

**AUTOMOTIVE SERVICE STATIONS
WITH ABOVEGROUND STORAGE TANKS
Based on State Law, NFPA 30 and 30A 2008 Editions**

O.K.-COMMENT

<u>Or N/A</u>	<u>ITEM</u>	<u>CODE</u>
_____	1. Maximum aggregate capacity - 30,000 gallons	39-41-260(B)
_____	Largest single tank - 12,000 gallons if built after 6/12/90	
_____	2. 8' high fence w/barbed wire	39-41-260(C)
_____	Two 36" access doors	
_____	Minimum 5' clearance between tank and fence	
_____	Clear of trash, combustible storage or vegetation	
_____	3. Minimum distance to tank	39-41-260(D)

MINIMUM DISTANCE TO:

Total Aggregate Capacity	Largest Single Tank Capacity	Dispenser	Property Line Which Is Or Can Be Built Upon Including The Opposite Side Of A Public Way	Near Side Of A Public Way	Occupied Building On The Same Property
(GALLONS)	(GALLONS)	(FEET)	(FEET)	(FEET)	(FEET)
>30000	ANY	N/A	N/A	N/A	N/A
≤30000	≤12000	50	100	50	50
≤30000	>12000	N/A	N/A	N/A	N/A
≤12000	≤4000	37	40	37	37
≤12000	>4000	N/A	N/A	N/A	N/A

N/A - NOT ALLOWED

_____	4. \$300,000 Insurance	39-41-260(E)
_____	5. Complete plans	39-41-260(F)
_____	6. Lines from tank to dispensers underground 36" or 18"+6" concrete or 18"+8" asphalt	39-41-260(G)
_____	7. Fifty-two valve Quick shutoff device at tank	39-41-260(H)
_____	8. Tank supports	39-41-260(I)
_____	6" height of steel supports - horizontal tank	
_____	concrete saddles - horizontal tank	
_____	6" concrete footing + gravel - vertical tank	
_____	9. Tank labels	39-41-260(K)
_____	10. Liquid level indicator	39-41-260(L)
_____	Automatic shutoff or alarm at 95% capacity	
_____	Exception: horizontal tanks 4000 gallons and vertical tanks 2000 gallons which are filled with a hand held nozzle	
_____	11. Emergency shutoff valve with fusible link and impact activation at each dispenser	39-41-260(M)

_____	12. Fill connection	39-41-260(N)
_____	25' from tanks, dispensers, buildings, and property lines	
_____	Check valve, gate valve, and quick connector or dry-break valve	
_____	Physical protection	
_____	Exception: horizontal tanks 4000 gallons and vertical tanks 2000 gallons	
_____	13. Prohibited in municipalities > 25,000 persons	39-41-260(P)
_____	14. UL 142, UL 2080, UL 2085, or UL 80 tank	NFPA 30 21.4.2.1.1
_____	15. 1/6 sum of adjacent tanks but not less than 3' between tanks	NFPA 30 Table 22.4.2.1
_____	16. Spacing between tanks and LP tanks	NFPA 30 22.4.2.4
_____	17. Fill connections equipped with non-combustible containment device	NFPA 30A 4.3.2.8

Control of spillage - 17

_____	17a. Remote impounding	NFPA 30 22.11.1
_____	1% slope for 50' away from tank	NFPA 30 22.11.1.1
_____	Capacity not less than largest tank	NFPA 30 22.11.1.2
_____	Drainage path	NFPA 30 22.11.1.3
_____	Impounding area 50' from property line, building, or tank	NFPA 30 22.11.1.4
_____	17b. Impounding around tanks by diking	NFPA 30 22.11.2
_____	1% slope away from tank	NFPA 30 22.11.2.1
_____	Volumetric capacity equal to volume of largest tank	NFPA 30 22.11.2.2
_____	Dike wall at least 10' from property line	NFPA 30 22.11.2.3
_____	Dike of earth, steel, concrete, or solid masonry designed to be liquidtight and withstand the full hydrostatic head	NFPA 30 22.11.2.4
_____	Dikes greater than 6' in height	NFPA 30 22.11.2.5
_____	Drainage from dike accessible under fire conditions	NFPA 30 22.11.2.7.1
_____	Storage not permitted within the dike	NFPA 30 22.11.2.8

Secondary Containment Tanks – 18

_____	18a. 12,000 gallon maximum capacity	NFPA 30 22.11.4
_____	18b. All connections above maximum liquid level	NFPA 30 22.11.4.2
_____	18c. Provide means to prevent siphon flow	NFPA 30 22.11.4.3
_____	18d. Means for determining level of liquid in tank readily accessible to delivery operator	NFPA 30 22.11.4.4
_____	18e. Means for automatic overflow prevention	NFPA 30 22.11.4.5
	-automatic	
	-sounds alarm @ 90 % capacity	
	-stops delivery @ 95% capacity	
_____	18f. Spacing between tanks > 3 ft.	NFPA 30 22.11.4.6
_____	18g. Tank able to resist vehicle impact damage, or protected by collision barriers	NFPA 30 22.11.4.7
_____	18h. Enclosed secondary containment must vented per 22.7	NFPA 30 22.11.4.8
_____	18i. Means required to establish secondary containment integrity per Chapter 21	NFPA 30 22.11.4.9
_____	18j. Collision protection required if tank could be exposed to vehicular impact	NFPA 30 22.15 NFPA 30A 4.3.7.2

Normal vents - 19

- _____ 19a. 1 ¼”
fill or withdrawal connection
API No. 2000 NFPA 30 21.4.3.2
- _____ 19b. More than one fill or withdrawal connection or
simultaneous filling and withdrawal NFPA 30 21.4.3.4
- _____ 19c. Venting devices normally closed except when venting
under pressure or vacuum conditions or with listed
flame arrestors except tanks less than 1000 gallons NFPA 30 21.4.3.6
NFPA 30 21.4.3.7
(Class I liquids only) NFPA 30 21.4.3.7

Emergency vents - 20

- _____ 20a. Weak roof-to-shell seam UL 142 or API 650 NFPA 30 22.7.2
- _____ 20b. Wetted area 75% area of horizontal tank
bottom 30' of vertical tank NFPA 30 22.7.3.2.2
- _____ 20c. Cubic feet free air per hour required-CFH NFPA 30 Table 22.7.3.2

ATMOSPHERIC TANK ONLY Table 22.7.3.2

Sq. Ft.	CFH	Sq. Ft.	CFH	Sq. Ft.	CFH	Sq. Ft.	CFH
20	21,100	100	105,000	350	288,000	1200	557,000
30	31,600	120	126,000	400	312,000	1400	587,000
40	42,100	140	147,000	500	354,000	1600	614,000
50	52,700	160	168,000	600	392,000	1800	639,000
60	63,200	180	190,000	700	428,000	2000	662,000
70	73,700	200	211,000	800	462,000	2400	704,000
80	84,200	250	239,000	900	493,000	2800 & over	742,000
90	94,800	300	265,000	1000	524,000		

- _____ 20d. CFH correction factor (use only one) NFPA30 22.7.3.5
 - .5 - remote impounding and wetted area >200 sq. ft.
 - .3 - water spray (NFPA 15) and remote impounding
.3 – automatically actuated water spray (NFPA 15)
 - .3 - insulation per NFPA 30 22.7.3.8 NFPA 30 22.7.3.8
 - .15 - insulation per NFPA 30 22.7.3.8 and waterspray (NFPA 15) NFPA 30 22.7.3.8
- _____ 20e. Venting device shall have flow capacity stamped on
device vents < 8" based on actual test vents 8" NFPA3022.7.3.10.4

Vent piping - 21

- _____ 21a. Outlet 12' above grade (Class I liquid only) NFPA 30 27.8.1.1
- _____ Outlet located so flammable vapors will not be trapped NFPA 30 27.8.1.1.3
- _____ by eaves or other obstructions
- _____ Outlet 5' from building openings

- _____ 21b. Venting for Class I liquids shall not be manifolded NFPA 30 27.8.1.5
- _____ with venting for Class II or Class III liquids unless a positive
- _____ means is provided to prevent vapor transfer between tanks

Tank openings other than vents - 22

- _____ 22a. Valve on each opening though which liquid can NFPA 30 22.13.1
- _____ normally flow
- _____ 22b. Liquidtight closure on each connection below liquid NFPA 30 22.13.4.2
- _____ level though which liquid does not normally flow
- _____ 22c. Tanks in flood zone protected NFPA 30 22.14.2
- _____ 22d. Tank testing NFPA 30 22.16

Piping , valves, and fittings - 23

- _____ 23a. Materials for piping, valves, and fittings NFPA 30 27.4
- _____ 23b. Pipe joints NFPA 30 27.5
- _____ 23c. Support/Protection NFPA30 27.6.1&27.6.2
- _____ NFPA 30A 5.2.2
- _____ 23d. Corrosion protection NFPA 30 27.2.1
- _____ 23e. Testing NFPA 30 27.7
- _____ NFPA 30A 5.4
- _____ 23f. Identification of fill pipes NFPA 30 27.10
- _____ NFPA 30A 5.2.5
- _____ NFPA 30A 6.3.10
- _____ 23g. Tanks under gravity head shall be equipped
- _____ with a device (such as a solenoid valve) such that liquid
- _____ cannot flow by gravity from the tank in case of piping or
- _____ hose failure when the dispenser is not in use
- _____ 23h. Dispensing device location NFPA 30A 6.2.1
- _____ Located so all parts of the vehicle being served will be
- _____ on the premises
- _____ Located at least 20' from any activity involving fixed NFPA 30A 6.3.6
- _____ sources of ignition
- _____ 23i. Emergency shutoff NFPA 30A 6.7
- _____ Clearly identified
- _____ Easily accessible
- _____ Located 20 – 100 ft. from dispensing device
- _____ Readily accessible at attended self service NFPA 30A 6.7.1
- _____ Readily accessible to patrons and to each group of
- _____ dispensers at unattended self service NFPA 30A 6.7.1

Fuel dispensing devices - 24

- _____ 24a. Dispensers for Class I liquids listed NFPA 30A 6.3.2
- _____ 24b. Controls NFPA 30A 6.3.3
- _____ Operation allowed only when dispensing nozzle

- removed from bracket or normal position and switch is manually activated
- _____ Pump will stop when nozzle is returned to its bracket or normal non-dispensing position
- _____ 24c. Dispensing device mounted and bolted on a concrete island or protected against collision damage NFPA 30A 6.3.4
- _____ 24d. Dispensing hose NFPA 30A 6.5.1
- _____ Hose length 18'
- _____ Hose listed
- _____ Secured to protect from damage when not in use
- _____ 24e. Listed emergency breakaway device in each hose dispensing Class I liquids NFPA 30A 6.5.2
- _____ 24f. Home heating fuel dispensing operations located at least 20 feet away from motor fuel dispensers NFPA 30A 6.3.5
- _____ 24g. LP Gas dispensing at least 5 ft. from dispensers of class 1 liquids NFPA 30A 12.5.2

Remote pumping systems - 25

- _____ 25a. Listed and designed not to exceed allowable working pressures NFPA 30A 6.4.1
- _____ 25b. Listed leak detection device installed on discharge side of pump. NFPA 30A 6.4.2
- _____ 25c. Pump at least 10' from property line and 5' from building openings NFPA 30A 6.4.3

Vapor recovery and processing - 26

- _____ 26a. Vapor recovery system NFPA 30A 6.8, A 10.2
- _____ 26b. Vapor processing system NFPA 30A 10.1
- _____ 26c. Service stations located in buildings NFPA 30A 7.3.6
- _____ 26d. Electrical installation NFPA 30A Table 8.3.1

Fuel delivery nozzle -27

- _____ 27. Listed nozzle with or without latch-open device NFPA 30A 6.6.1 & § 23-9-65
- _____ Exception 1: Overhead-type dispensing devices shall not have latch-open devices unless the hose nozzle is designed to close upon release from the fill opening or on impact with the ground NFPA 30A 6.6.3
- _____ Exception 2: Unattended service stations shall have dispensers equipped with latch-open devices NFPA 30A 9.5.4

Attended self-service stations - 28

- _____ 28a. Operating instructions NFPA 30A 9.4.4
- _____ 28b. At least one attendant on duty when open to supervise, observe, control dispensing and to: NFPA 30A 9.4.2
NFPA 30A 9.4.3
- prevent dispensing of class 1 liquids into non-compliant containers
 - prevent the use of non-compliant latch open devices

- control sources of ignition
- activate emergency controls and notify fire department if needed
- handle accidental spills and fire extinguishers

Unattended self-service stations - 29

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|--|----------------------------------|
| _____ 29a. Operating instructions and emergency instructions posted | NFPA 30A 9.5.2 |
| _____ 29b. Telephone or other approved, clearly identified means to contact the fire department | NFPA 30A 9.5.3
NFPA 30A 9.5.5 |
| _____ 29c. Fire extinguisher of a minimum classification of 2A-20BC within 75' | § 39-41-295
NFPA 30A 9.2.5.3 |
| _____ 29d. Warning signs | NFPA 30A 9.2.5.4 |
| _____ 29e. Existing AST limited to 6000 gallons | NFPA 30A 4.3.2.7 |
| _____ 29f. Site approval conducted for new installations | NFPA 30A 4.3.2.7(1) |
| _____ 29g Tank protected | NFPA 30A 4.3.2.7(2) |
| _____ 29h Tank system is listed | NFPA 30A 4.3.2.7(3) |
| _____ 29i Electrical requirements of the NEC met | NFPA 30A Table 8.3.1 |
| _____ 29j 6 ft. chain link fence around tanks not in vaults, minimum 10 ft. clearance between tank and fence | NFPA 30A 4.3.7.1 |
| _____ 29k Shut off valve activates at 30 gallons | § 39-41-295 |

Vehicle Barrier Protection – 30

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| _____ 30a. Guard posts required around tanks subject to vehicle impact | NFPA 30A 4.3.7.2 |
| _____ 30b. Steel > 4" diameter concrete filled | NFPA 30A 4.3.7.2(1) |
| _____ 30c. Spaced @ equal to or less than 4 ft. on center | NFPA 30A 4.3.7.2(2) |
| _____ 30d. Set at a minimum of 3 ft. deep in concrete footing equal to or greater than 15 inches in diameter | NFPA 30A 4.3.7.2(3) |