Maricopa County
Planning & Development Department
Department Directive

Department Directive:
DD-2013-19

Supersedes: DD-2009-03
DD-2004-10

Effective: Immediately
Initiator: Tom Ewers

Director: *Debra W. Stark*

PURPOSE: To provide guidelines for the installation of portable and stationary liquefied petroleum gas containers and fuel gas piping.

REFERENCES: International Building Code: Section 101.4
International Fire Code: Table 3804.3
International Fuel Gas Code: Section 404

POLICY / PROCEDURE:

There has been a demonstrated need to provide customers with technical guidance for the safe installation of LPG gas containers and fuel gas piping. In order to establish an acceptable location clearance, we must consider life safety, protection of property, and protection of the piping and container itself. In accordance with the IBC under Section 101.4 Referenced codes, it states: "The other codes listed in Sections 101.4.1 through 101.4.7 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference". Therefore, this directive is a compilation of two different sources referenced by the IBC for the purpose of determining those clearances. The sections specific to the clearance requirements are IFC Table 3804.3 and IFGC Section 404.

Definitions:
Portable Container: A container that is designed to be readily moved from one usage location to another.

Stationary Container: A container that is designed for use indefinitely at a particular location. An installation not normally expected to change in status, condition, or place.

> **Exception**: Portable containers 5.0 pounds / gallons or less capacity shall be Exempt from the required separation on chart below when used for outdoor appliances only, such as barbeque grills, fire-pits, kivas, torches, etc.

The following shall apply to above ground containers installed along the side of a building:

Containers of less than 125 pounds / gallons are allowed next to the building they serve when in compliance with the following:

> Containers shall be located so that the discharge from the pressure relief valve is at least:
>
> - 5 feet horizontally from building openings below the level of such discharge.
> - 5 feet from exterior source of ignition.
> - 5 feet from openings into direct vent appliances (sealed combustion system).
> - 5 feet from mechanical ventilation air intakes.

All other container installations shall comply with chart below**.**

	MINIMUM SEPARATION BETWEEN CONTAINERS AND BUILDINGS, PUBLIC WAYS,OR LINES OF ADJOINING PROPERTY		
CONTAINER CAPACITY (WATER GALLONS)	MOUNDED OR UNDER-GROUND CONTAINERS (FEET)	ABOVE-GROUND CONTAINERS (FEET)	MINIMUM SEPARATION BETWEEN CONTAINERS (FEET)
LESS THAN 125	10	5	NONE
125 to 250	10	10	NONE
251 to 500	10	10	3
501 to 2,000	10	25	3
2,001 to 30,000	50	50	5
30,001 to 70,000	50	75	(1/4 of sum of diameters
70,001 to 90,000	50	100	of adjacent
90,001 to 120,000	50	125	containers)

The aggregate capacity of a multi-container installation shall comply with appropriate separations from the table above.

The filling connection and vent from liquid level gauges on containers filled at the point of installation shall not be less than 10 feet from exterior sources of ignition, openings into direct vent appliances (sealed combustion system), or mechanical ventilation air intakes.

Separation of above-ground containers may be reduced to not less than 10 feet for a single container of 1,200 capacity or less, provided such container is at least 25 feet from other LPG gas containers that have 125 capacity or more.

Gas Piping Installation:

Equipment and or appliances:
- To be installed per manufacture recommendation and specifications.

Gas line location:
- No gas piping to be installed in or on the ground underneath any building or structure
- Gas piping can be installed
  1. Outside the building envelope; under a sidewalk, driveway, etc.
  2. Under a covered patio / breezeway when an acceptable sleeve method is installed in accordance with IFGC Section 404.11

Gas line depth:
- Insulated Ferrous Gas Pipe minimum depth of (12 inches) of earth cover.
- PE (Polyethylene or Plastic Gas Pipe) minimum depth of (18 inches) of earth cover with an insulated 18 AWG tracer wire suitable for direct burial. The tracer wire shall be installed adjacent to the underground nonmetallic piping, and terminate above ground at each end of the nonmetallic piping.