Hazardous Materials Compliance Guide
Liquefied Petroleum Gas Tanks/Containers

Palo Alto Fire Department
Hazardous Materials Program
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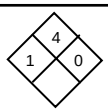
Some residential homes in the Hazardous Fire Area of Palo Alto do not have natural gas provided by the City of Palo Alto. These homes may choose to install Liquefied Petroleum Gas (LPG) tanks/containers to provide gas for various residential appliances. These LPG tanks/containers are regulated by the California Fire Code and the Palo Alto Municipal Code.

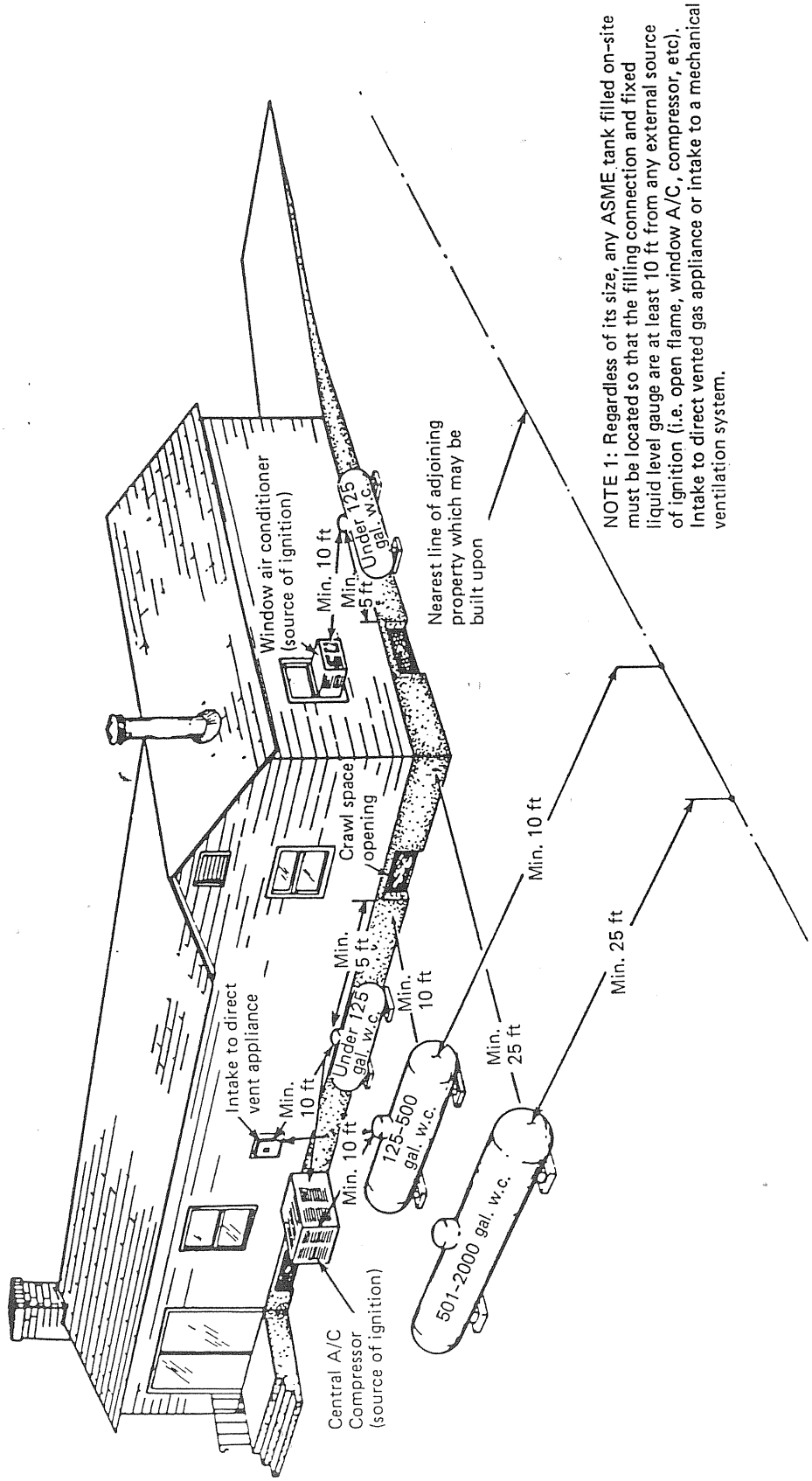
Typical Hazardous Materials

Chemical Name	Physical State	DOT Class	Fire Code Hazard Class	704 Placard*
Propane; LPG; Liquefied Petroleum Gas	Liquefied Flammable Gas	Flammable Gas	Flammable Gas	1,4,0

* 704 Placards are required when quantities of hazardous materials exceed permit amounts., i.e. LPG tanks over 55 gallons capacity.

Inspection Issues

Hazardous Material Business Plan (HMBP) or Hazardous Materials Registration Form (HMR)	Not required for residential LPG tanks.
LPG Tank/Container	• LPG containers shall be designed, fabricated, tested, and marked (or stamped) in accordance with the Regulations of the U.S. Department of Transportation (DOT), the American Society of Mechanical Engineers (ASME) or jointly by the American Petroleum Institute and the American Society of Mechanical Engineers (API-ASME). • ASME containers shall be marked with a stainless steel name plate that includes such information as container supplier, container water capacity in pounds or gallons, design pressure in psig, year of container manufacture, manufacturer's serial number, ASME code symbol, etc. • Containers showing serious denting, bulging, gouging, or excessive corrosion shall be removed from service.
LPG Tank/Container Pipes, Tubing, Fittings and Valves	• LPG tanks/containers may contain various pipes, tubing, fittings and valves made of iron, steel, brass, copper or polyethylene materials. Different Specifications and Standards allow components to be made of any or all of the above materials.
LPG Tank/Container Location	• The minimum distance from LPG tanks/containers to buildings, public ways, or lines of adjoining property is zero feet for container capacity less than 125 water gallons, and 10 feet for container capacity of 125 to 500 water gallons. (See Figure I-2 Aboveground ASME Container illustration on back side.) • Minimum distances from LPG tanks/containers to building openings and sources of ignition vary from 3 to 10 feet. • LPG containers shall not be used in a basement, pit or similar location where heavier-than-air gas might collect. • No part of an aboveground LPG container shall be located in the area 6 feet horizontally from a vertical plane beneath overhead electric power lines that are over 600 volts, nominal.
LPG Tank/Container Installation and Seismic Bracing	• LPG containers shall be mounted on firm foundations (i.e. concrete pads, paved surfaces or masonry). • LPG containers shall be secured to the firm foundations. (The tank/container is normally secured to the foundation with cables strapped over the top of the tank/container and bolted to the foundation.)
Protecting LPG Tank/Container from Vehicles	• When exposed to probable vehicular damage due to proximity to alleys, driveways, parking areas or roads, LPG tanks/containers, regulators and piping shall be suitably protected. Protection may be with bollards, K-rails or other approved protection.
Labeling	• LPG tank/container shall be labeled "NO SMOKING", "FLAMMABLE", and either "LP-GAS", "LPG", or "PROPANE" on visible side or sides of container.
704 Placard	• Place 12" x 12" placard on visible side or sides of LPG tank/container. 
Clearance to Combustibles	• Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10 feet from LPG tanks/containers. Tree canopies should be trimmed back to provide 10 foot horizontal clearance.



(For SI Units: 1 ft = 0.3048 m)

Figure I-2 Aboveground ASME Containers.

(This figure for illustrative purposes only; text shall govern.)