

**State of Vermont
Department of Environmental Conservation
UNDERGROUND STORAGE TANK PIPING INSTALLATION CHECKLIST**

Facility ID# : _____

Facility Name: _____

Physical Address: _____

Owner Of Tank(s): _____

Address: _____

Type of System: Suction____ Pressurized____

Gravity____ Supply and Return____

Comments:

Type Of Primary Piping: Steel____

Fiberglass____ Flexible____

Other_____

Type Of Secondary Piping: Steel____

Fiberglass____ Flexible____

Other_____

Manufacturer_____

Installation Company: _____

Company Address (Street/State/Zip):

Installation Foreman: _____

BEFORE COMPLETING THIS CHECKLIST, PLEASE READ CERTIFICATION ON PAGE 7.

Installation foreman must answer each question in order to verify the use of proper installation procedures. Please provide accurate figures and dimensions in the as-built map of the piping layout. **Questions marked with [PHOTO] must include photographs.** The photographs must be clear and in focus. Each picture will be numbered with the corresponding section of this checklist, and detailed descriptions are to be provided on the back of each picture. This checklist, the photographs, the as-built diagram, and a copy of the piping manufacturer's completed installation checklist are to be submitted within 15 days of completion of the piping installation to:

**State of Vermont
Department of Environmental Conservation
Tank Program
1 National Life Drive, Davis 1
Montpelier, VT 05620-3704**

As the installer, you are **required** to be certified by the piping manufacturer (listed on page 1). Have you been certified by the piping manufacturer to install their product?YES NO

Please provide certification# _____ Date ____/____/____

Please provide a copy of certification with checklist.

Name of Certifier _____

A. PRE-INSTALLATION CHECK

- 1. Have you reviewed the construction permit issued to the tank permittee?.....YES NO
- 2. Has the pipe trenching been planned to prevent piping runs across tanks whenever possible? YES NO
- 3. Have you notified the state UST Program for a final inspection?..... YES NO

B. BACKFILL

1. Please describe backfill used (i.e. particle size, type of material, etc.): _____

- 2. Is this backfill acceptable to the manufacturer?.....YES NO
 - a. Is backfill free of debris (rock, ice, snow, organic material, broken concrete, etc.)? [PHOTO] YES NO
 - b. Has a filter fabric been used to prevent backfill migration? [PHOTO]YES NO
 - c. How much backfill was used as the base for the piping trench?.....YES NO
- 3. Are there any piping crossovers? [PHOTO]..... YES NO

C. PIPING TIGHTNESS TESTING

1. Have you tested the primary and secondary lines according to the manufacturer's recommendations? [PHOTO] (Photos must show pressure gauge readings for each line tested).....YES NO

2. List the test pressure and length of time each line held the recorded pressure for each primary line:

- 1. _____ 2. _____ 3. _____ 4. _____
- 5. _____ 6. _____ 7. _____ 8. _____

3. List the test pressure and length of time each line held the recorded pressure for each secondary line:

- 1. _____ 2. _____ 3. _____ 4. _____
- 5. _____ 6. _____ 7. _____ 8. _____

4. List the test pressure and length of time each line held the recorded pressure for each vent line:

1. _____ 2. _____ 3. _____ 4. _____
5. _____ 6. _____ 7. _____ 8. _____

D. LAYOUT

1. Draw a diagram that shows the complete piping layout, including any product return piping, vent lines, and any unavoidable crossovers. (Note: crossovers are highly discouraged.) **Illustrate piping layout with photos as well.**

a. Are the diagram and necessary photographs attached? [PHOTO].....YES NO

2. What is the minimum depth of burial for the entire piping run? (The depth measured from the top of the piping to the surface of the finished grade.) _____Inches

a. Where does this point occur? _____

3. Have all sags and low spots in the piping run been corrected to ensure a uniform slope from the dispensers back to the tanks?.....YES NO

4. What is the slope in fractions of an inch per foot of piping run? _____
Piping slope should have a minimum of 1/8" per ft.

5. Is there any section of piping that slopes away from the tank to a sump other than the tank-top sump?..
YES NO

a. If so, which section?

6. Are there any manifolded tanks?..... YES NO

b. If yes, which tank is the master? _____

c. Which tank(s) is the slave? _____

7. Remote fills are not allowed unless specifically stated in the permit. Are any remote fills installed? YES NO

a. If yes, which tanks? _____

b. Is the fill pipe secondarily contained?..... YES NO

E. SPILL CONTAINMENT AND OVERFILL PREVENTION.

1. Has a containment manhole or other method of spill containment been installed at each fill port?...YES NO

Manufacturer and construction _____

Size: _____gallons.

Note: Minimum Size allowed is 15 gallons unless variance is granted by UST Program

Drain valves are not allowed. Is there a drain valve in any of the containment devices?.....YES NO

2. Is fill port spill containment double walled?YES NO

Comments_____

3. Was the fill port containment (spill bucket) tightness tested upon installation?YES NO

4. What method were they tested by? (please default to manufacturer's recommendations)
..... Hydrostatic Vacuum Other_____

Results:

1. _____ 2. _____ 3. _____ 4. _____

5. _____

Comments:_____

5. Select which overfill protection device is used:

____ Automatic Shutoff Device (Not suitable for loose fill or pressurized delivery)

Is it installed at a distance equal or no more than 95% of tank capacity?.....YES NO

____ Electronic Overfill Alarms (This method is the only overfill protection device that is effective for loose fill or pressurized deliveries.)

Is it on an electrical circuit that is active all the time?.....YES NO

Is there an audible and visible alarm such that the delivery driver can hear it and see it?.....YES NO

Is it set to activate at not more than 90% capacity of tank?.....YES NO

____ Vent Whistle (Allowed only on tanks receiving fuel deliveries by peddle truck)

What distance is the vent pipe from the fill port?_____ft

Is the whistle set to stop at not more than 90% capacity of tank?.....YES NO

Is the whistle audible during deliveries?.....YES NO

____ Manual overfill prevention (Only for tanks never receiving more than 25 gallons at one time)

6. Has a drop tube been installed in each fill pipe?.....YES NO

F. RELEASE DETECTION METHODS FOR PIPING & DISPENSERS

1. Indicate how many of each type of containment sump is installed:

____ Tank-top STP (Required for all STPs)

- Tank-top piping sump (non-pressurized)
- Tank-top manifold slave (Required for all manifold piping)
- Dispenser (Required for ALL NEW installations, including Exempt Suction)
- Other (i.e., intermediate sump at pipe transition) Explain: _____

2. Are any of the containment sumps double walled?YES NO

3. If so indicate which sumps and how many

- Tank-top STP (Required for all STPs)
- Tank-top piping sump (non-pressurized)
- Tank-top manifold slave (Required for all manifold piping)
- Dispenser (Required for ALL NEW installations, including Exempt Suction)
- Other (i.e., intermediate sump at pipe transition)

4. Were all piping sumps tightness tested upon installation?YES NO

5. What method were they tested by? (please default to manufacturer' recommendations)
Hydrostatic Vacuum Other _____

Comments: _____

Results:

- 1. _____ 2. _____ 3. _____ 4. _____
- 5. _____ 6. _____ 7. _____ 8. _____
- 9. _____ 10. _____ 11. _____ 12. _____

Comments: _____

6. Are all tank-top fittings (fill pipes, other risers) connected to the tank with vapor-proof fittings and equipped with vapor-proof caps?YES NO

7. What type of leak detection will be used to monitor the piping?

- Manual interstitial monitoring Electronic interstitial monitoring
- Exempt suction system with dispenser sump that is monitored **Electronic** **Manual/Visual** _____

NOTE: Exempt suction systems require dispenser sumps and leak detection monitoring

a. If electronic, is every sump (INCLUDING DISPENSER SUMPS) equipped with a sensor?
YES NO

b. If electronic, are the sensors installed properly (at lowest point where liquid will accumulate first)?
YES NO

Make/Model of electronic monitoring system _____

c.If exempt suction, is a vertical check valve installed at the dispenser end of the piping run?...YES NO

8.Is each pressurized line equipped with a line leak detector?YES NO

9. What type of line leak detectors are installed?

10.Were all line leak detectors tested at installation?.....YES NO

Date of line leak detector tests:_____

11.Is a shear valve installed on each pressurized line?.....YES NO

12.Is each shear valve anchored to the dispensing island?.....YES NO

13. Is each shear valve installed anchored at the proper height in relation to the base or the dispensing island grade?.....YES NO

G. CORROSION PROTECTION

Note: Steel piping must be provided with cathodic protection. Piping constructed of corrosion-resistant materials do not require cathodic protection.

1.Is cathodic protection required for the piping?.....YES NO

If yes, what method of cathodic protection is installed?_____

If factory-installed tank anode is also being used to protect piping, is it sufficient?.....YES NO

2. Is all metal / corrodible ancillary equipment, including flex connectors and risers, isolated from contact with soil or cathodically protected?.....YES NO

H. AS-BUILT OF PIPING INSTALLATION SHOWING PIPING RUNS TO DISPENSERS

1. Has the drawing been attached to this checklist?.....YES NO

ADDITIONAL COMMENTS:_____

CERTIFICATION

I certify under penalty of law that this document, photographs, and any other attachments were prepared under my direction or supervision. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment for knowing violations. I am aware that release detection must be conducted and documented at least weekly, and that all release detection documentation must be kept for 3 years.

****Required**** Signature of Tank owner or authorized agent

Date

****Required**** Signature of authorized agent for contractor

Date