

Flooding Facts

- *Floods are the most common and wide-spread of all natural disasters -- except fire.*
- *Property damage from flooding totals over \$1 billion each year in the U.S.*

Every year, low lying lands along rivers, bays and coastal areas may be inundated by floodwaters and tidal surge. The force of buoyancy will cause submerged heating oil and propane fuel tanks to float away, breaking the supply line to the home and spilling the fuel contained in the tank. In 2003, flooding from Hurricane Isabel dislodged and spilled hundreds of residential oil tanks in Maryland causing the federal and state governments to spend \$2.25 million in additional remediation costs. The cost to homeowners was much worse.

Why Anchor Your Tank

- High waters can dislodge unanchored tanks causing spills and environmental and property damage.
- Loose propane tanks may explode, potentially causing serious injuries.
- Buried tanks can be pushed to the surface by the buoyant effect of soil saturated by water. Floating tanks become battering rams, causing additional property damage.

- When an unanchored tank in your basement is moved by flood waters, the supply line can tear free and your basement can become contaminated by oil.
- Oil spilled from unanchored tanks is a contaminant that endangers your family, pets, home and water supply.

Section M2201.6 of the International Residential Code states that: "In areas prone to flooding... tanks shall be installed at or above the design flood elevation... or shall be anchored to prevent floatation, collapse and lateral movement under conditions of the design flood."

NFPA-5 Section 3-2.2.7(h): "Where necessary to prevent flotation due to possible high flood waters around aboveground or mounded containers, or high water table for those underground, containers shall be secured."

Getting Started

If you have a propane tank:

Contact your fuel supplier who must, by law, anchor any propane tank placed in the flood plain.

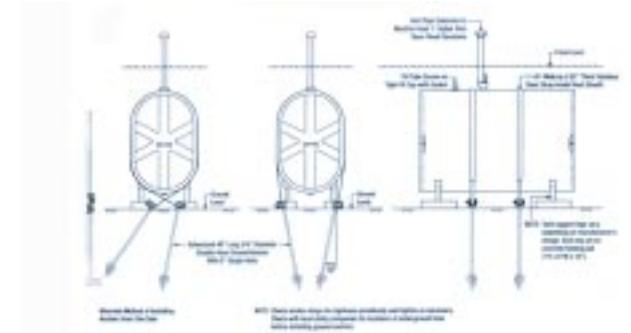
If you have an oil tank:

For residential oil tank owners, call your local oil supplier to request an estimate on anchoring your tank.

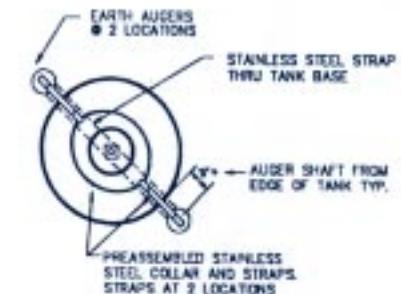
If you are an oil or propane supplier:

Contact the Maryland Department of the Environment, Wetlands and Waterways Program, at 410-537-3914 to receive a list of companies supplying the recommended anchoring systems for fuel tanks.

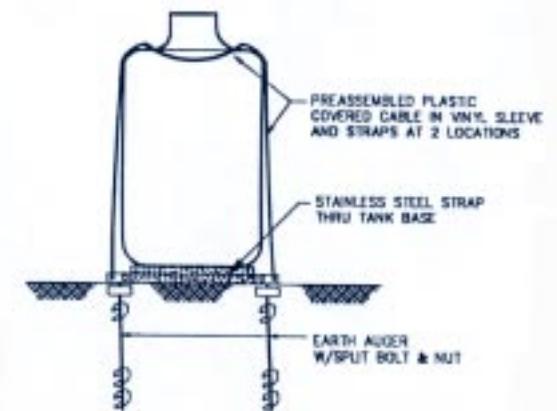
Anchor Outside Heating Oil Tanks



Anchor Outside Propane Tanks



TOP VIEW: UPRIGHT TYPE TANK



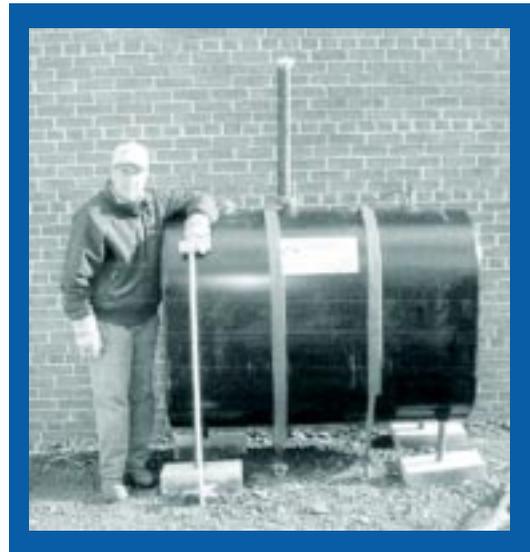
ELEVATION: UPRIGHT TYPE TANK

Follow These Basic Guidelines

- A vinyl shield is inexpensive and effective and is an excellent way to retrofit most existing tanks. Place a vinyl shield over the straps to prevent corrosion of the tank where straps have contact.
- Extend vent pipe above the flood protection elevation to prevent water from contaminating oil supply.
- Use a threaded fill cap with a tight gasket to prevent oil leaks.
- Remember to shut off the burner supply line to the heat equipment inside the home when flood and tidal surge warnings are issued.

Take the Precaution

- For questions concerning anchoring oil tanks and other flood damage prevention methods, contact your local floodplain manager, building official, city engineer or zoning administrator.
- Remember, taking precautions when filling or installing oil tanks by anchoring them properly may prevent future oil spills and home damage during times of flooding.



Robert L. Ehrlich, Jr.
Governor

Maryland Department of the Environment
1800 Washington Boulevard Baltimore MD 21230
Phone: 410-537-3000 Toll-free: 1-800-633-6101
Emergencies: 866-MDE-GOTO (866-633-4686)
www.mde.state.md.us

Michael S. Steele
Lt. Governor

Flooding & Fuel Tanks:

A Guide to Anchoring Fuel Tanks in the Floodplain

