

# Requirements for Upgrading Above-Ground Petroleum Tanks

The Hazardous Substances and Waste Dangerous Goods Regulations incorporate a deadline extension for the upgrading of all new and existing above ground petroleum storage tanks. Operators of such above ground storage systems are required to upgrade their facilities by December 31, 1997.

Exemption: All above-ground farm and residential storage tanks which are not used for any commercial purpose are exempt from the regulations.

## Before You Begin

Before you begin any construction or upgrading, you must obtain approval from the Saskatchewan Environment.

Note: Contaminated soil discovered during upgrading must be removed and dealt with according to department guidelines.

## What are the Requirements?

### Tank Construction:

Tanks which meet the following specifications are acceptable for continued use provided the other requirements of the regulations are met:

- ULC S601-M84 (Horizontal tanks)
- ULC S630-M84 (Vertical tanks)
- ULC S643-M1989 (Utility tanks)
- ULC/ORD-C142.3-1991 (Contained tanks)
- CAN/ULC-S602M -1991 (Fuel and Lubrication Oil tanks)
- API-650 (Large Welded tanks)
- API-620 (Large Welded tanks)
- API-12D (Large Field Welded tanks)
- API-12F (Vertical tanks)

### Containment:

Some form of impermeable containment must be provided for all above-ground tanks. Single tank installations require containment for 110 per cent of the tank volume. Multiple tank installations require containment capacity for either 100 per cent of the volume of the largest tank plus 10 per cent of the aggregate volume of all other remaining tanks, or 110 per cent of the largest tank, whichever is greater.

### Thickness Testing:

Tanks which are susceptible to corrosion and which have a capacity of greater than 10,000 litres must be thickness tested at 20 years of age, and every 10 years thereafter. These tanks must then be permanently marked as to the date of the test, the remaining working life, and the plate thickness at the time of the test.



### High Level Alarms/Overfill Protection and Transfer Spill Collections Systems:

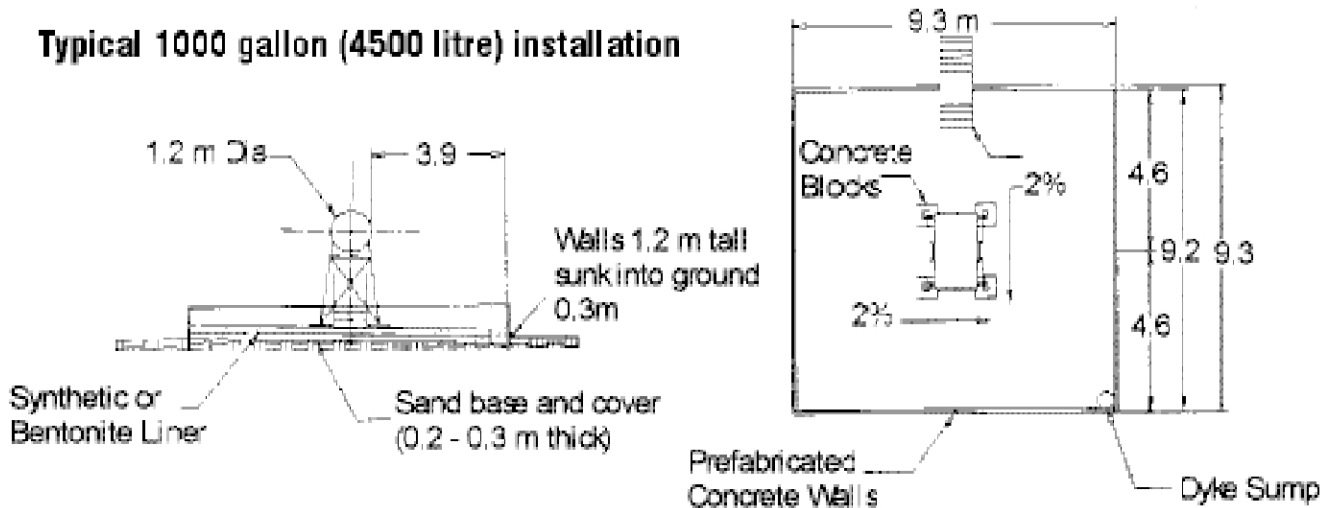
Above-ground tanks which are not directly top-filled using a functional automatic shut-off nozzle must be equipped with a high level alarm or over-fill prevention system to warn of potential overfills. The product off-loading lines to the tank must also be equipped with a transfer spill collection system if the point of connection with the tank is not within the containment area.

### Other Requirements

Tanks which are susceptible to corrosion must be painted. All above-ground tanks must be marked to identify their contents. Steel piping connected to above-ground tanks which extends below ground level requires cathodic corrosion protection.

Tanks which deliver fuel through connected dispensers require either a normally closed solenoid valve for bottom draw systems, or an anti-siphon valve for top draw systems. Tanks and pumps are to be protected from collision.

### Typical 1000 gallon (4500 litre) installation



Note: The distance from the outside wall of the tank to the center line of the dyke may be reduced to 1.5 m, with the approval of the Fire Commissioner's Branch