



MAINTENANCE AND CONSTRUCTION

Stop the Flood: Three Ways to Prevent Flood Damage Due to Broken Auxiliary Drains

Every year, broken drains on college campuses allow thousands of gallons of water to spill into facilities, causing extensive property damage and creating the need for expensive repairs. The most common causes of such flooding are freezing temperatures and improper maintenance; these two issues can lead to broken auxiliary fire sprinkler drains which can produce catastrophic floods. What can private universities and colleges do to prevent this flooding?

Administrators can choose from three available options to prevent broken sprinkler drains; these options include a cheap and simple way to prevent flood damage, an easy way to improve maintenance and prevent breaks, and a solution to eliminate the issue completely. Any of these three options will prevent thousands of dollars' worth of flood damage caused by broken auxiliary drains.

What Causes the Flood?

Dry fire sprinkler systems are typically located in areas that both experience freezing temperatures and require auxiliary drains to collect condensation that forms in the pipes. These drains are also referred to as low point drains or drum drips. The collected condensation needs to be emptied from the drains before freezing temperatures occur, or the drain will freeze, potentially breaking a valve or rupturing the pipe or fittings. When any of the drain components break, the system pressure is compromised, triggering the dry valve to send a pressurized flow of water to fill the pipes. That water spills out of the broken drain until someone realizes what has happened and turns off the supply. When an auxiliary drain on a one-inch pipe line breaks, it can spill out 50 to 70 gallons of water a minute (depending on available system pressure). Even if it only takes ten minutes to be found and shut off, that means 500 to 700 gallons of water can flood the facility.

Option One: Stop the Flood, Fix the Drain

If budget constraints make it impossible to pursue the more sophisticated options listed below, campus decision-makers can still install a solution to prevent a catastrophic flood should the auxiliary drain break. This inexpensive and simple solution is installing a flood eliminator on the inlet of each drain. A flood eliminator senses the sudden pressurized flow caused by a broken auxiliary drain and restricts the flow of water to prevent flooding. When the pressurized flow hits this type of device, it restricts to only let through eight ounces of water per minute. That amount of water is enough to drip out of the broken drain and signal to staff which drain is broken, but the resulting water spill is less than one gallon of water per ten minutes, as opposed to 500-700 gallons in the same length of time without the flood eliminator.

Option Two: Improve Maintenance

A slightly more expensive option is to prevent the auxiliary drain from freezing and breaking, thereby averting floods caused by this issue. If water is drained from auxiliary drains before freezing temperatures occur, they should be fine. However, even one ounce of water in one drain on the system can cause the system to break down. While emptying drains prior to freezing weather, even well-trained and responsible maintenance personnel may simply miss one of the drains, or they may not realize that one of the drains contains any water.



Measuring Moisture is our Expertise. Accuracy and Reliability is our Strength.

Lignomat

Lignomat Moisture Measurement
PO 30145, Portland OR 97230
Ph: 800-227-2105 FAX 503-256-3844

Email: sales@lignomat.com
www.lignomat.com

Moisture Intrusion is the number one concern
keeping buildings structural safe and healthy.

We offer measuring and monitoring devices
to find problems and monitor repairs.

Call 800-227-2105 for a recommendation.

*Handheld meters for
wood, drywall, concrete.
We offer a wide selection.*

*Monitor moisture
and humidity.
For short and long-term monitoring.*

*Report measurements
over the Internet.
For all remote applications,
and Building Surveillance.*



Flooding in private universities and colleges can present not only a major, unexpected cost, but can also offer a major inconvenience to the students, faculty, and staff.

This mid-level price, simple solution is the installation of a water detector alarm on each drain. These water detector alarms can easily be installed on existing auxiliary drains to notify maintenance personnel when a drain needs attention. The water detector alarm senses when there is water in the drain, then sends a visual, audio, or remote alert that the drain should be emptied. This notification allows facility maintenance staff to know which drain to empty, so they have an easier time keeping track of the drains which need to be prepared for dropping temperatures.

Option Three: Automate the Process

The most effective way to fully prevent freezing drains—and the resulting flood damage—is to automate the process of emptying the drains.

Automatic auxiliary drains in energy-efficient heated cabinets stay above 40 degrees Fahrenheit, so freezing is no longer a concern. When the drain accumulates enough water to need emptying, automated processes ensure that is done as well.

Here is how a self-maintaining auxiliary drain functions: When the drain fills to 80% of its capacity, any additional water flows into an ancillary drain trap, where it slowly seeps out into a drainpipe. In the fully automatic systems, the drain trap will then drain itself when it senses that it is full. In semi-automated systems, when the drain is at 80% of its capacity, it sends an alert; based on system controls in place, it can be drained from anywhere on campus with the push of a button. With that arrangement, one person at a building management system can

remotely empty any drain on campus needing attention. With either of these options, facility management personnel never have to worry that auxiliary drains are going to freeze and break, let alone flood campus facilities.

Don't Play Chicken with Auxiliary Drains

Flooding in private universities and colleges can present not only a major, unexpected cost, but can also offer a major inconvenience to the students, faculty, and staff. By choosing to have current available technology installed, university administrators can stop broken auxiliary drains from flooding campus facilities. Any of the solutions outlined above—from a simple device that stops the flood to a cabinet that fully automates the process—can stop the flood in a way that works for every college and university.

AGF Manufacturing designs and produces innovative fire sprinkler products that provide an unprecedented combination of reliability, versatility, and code compatibility.



Super SAM[®] 125

Whether you're in an apartment, dormitory, hotel, multi-level building, media room or a classroom, peace and quiet is possible.

Super SAM 125 sound abatement membrane ensures you won't have to hear it to believe it!



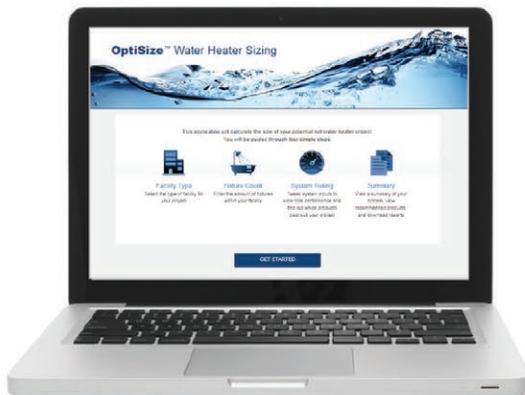
www.nacproducts.com • 800-633-4622

Power. Performance. Endurance.

Dynamic[®] Water Heating

PVI's Dynamic Water Heating[®]

A revolutionary water heating system design and application approach that features greater BTU input for quick reaction, an optimized storage buffer for extra power when needed, the benefit of high water turnover, and exclusive duplex stainless steel AquaPLEX[®] construction for unmatched performance and longevity. Learn more about PVI's Dynamic Water Heaters at pvi.com.



OptiSize[®] will help you select an optimally-sized water heater for your next project



800.784.8326 | pvi.com

©2021 PVI