



North Liberty Fire Department

Construction Permit Application

LP-Gas Container/Cylinder Permanent Installation

Permit Requirements
<p>2018 International Fire Code 105.7.16 LP-Gas: A construction permit is required for installation of or modification to an LP-gas system. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.</p> <p>2018 International Fire Code 105.6.27 LP-Gas: An operational permit is required for Storage and use of LP-gas.</p> <p>Applicable Codes/Standards: 2018 International Fire Code & NFPA 58, 2020 Edition</p>

Permit Fee						
<table style="width: 100%;"> <tr> <td style="width: 60%;">LP-Gas Annual Operating Permit (Valid for 365 Days) \$50.00</td> <td style="width: 40%;">Application Date:</td> </tr> <tr> <td>LP-Gas Construction Permit \$50.00</td> <td></td> </tr> <tr> <td>Permit Total \$100.00</td> <td></td> </tr> </table>	LP-Gas Annual Operating Permit (Valid for 365 Days) \$50.00	Application Date:	LP-Gas Construction Permit \$50.00		Permit Total \$100.00	
LP-Gas Annual Operating Permit (Valid for 365 Days) \$50.00	Application Date:					
LP-Gas Construction Permit \$50.00						
Permit Total \$100.00						

Site Information			
Business Name	Address	Property Owner Name	Parcel ID#

Application Information			
Business Name:	Last Name:	First Name:	MI:
Address:			
Phone #:	Email address:		

Contractor Supplying LPG Cylinder/Container			
Business Name:			
Business Address:			
City:	State:	Zip:	Business Phone #:
Contact Name:	Contact Phone #:	Email Address:	

LPG Cylinder/Container Information						
	Manufacturer of Cylinder/ Container	Size of Cylinder/ Container (Water Capacity)	DOT Certified (Yes or No)	ASME Certified (Yes or No)	Aboveground Installation (Yes or No)	Underground Installation (Yes or No)
Tank #1		Gallons				
Tank #2		Gallons				

What is the indented use for the LPG installation?

Will the LPG installation include dispensing of LPG into portable cylinders, vehicle mounted cylinders or LPG fueled vehicles? If yes, explain.



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Attach the Following Documents to this Application

(Permits will not be processed without all the information below)

- 1) Product information sheets regarding the listing and approvals of all major components of the LPG storage and dispensing system being installed; Cylinder/Container, piping, dispenser, etc.
- 2) Site Plan (See Below)

Site Plan Information

The Site Plan Shall include the following information with measurements provided. Requirements can be found in the Permit & Requirement section.

- Property Line(s)
- Public Street
- On-site Building(s)
- Cylinder/Container(s)
- Dispenser(s)
- Vehicle Impact Protection
- Electrical (NFPA 70/NEC, 2017 Edition)
- Location of Emergency Shutoffs/Electrical Disconnects
- Location of Fire Extinguisher(s)
- Existing Storage Tanks for Flammable and/or Combustible Liquids

Statement of Veracity

Upon approval of this application, I agree to abide the requirements set forth in the currently adopted edition of the International Fire Code and the authority having jurisdiction, that being the North Liberty Fire Department. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the code official from requiring the correction of errors in the construction documents and other data. Any addition to or alteration of approved construction documents shall be approved in advance by the code official, as evidenced by the issuance of a new or amended permit.

Permit applicants and the applicants' agents and employees shall carry out the proposed activity in compliance with this code and other laws or regulations applicable thereto, whether specified or not, and in complete accordance with approved plans and specifications. Permits which purport to sanction a violation of this code or any applicable law or regulation shall be void and approvals of plans and specifications in the issuance of such permits shall likewise be void. 2018 IFC 105.3.6.

I understand that the location must pass an inspection after installation and prior to use. I do hereby grant permission for that inspection. Responsible Party:

Printed First Name:	Printed Last Name:	Signature:

Permit Submittal Requirements.

- 1) Complete and sign permit application
- 2) Visit Permit Website for Submittal Instructions; <https://nlfire.org/permits-plans-review/>
- 3) Attach permit application, product specification sheets and site plan
- 4) Fee= \$100



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Site Plan

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1																1
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Permit Review & Code Requirements

The following Guide is provided to assist you with Fire Code requirements. All code numbers reference the 2018 International Fire Code unless otherwise indicated. This application shows only a portion of the current requirements. All Federal, State, and local laws shall be complied with. Online access to complete fire code requirements can be found

- 2018 International Fire Code [<here>](#)
- NFPA 58, 2020 Edition Liquefied Petroleum Gas Code [<here>](#)

General Safety Requirements

IFC 6107.2	Smoking and other sources of ignition. "No Smoking" signs complying with Section 310 shall be posted where required by the fire code official. Smoking within 25 feet of a point of transfer, while filling operations are in progress at LP-gas containers or vehicles, shall be prohibited.
IFC 6107.3	Clearance to combustibles. Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10 feet from LP-gas tanks or containers.
IFC 6107.4	Protecting containers from vehicles. Where exposed to vehicular damage due to proximity to alleys, driveways or parking areas, LP-gas containers, regulators and piping shall be protected in accordance with NFPA 58. 312.2 Posts. Guard posts shall comply with all of the following requirements: 1. Constructed of steel not less than 4 inches in diameter and concrete filled. 2. Spaced not more than 4 feet between posts on center. 3. Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter. 4. Set with the top of the posts not less than 3 feet above ground. 5. Located not less than 3 feet (914 mm) from the protected object.
IFC 6108.2	Fire extinguishers. <i>Approved</i> portable fire extinguishers complying with Section 906 with a minimum rating of 2-A:20-B:C shall be provided.

Location of Containers

IFC 6104.2	6104.2 Maximum capacity within established limits. Within the limits established by law restrict in the storage of liquefied petroleum gas for the protection of heavily populated or congested areas, the aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons. The storage of liquefied petroleum gas is prohibited in the entire City of North Liberty Exceptions: I-1 and I-2 Zoning Districts and/or as approved by the Fire Chief.
IFC 6104.3	Container location. LP-gas containers shall be located with respect to buildings and <i>lot lines</i> of adjoining property that can be built upon, in accordance with Table 6104.3. -See Table 6104.3 on Page 5
IFC 6104.3.1	Installation on roof prohibited. LP-gas containers used in stationary installations shall not be located on the roofs of buildings.
IFC 6104.3.2	Special hazards. LP-gas containers shall be located with respect to special hazards including, but not limited to, above-ground flammable or combustible liquid tanks, oxygen or gaseous hydrogen containers, flooding or electric power lines as specified in Section 6.5.3 of NFPA 58.
NFPA 58; 6.5.3.4	The area under containers shall be graded or shall have dikes or curbs installed so that the flow or accumulation of flammable liquids with flash points below 200°F is prevented.
NFPA 58; 6.5.3.6	The minimum horizontal separation between aboveground LP-Gas containers and aboveground tanks containing liquids having flash points below 200°F shall be 20 ft.
NFPA 58; 6.5.3.13	An aboveground LP-Gas container and any of its parts shall not be located within 6 ft of a vertical plane beneath overhead electric power lines that are over 600 volts, nominal.



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IFC TABLE 6104.3

LP-GAS CONTAINER CAPACITY (water gallons)	MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS AND BUILDINGS, PUBLIC WAYS ^e OR LOT LINES OF ADJOINING PROPERTY THAT CAN BE BUILT UPON		MINIMUM SEPARATION BETWEEN LP-GAS CONTAINERS ^{b, c} (feet)
	Mounded or underground LP- gas containers ^a (feet)	Above-ground LP-gas containers ^b (feet)	
Less than 125 ^{c, d}	10	5 ^e	None
125 to 250	10	10	None
51 to 500	10	10	3
501 to 2,000	10	25 ^{e, f}	3

- A. Minimum distance for underground LP-gas containers shall be measured from the pressure relief device and the filling or liquid-level gauge vent connection at the container, except that all parts of an underground LP-gas container shall be not less than 10 feet from a building or lot line of adjoining property that can be built upon.
- B. For other than installations in which the overhanging structure is 50 feet or more above the relief-valve discharge outlet. In applying the distance between buildings and ASME LP-gas containers with a water capacity of 125 gallons or more, not less than 50 percent of this horizontal distance shall also apply to all portions of the building that project more than 5 feet from the building wall and that are higher than the relief valve discharge outlet. This horizontal distance shall be measured from a point determined by projecting the outside edge of such overhanging structure vertically downward to grade or other level on which the LP-gas container is installed. Distances to the building wall shall be not less than those prescribed in this table.
- C. Where underground multi-container installations are composed of individual LP-gas containers having a water capacity of 125 gallons or more, such containers shall be installed so as to provide access at their ends or sides to facilitate working with cranes or hoists.
- D. At a consumer site, if the aggregate water capacity of a multiple-container installation, comprised of individual LP-gas containers having a water capacity of less than 125 gallons, is 500 gallons or more, the minimum distance shall comply with the appropriate portion of this table, applying the aggregate capacity rather than the capacity per LP-gas container. If more than one such installation is made, each installation shall be separated from other installations by not less than 25 feet. Minimum distances between LP-gas containers need not be applied.
- E. The following shall apply to above-ground containers installed alongside buildings:
 - 1. LP-gas containers of less than a 125-gallon water capacity are allowed without a separation distance where in compliance with Items 2, 3 and 4.
 - 2. Department of Transportation (DOT) specification LP-gas containers shall be located and installed so that the discharge from the container pressure relief device is not less than 3 feet horizontally from building openings below the level of such discharge and shall not be beneath buildings unless the space is well ventilated to the outside and is not enclosed for more than 50 percent of its perimeter. The discharge from LP-gas container pressure relief devices shall be located not less than 5 feet from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances or mechanical ventilation air intakes.
 - 3. ASME LP-gas containers of less than a 125-gallon water capacity shall be located and installed such that the discharge from pressure relief devices shall not terminate in or beneath buildings and shall be located not less than 5 feet horizontally from building openings below the level of such discharge and not less than 5 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
 - 4. The filling connection and the vent from liquid-level gauges on either DOT or ASME LP-gas containers filled at the point of installation shall be not less than 10 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances or mechanical ventilation air intakes.
- F. This distance is allowed to be reduced to not less than 10 feet for a single LP-gas container of 1,200-gallon water capacity or less, provided that such container is not less than 25 feet from other LP-gas containers of more than 125-gallon water capacity.
- G. Above-ground LP-gas containers with a water capacity of 2,000 gallons or less shall be separated from public ways by a distance of not less than 5 feet. Containers with a water capacity greater than 2,000 gallons shall be separated from public ways in accordance with this table.



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Installation of Containers	
NFPA 58; 6.8.1.1	Containers shall be positioned so that the pressure relief valve is in direct communication with the vapor space of the container.
NFPA 58; 6.8.1.2	LP-Gas containers or systems that are installed within 10 ft of public vehicular thoroughfares shall be provided with a means of vehicular barrier protection.
NFPA 58; 6.8.1.4	Aboveground containers shall be painted.
NFPA 58; 6.8.1.5	Containers shall be installed so that all container operating appurtenances are accessible.
NFPA 58; 6.8.1.6	Where necessary to prevent flotation due to possible high flood waters around aboveground or mounded containers, or highwater table for those underground and partially underground, containers shall be securely anchored.
NFPA 58; 6.8.2.1	Cylinders shall be installed only aboveground and shall be set upon a firm foundation or otherwise be firmly secured.
NFPA 58; 6.8.2.2	The cylinder shall not be in contact with the soil.
NFPA 58; 6.8.1.6	Flexibility shall be provided in the connecting piping.
NFPA 58; 6.8.1.6	Where flexible connectors are used, they shall comply with NFPA 58, 2020 Edition Section 6.11.6.
NFPA 58; 6.8.1.6	Installation of Horizontal Aboveground ASME Containers shall be installed in accordance with NFPA 58, 2020 Edition Section 6.8.3.

Location of Transfer Operations	
NFPA 58; 6.7.1.1	Liquid shall be transferred into containers, including containers mounted on vehicles, only outdoors or in structures specially designed for such purpose.
NFPA 58; 6.7.1.6	Filling of containers located outdoors in stationary installations in accordance with Section 6.4 shall be permitted to be filled at that location.
NFPA 58; 6.7.2.1	If the point of transfer of containers located outdoors in stationary installation is not located at the container, it shall be located in accordance with NFPA 58, 2020 Edition Table 6.7.2.1.

LPG Dispensing Facilities	
IFC 2307.2.2	Hoses, hose connections, vehicle fuel connections, dispensers, LP-gas pumps and electrical equipment used for LP-gas shall be <i>listed</i> .
IFC 2307.4	The point of transfer for LP-gas dispensing operations shall be separated from buildings and other exposures in accordance with the following: <ol style="list-style-type: none"> 1. Not less than 25 feet from buildings where the <i>exterior wall</i> is not part of a fire-resistance rated assembly having a rating of 1 hour or greater. 2. Not less than 25 feet from combustible overhangs on buildings, measured from a vertical line dropped from the face of the overhang at a point nearest the point of transfer. 3. Not less than 25 feet from the lot line of property that can be built on. 4. Not less than 25 feet from the centerline of the nearest mainline railroad track. 5. Not less than 10 feet from public streets, highways, thoroughfares, sidewalks and driveways. 6. Not less than 10 feet from buildings where the <i>exterior wall</i> is part of a fire-resistance rated assembly having a rating of 1 hour or greater.



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LPG Dispensing Facilities (Continued)	
IFC 2307.5	<p>LP-gas dispensers and related equipment shall comply with the following provisions.</p> <ol style="list-style-type: none"> 1. Pumps shall be fixed in place and shall be designed to allow control of the flow and to prevent leakage and accidental discharge. 2. Dispensing devices installed within 10 feet of where vehicle traffic occurs shall be protected against physical damage by mounting on a concrete island 6 inches or more in height or shall be protected in accordance with Section 312. 3. Dispensing devices shall be securely fastened to their mounting surface in accordance with the dispenser manufacturer's instructions.
IFC 2307.6.1	<p>The dispenser system piping shall be protected from uncontrolled discharge in accordance with the following:</p> <ol style="list-style-type: none"> 1. Where mounted on a concrete base, a means shall be provided and installed within 1/2 inch of the top of the concrete base that will prevent flow from the supply piping in the event that the dispenser is displaced from its mounting. 2. A manual shutoff valve and an excess flow-control check valve shall be located in the liquid line between the pump and the dispenser inlet where the dispensing device is installed at a remote location and is not part of a complete storage and dispensing unit mounted on a common base. 3. An excess flow-control check valve or an emergency shutoff valve shall be installed in or on the dispenser at the point at which the dispenser hose is connected to the liquid piping. 4. A <i>listed</i> automatic-closing type hose nozzle valve with or without a latch-open device shall be provided on island-type dispensers.
IFC 2307.6.2	<p>Hoses and piping for the dispensing of LP-gas shall be provided with hydrostatic relief valves. The hose length shall not exceed 18 feet. An <i>approved</i> method shall be provided to protect the hose against mechanical damage.</p>
IFC 2307.6.3	<p>Dispenser hoses shall be equipped with a <i>listed</i> emergency breakaway device designed to retain liquid on both sides of the breakaway point. Where hoses are attached to hose retrieving mechanisms, the emergency breakaway device shall be located such that the breakaway device activates to protect the dispenser from being displaced.</p>
IFC 2307.8	<p>LP-gas containers shall not be filled with LP-gas in excess of the volume determined using the fixed maximum liquid level gauge installed on the container, the volume determined by the overfilling prevention device installed on the container or the weight determined by the required percentage of the water capacity marked on the container.</p>