



Fuels Safety Program	Ref. No.: FS-114-07 R3 (Formerly GA 05/1)	Rev. No.: 3
	Date: May 2005	Date: November 3, 2017

Subject: Protection Against Vehicular Traffic
Distribution: Posted on TSSA website

Clause 3.2.1.10 of the Liquid Fuels Handling Code states:

“Aboveground storage tanks shall be protected from vehicular impact.”

Clause 3.5.6 states:

“Aboveground storage tanks exposed to vehicular traffic shall be protected from impact by
(a) design, in accordance with an approved standard; or
(b) posts or guardrails that are constructed in accordance with good engineering practice and are located at least 1 m away from the tanks.”

The tank may be protected by virtue of its location (e.g. the tank is located behind by a berm or a building and so is not likely to be hit by vehicles) or the tank may be protected by its design (i.e. the tank is encased in concrete – CAN/ULC-S655 tank) or the tank may require a physical barrier to protect it.

The intent of the LFHC requirement is to prevent vehicles that are normally in the area, from hitting the tank.

The following excerpt from the *CSA B149.2-15, Propane Storage and Handling Code* adopted by the *Propane Code Adoption Document, FS-224-17*, gives two examples of acceptable physical barriers:

7.19.4.1

Posts used for the protection of a **tank** shall

- (a) be spaced not more than 54 in (1350 mm) apart;
- (b) be buried not less than 36 in (900 mm) below grade;
- (c) extend at least 30 in (750 mm) above grade; and
- (d) be one of the following:
 - (i) 4 in (100 mm) capped steel pipe;
 - (ii) 4 in (100 mm) tubing filled with concrete;
 - (iii) 8 in (200 mm) pressure-treated wood, either square or round; or
 - (iv) 6 in (150 mm) minimum dimension reinforced concrete.

7.19.4.2

Guardrails used for the protection of a **tank** shall be

- (a) of the steel deep beam type, 12 × 162 in (300 × 4050 mm), supported by 6 in (150 mm) minimum pressure-treated wooden posts buried not less than 36 in (900 mm) below grade and located not more than 75 in (1875 mm) apart, centre to centre, and the bottom of the beam shall be 18 in (450 mm) above grade; or

(b) of the reinforced concrete barrier type, commonly referred to as the New Jersey Turnpike barrier, not less than 30 in (750 mm) in height, with a width of base not less than the height. See Figure E.1 in Annex E for an illustration of a typical barrier.

7.19.4.3

Posts or guardrails used for the protection of a **tank** shall be located
(a) not less than 42 in (1080 mm) from all sides of the **tank**, ...

The above examples are the minimum requirements and may not be adequate in all situations. For example, where there is a potential for impact from heavy construction or logging equipment, a more robust form of vehicle protection may be required. The protection provided should be able to prevent vehicles that are normally in the area, from hitting the tank.

Examples of other acceptable forms of protection include concrete blocks and boulders of adequate size for vehicular protection.