

## Flood and Flash Flood Information

**Floods and Flash Floods-** Floods are the most common and widespread of all natural disasters. Most communities in the United States can experience some degree of flooding after spring rains, heavy thunderstorms, or winter snow thaws.

Most floods develop slowly over a period of days. Flash floods, however, are like walls of water that develop in a matter of minutes. Flash floods can be caused by intense storms or dam failure.

### Planning Considerations:

Consider the following when preparing for floods:

- Ask your local emergency management office whether your facility is located in a flood plain. Learn the history of flooding in your area. Learn the elevation of your facility in relation to streams, rivers, and dams.
- Review the community's emergency plan. Learn the community's evacuation routes. Know where to find higher ground in case of a flood.
- Establish warning and evacuation procedures for the facility. Make plans for assisting employees who may need transportation.
- Inspect areas in your facility subject to flooding. Identify records and equipment that can be moved to a higher location. Make plans to move records and equipment in case of flooding.
- Purchase a NOAA Weather Radio with a warning alarm tone and battery backup. Listen for flood watches and warnings.
  - **Flood Watch-** Flooding is possible. Stay tuned to NOAA radio. Be prepared to evacuate. Tune to local radio and television stations for additional information.
  - **Flood Warning-** Flooding is already occurring or will occur soon. Take precautions at once. Be prepared to go to higher ground. If advised, evacuate immediately.
- Ask your insurance carrier for information about flood insurance. Regular property and casualty insurance does not cover flooding.
- Consider the feasibility of flood proofing your facility. There are three basic types of methods.
  - Permanent flood proofing measures are taken before a flood occurs and require no human intervention when flood waters rise. They include:

- Filling windows, doors, or other openings with water resistant materials such as concrete blocks or bricks. This approach assumes the structure is strong enough to withstand flood waters.
  - Installing check valves to prevent water from entering where utility and sewer lines enter the facility.
  - Reinforcing walls to resist water pressure. Sealing walls to prevent or reduce seepage.
  - Building watertight walls around equipment or work areas within the facility that are particularly susceptible to flood damage.
  - Constructing floodwalls or levees outside the facility to keep flood waters away.
  - Elevating the facility on walls, columns, or compacted fill. This approach is most applicable to new construction, though many types of buildings can be elevated.
- Contingent flood proofing measures are also taken before a flood, but require some additional action when flooding occurs. These measures include:
  - Installing watertight barriers called flood shields to prevent the passage of water through doors, windows, ventilation shafts, or other openings.
  - Installing permanent watertight doors.
  - Constructing movable floodwalls.
  - Installing permanent pumps to remove flood waters.
- Emergency flood proofing measures are generally less expensive than those listed above, though they require substantial advance warning and do not satisfy the minimum requirements for watertight flood proofing as set forth by the National Flood Insurance Program. They include:
  - Building walls with sandbags.
  - Constructing a double row of walls with boards and posts to create a “crib,” then filling the crib with soil.
  - Constructing a single wall by stacking small beams or planks on top of each other.
  - Consider the need for backup system:
    - Portable pumps to remove water.
    - Alternate power sources such as generators or gasoline-powered pumps.
    - Battery-powered emergency lighting.
  - Participate in community flood control projects.