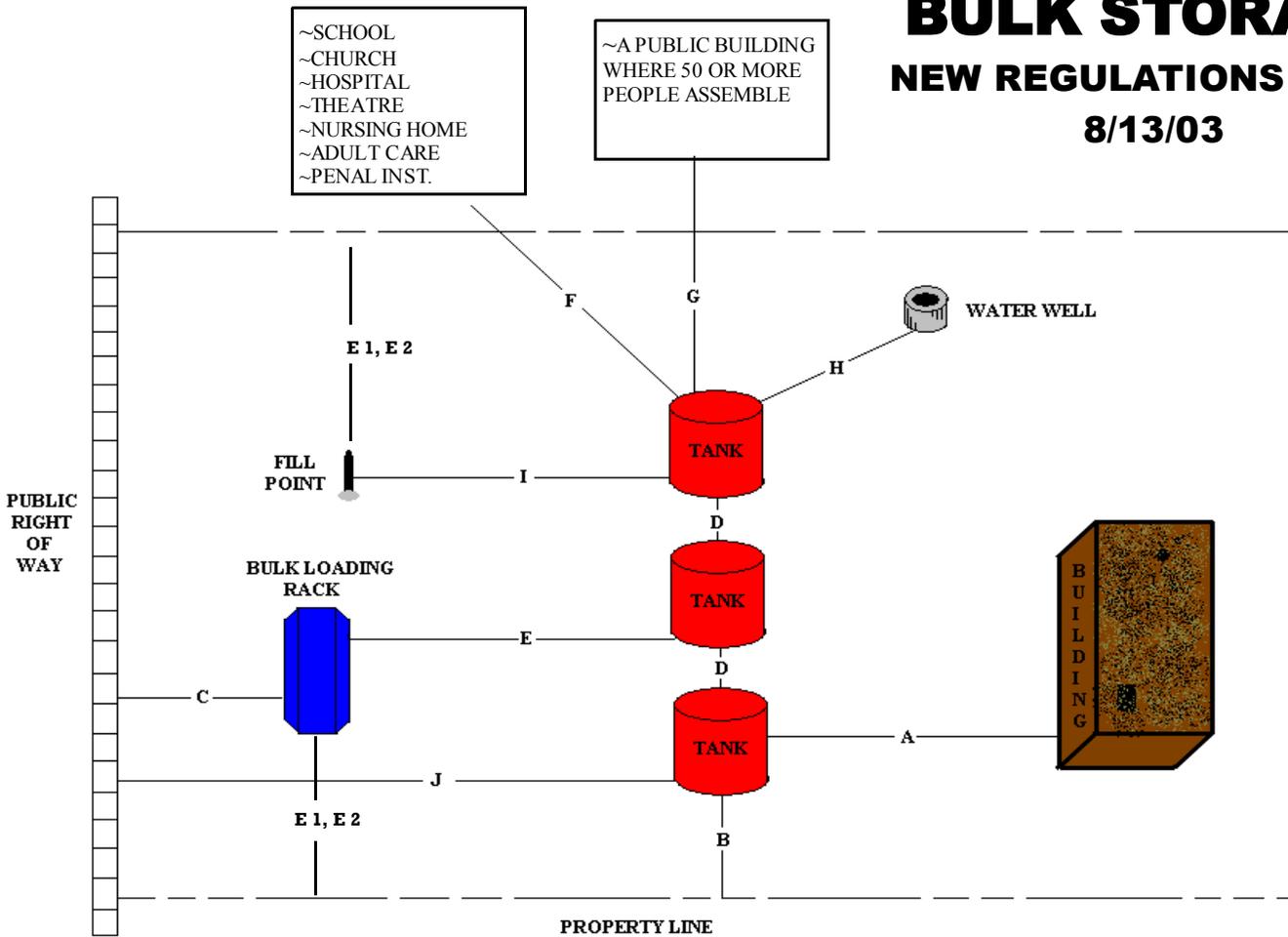




Michigan Petroleum Association
Michigan Association of Convenience Stores
7521 Westshire Drive, Suite 200
Lansing MI 48917
Ph: 517 622-3530

As of August 13, 2003

BULK STORAGE NEW REGULATIONS AS OF 8/13/03



~SCHOOL
~CHURCH
~HOSPITAL
~THEATRE
~NURSING HOME
~ADULT CARE
~PENAL INST.

~A PUBLIC BUILDING
WHERE 50 OR MORE
PEOPLE ASSEMBLE

ALL MEASUREMENTS MINIMUM

	SINGLE WALL UL—142 WITH DIKE	SECONDARY CONTAINMENT TANK UL 142	PROTECTED TANK
A	5'	5'	5'
B	40'	40'	10'
C	5'	5'	5'
D	3'	3'	3'
E1	15'(DIESEL)	15'(DIESEL)	NONE
E2	25'(GAS)	25'(GAS)	NONE
F	300'	300'	300'
G	300'	300'	300'
H1	50'	50'	50'
H2	75'	75'	75'
H3	200'	200'	200'
I1	15'(DIESEL)	15'(DIESEL)	NONE
I2	25'(GAS)	25'(GAS)	NONE
J	10'	10'	10'

GENERAL NOTES

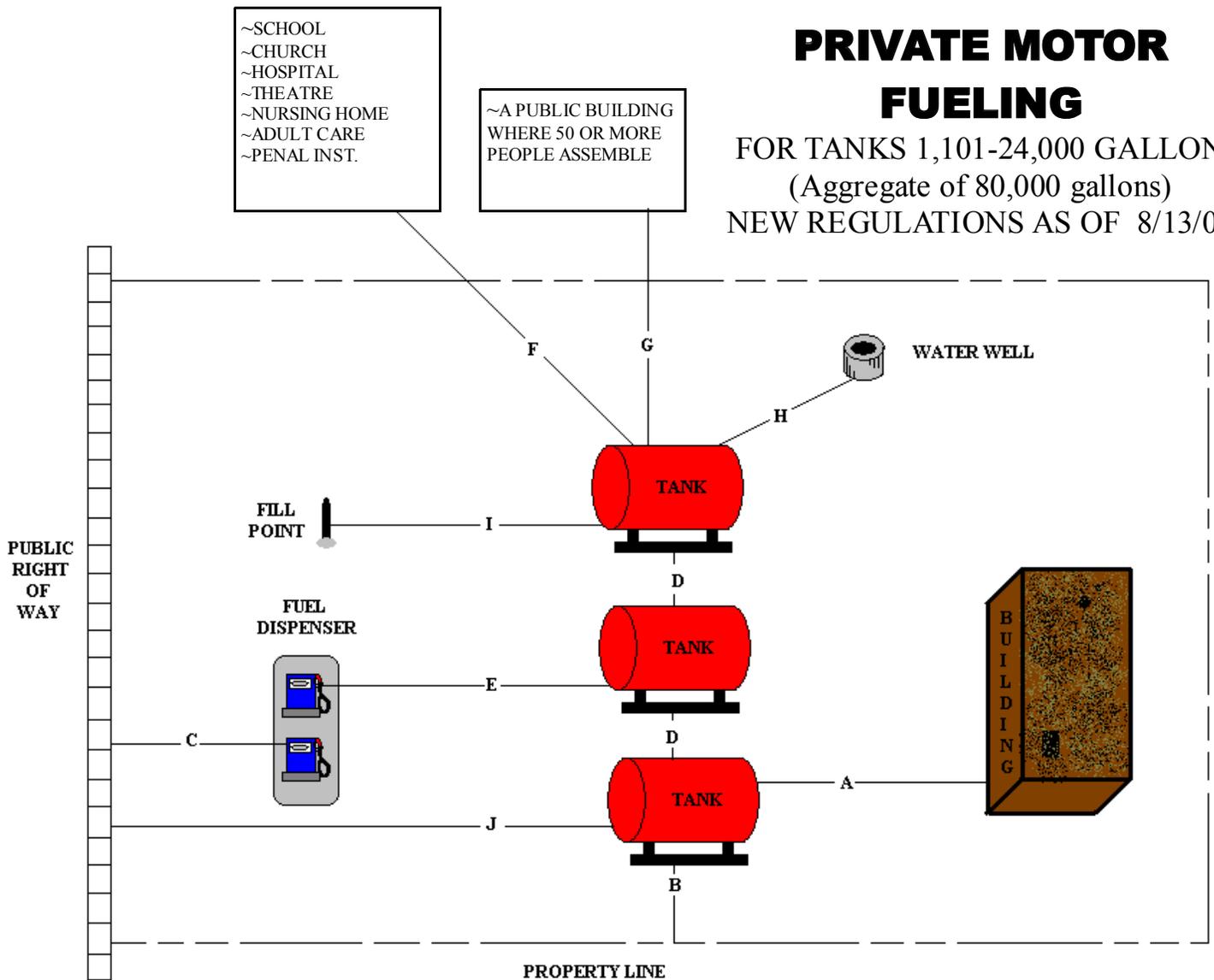
- ~A, B, C, J DISTANCES FROM NFPA 30 CHART, BASED ON SIZE OF TANK
- ~E1 IS THE DISTANCE BETWEEN A LOADING RACK AND A DIESEL TANK, ALSO DISTANCE TO PROPERTY LINE
- ~E2 IS THE DISTANCE BETWEEN A LOADING RACK AND A GASOLINE TANK, ALSO DISTANCE TO PROPERTY LINE
- ~H1 IS A SINGLE FAMILY WELL
- ~H2 IS A TYPE 2B NON COMMUNITY WELL OR A TYPE 3 PUBLIC WELL
- ~H3 IS A TYPE I COMMUNITY WELL OR A TYPE 2A NON COMMUNITY PUBLIC WELL
- ~I1 IS THE FILL DISTANCE FOR DIESEL



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PRIVATE MOTOR FUELING

FOR TANKS 1,101-24,000 GALLON
(Aggregate of 80,000 gallons)
NEW REGULATIONS AS OF 8/13/03

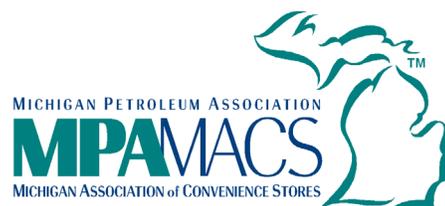


	SINGLE WALL UL 142 WITH DIKE	SECONDARY CONTAINMENT TANK UL 142	PROTECTED TANK 0-6k/6001-16k
A	40'	40'	5'/15'
B	50'	50'	15'/25'
C	10'	10'	10'
D*	3'(ALSO BETWEEN TANK AND DIKE WALL)	3'	3'
E*	50'	50'	NONE
F	300'	300'	300'
G	300'	300'	300'
H1*	50'	50'	50'
H2*	75'	75'	75'
H3*	200'	200'	200'
I1*	15'(DIESEL)	15'(DIESEL)	NONE
I2*	25'(GAS)	25'(GAS)	NONE
J	25'	25'	5'/10'

ALL MEASUREMENTS MINIMUM

*NOTES

- ~D 3' MINIMUM, COULD BE GREATER
- ~E EXCEPTION: 0' IF TANKS ARE 4,000 GALLONS OR LESS
- ~H1 IS A SINGLE FAMILY WELL
- ~H2 IS A TYPE 2 NON COMMUNITY WELL OR A TYPE 3 PUBLIC WELL
- ~H3 IS A TYPE 1 COMMUNITY WELL OR A TYPE 2A NON COMMUNITY PUBLIC WELL
- ~I1 IS THE FILL DISTANCE FOR DIESEL
- ~I2 IS THE FILL DISTANCE FOR GASOLINE
- ~I1 & I2 Exception: CAN BE FILLED AT TANK IF UNDER 3,000 GALLONS

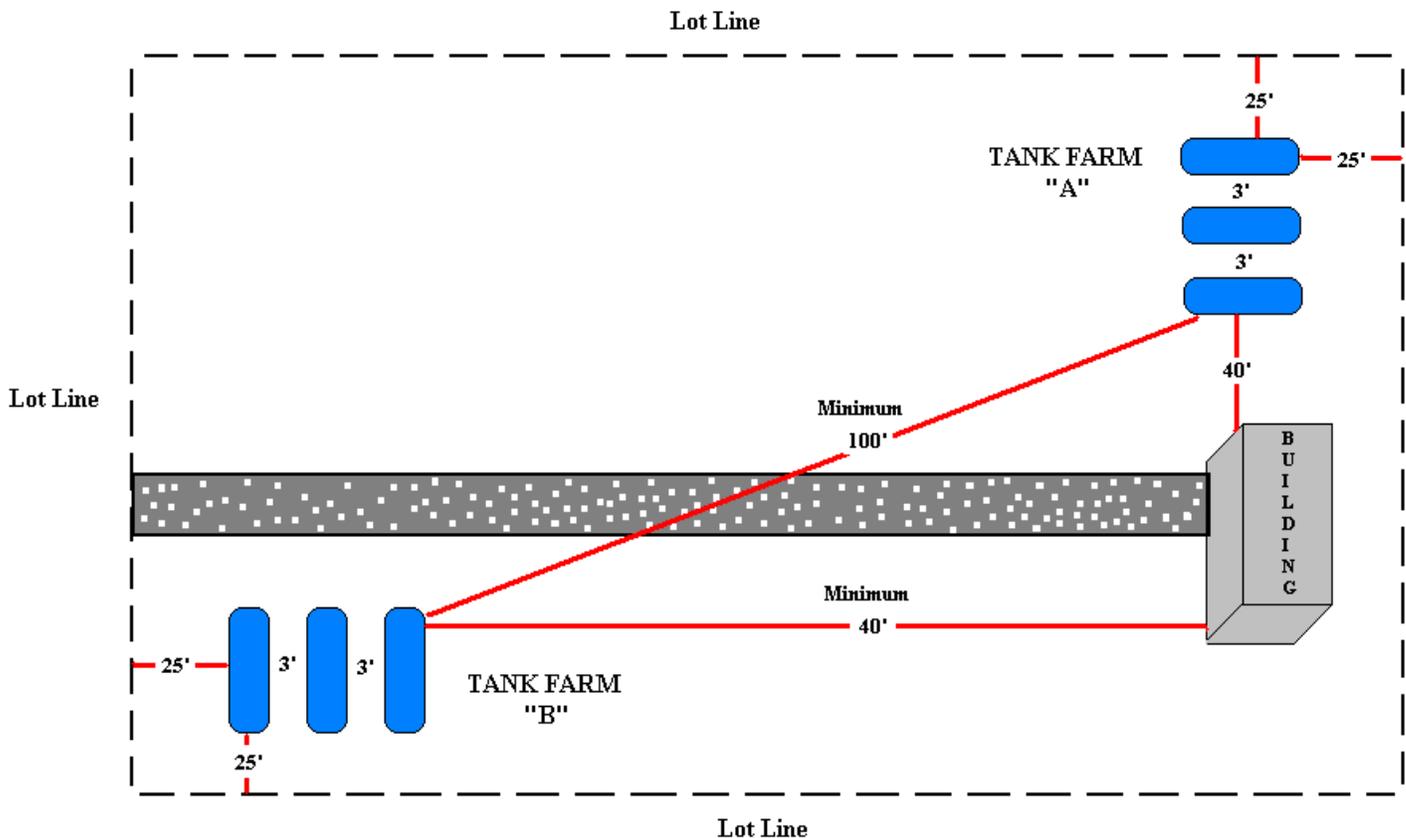


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ABOVE GROUND FUEL STORAGE TANK GUIDELINES

THESE REGULATIONS APPLY TO FARM AND RURAL CONSTRUCTION TANKS
INSTALLED **PRIOR TO AUGUST 13, 2003** - 1100 GALLONS OR LESS

- A. 3-1100 gallon tanks maximum per tank farm
- B. 40' from building
- C. 25' from lot line
- D. 100' between tank farms
- E. 3' between tanks
- F. Dispensing area shall be protected from spills entering
 - *Ground Water
 - *Surface Water
 - *Sub Surface Soils



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**ABOVE GROUND FUEL STORAGE TANK GUIDELINES FOR
FARM & RURAL CONSTRUCTION SITES**

INSTALLED PRIOR TO AUGUST 13, 2003, 1,100 GALLONS OR LESS

- 1.) Single compartment design X < 560 – 14 gauge
X > 560 – 12 gauge
- 2.) No pressurized dispensing
- 3.) Locked fill – separate from vent
- 4.) Mounted on timbers or blocks 6”
- 5.) Fire valve on gravity tanks
- 6.) “Flammable – Keep Fire & Flame Away” Signage
“Keep 40’ from Buildings”
- 7.) Prevention of spills into the groundwater

FLAMMABLE LIQUIDS:

A. ***Class I*** – Liquid (Typically Gasoline*) that has a closed-cup flash point below 100 degrees Fahrenheit.

COMBUSTIBLE LIQUIDS:

A. ***Class II*** – Liquid (Typically Diesel*) with a flashpoint at or above 100 degrees Fahrenheit, and below 140 degrees Fahrenheit.

B. ***Class IIIA*** - Liquid (Typically Kero*) with a flashpoint at or above 140 degrees Fahrenheit, but below 200 degrees Fahrenheit.

C. ***Class IIIB***- Liquid (Typically Lubricants*) with a flash point at or above 200 degrees Fahrenheit.

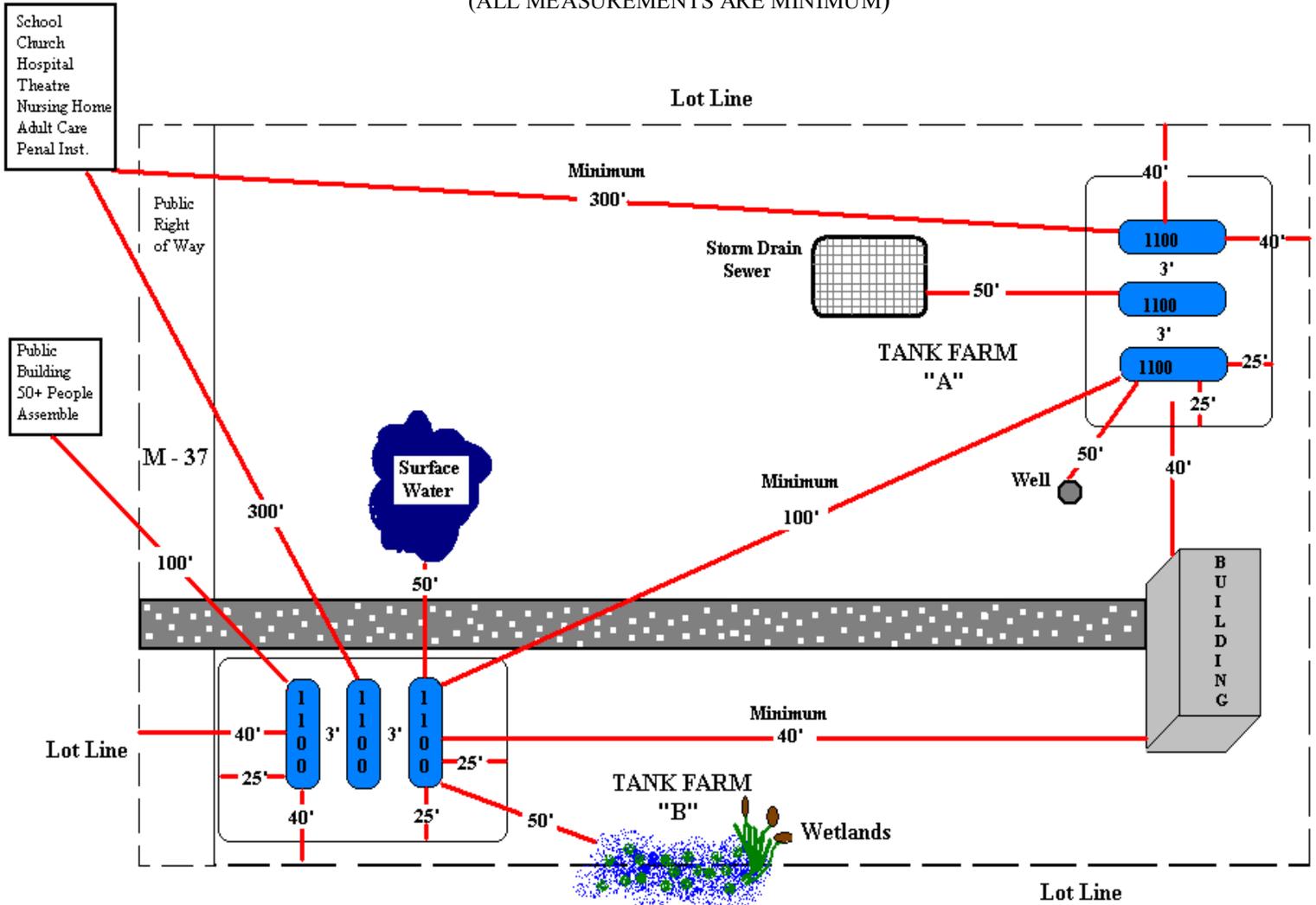
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ABOVE GROUND FUEL STORAGE TANK RULES & MINIMUM SET BACKS

PRIVATE MOTOR FUELING 1100 GALLONS OR LESS

THESE REGULATIONS APPLY TO TANKS INSTALLED **AFTER AUGUST 13, 2003**

(ALL MEASUREMENTS ARE MINIMUM)



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ABOVE GROUND FUEL STORAGE TANK RULES & MINIMUM SET BACKS

Location:

- A. Must be outside
- B. For private motor fueling secondary containment is recommended for the storage of Class I and Class II liquids in storage tanks under 1,100 gallons. For private motor fueling in storage tanks greater than 1,100 gallons of Class I and Class II liquids secondary containment is required.
- C. No more than 3 tanks per site
 - 1.) Tanks must be separated by not less than 3 feet
 - 2.) Each site, per property, must be separated by not less than 100 feet
- D. Separation distances:
 - 1.) 40 feet Property line
 - Building
 - Vehicle being fueled to any building
 - 2.) 25 feet Closer edge of public way
 - Source of ignition
 - 3.) 50 feet Storm drain
 - Surface water
 - Designated wetland
 - Single-family drinking water well
 - 4.) 75 feet Non-community public water well
 - 5.) 200 feet Community public water well
 - 6.) 100 feet Public assemblage of 50 or more people
 - 7.) 300 feet School, church, hospital, adult care
- E. NO RETAIL MOTOR FUELING

Dispensing:

- A. Transfer area must be protected from spills
 - 1.) By impervious surface, compatible with substance being transferred, to prevent contamination of:
 - a. Groundwater,
 - b. Surface water,
 - c. Subsurface soils
- B. Top opening tanks
 - 1.) Permanently attached, approved, pumping device and hose

FLAMMABLE LIQUIDS:

A. **Class I** – Liquid (Typically Gasoline*) that has a closed-cup flash point below 100 degrees Fahrenheit.

COMBUSTIBLE LIQUIDS:

A. **Class II** – Liquid (Typically Diesel*) with a flashpoint at or above 100 degrees Fahrenheit, and below 140 degrees Fahrenheit.

B. **Class IIIA** – Liquid (Typically Kero*) with a flashpoint at or above 140 degrees Fahrenheit, but below 200 degrees Fahrenheit.

C. **Class IIIB** – Liquid (Typically Lubricants*) with a flash point at or above 200 degrees Fahrenheit.

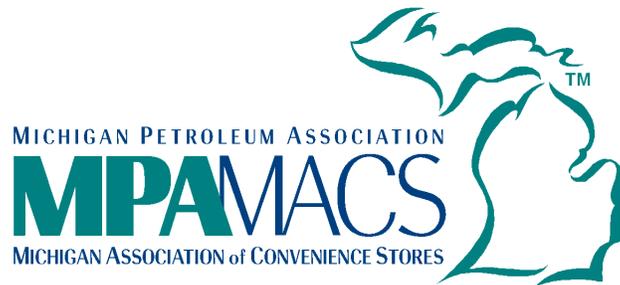
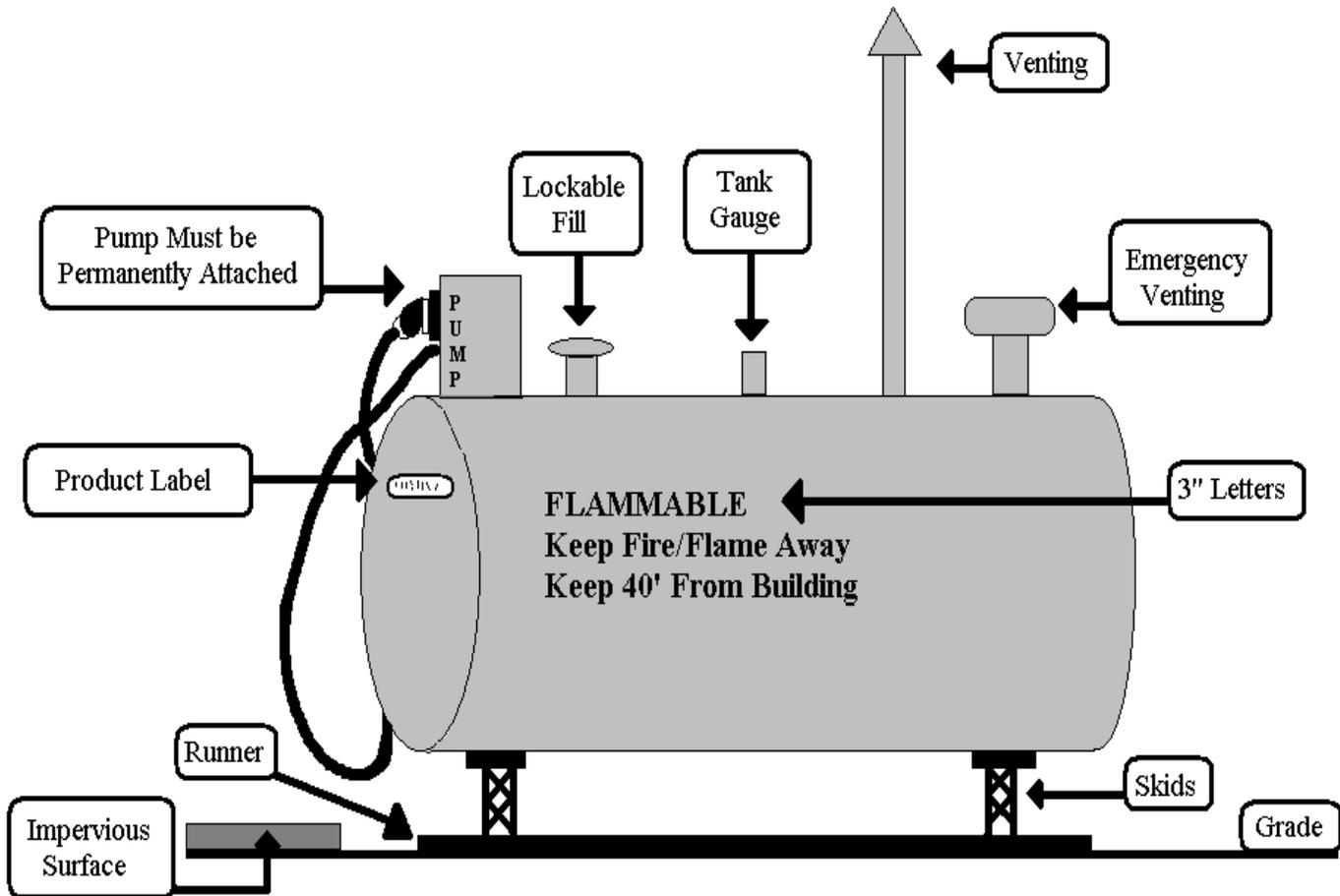
*Refer to Material Safety Data sheets for specific flash points!

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“UL 142 ABOVE GROUND STORAGE TANKS”

1100 GALLONS OR LESS

THESE REGULATIONS APPLY TO PRIVATE MOTOR FUELING
TANKS INSTALLED AFTER AUGUST 13, 2003



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Created 04/01/04

“UL 142 ABOVE GROUND STORAGE TANKS”

**1,100 GALLONS OR LESS – THESE REGULATIONS APPLY TO PRIVATE MOTOR FUELING TANKS INSTALLED
AFTER AUGUST 13, 2003**

Type of Tank

- A. Tanks must be single-compartment
- B. Tanks must be construction as required in Part 2, Section 2.1.2.3
 - 1.) UL-142
 - a. Constructed of steel in accordance with Underwriters Laboratories (UL) Standard 142.
- C. Top Opening (Skid Tank)
 - 1.) Stationary tank:
 - 13.2.5 Tanks that have top openings only shall be mounted and equipped as follows:
 - a. Stationary tanks shall be mounted on solid timber, solid cement blocks, or equivalent, so as to protect the bottom of the tank from corrosion due to contact with the ground and to maintain the tank in a stable condition.
 - b. Moveable tanks shall be equipped with attached metal legs that rest on shoes or runners designed so that the tank is supported in a stable position and so that the tank and its supports can be moved as a single unit.
 - c. Tanks shall be equipped with a tightly and permanently attached approved pumping device and hose.
 - d. The dispenser device shall be made inoperable to prevent tampering when not in use.
 - e. The pump discharge shall be equipped with an effective ant-siphoning device or the discharge hose shall be equipped with a self-closing nozzle.
 - f. Siphons, manifolds, or internal pressure discharge devices are prohibited.
 - 2.) Moveable tank
 - a. Attached metal legs on runners to allow movement as single unit (refer to section b of FL/CL rule 13.2.5 above)
- D. Elevate Tank (Overhead Tank)
 - 1.) Supports
 - 13.2.5.1 Tanks elevated for gravity discharge shall be mounted and equipped as follows:
 - a. Tanks shall be supported on steel or wood supports that have adequate strength and design to provide stability. Alternately, tanks shall be permitted to be placed on an elevated area to provide the necessary elevation, if the tank is supported on solid timbers or cement blocks 6 inches in height so as to protect the bottom of the tank from corrosion due to contact with the ground and to maintain the tank in a stable position.
 - b. Discharge connectors shall be made to the bottom or to the end of the tank.
 - c. The discharge connection shall be equipped with a valve that shall automatically close if there is a fire by means of operation of an effective heat-actuated device. The valve shall be located adjacent to the tank. If the valve cannot be operated manually, an additional valve that can be operated manually shall be provided.
 - d. The discharge connection shall be provided with an approved hose of sufficient length for filling vehicles, equipment, and containers to be served by the tank. The hose shall be provided with a self-closing nozzle at the discharge end.
 - e. The discharge connection at the tank shall be equipped with a locking valve so that it can be padlocked to prevent tampering.

Requirements

- A. Vents
 - 1.) Normal – primary tank
 - 2.) Emergency – primary and secondary tank
 - 3.) Arranged to prevent direct flame impingement on any part of the tank
- B. Fill Opening
 - 1.) Equipped with a closure designed to be locked
 - 2.) Fill must be separate from vent opening

Security/Identification

- A. Label
 - 1.) Lettering must be at least 3 inches in height, in contrasting color
KEEP 40 FEET FROM BUILDING
FLAMMABLE (OR COMBUSTIBLE WHEN APPROPRIATE)
KEEP FIRE AND FLAME AWAY
 - 2.) Indicate product being store, i.e. **DIESEL**
- B. No open flames or smoking
- C. Maintain area free from combustible material within 10 feet of tank

Roof or Canopy

- A. Supports
 - 1.) Supports must be of non-combustible material
 - 2.) Supports located outside of dike walls
- B. Elevated not less than 6 feet above the top of the tank,
LOWEST PORTION OF ROOF/CANOPY
- C. Normal vent to extend through roof/canopy
- D. Vapors not allowed to accumulate under roof/canopy

Dispensing & Spill Prevention

- A. Transfer area must be protected from spills
 - 1.) By impervious surface, compatible with substance being transferred, to prevent contamination of:
 - a. Groundwater
 - b. Surface water
 - c. Subsurface soils
- B. Top opening tanks
 - 1.) Permanently attached, approved, pumping device and hose
 - 2.) Dispenser must be rendered in-operable when not in use to prevent tampering
 - 3.) Pump discharge must have anti-siphoning device or hose must have a self-closing nozzle
 - 4.) NO: siphons, manifolds, or internal pressure discharge
- C. Elevated tanks for gravity discharge
 - 1.) Discharge connection must be made to bottom or end of tank
 - 2.) Discharge connection must have and automatically closing valve (heat-actuated device) in the event of a fire. This device must be located adjacent to the tank.
 - 3.) Discharge hose must have self-closing nozzle.
 - 4.) Discharge connection at the tank must have a locking valve that can be padlocked to prevent tampering.

FLAMMABLE LIQUIDS:

A. **Class I** – Liquid (Typically Gasoline*) that has a closed-cup flash point below 100 degrees Fahrenheit.

COMBUSTIBLE LIQUIDS:

A. **Class II** – Liquid (Typically Diesel*) with a flashpoint at or above 100 degrees Fahrenheit, and below 140 degrees Fahrenheit.

B. **Class IIIA** - Liquid (Typically Kero*) with a flashpoint at or above 140 degrees Fahrenheit, but below 200 degrees Fahrenheit.

C. **Class IIIB**- Liquid (Typically Lubricants*) with a flash point at or above 200 degrees Fahrenheit.

*Refer to Material Safety Data sheets for specific flash points!

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Refueling of Vehicles from Tanker Trucks

A. Site requirements



DEQ must be notified before commencing operations.

Night deliveries must have adequate lighting.

No smoking or torches within 25 feet of fueling operation.

There must be a provision made to prevent a spill from flowing into a building.

Mobile fueling shall only be done on surfaces that are impervious to prevent spills from entering the groundwater or subsurface soils



B. Driver requirements

Fueler must be in possession of an emergency communication device.

Leave expansion space in tank even in winter.

Tank truck shall be in a position to prevent traffic from driving over hose.

Hose must be rewound before moving truck.



C. Truck requirements

Dispensing nozzle shall be a listed automatic closing without a latch open device.

Tank truck must have vehicle brakes set and chock blocks in place.

Tank truck must have absorbent materials, non-water absorbent pads or a containment boom as well as a nonmetallic shovel and approved container with lid to mitigate a five-gallon spill.

Tank truck must have a 500-gallon single fueling operation preset device.

Tank truck must have flashers in operation.

Tank truck must have a minimum of one 40 lb. b-c fire extinguisher.



