UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY

Policy No.: FS017	**Approved by: Mark Cavanaugh**
Title: Sprinkler Main Drain Testing	**Date: 11/5/2019**
Revision No.: 4	**Page 1 of 5**
Prepared by: Mark Militello	

I. PURPOSE

This procedure identifies how to conduct a sprinkler system main drain test

II. PERSONNEL AFFECTED

Fire Safety Unit

III. DEFINITIONS

EH&S- Environmental Health and Safety Department of the University of Rochester

Fire Safety Unit) – Representatives of the University Fire Marshal's Office out of the EH&S department.

IV. RESPONSIBILITIES

The Fire Safety Unit representative conducting this test is responsible for following the proper procedures related to these systems and for contacting Public Safety when the test begins and ends. Failure to do so may result in injury, damage or prevent the proper operation of equipment.

V. PROCEDURES

A. Contact the University Public Safety Communications Center and advise them you will be testing the sprinkler system main drain in your specific area and to ignore water flow alarms from that fire alarm panel.

B. Contact Facilities Work Center (X34567) and advise them you will testing the sprinkler system main drain in your specific area.

C. Disable, per the fire alarm disconnect/reconnect procedures, the necessary fire alarm panel(s) as required for the test.

D. Proceed to the sprinkler riser.

E. If the system has a fire pump/jockey pump, shut both the pumps off for the test per "Fire Pump disconnect" procedure.

F. Close pet cock on the valve near the 2" drain line and remove the gauge from the supply side. Open pet cock and purge any excess debris/air from the port before installing the calibrated gauge.

G. For systems with fire pumps open the 2" main drain to release the pressure from the weekly pump test to street pressure.

H. Close the 2" main drain if open in Step F.

I. Observe and document the static pressure on the supply side and Start Test Time on Appendix 1.

J. Open the 2" main drain fully and watch the supply side calibrated pressure gauge to see how much lower the pressure drops. When the pressure stabilizes, note and document the residual pressure on Appendix 1.

K. When the pressure gauge stops dropping and stabilizes, close the main drain fully, note the time on Appendix 1 as Time Test Completed.

L. Watch the calibrated gauge as it returns to match the actual street pressure and record static pressure and time on Appendix 1 under Time System Stabilized.

M. The flow-testing portion is completed.

N. The pressure should not drop 10% from one year to the next during a main drain test. If so, refer to Fire Marshal. Example: Residual pressure is 60 psi X 10% = 6 psi. The calibrated gauge should not drop past 54 psi during the main drain test of the next year.

O. Once the main drain is closed, turn the jockey pump back on and wait for the system pressure to return to normal. **Caution**: If the fire pump is turned on, it will activate and slam the system pressure quickly and possibly cause damage and/or multiple flow alarms.

P. Remove the calibrated gauge from the street side. Open the pet cock and purge any excess debris/air from the port before re-installing the system gauge.

Q. Complete the Main Drain-UR test form (Appendix 1). Turn this form into the Fire Marshal for review.

R. Once the entire system pressure is returned to normal, turn the fire pump back on and return all disabled fire alarm panel(s) back to normal per the system disconnect/reconnect procedures.

S. Contact the University Public Safety Communication Center and advise them the test is completed.

T. Contact Facilities Work Center (X34567) and advise them the testing in completed.

VI. REFERENCES

NFPA 25 (2014) Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

VII. APPENDICES/FORMS

Appendix 1 – (I:/fire/Main Drain/Main Drain Blank Form.xls)

VIII. REVISION HISTORY

Date	Revision No.	Description
10/27/2010	New	Initial development of this policy
4/18/2013	1	Update procedure.
2/23/2017	2	Update procedure.
8/17/2017	3	Update procedure and add notification of facilities work center
11/5/2019	4	Clarification of procedures

Appendix 1

DATE _____ **BUILDING** _____

SYSTEM _____ **LOCATION** _____

TEST POINT _____ **TEST FREQUENCY** Quarterly

VALVE MODEL _____ **VALVE NUMBER** _____

TEST INFORMATION

STATIC PRESSURES _____ **PSI (BELOW CHECK VALVE)**

RESIDUAL PRESSURES _____ **PSI (BELOW CHECK VALVE)**

SYSTEM FLUSHED	YES	NO	**PIPING SATISFACTORY**	YES	NO
SYSTEM INSPECTED	YES	NO	**VALVE OPERATED**	YES	NO
START TEST TIME			**STOP TEST TIME**		
RECOVERY TIME			**TIME SYSTEM STABILIZED**		

FINAL STATIC PRESSURE _____ **PSI**

SPRINKLER HEAD INFORMATION

SPARE HEADS PROVIDED	YES	NO	CHANGING TOOLS	YES	NO
CLEAN OF DEPOSITS	YES	NO	SPECIAL HEADS IDENTIFIED	YES	NO

NUMBER OF HEADS _____ PENDANT

_____ UPRIGHT

_____ SIDEWALL

PENDANT HEADS GREATER THAN 8' AFF HAVE CAGES YES NO

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SPRINKLER SIGNAGE INFORMATION

FLOW DIRECTION LABELS ON PIPING	YES	NO	SIGNAGE IDENTIFYING AREA OF PROTECTION	YES	NO
HYDRAULIC CALCULATIONS ON RISER	YES	NO	FIRE DEPT CONNECTION PROPERLY IDENTIFIED	YES	NO

COMMENTS/CORRECTIVE ACTIONS

INSPECTOR