections, Degree of Hazard and Acceptable Protection</b>								
<b>Connection Category</b>	<b>Degree of Hazard</b>			<b>Acceptable Protection</b>				
Connections subject to back pressure from:	Severe	Moderate	Minor	Air Gap	Reduced Pressure Device	Double Check Valve Assembly	Pressure Type Vacuum Breaker	Atmospheric Type Vacuum Breaker
Pumps, tanks, and lines handling toxic substance	X			X				
Pumps, tanks, and lines handling non-toxic substance		X		X	X	X		
Boilers with chemical additives	X			X	X			
Boilers without chemical additives		X		X	X	X		
Gravity conditions subject to contamination by toxic substances	X			X	X			
Gravity conditions subject to contamination by non-toxic substances		X		X	X	X		
Connections not subject to back pressure from:								
Sewer or sewage pump	X			X				
Outlet to receptacles with toxic substances	X			X	X		X	X
Outlet to receptacles with non-toxic substances		X		X	X	X	X	X
Outlet into domestic water tanks			X	Each case treated separately				
Flush valve toilets	X			X	X		X	X
Flush valve urinals		X		X	X		X	X
Hose outlets subject to toxic substances	X			X	X		X	X
Hose outlets subject to non-toxic substances		X		X	X	X	X	X
Outlets to recirculating cooling tower with chemical additives	X			X	X			
Outlets to recirculating cooling tower without chemical additives		X		X	X	X		

## Backflow Device Application Chart

Type & Pressure	Description	Installed At	Examples of Installations	Applicable Standards
Reduced Pressure Principle Backflow Preventer - high hazard cross connections	Two independent check valves with intermediate relief valve. Supplied with shut-off valves and ball type test cocks.	All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard from contamination. Continuous pressure.	Supply Lines Commercial Boilers Cooling Towers Hospital Equipment Laboratory Equipment Car Wash Sewerage Treatment	A.S.S.E. No. 1013 A.W.W.A. C506 FCCCHR of USC CSA B. 64.4 Sizes 3/4" - 10"
Double Check Valve Assembly - low hazard cross connections	Two independent check valves. Supplied with shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure.	(Non-toxic) Supply Lines Food Cookers Tanks & Vats Lawn Sprinklers Fire Sprinkler Lines Commercial Pools	A.S.S.E. No. 1015 A.W.W.A. C506 FCCCHR of USC CSA B.64.5 Sizes 3/4" -10"
Dual Check Valve Backflow Preventer - low hazard applications.	Two independent check valves. Checks are removable for testing.	Cross connections where there is a low potential health hazard and moderate flow requirements.	(Non-toxic) Post ground hydrants	A.S.S.E. No. 1024 Sizes 3/4" and 1"
Backflow Preventer with Intermediate Atmospheric Vent - moderate cross connections in small diameter pipes.	Two independent check valves with intermediate vacuum breaker and relief valve.	Cross connection subject to backpressure or back-siphonage where there is a moderate health hazard. Continuous pressure.	Boilers (small) Cooling Towers (small) Dairy Equipment Residential	A.S.S.E. No. 1012 CSA B. 64.3 Sizes 1/2" and 3/4"
Backflow Preventer with Intermediate Atmospheric Vent - moderate cross connections in small diameter pipes.	Two independent check valves with intermediate vacuum breaker and relief valve.	Pump outlet to prevent backflow to carbon dioxide gas and carbonated water into the water supply system to beverage machines.	Post-mix Carbonated Beverage Machine	Special Approvals
Laboratory Faucet and Double Check Valve with Intermediate Vacuum Breaker - in small pipe sizes for moderate to low hazard.	Two independent check valves with intermediate vacuum breaker and relief vent.	Cross connection subject to backpressure or back-siphonage where there is a moderate to low health hazard.	Laboratory faucets and pipe lines Barber Shop and Beauty Parlor sinks	A.S.S.E. No. 1035 (N-LF9)
Atmospheric Vacuum Breakers - moderate to high hazard cross connections.	Single float and disc with large atmospheric port.	Cross connections not subject to backpressure or continuous pressure. Install at least 6" above fixture rim. Protection against back-siphonage only.	Process Tanks Dishwashers Soap Dispensers Washing Machines Lawn Sprinklers	A.S.S.E. No. 1001 ANSI. A112.1.1 CSA B. 64.1.1 FCCCHR of USC Sizes 1/4" - 3"
Anti-Siphon Pressure Breakers - for moderate to high hazard cross connections.	Spring loaded single float and disc with independent first check. Supplied with shut-off valves and ball type test cocks.	Designed for installation in a continuous pressure potable water supply system 12" above the overflow level of the system being supplied. Protection against back-siphonage only.	Laboratory Equipment Cooling Towers Commercial Laundry Swimming Pools Commercial Plating Urinal Facilities Degreasers, Photo Tanks Live Stock Systems	A.S.S.E. No. 1020 CSA B. 64.1.2 FCCCHR of USC Sizes 1/4" - 2"
Hose Connection Vacuum Breakers - for residential and industrial hose supply outlets.	Single check with atmospheric vacuum breaker vent.	Install directly on hose bibbs, service sinks and wall hydrants. Not for continuous pressure.	Hose Bibbs Service Sinks Hydrants	A.S.S.E. No.1011 CSA B. 64.2 Size 3/4" hose

## **WATER LOSS PREVENTION AND LEAK DETECTION**

The goal of the water loss program is to reduce unaccounted-for water to 15% or less. In doing so, real and apparent losses must be addressed. Real loss consists of physical water losses from leaks, line breaks, tank overflows, etc. and places a financial and operational burden on the utility. Apparent loss consists of unauthorized consumption, customer metering inaccuracies, and errors in the meter reading and billing processes. This can result in overtime and wasted hours testing for leaks that are not real. Both types of loss must be addressed in order to meet the 15% goal.

Proper distribution management is the key to reducing water loss. Standard methods such as creating hydraulically isolated zones, accurate metering, pressure monitoring, tank performance, demand factoring and preventative maintenance are needed to identify real water loss.

The following plan outlines processes and procedures that Farmdale will conduct on a routine basis to identify and repair water line leaks, monitor water usage, eliminate tank overflows, to reduce its overall water loss.

### **1. Records**

A. **INFRASTRUCTURE:** Knowledge of water system components and how they function under normal operating conditions is crucial to identifying where water loss occurs. Infrastructure inventory, maintenance and operational performance records are maintained where applicable.

- Water meters
- Water mains
- Service lines
- Valves
- Hydrants
- Storage tank

B. **CUSTOMER:** Billing and water usage data needs to be maintained as a historic record so that apparent losses can be identified.

- Meter readings
- Billing adjustments
- Count of active/in-active meters
- Total water usage by zone

### **2. Routine Procedures (Daily/Weekly/Monthly):**

A. **MASTER METERS:** Read & record purchase meters from Frankfort.



- B. RECORDING READINGS: Master meter readings are maintained in a spreadsheet.
- C. METER READING SCHEDULES: Meters are read at approximately the same time each month.
- D. FIELD PERSONNEL: All distribution personnel (meter readers, maintenance, etc.), shall immediately report any identified water leaks, tank overflows, or other concerns that are presently or could result in water leaks or loss. Water leaks, given the urgency of the problem reported are repaired immediately or at the earliest possible time,
- E. OFFICE PERSONNEL: All office personnel shall immediately report any customer reported leaks, tank overflows, pressure problems, or other issues (whether during regular operational hours or after hours) to the Maintenance Foreman.
- F. RECORDING DATA: Daily and monthly records (via computer data bases, manual logs, or spreadsheets) shall be maintained by appropriate personnel to record and analyze the following information:
  - Daily master meter readings
  - Pump station run times
  - Estimated water losses from line breaks, tank overflows, hydrant usage, flushing, etc.
  - Metered customer water sales by route
- G. DATA ANALYSIS: Water production and usage data obtained and recorded (item F above) shall be evaluated and analyzed on a daily/weekly/monthly basis to determine:
  - Metered usage
  - Known losses from line breaks, etc.
  - Water loss by distribution zone
  - Focus on distribution system zones: As funding permits, additional master meters and by-pass meters will be installed to further isolate smaller portions of the distribution system in order to more accurately identify and correct water loss problems in specific areas of the system.
- H. METER TESTING AND REPLACEMENT: Customer meters will be tested every ten years to ensure that they are registering water accurately. Meters between 1" and 3" shall be tested every three years and meters larger than 4" shall be tested annually. All meters will be replaced, as warranted.

### **3. LEAK DETECTION PROCEDURES**

- A. FIELD PERSONNEL: On a routine basis, as system operations permit, the Water Works Supervisor will assemble a leak detection team to check the by-pass meter in each zone during a time when customer usage is minimal. This allows field personnel to go valve to valve (and often meter to meter) with listening devices and detect abnormal flows without affecting customer service. Personnel will perform leak detection in those areas with the highest known water loss, based on routine data collection and analysis.
  
- B. OUTSIDE CONSULTANTS: Outside consultants such as Kentucky Rural Water, contract engineer or industry specialists are utilized as circumstances dictate.

## **PREVENTATIVE MAINTENANCE PROGRAM**

The purpose of Farmdale's preventative maintenance program is twofold: 1) to ensure that equipment is properly functioning so that it meets or exceeds its expected service life and 2) identify maintenance trends that consume a great deal of the operator's time in order to reduce long term operational costs and improve system reliability. Without a sound preventive maintenance program, labor costs for lost water production time due to unscheduled equipment breakdown will be incurred, damages to equipment can be much more severe and potential negative treatment process and/or regulatory ramifications can be unacceptable to the customer and costly to the system. Therefore, three levels of maintenance activities that will be performed. These are predictive, preventative and breakdown maintenance.

### **Predictive Maintenance**

The goal of predictive maintenance to identify potential equipment failure before a breakdown occurs. This level of maintenance relies upon testing equipment performance and analyzing operational trends. Testing may include such items as oil analysis, to determine optimal oil replacement frequency, infrared analysis, to ensure that electrical connections are sound and that there are no imminent electric failures about to occur and vibration analysis, to ensure that equipment is properly aligned and that bearing wear is identified well before failure occurs.

### **Preventive Maintenance**

The primary goal of preventive maintenance is to prevent the failure of pumps and equipment before it actually occurs. It is designed to preserve and enhance equipment reliability by replacing worn components before they actually fail. Preventive maintenance activities include exercising valves and fire hydrants; equipment and tank inspections; partial or complete overhauls at regular specified periods; oil changes; lubrication; and so on. In addition, operators can record equipment deterioration so they know to replace or repair worn parts before they cause system failure.

### **Breakdown Maintenance**

This is maintenance that must be performed because of unexpected equipment failure and is the most disruptive and costly type of maintenance. Even under the best preventative maintenance program, some breakdown maintenance will occur. Each of these events provides a learning opportunity to improve upon existing preventative maintenance programs. The operator should evaluate every equipment breakdown situation, to determine the cause, and what measures could have been taken to prevent the occurrence. The lessons learned should then be added to the preventative maintenance program. Building these written feedback loops into the preventative maintenance program will yield significant returns.

The Water Superintendent in conjunction with certified operators is responsible for implementing the preventative maintenance program. The water treatment and distribution operators are responsible for performing the maintenance and recordkeeping. Inspection forms and maintenance schedules are located in Appendix D, however a generalized list of maintenance measures are as follows:

- ✓ Mechanical appurtenances of pump stations i.e.; motors/pumps, that require greasing, oiling or cleaning will be done as recommended by the manufacturer by the operator.
  1. Daily visual to locate leaks, check runtime and pressures;
  2. Monthly functional inspection including: control valve operation, exercise switch modes, lubricate all related components; and
  3. Annual maintenance to include discharge, amperage and pressure measurement for pump curve analysis.
- ✓ Pressure Reducing Valves are critical to controlling system hydraulics and maintaining consistent customer service. PRV's should undergo visual and functional inspections and undergo annual maintenance as recommended in the manufacturer manual.
  1. Monthly visual inspection to locate leaks and external damages;
  2. Quarterly functional inspection including: closing, opening and regulation of the PRV and by-pass; and
  3. Annual maintenance including internal component inspection.
- ✓ Records will be retained at the District office. These records are to include the following:
  1. List of Specifications for fuels, lubricants, filters, etc. for equipment;
  2. Trouble shooting charts or guides which references pages in manufactures service manual;
  3. Inventory for each type of equipment to include; numbering system, catalog, nameplate data cards, maintenance record cards;
  4. Manufacturers' maintenance schedule for routine adjustments. A summary with references to page number in manufacturer's O&M manual needs to be provided;
- ✓ Hydrants and valves will be inspected / exercised in concert with flushing program.
- ✓ Storage tanks are inspected annually by District staff as required by Public Service Commission and professionally inspected every five years. Caldwell Tank, Inc. is the current tank inspection contractor. The annual inspection form is in Appendix D.
- ✓ Line breaks can occur at anytime; therefore parts, materials and sample bottles are on-hand to repair water line of all sizes. Regulatory compliance and recordkeeping requirements are in Appendix E.

## SDWA Compliance Analysis

Farmdale contracts with the Frankfort Electric Plant Board for Total Coliform analysis and Fouser Environmental Services, Inc. for all other samples. Water sample are collected by the certified operator and analyzed at the frequency designated by the Division of Water. These laboratory analyses shall be reviewed by the operator to determine if any corrective actions should be implemented. The sample schedule for the water distribution is as follows:

### TCR Schedules

Sample Count	Sample Type	Sample Frequency	Effective Begin Date	Effective End Date	Seasonal Start MM/DD	Seasonal End MM/DD	Analyte Code	Analyte Name
9	RT	MN	07-01-2009		1/1	12/31	3100	COLIFORM (TCR)
3	RP	DL	12-21-2012	01-04-2013	12/21	1/4	3100	COLIFORM (TCR)

### Frequent Field Sample Schedules

Water System Facility State Asgn ID	Water System Facility Name	Analyte Code	Analyte Name	Days to Monitor per month	Samples Required per day	Effective Begin Date	Effective End Date	Summary Type
0370128DS001	DISTRIBUTION - FARMDALE WATER DISTRICT	0999	CHLORINE	31	1	01-01-2002		SDRD

### Non-TCR Group Schedules

Water System Facility State Asgn ID	Water System Facility Name	Analyte Group Code	Analyte Group Name	Sample Count	Sample Type	Sample Frequency	Effective Begin Date	Effective End Date	Seasonal Start MM/DD	Seasonal End MM/DD
0370128DS001	DISTRIBUTION - FARMDALE WATER DISTRICT	<a href="#">PBCU</a>	LEAD & COPPER TAP	20	RT	3Y	01-01-2009		6/1	9/30
IDSE9037	IDSE - FARMDALE WATER DISTRICT	<a href="#">DBPS</a>	TTHM THAA	2	RT	QT	10-01-2012		8/1	8/31

### Non-TCR Individual Schedules

Water System Facility State Asgn ID	Water System Facility Name	Analyte Code	Analyte Name	Sample Count	Sample Type	Sample Frequency	Effective Begin Date	Effective End Date	Seasonal Start MM/DD	Seasonal End MM/DD
0370128DS001	DISTRIBUTION - FARMDALE WATER DISTRICT	1094	ASBESTOS	1	RT	3Y	01-01-2011	12-31-2013	0/0	0/0

## **Farmdale Sampling and Reporting Schedule**

Chlorine – Minimum of one per day – record on MOR

Location – anywhere in distribution system

Bact – Minimum of 9 per month – 5 during first week – 4 during third week

Location – approved sites

THM & HAA – Two per quarter – 3<sup>rd</sup> week Feb, 3<sup>rd</sup> week May, 3<sup>rd</sup> week Aug, 3<sup>rd</sup> week Nov

Location – site 500 – 100 Highwood Drive

site 502 – 855 South Benson Rd

UCMR3 – Full set list 1 – First Week (Mon-Wed) – March, June, September, December 2013

Location – Highest volume master meter and site 502

Public Notice of results within one year (may use CCR if mailed or e-CCR)

Lead & Copper – 20 samples in 2014 (between June 1 and September 30)

Location – approved sites

Notify customers within 30 days of learning results

Provide copy of a customer notice and certification to DOW

Review and sign all lab results sheets

Make copies for records and submit lab results to DOW by October 10

Asbestos – Sample between 2020 and 2022

Location – site 098 – Big E Market 2655 Evergreen Rd

### Sample Site Locations

Sample Site	Location	Bact	Lead & Copper	Tier	TTHM	HAA5
001	100 HIGHWOOD DRIVE	Y	Y	1		
002	2823 EVERGREEN RD	Y	Y	1		
003	3755 US 127 S	Y	Y	1		
004	588 GREEN WILSON RD	Y	Y	1		
006	1657 MILLS LANE	Y	Y	1		
007	125 RIVER VALLEY RD	Y	Y	1		
008	305 BIG EDDY ROAD	Y	Y	1		
009	1028 SILVER CREEK DR	Y	Y	1		
010	103 FARMERS LANE	Y	Y	1		
011	1955 S BENSON RD	Y	Y	1		
012	SACKS MARKET	Y	Y	1		
013	306 CEDARBROOK	Y	Y	1		
014	2000 CEDAR RUN	Y	Y	1		
015	550 AVENSTOKE ROAD	Y	Y	1		
016	2219 MILLS LANE	Y	Y	1		
017	984 JOHNSON RD	Y	Y	1		
018	100 TALL TREES	Y	Y	1		
019	878 SCHOFIELD LANE	Y	Y	1		
020	494 JONES LANE	Y	Y	1		
021	801 HICKORY RIDGE	Y	Y	1		
022	309 CEDARBROOK CT	Y	Y	1		
023	RT 2 HICKORY RIDGE	Y	Y	1		
024	110 VALLEY RD	Y	Y	1		
025	60 SOUTH BENSON	Y	Y	1		
026	71 DEERLAND	Y	Y	1		
027	481 OLD L'BURG RD	Y	Y	1		
028	117 QUAIL CT	Y	Y	1		
029	515 DOVE CREEK	Y	Y	1		
030	1770 US 151	Y	Y	1		
031	4684 US 127 SOUTH	Y	Y	1		
032	731 SCHOFIELD LANE	Y	Y	1		
033	2061 CARDWELL LANE	Y	Y	3		
034	188 BRIARWOOD	Y	Y	1		
035	308 SYCAMORE CT	Y	Y	1		
036	1133 OLD L'BURG RD	Y	Y	1		
037	1003 MILLS LANE	Y	Y	1		
038	6234 US 127 S	Y	Y	1		
039	979 STONEY CREEK	Y	Y	1		

040	1024 SILVER CREEK	Y	Y	1		
Sample Site	Location	Bact	Lead & Copper	Tier	TTHM	HAA5
041	243 BIG EDDY RD	Y	Y	1		
042	151 AVENSTOKE RD	Y	Y	1		
043	3045 US 151	Y	Y	1		
044	1111 HIGHVIEW DR	Y	Y	1		
045	573 AVENSTOKE RD	Y	Y	1		
046	327 OLD HARRODSBURG	Y	Y	1		
047	1000 SILVER CREEK	Y	Y	1		
048	1010 TYBURN	Y	Y	1		
049	1015 TYBURN	Y	Y	1		
050	471 ERIN WAY	Y	Y	1		
051	2290 CARDWELL LANE	Y	Y	1		
052	5204 HUNTINGTON WOOD	Y	Y	1		
053	1037 ADERLY	Y	Y	1		
054	1029 SILVER CREEK	Y	Y	1		
055	107 CHERRY LANE	Y	Y	3		
056	650 JONES LANE	Y	Y	1		
057	165 GREEN WILSON RD	Y	Y	1		
058	958 STONEY CREEK	Y	Y	1		
059	925 HICKORY RIDGE	Y	Y	1		
060	118 CREEKSTONE	Y	Y	1		
061	501 HICKORY RIDGE	Y	Y	1		
062	230 RIVER VALLEY	Y	Y	1		
063	54 BOONE CREEK	Y	Y	1		
094	1305 HWY 151	Y	Y	1		
095	2548 US 127 S	Y	Y	1		
096	5610 US 127 S	Y	Y	1		
097	1525 MILLS LN	Y	Y	1		
098	2655 EVERGREEN RD	Y	Y	1		
099	80 ANDERSON RD	Y	Y	1		
100	107 CHERRY LN	Y	Y	1		
101	309 SANDSTONE DR	Y	Y	1		
102	494 JONES LN	Y	Y	1		
103	660 SOUTH BENSON	Y	Y	1		
104	5113 HUNTINGTON WOODS	Y	Y	1		
105	5367 SLEEPY HOLLOW RD	Y	Y	1		



Sample Site	Location	Bact	Lead & Copper	Tier	TTHM	HAA5
106	911 AVENSTOKE RD	Y	Y	1		
107	3910 NINEVAH RD	Y	Y	1		
108	1326 HIGHWAY 151	Y	Y	3		
109	247 BIG EDDY RD	Y	Y	1		
500	100 HIGHWOOD DRIVE				Y	Y
502	855 SOUTH BENSON RD.				Y	Y
RPD	REPEAT - DOWNSTREAM					
RPO	REPEAT - ORIGINAL					
RPU	REPEAT - UPSTREAM					
SPG	SPECIAL - GENERIC					

## RECORDKEEPING

Accurate records are an integral part of an efficient water system operation. These records serve as a historical reference source and are maintained at the Water District office. Adequate records improve the efficiency of distribution operations and ensure compliance with regulatory agencies. Records maintained by the District may include:

<b>RECORDKEEPING REQUIREMENTS</b>	
<b>Part A (for all water systems)</b>	
<b>REPORTING ITEM</b>	<b>RETENTION TIME</b>
Bacteriological	5 years
Chlorine/Chloramines – Free chlorine monthly with BACT’s, daily for MOR’s, residual chlorine monthly	10 Years
C-T Profiling Data	min 1 year
Individual Filter Turbidity Data (other than MOR)	3 Years
MOR’s – Monthly (turbidity analysis)	1 Year
Lead & Copper	12 Years
Nitrate	10 Years
Nitrite	10 Years
Secondary/Corrosivity	10 Years
Sodium	10 Years
IOC’s (inorganic Chemicals)	10 Years
SOC’s (Synthetic Organic Compounds)	10 Years
VOC’s (Volatile Organic Chemicals)	10 Years
TOC’s (Total Organic Chemicals)	10 Years
TTHM’s & HAA’s	10 Years
Asbestos – 1 sample in the 1 <sup>st</sup> 3 years of a 9 year cycle (begin 2011)	10 Years
RADS (Radionuclides)	10 Years
LT2 Cryptosporidium and E.coli Results	3 Years
LT2 Source Water Monitoring Avoidance	3 Years
LT2 Toolbox Treatment Monitoring Results	3 Years
Stage 2 IDSE Sampling Plan or 40/30 Certification	10 Years
Stage 2 IDSE Report	10 Years
Bromate	10 Years
Chlorine Dioxide	10 Years
Chlorite	10 Years
Dioxin	10 Years
Data Summaries (if actual data not retained)	12 Years
NOV’s (Notice of Violation)	10 Years
Sanitary Surveys	10 Years
CCR (Consumer Confidence Report)	3 Years
Sampling Plan for BACT’s	5 Years
Sampling Plan for Lead and Copper	12 Years
Sampling Plan for DBP’s	10 Years
Sampling Plan for Chemicals	10 Years

Maps – (Showing all pipe location, material, and sizes, valves, hydrants, tanks, booster pumps, chlorination stations, emergency connections, alternative sources, and wholesale customer master meters.	Permanent
<b>RECORD ITEM (Kentucky Local Government Records Retention Schedule)</b>	<b>RETENTION TIME</b>
Geological Reports on Subsurface Ground Conditions	Permanent
Index to Maps and Plats	Permanent
Engineering Maps, Plats, Plans and Drawings File	Permanent
Capital Construction Engineering Project File	Permanent
Operation and Maintenance Manuals	Permanent
Discharge Monitoring Reports (DMR)	3 Years
Monthly Operating Reports (MOR)	3 Years (portions - 10 Years)
Sales and Use Tax Return	5 Years
Encroachment Permit File	3 Years
Permit File (Kentucky Pollutant Discharge Elimination System (KPDES))	3 Years after expiration
Service Work Orders	3 Years
Pretreatment Files	5 Years
Grease Trap Program File	5 Years
Sewer User Exemptions File	5 Years
Discharge Permit – Unusual Requests	10 Years
Construction Project File	7 Years
Rain Gauge Data File	5 Years
Pump Station – Daily Reports	3 Years
Pump Station – Flow Charts	5 Years
Tier II Hazardous Chemical Annual Report	5 Years
Calibration/Inspection Report (meters, fire extinguishers, etc.)	3 Years
Compliance Monitoring Records	10 Years
Notification and Complaint Records ( pollutant release)	10 Years
Enforcement Records	Permanent
Compliance Deficiency Notification Records	10 Years after closure
Compliance Evaluation Records	10 Years
Environmental Impact Study Records	Permanent
Facility Planning Records	20 Years
Authorization Records	10 Years
Technical Assistance Records	10 Years
Certification Records	2 Years after expiration
Environmental Audits	10 Years
<b>40 CFR 141.33</b>	
Microbiological	5 Years
Turbidity	5 Years
Chemical Analyses	10 Years
Actions to Correct Violations	3 Years
Sanitary Survey - written reports, summaries or communications	10 Years
Variances and Exemptions	5 Years
Public Notices (including certifications)	3 Years
Monitoring Plans	Same as analyses
<b>This is not a complete list of recordkeeping by utilities.</b>	

<b>PSC regulations can be found in 807 KAR Chapter 5.</b>	
<b>Other agencies such as OSHA and IRS have specific requirements.</b>	

## **SAFETY PROCEDURES**

This Health and Safety Rulebook is presented for the use of all employees of this utility to assist in the administration of our safety program and to provide means and methods that will aid in the performance of our various assignments in a safe and efficient manner.

It is the intent of the utility to conduct its operations in a safe and efficient manner with the utmost regard for the health and safety of the employees and the public. Safety is an integral part of everyone's duties and responsibilities.

This Health and Safety Rulebook expresses the basic safety policies of this utility. Each employee is expected to ensure proper application of its contents.

## **RESPONSIBILITY**

### **Management**

The employer shall have the same responsibility for safety as for any other part of the operation.

The employer shall appoint only competent personnel as supervisors, who shall be responsible for the safety of those under his or her supervision.

The employee shall require a supervisor to observe and enforce all safety rules.

The employer shall provide adequate automotive equipment, tools, and protective devices, and insist upon their proper use and maintenance.

The employer, or designated representative, shall fully investigate all serious accidents and take remedial steps to prevent repetition of similar accidents wherever possible.

The employer shall be responsible for safety records and shall be responsible for completing safety inspections and maintaining records to reflect findings and corrective actions taken.

The employer shall require employees to use suitable tools and equipment in order that they may perform their work in a safe manner.

The employer shall require employees to be instructed in safe methods of performing their work.

The employer shall require employees who, in the course of their work, are subject to the hazards of electrical shock, asphyxiation, or drowning, to be instructed in accepted methods of artificial respiration.

### **Supervisor**

Supervisors shall have the same responsibility for safety as any other part of their utility operations.

Supervisors are at all times responsible for the execution of the work in a safe manner and for the job performance of all personnel under their direction.

Supervisors will be held accountable for all accidents and employee actions unless investigation indicates the actions were due to conditions beyond the supervisor's control.

Supervisors shall instruct all new employees on the reporting of all accidents and the prompt receipt of first aid.

Supervisors shall be responsible for the training and instruction of new employees and of employees transferred to their supervision.

Supervisors shall fully understand and comply with the safety rules of this manual. They shall also ensure that safety rules are understood by the wastewater operators under their supervision.

Supervisors shall insist on employees observing these safety rules and shall use disciplinary measures, if necessary, to obtain compliance.

Supervisors shall be responsible for the proper use of safety devices and equipment by the employees under their supervision.

Supervisors shall be responsible for the regular inspection of all tools and equipment, including employees personal tools used while working under their supervision.

Supervisors shall ensure no duties are assigned to an individual who is unqualified or incapable of completing those duties safely.

Before leaving a job, the supervisor shall see that the site is left in as safe a condition as possible. The supervisor shall arrange adequate warning of any condition that might endanger other employees, the general public, or inspectors.

### **Employee**

It is the definite responsibility of each employee to so perform assigned duties while at work to assure:

- Safety for self;
- Safety for fellow employees;
- Protection for the public;

- Protection for company property, and for public and private property.

It is the responsibility of each employee to report to the person in charge all unsafe conditions or acts witnessed on the job.

When an employee is requested to perform duties under unsafe conditions, the employee should not perform those duties without first notifying the person in charge of the unsafe conditions.

It is the responsibility of management to verify that each employee is acquainted with the principles of first aid and resuscitation as soon as possible.

It is the responsibility of each employee to attend all safety meetings possible and to take an active part in safety work.

It is the responsibility of each employee to know and understand the safety rules of this manual, which will apply to the work being performed.

## **GENERAL SAFETY MEASURES**

This document provides all staff with background information in the safety procedures that pertain to their type of work. A complete discussion of safety can be found in Safety Practices For Water Utilities, AWWA Manual M3. Safety is a priority for all staff of the utility. Obviously, no listing can cover all situations that may arise on a job. The following is a list of general safety rules which should be followed by all staff members:

1. Obey all safety rules and signs.
2. Follow instructions. If you are not sure of the safety procedure, don't guess get qualified assistance.
3. Correct unsafe conditions immediately.
4. Dress in clothing is appropriate for the job.
5. Consult a physician for all injuries.
6. Never start or operate a machine, equipment or vehicle unless you know the safe method of operation and how to stop its operation.

7. Be certain equipment is completely stopped or locked out before making adjustments and repairs.
8. Order and cleanliness are important factors in preventing injuries. Keep work areas clean and orderly.
9. When lifting or pulling, do not subject yourself to strain.
10. After work and before eating, hands should be washed thoroughly with soap and water.
11. Wear appropriate eye protection when using impact tools, when cutting, welding, or soldering, when working with chemicals or when working in environments where there are flying or floating particles.
12. Use tools made of non-sparking material where there is a potential fire hazard.
13. When using electrically powered tools, insulating platforms, rubber mats and rubber gloves should be used to avoid possible shocks.

### **Location of Safety Manual**

This safety manual has been prepared for use by the operating personnel of the company. Each employee shall be given a copy of this manual.

This manual is consistently updated to cover areas relating to the safe operation of water and wastewater infrastructure. A current copy may be obtained by contacting a supervisor or the Human Resources Dept.

Any comments or suggestions on improving this manual or updating information pertaining to the safe operation of equipment is welcome and may be incorporated into future editions.

### **Safety Meetings**

Safety meetings shall be held on a monthly basis at the regular scheduled Board Meeting. The District shall provide a program suitable for the season and discuss any current regulations or changes that may have occurred since the last meeting.

All personnel shall be required to take an active part in the safety program. Personnel should offer input and disseminate information regarding the safe operation of municipal sewage systems.

### **Personal Conduct While On Company Business**



The use of intoxicating liquor during working hours, including lunch hour, is strictly prohibited. Any violation shall be considered sufficient cause for disciplinary action.

Any employee reporting for duty under the influence of liquor, illegal drugs, or illegal smoking materials shall be dismissed. Any supervisor or other person in charge who permits such employee to work shall also be subject to disciplinary action.

### **Risk Taking**

Before commencing any work that may be hazardous, care should be taken to establish a safe procedure. Where more than one employee is engaged in the same job, all employees shall be concerned and understand the procedures to be followed to prevent endangerment to self or other personnel on the job. Under no circumstances shall safety be sacrificed for speed.

Employees shall always place themselves in a safe and secure position. The care exercised by others shall not be relied upon for one's own protection.

### **Safety Guards**

No guard shall be removed from any machine or piece of equipment except to perform required maintenance. The machine or equipment shall be locked-out so that it cannot be energized during maintenance.

### **Protecting the Public**

When an employee needs additional light while working on the premises of a customer, he shall use a battery powered flashlight, or an approved properly guarded electrical extension light. An open flame light such as a match, torch, or cigarette lighter shall not be used.

When operating temporary pumping equipment in a public location, barricades shall be used to keep all traffic and personnel a safe distance away from the site.

### **Housekeeping**

Materials and supplies used at treatment plant, tank and pumping station sites should be stored in a neat and orderly manner at the site to prevent them from falling off of shelves onto moving equipment.

Junk parts removed from a piece of equipment should be disposed of in a proper manner. Spare parts used in the operation of the system should be kept in a neat and orderly manner with the item labeled to indicate on what piece of equipment the spare part is used.

### **Reporting Hazardous Conditions**

When an employee observes a hazardous condition that may cause injury or property damage, the employee shall report it promptly to a proper authority and when necessary, guard it.

An employee who receives a report of a hazardous condition, either from the general public or another employee shall immediately refer this information to the person or utility responsible for such matters.

### **Fire Prevention and Control**

Paper and other combustible materials shall not be allowed to accumulate in blower buildings or other structures in order to prevent them from getting into the machinery or causing a fire.

Flammable liquids such as gasoline and diesel fuel shall not be stored in blower buildings, chlorine rooms, or other structures where they may cause a fire or leak onto the floor causing hazardous working conditions.

Strict adherence shall be paid to “No Smoking” and “Stop Your Motor” signs at fuel dispensing stations.

Oily rags and papers used for cleaning shall not be allowed to accumulate in service trucks and car trunks, as these can spontaneously combust under the proper conditions.

## **SAFE WORKING PRACTICES**

### **Clothing**

Wearing of loose fitting clothing around machinery with moving parts or belt drives is discouraged, as clothing may become entangled in equipment resulting in serious injury or death.

Wearing of sandals or open toe shoes in a field environment is discouraged, especially when handling tools or entering areas where weeds and debris can hide glass or sharp objects. In all cases rubber boots or leather shoes shall be worn in areas where contact is possible with biological organisms found in wastewater treatment plants.

### **Personal Eye Protection**

Eyeglasses, even hardened lenses, are not a substitute for goggles. Full cover goggles or face shields shall be worn when an employee is engaged in or is close to work involving:

1. Power grinding, buffing, or wire brushing, even if there is a built in eye shield.
2. Using compressed air to remove dust or debris from a piece of equipment.

3. Flame welding, cutting, or burning. (Approved colored lenses shall be used.).
4. Handling of acids, caustics, dry chlorine, ammonia, or other similar liquids, except when approved complete head covering is worn.

### **Lifting**

Consider the size and weight of any object before attempting to lift or move the object. Do not lift any materials that cannot be handled comfortably. Always utilize the proper material handling equipment. If necessary, obtain assistance or wait until assistance is available.

1. Exercise extreme care in lifting oily or greasy parts. Use proper containers or straps to remove these objects.
2. Never carry a load that prevents you from seeing in front of you.
3. Never carry an object over a slick or iced surface.
4. When carrying objects near aeration or settling tanks extra care should be taken to avoid falling in the tanks or dropping objects into the tanks.

### **Mechanical Equipment Hazards**

1. Prior to starting any machine, be sure to know how to stop it.
2. Prior to starting any machine, make a visual inspection to be certain all personnel are clear of the equipment.
3. Be certain the equipment is completely stopped and locked out prior to making adjustments or repairs. Test the lock-out by trying to start the equipment.
4. Do not wear long sleeves, neck ties, or jewelry while operating mechanical equipment.

### **Electrical and Fire Hazards**

Open flames, lighted matches and burning tobacco products in or around underground structures are dangerous and should be avoided. Maintain access to ABC fire extinguishers which can be used for oil, gas, petroleum product and electrical fires.

1. Fire extinguishers should be inspected on a semi-annual basis and recharged promptly after their use.

2. Firefighting equipment should be easily accessible.
3. Only approved gas cans with a pressurized safety cap should be used for transporting or storing fuel. Gas cans should be red and have the word "GASOLINE" printed on them.
4. Oily rags should be placed in metal safety containers with lids. Do not store rags in the open.
5. Change clothes immediately if oil, kerosene or any other flammable liquid has soaked into the fabric.
6. Oxygen deficiency and toxic gas detectors should be used to check for the lack of oxygen or the presence of harmful gases.
7. Underground structures and other confined spaces should be adequately ventilated before entry. The "buddy system" should always be used when entering confined spaces.
8. Respiratory equipment and safety belts should be used when working in potentially explosive or fire hazard situations.

### **Bacterial Infections**

Make it a habit to thoroughly wash your hands before eating.

No cut or scratch should be considered minor. A 2 percent tincture of iodine or tincture of methiolate should be applied immediately to cuts or scratches.

### **Safety Equipment**

If safe working habits are to be encouraged, utility staff must have access to and use of the proper types of safety equipment. The following list provides the basic safety equipment needed for the staff. The following list should not be construed as a complete list since each site may require unique equipment.

1. Hard hats reduce serious injuries or deaths due to head injuries. Hard hats should be worn whenever working in a trench or when the possibility of falling objects is present.

2. Ear protection is necessary when individuals are subjected to certain noise levels over various durations. Safety glasses/goggles are necessary when there is a possibility of eye injury.
3. Boots that are steel-toed safety boots should be worn to prevent injury to feet.
4. Rubber gloves should be worn when handling acids, alkalines, oils, solvents and other chemicals.
5. Safety harness, with at least 50 feet of nylon rope, is necessary for safely entering underground structures or other confined spaces.
6. Respiratory equipment is necessary for protection against noxious gases and oxygen deficient environments. Oxygen and toxic gas detection equipment is necessary to forewarn work crews of the danger of confined spaces.
7. Portable air blower is necessary to ventilate underground structures.
8. Fire extinguishers are necessary for fire control. ABC type recommended.
9. First Aid kit, the industrial purpose type, should be readily available at all work sites.

### **Proper Use and Care of Equipment**

1. Employees shall use tools suitable for the job in progress and only those in good repair.
2. Employees shall avoid awkward positions when using tools to avoid possible injuries should the tools slip.
3. When using wrenches always pull the wrench toward you, protecting hands and knuckles in case the wrench slips.
4. Keep volt and amp meters in good working condition. You are dependent upon these instruments to tell you if a circuit is energized.

## **PROPER PROCEDURES**

### **Entering Confined Spaces**

Confined spaces including tanks, vaults, wet wells, trenches, manholes, dry wells, or any space that is below ground level or has inadequate ventilation, has the potential for containing deadly gasses or contain material with the potential to engulf someone. The most common gasses encountered in the water – wastewater industry include: carbon monoxide, hydrogen sulfide, chlorine, sulfur dioxide and methane. Consult OSHA circular 3138-01R for additional confined space information.

1. Prior to entering any confined space, an instrument check of the space should be completed to determine the presence of toxic gases.
2. All confined spaces must have an operating ventilation fan. If a fan is not present and operating, personnel should not enter the confined space without an air pack or proper retrieval equipment.
3. Portable ventilation equipment should be readily available for use in case of failure of the normal ventilation equipment.
4. Under no circumstances should personnel enter a confined space without proper equipment or rescue personnel standing by.

### Herbicides

Herbicides are normally used in water and wastewater operations to control weeds around fences, tank sites, hydrants and to control algae in lagoons.

1. Always mix herbicides in a clean disposable container.
2. Use of gloves and appropriate eye protection is recommended.
3. Apply herbicides in proper dosages using the recommended application procedures - algaecides for lagoons and weed killers for ground application.
4. Wash hands and clothing thoroughly after each application.
5. Clean and dispose of unused portions and packaging materials properly.
6. Empty containers shall be disposed of in a safe manner. They shall never be thrown into lagoons or storage tanks.

### Excavations

Common hazards to which utility staff is exposed in the construction or repair of water & sewer lines include head injuries and trench cave-ins. Head injuries may occur when pipe or other materials are being lifted for installation, removal or storage. Hard hats should be worn by all personnel when working in the vicinity of a backhoe or when materials are being lifted.

When excavations are necessary for the repair of water lines, the following general guidelines should be observed:

1. Excavations in unstable soils require shoring and bracing.
2. Excavations in stable soil conditions should be limited to 4 feet in depth.
3. Where excavations require depths of greater than 4 feet, the trench should be shored, sheeted, braced, sloped, or otherwise supported to provide protection of the staff.

### **Traffic Control**

Utility activities within the roadway right-of-way require attention to traffic control. The purpose for traffic control is to insure worker safety and to insure the safety of the public. This is accomplished by providing for the orderly and predictable movement of traffic, both motorized and pedestrian, through the work zone.

Traffic control devices (e.g., cones, signs, temporary signals and flagmen) are used to direct and assist vehicle operators and pedestrians in safely navigating through the work zone. The Manual on Uniform Traffic Control Devices provides basic principles for traffic control in construction or work zone areas and can be used as a guide by employees. The Kentucky Transportation Center of the University of Kentucky, Guidelines for Traffic Control in Work Zone, prepared by the Kentucky Transportation Center of the University of Kentucky, is a pocket-size, traffic control reference and is available to utility personnel.

## **ACCIDENT REPORTING**

### **In Case of Traffic Accident**

1. Stop at once to determine if anyone was injured, the nature and extent of the injury, contact local dispatch and administer first aid and all reasonable assistance.
2. Obtain the names and addresses of all witnesses before they leave the scene of the accident.
3. Obtain the name and address of each driver involved, and the names and addresses of all passengers riding with such driver.
4. Secure all available data on each vehicle involved, including make, model, type, year, state, and license number.
5. Secure all available data from the operator, or driver's license of the driver of each vehicle involved.

6. Note the time and place of the accident.
7. Carefully list damage to each vehicle involved.
8. Secure the name and badge number of any police officials who appear.
9. If a parked vehicle is involved in an accident and the owner cannot be located, a notice should be left on or in the vehicle providing the name and address of the parties involved. Within 24 hours, the police, sheriff, or highway patrol should be notified of the accident.
10. Comply with other reports as required by state and local ordinance.
11. Avoid discussing the accident and make no admissions of responsibility to anyone except authorized representatives. Necessary data given to a law enforcement officer should be given in private. Never obligate your employer for damages or medical expenses for non-employees.
12. Report the accident to the main office location along with the above information.



### **In Case of Public Accident**

1. All accidents resulting in injury or death of a member of the public and in which the company may be involved shall be reported to the main office immediately.
2. In the event of damage to the property of a member of the public, such damage shall be reported to the main office immediately.
3. No employee shall make statements concerning liability or indicating that settlement will be made in any accident resulting in injury or property damage to a member of the public.
4. It is important that the names and addresses of all witnesses be obtained in all accidents involving the public.

Appendix A  
Hydrant Flushing Form

Appendix B  
Valve Record Form

Appendix C  
Hydrant Inspection/Maintenance Form

Appendix D  
Storage Tank Inspection Form

Appendix E  
Water Line Break/Repair Log

Attachment to Question No. 1(f)

## Safety Meeting Schedule

Monthly Safety meetings with staff will be the first Friday of every month beginning at 8:00-8:30 am. These meetings will include both office staff and maintenance staff.

Weekly safety meetings will be Monday mornings at 8:00-8:30 am. These meeting will include maintenance staff and field operators. During these meetings we will discuss safety topics and check trucks for equipment needed for the week.



Attachment to Question No. 1(h)

## FARMDALE WATER DISTRICT

### THEFT OF SERVICE:

Anyone connecting to the Water District's meter without signing for service or continuing To use Water Service after being shut off for non-payment, will have their meter pulled. Service will not be reconnected until they come into our office, pay a deposit and sign for Service or until the bill is paid in full along with a reconnect fee. Persons will be prosecuted If found stealing water after the meter has been removed.

**FARMDALE WATER DISTRICT**

**CASE NO. 2020-00021**

**Response to Commission Staff's First Request for Information**

**Question No. 2**

**Responding Witness: Jan Sanders**

**Q-2. Provide the number of disconnects and reconnects Farmdale recorded in calendar year 2018.**

A-2. Farmdale recorded 169 disconnects and 117 reconnects in calendar year 2018.

**FARMDALE WATER DISTRICT**

**CASE NO. 2020-00021**

**Response to Commission Staff's First Request for Information**

**Question No. 3**

**Responding Witness: Jan Sanders**

**Q-3. Provide the number of returned check charges Farmdale recorded in calendar year 2018.**

A-3. Farmdale collected 43 returned check charges in calendar year 2018.

## CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8 and the Commission's March 16, 2020 Order in Case No. 2020-00085 regarding electronic filings, I certify that Farmdale Water District's Response to Commission Staff's First Request for Information was transmitted to the Public Service Commission by way of email to PSCED@ky.gov on March 23, 2020; that there are currently no other parties in this proceeding; and Farmdale will file original paper copies of this filing within 30 days of the lifting of the state of emergency.



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Katelyn L. Brown