

WINTERIZING YOUR HISTORIC BUILDING

Taking time to prepare a historic structure and the collections within it for the winter season requires careful planning and continued monitoring of the building facilities and condition throughout the season. Whether an institution has a temporary seasonal closure in the winter or remains open, properly winterizing the building will help to safeguard collections, save money, and potentially avert disaster.

EXTERIOR

Ensure that gutters and downspouts are securely attached and free of any debris. Install ice dams under the gutters to prevent ice build-up from forming and water backing up. Check the roof for damaged or missing shingles and the roof flashing for leaks. Ensure that the building's external cladding is intact. Have damaged components replaced and any other repairs made promptly.

Inspect trees and other foliage overhanging or near the building for dead or weak branches. Remove any branches that could break under the weight of a heavy/wet snow and potentially damage the building.

Know the designed snow load of the roof of the building: monitor heavy and/or wet snowfalls that may exceed the weight-bearing capacity of the structure. This is especially important for structures with flat, low pitched, or already physically compromised roofs. Consider buying a long-handled snow rake so that staff can clear the roof in the event of a severe snow storm.

PLUMBING

Pipes in exterior walls should be insulated if possible and closely monitored for freezing (occasionally running the faucets, flushing the toilets). If there is a sink located against an outside wall, any cabinet doors beneath it should be left open in order to help prevent freezing.

If the water in an unheated area (such as a shed or outbuilding) is turned off for the winter, the pipes, toilets, and any other water-containing device should be drained. If the water in an unheated area is left on for the winter, the pipes should be properly insulated and closely monitored for freezing (occasionally running the faucets, flushing the toilets).

BASEMENTS

Foundations with structural issues can sustain serious damage due to sub-freezing temperatures and a build-up of condensation. A variety of factors, including poor drainage, insulation, and foundation grading, can cause condensation to form.

If the plumbing system has been poorly winterized, pipes in an unheated basement could freeze and form a leak. Any collection materials in the basement should be stored 4 to 6 inches above the floor in case of flooding. If possible, store non-collections material 4 to 6 inches above the floor as well; in the event of a flood, this will expedite salvage and recovery of all materials.

Consider installing a water/moisture alarm in the basement. Variations in the type of alarm available include an audible alarm, a remotely triggered alarm, or an alarm wired into the institution's security system. Be sure that the alarm is in a location where it will be quickly noticed. Have a submersible pump and the necessary discharge hoses available on-site or establish a contract with a known vendor.

LIGHT EXPOSURE DURING WINTER CLOSURE

Light exposure should be limited as much as possible. Lights should be kept off and windows should be boarded up or shuttered. If shutters/boards are not acceptable, ultraviolet filtering window blinds or shades should be installed and kept closed for the duration of the seasonal closure. Accessioned historic window dressings should not be used for this purpose as they will become damaged via light exposure.

ALLOWING FOR SEASONAL THERMOSTAT VARIATION

Whether an institution chooses to seasonally lower or maintain a constant year-round temperature, sudden and dramatic fluctuations should be minimized. If staff is present working within the institution during the off-season, a temperature set point compromise between staff comfort and energy savings might have to be made. Once this off-season temperature has been determined, fluctuations from it should be minimized. Any changes in temperature should be done gradually, over the course of two or three days. This slow heating or cooling will give the collection materials time to acclimate to the new temperature and the corresponding new humidity levels within the building.

Historic buildings with seasonal closings may open periodically for wintertime special occasions. In order to avoid sudden dramatic changes in temperature and relative humidity that could damage the collection materials and the historic structure, the temperature should be raised gradually, over the course of two or three days. After the special event, the temperature should be lowered to the standard winter level in the same manner as it was raised – gradually, over two or three days.

MECHANICAL AND HVAC SYSTEMS

Make sure that mechanical systems are functioning smoothly before winter begins, so that any concerns can be addressed before the temperature drops drastically. Check to see that all circuits on circuit breakers and all fuses in fuse boxes are intact.

The nature of a historic building must be considered before replacing or altering existing HVAC (heating, ventilation, air-conditioning) systems. Older buildings with single pane glass windows and little to no insulation can be severely damaged by the addition of both building-wide and individual unit humidifying systems. In such cases, increased moisture in the interior of the structure will cause damaging condensation on the window sashes, doors, and outside walls. An HVAC engineer must be consulted before making environmental modifications with portable or whole building humidifiers.

PEST MANAGEMENT

Begin increased monitoring for potential pest infestation in the fall since rodents often attempt to enter buildings during this time. Housekeeping staff should look for evidence of droppings, bedding materials, and holes.

Seal any cracks in the foundation and cover any means of ingress with wire mesh. Possible areas of access include door sweeps, around plumbing, under wood framing, between a stone foundation and siding, and beneath the roof eaves. Trim or remove foliage from along the foundation of the structure, which will help prevent rodents from tunneling and will aid staff in monitoring for signs of infestation. Trim any close-hanging tree branches; this will help prevent squirrels from crawling up under the roof eaves. Remove all foodstuffs from the building prior to closing. Keep in mind that other materials, such as candles, may also attract pests.

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WINTERIZING YOUR HISTORIC BUILDING CHECKLIST

A sample checklist for the weekly inspection of buildings with reduced staff and visitor hours.

| EXTERIOR | |
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| | Trees and other foliage are intact and away from structure(s) - especially trees and foliage overhanging or next to building(s) |
| | Roof and building cladding is intact |
| | Sidewalks, driveways, and parking lots are clear, especially areas near building entrance(s) and other access doors |
| | Gutters and downspouts are secure, free-flowing, and clear of debris |
| INTERIOR | |
| BASEMENT | |
| | Materials are stored 4-6" above the floor |
| | Basement is dry (no damp areas at outside corners or near supporting columns) |
| | Dehumidifiers are operating properly |
| | Water alarms are connected to power supply |
| | Sump pumps are connected to power supply |
| | Sump pump discharge hose is clear and free-flowing |
| EXTERIOR WALLS, CEILINGS, AND BENEATH WINDOWS | |
| | No evidence of moisture incursion from roof and window leaks (no stains, efflorescence, flaking paint and/or plaster) |
| LIGHT EXPOSURE | |
| | Lights are shut off |
| | Windows are boarded, shuttered, or covered with ultraviolet-filtering blinds or shades |
| ENVIRONMENT | |
| | Temperature and relative humidity are consistent and controlled in collections storage areas (inspect the thermostat, regularly change recording drum of hygrothermograph, download information from data loggers) |
| | Oil supply is sufficient |
| | Water runs unimpeded in pipes (test water taps by briefly running them, occasionally flush toilets) |
| | Whole building humidifiers are operating properly (connected to power supply, evaporative panels are functioning, water supply is unimpeded) |
| MECHANICAL | |
| | All circuits on circuit breakers are intact / all fuses in box are intact |
| PEST MANAGEMENT | |
| | No evidence of droppings or bedding materials (in corners and along baseboards, in collection display/storage areas and food preparation areas) |
| | Any cracks or other means of ingress are sealed |
| | If the building will be closed entirely, all food is removed |