

Elevate Indoor Utilities/Equipment

Overview

- If you have utility equipment in the basement or below the Base Flood Elevation line, they may be at risk during flood events.
- Indoor utility equipment includes any or all of the following:
 - Wiring and outlets
 - Hot water heaters
 - Furnace/evaporator coil
 - Boiler
 - Ductwork
 - Gas line
 - Fuel tanks
- When elevating utility equipment, new outlets and/or gas lines may need to be installed.
- If replacing utility equipment, upgrade to more efficient equipment, if possible.
- The cost of elevating indoor utility equipment depends on the type of building and the location of the utilities.
- While elevating utility equipment, consider elevating important personal items as well.
- This strategy will not protect the structure from flooding but will help reduce flooding associated costs.



Key Takeaways

During flood events, flood water inside the building can damage utility equipment.

Equipment may also float in the floodwaters and can become a projectile. This can cause more damage inside the structure.

To avoid replacement or repair costs related to flood damaged or destroyed indoor utility equipment, the equipment can be elevated above the Base Flood Elevation line.





I-ADAPT

Interior Adaptation

Elevate Indoor Utilities and Equipment

Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
Item	Estimate	Post-Flooding Recovery Action	Estimate
Re-wire basement	\$1,400-\$4,800	New wiring	\$800-\$1,500
Suspend water heater	\$200-\$300	New water heater	\$600-\$3,000
		New furnace/evaporator coil	\$2,600-\$10,000
Furnace on concrete platform	\$110-\$160	New boiler	\$3,200-\$9,000
Boiler on concrete platform	\$110-\$160	New fuel tank	\$800-\$3,800
Fuel tank on concrete platform	\$110-\$160		
Re-route ductwork	\$1,400-\$5,500	New ductwork	\$1,500-\$6,000
Re-route existing gas line(s)	\$200-\$750	Repair gas line	\$150-\$700
ESTIMATED TOTAL COST	\$3,530-\$11,830	ESTIMATED TOTAL SAVINGS	\$9,650-\$34,000

Additional Resources

- [FEMA Homeowner's Guide to Retrofitting \(Chapter 8\)](#)
- [FEMA Principles and Practices for the Design and Construction of Flood Resistant Building Utility Systems](#)
- [FEMA 9.0 Protecting Service Equipment](#)

Resources can also be found at <https://de.gov/iadapt>

Potential Funding Sources

- [Flooding Mitigation Assistance \(FMA\) Grant](#)
- [Building Resilient Infrastructure and Communities \(BRIC\)](#)

Expected Maintenance

- Regular utilities maintenance.
- Periodically ensure that there is no damage to platforms/suspension systems.

Additional Actions

- Move other equipment and/or furniture.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits
- Electrical permit for re-wiring basement

Who to Contact

- Plumber
- Electrician
- Contractor

Technical definitions and more information are located on the I-ADAPT website: <https://de.gov/iadapt>.



This information is intended to be used for planning purposes. It is not intended to substitute or take precedence over the guidance of design engineers, contractors, utility companies or regulatory agencies.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov

