Aboveground Storage Tanks

Underground Fuel Oil Tanks

—

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Road Map

* Only NYSDEC requirements

1. General Requirements
2. Aboveground Storage Tanks
3. Underground Fuel Oil Tanks (heating)
4. Older Tanks
5. Questions

General Requirements

DEC Regulations

6 NYCRR Part 613

- Subpart 2 – USTs regulated by DEC & EPA
- Subpart 3 – USTs regulated by DEC (fuel oil) *
- Subpart 4 – ASTs (all petroleum products) *

Paperwork

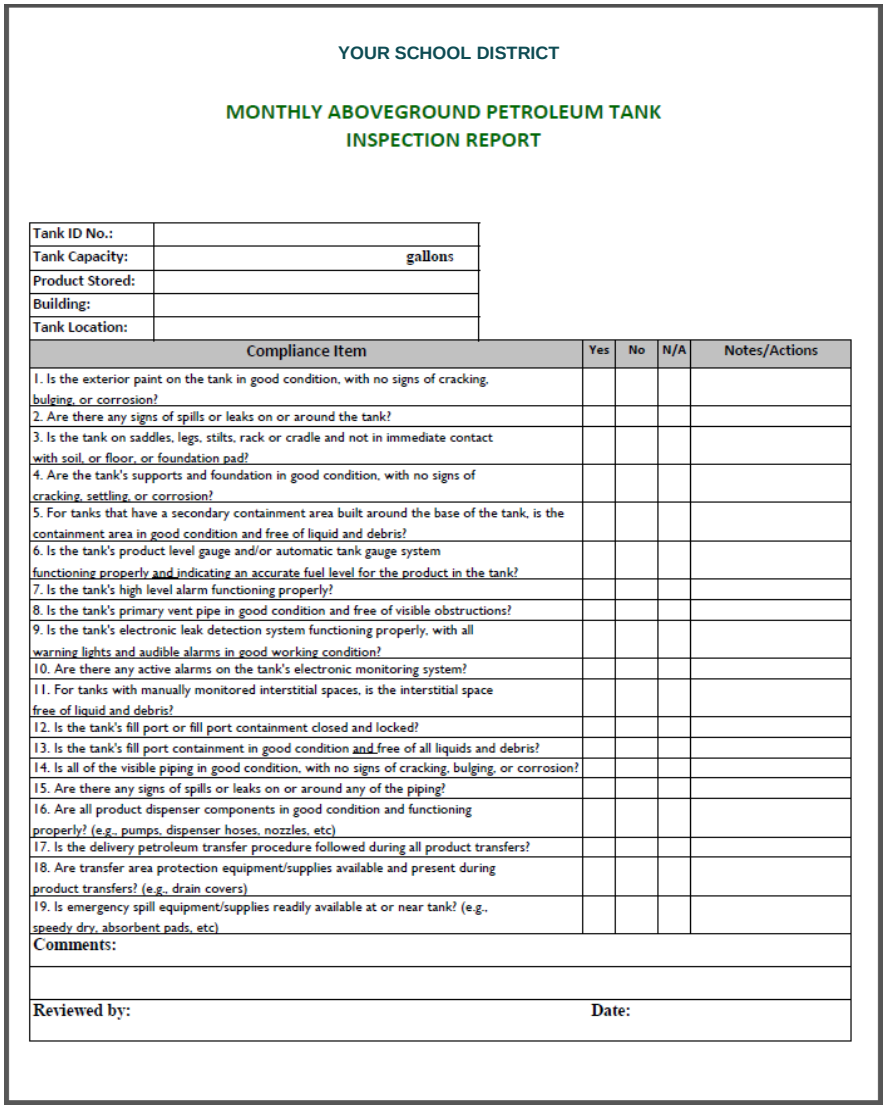
PBS Registration

- Information must be current & accurate
- Certificate must be posted in conspicuous location at facility *

Monthly Inspections (ASTs)

Must identify:

- Leaks
- Cracks
- Areas of wear
- Corrosion & thinning
- Poor maintenance & operating practices
- Excessive settlement of structures
- Separation or swelling of tank insulation
- Malfunctioning equipment
- Structural & foundation weaknesses



YOUR SCHOOL DISTRICT

MONTHLY ABOVEGROUND PETROLEUM TANK INSPECTION REPORT

Tank ID No.:	
Tank Capacity:	gallons
Product Stored:	
Building:	
Tank Location:	

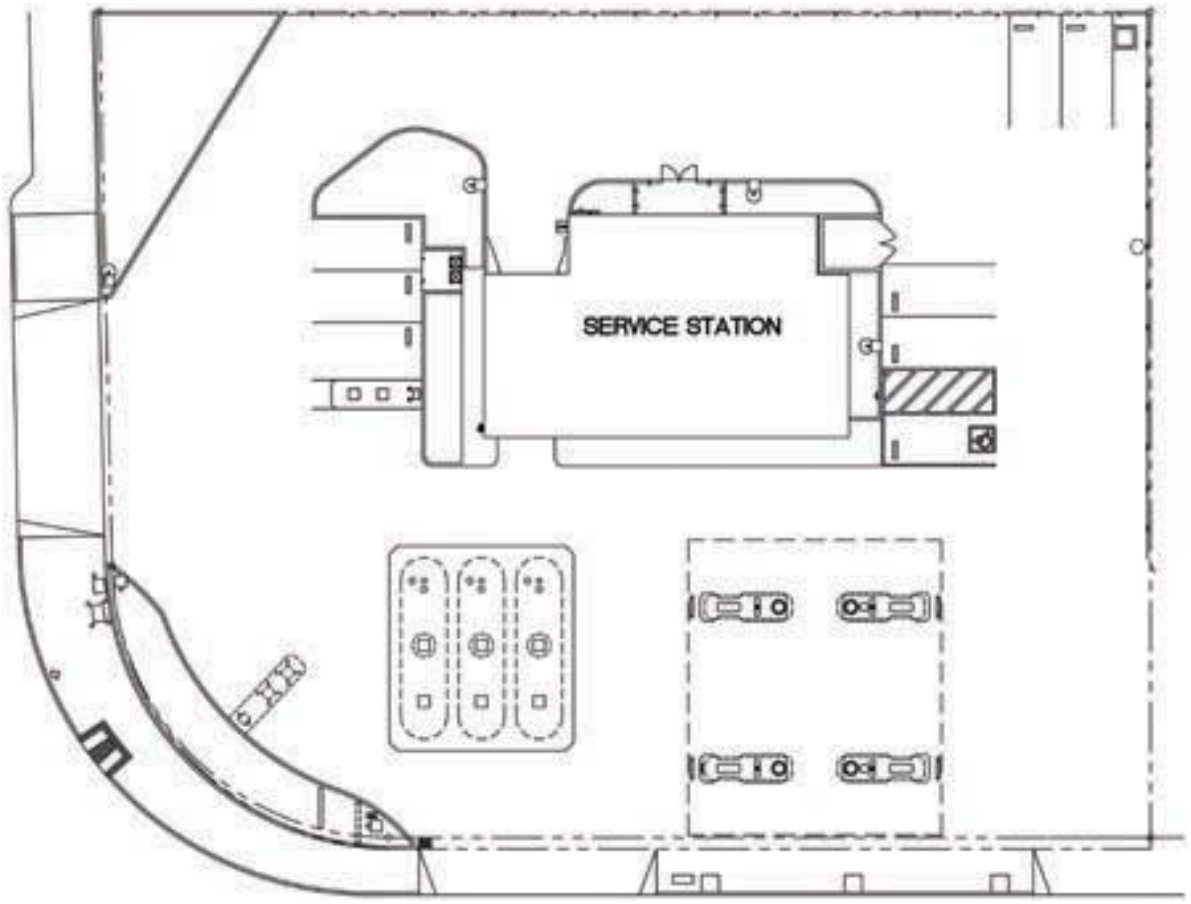
Compliance Item	Yes	No	N/A	Notes/Actions
1. Is the exterior paint on the tank in good condition, with no signs of cracking, bulging, or corrosion?				
2. Are there any signs of spills or leaks on or around the tank?				
3. Is the tank on saddles, legs, stilts, rack or cradle and not in immediate contact with soil, or floor, or foundation pad?				
4. Are the tank's supports and foundation in good condition, with no signs of cracking, settling, or corrosion?				
5. For tanks that have a secondary containment area built around the base of the tank, is the containment area in good condition and free of liquid and debris?				
6. Is the tank's product level gauge and/or automatic tank gauge system functioning properly and indicating an accurate fuel level for the product in the tank?				
7. Is the tank's high level alarm functioning properly?				
8. Is the tank's primary vent pipe in good condition and free of visible obstructions?				
9. Is the tank's electronic leak detection system functioning properly, with all warning lights and audible alarms in good working condition?				
10. Are there any active alarms on the tank's electronic monitoring system?				
11. For tanks with manually monitored interstitial spaces, is the interstitial space free of liquid and debris?				
12. Is the tank's fill port or fill port containment closed and locked?				
13. Is the tank's fill port containment in good condition and free of all liquids and debris?				
14. Is all of the visible piping in good condition, with no signs of cracking, bulging, or corrosion?				
15. Are there any signs of spills or leaks on or around any of the piping?				
16. Are all product dispenser components in good condition and functioning properly? (e.g., pumps, dispenser hoses, nozzles, etc)				
17. Is the delivery petroleum transfer procedure followed during all product transfers?				
18. Are transfer area protection equipment/supplies available and present during product transfers? (e.g., drain covers)				
19. Is emergency spill equipment/supplies readily available at or near tank? (e.g., speedy dry, absorbent pads, etc)				

Comments:

Reviewed by: Date:

As-Built Diagrams (USTs only)

- Location of:
  - USTs and associated piping
  - Fill ports
  - Dispensing equipment
  - Check valves
  - Transition sumps (if any)
  - Monitoring wells (if any)
- Visible point of reference
- Frame of reference (north arrow)
- Scale of drawing



Aboveground Storage Tanks

Paint / Surface Coating

YES

NO

Labeling

ASTs must be marked with:

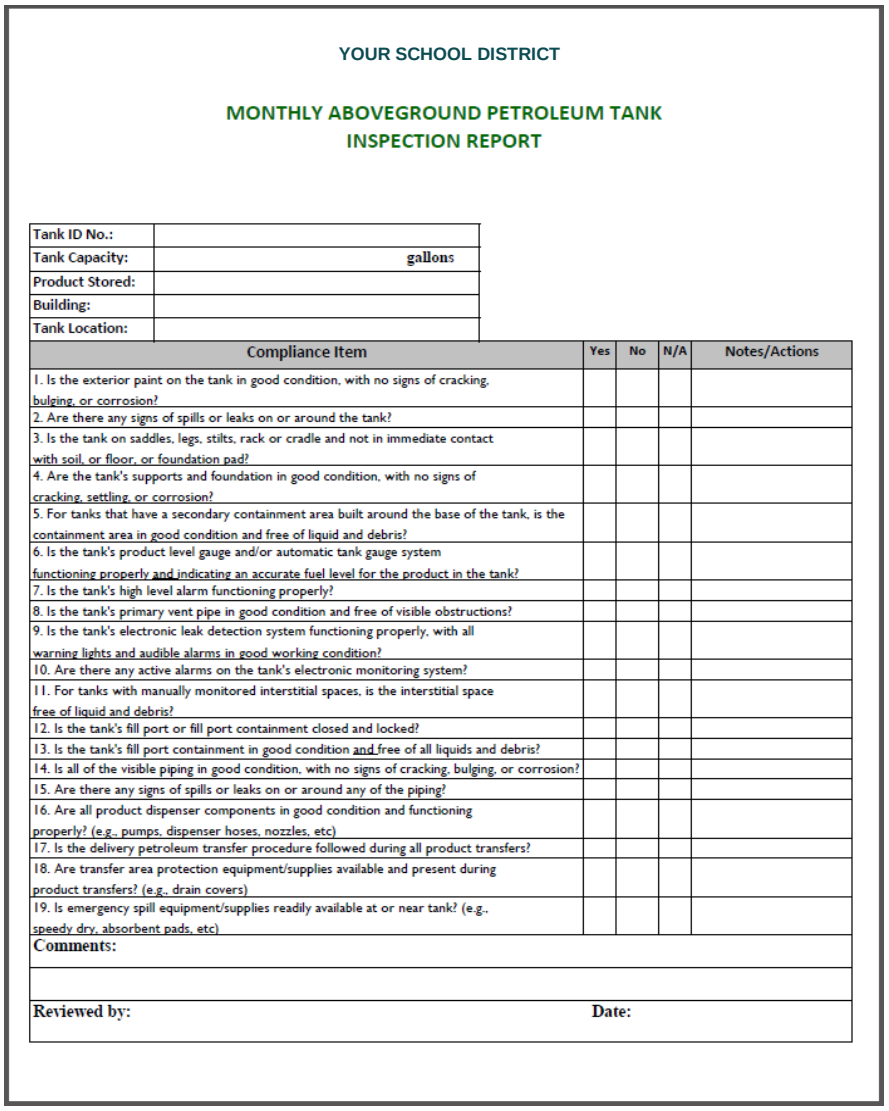
- Tank ID number (same as on registration)
- Product stored
- Design & working capacities

Elevated / Impermeable Barrier

Secondary Containment

Level Gauges

Monthly Inspections



YOUR SCHOOL DISTRICT

MONTHLY ABOVEGROUND PETROLEUM TANK
INSPECTION REPORT

Tank ID No.:	
Tank Capacity:	gallons
Product Stored:	
Building:	
Tank Location:	

Compliance Item	Yes	No	N/A	Notes/Actions
1. Is the exterior paint on the tank in good condition, with no signs of cracking, bulging, or corrosion?				
2. Are there any signs of spills or leaks on or around the tank?				
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4. Are the tank's supports and foundation in good condition, with no signs of cracking, settling, or corrosion?				
5. For tanks that have a secondary containment area built around the base of the tank, is the containment area in good condition and free of liquid and debris?				
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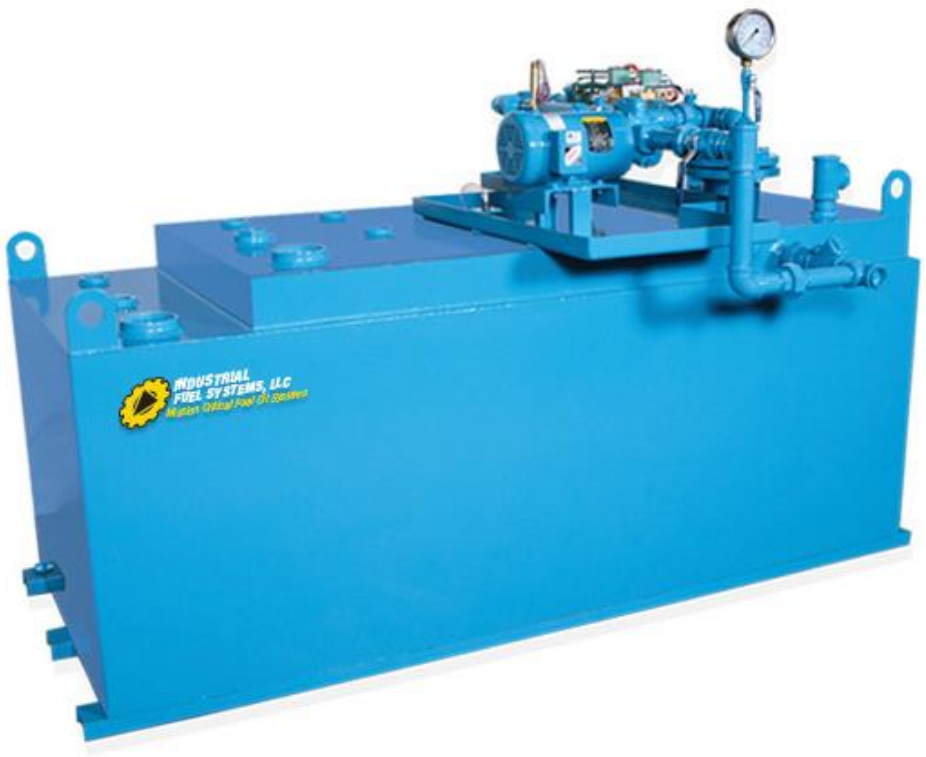
14. Is all of the visible piping in good condition, with no signs of cracking, bulging, or corrosion?				
15. Are there any signs of spills or leaks on or around any of the piping?				
16. Are all product dispenser components in good condition and functioning properly? (e.g., pumps, dispenser hoses, nozzles, etc)				
17. Is the delivery petroleum transfer procedure followed during all product transfers?				
18. Are transfer area protection equipment/supplies available and present during product transfers? (e.g., drain covers)				
19. Is emergency spill equipment/supplies readily available at or near tank? (e.g., speedy dry, absorbent pads, etc)				
Comments:				
Reviewed by: Date:				

Per 613-4.3(b)(1), must identify:

- Leaks
- Cracks
- Areas of wear
- Corrosion & thinning
- Poor maintenance & operating practices
- Excessive settlement of structures
- Separation or swelling of tank insulation
- Malfunctioning equipment
- Structural & foundation weaknesses

Day Tanks



- Intermediate tank used for product transfer between primary storage tank and end use point
- Day tanks much smaller than primary tanks
- Same requirements as any other AST (gauge, labeling, monthly inspection)

Generator Belly Tanks

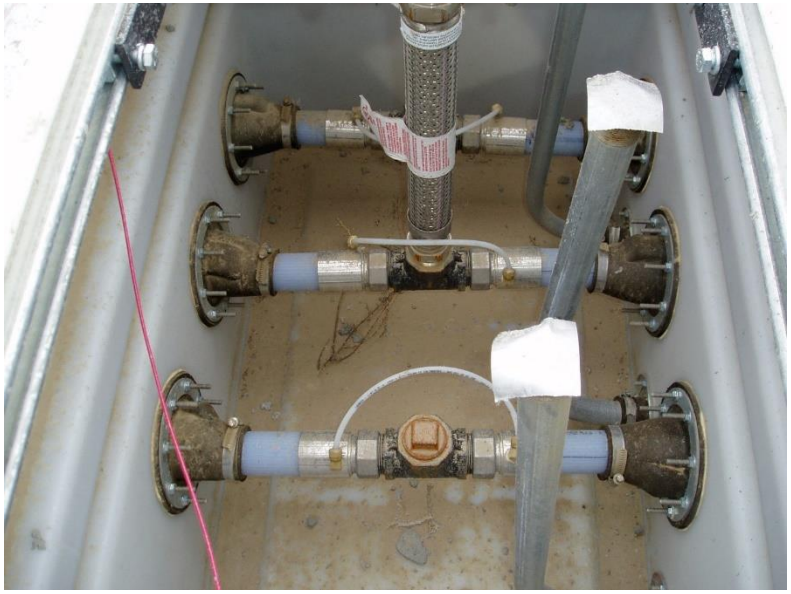
- Same requirements as any other AST (gauge, labeling, monthly inspection)

Valves

1. Shear valve (AKA crash valve, impact valve) – pressurized piping to remote dispenser
2. Solenoid valve – dispenser that causes gravity head
3. Check valve – pump-filled AST
4. Operating valve – gravity-drained AST

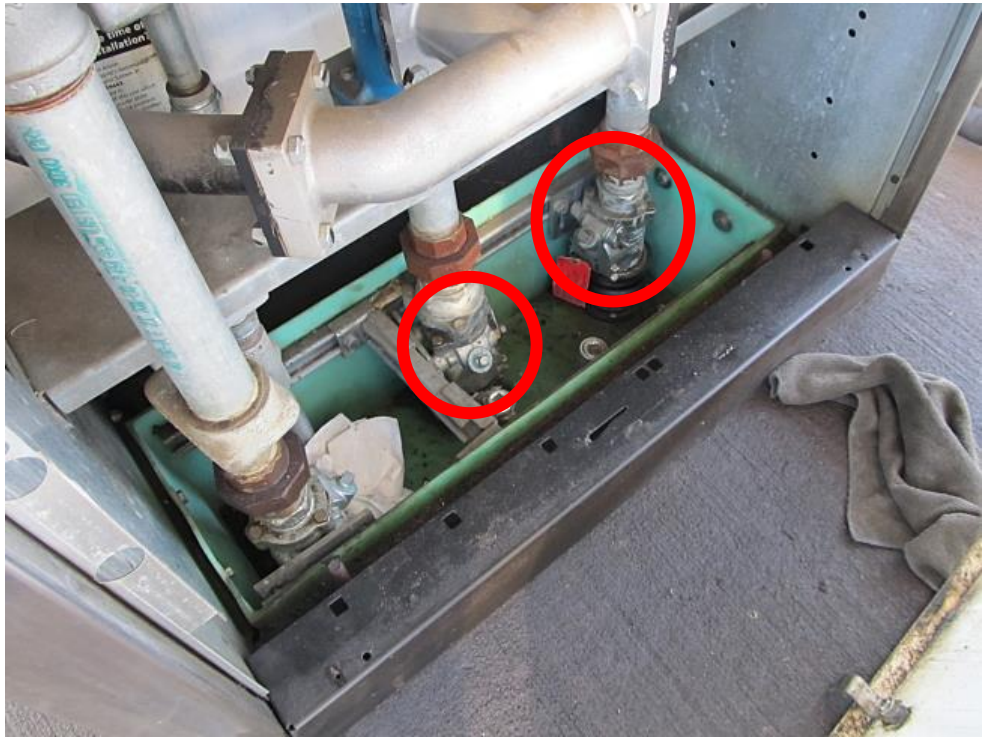
Dispensers for ASTs

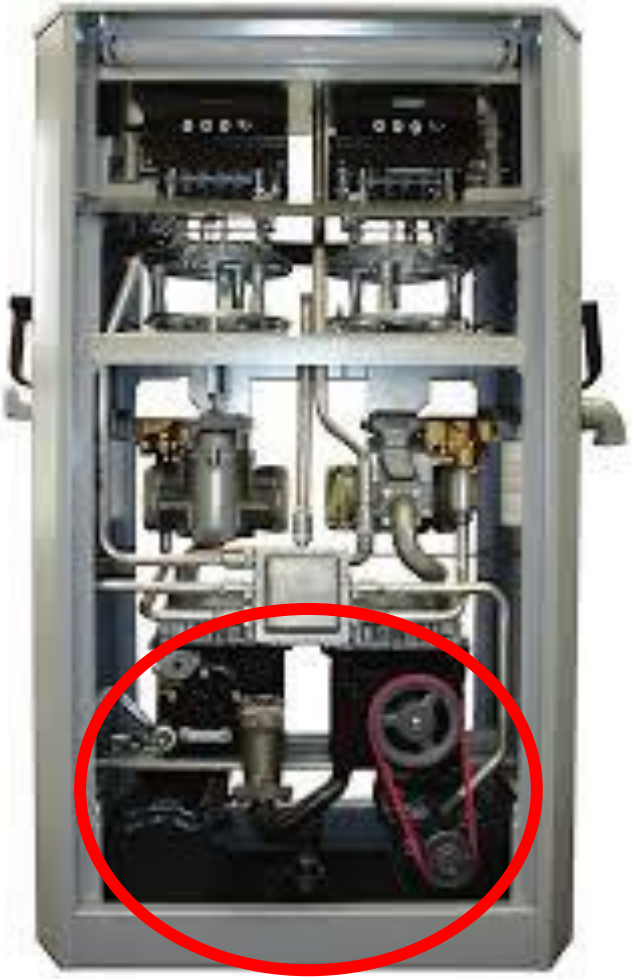
Dispenser Sumps / UDC (Under-Dispenser Containment)



Clean & Dry

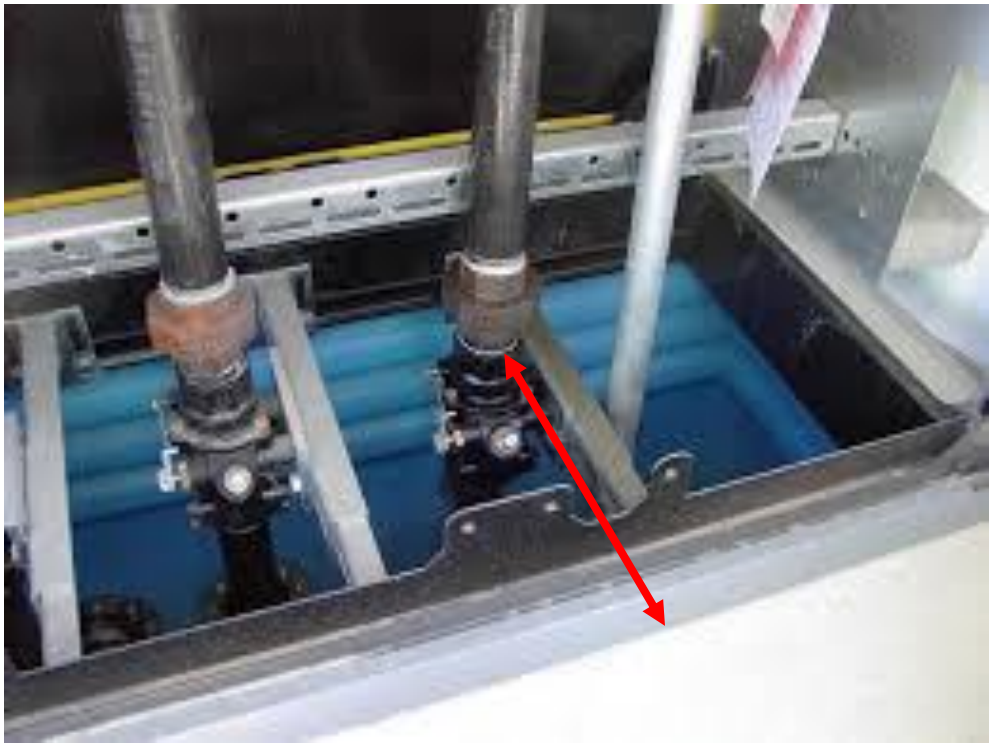
Suction Piping Dispensers





Pressurized Piping Dispensers

Pressurized Piping



Shear valves must be:

- Properly installed
- Operable

Automatic Line Leak Detectors (ALLDs)

Electronic

Mechanical

Leak Detection (u/g piping for ASTs)

Underground Piping

- Automatic Line Leak Detection (ALLD)
- Line Testing

Underground Fuel Oil Tanks

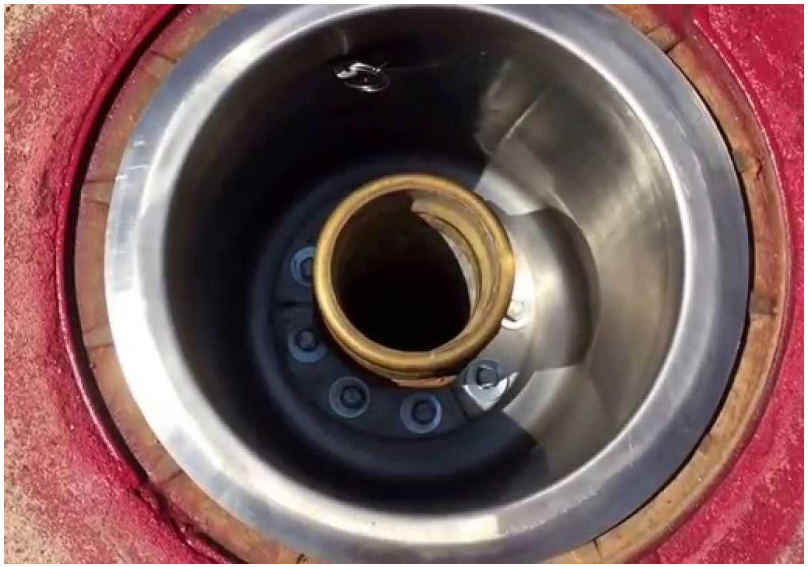
UST Fill Ports / Tank Tags

Fuel oil = green hexagon

Also acceptable to paint entire fill port cover green

Monitoring / Observation Wells

Spill Buckets



YES

NO

Overfill Prevention

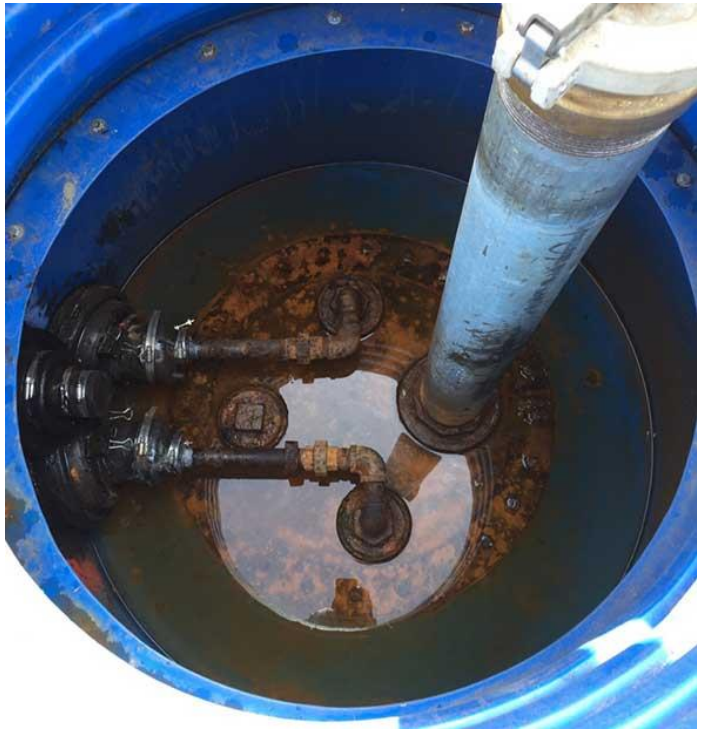
Ball Float Valve

High-Level Alarm

Auto Shut-Off

Tank Top Sumps

YES

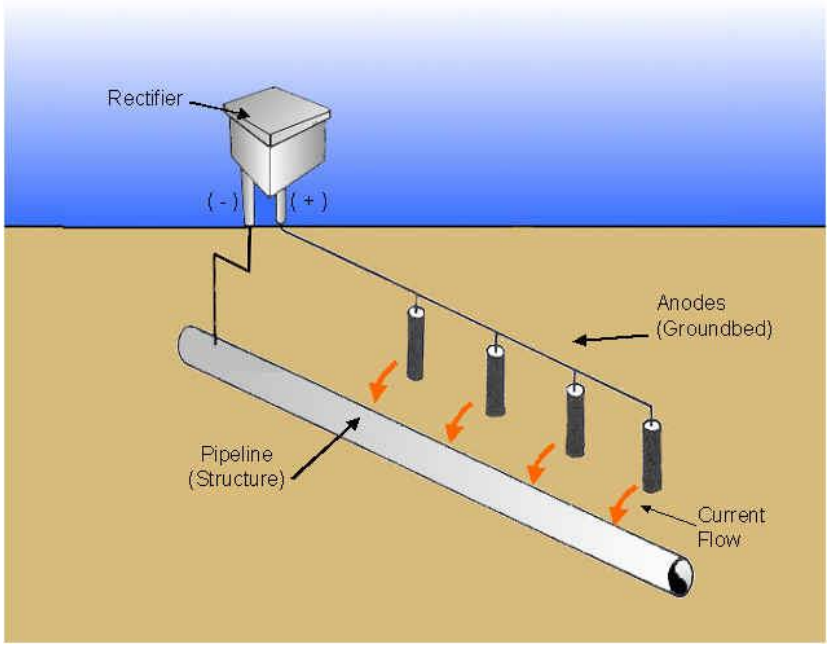


NO

Cathodic Protection (steel USTs only)

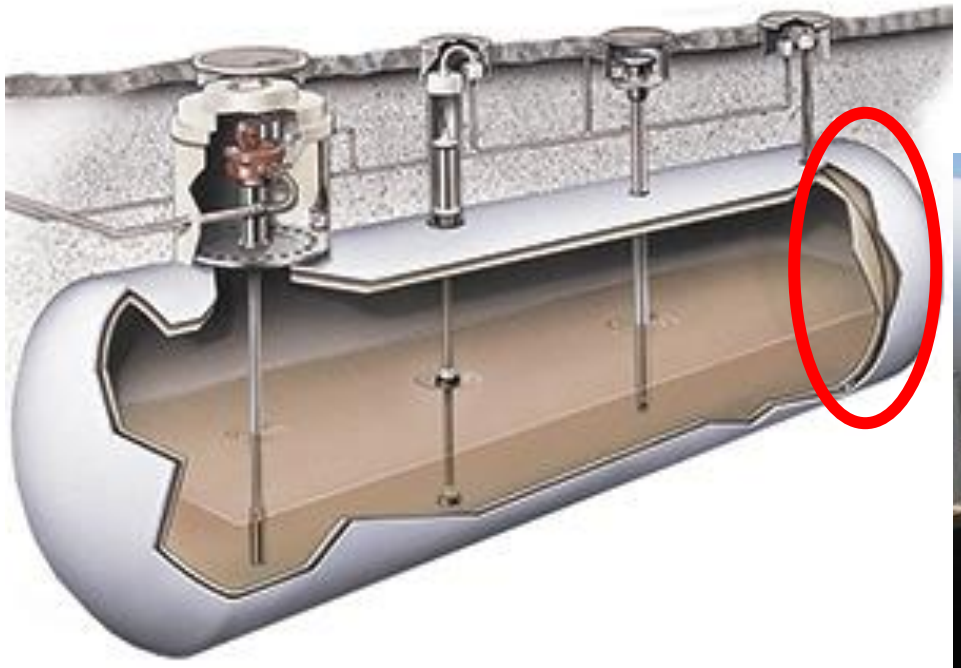
Sacrificial Anode / Galvanic

Impressed Current

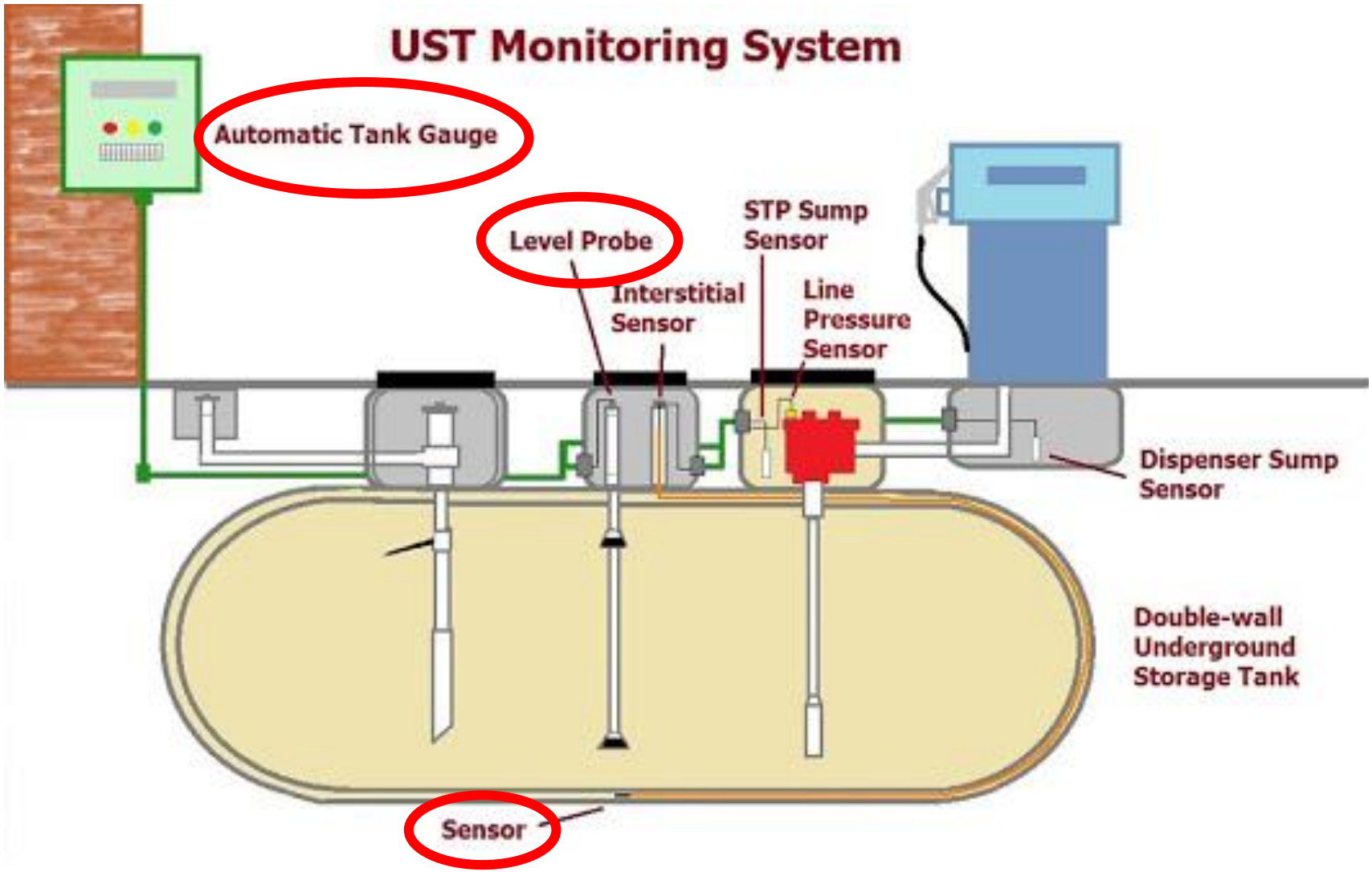


- All CP systems: annual test (at least -0.85V / -850mV)
- Impressed current: 60-day rectifier inspections

Double-Walled USTs



UST Monitoring



Leak Detection (Subpart 3 USTs)

Tanks

- Tank Testing *
- Automatic Tank Gauging (ATG) *
- Groundwater/Vapor Monitoring
- Interstitial Monitoring *

Piping

- Automatic Line Leak Detection (ALLD)
- Line Testing *

* most likely methods for schools

Older Tanks

Things to Consider

- USTs (esp. older ones) can leak → impacts to:
  - Natural resources
  - Public health
- Expensive cleanups
- Potential insurance claims:
  - Bodily injury
  - Property damage

Operational Challenges

- Older USTs likely to be steel
- Cathodic protection:
  - Less effective with age
  - More likely to need retrofit / replacement
- Fuel additives (esp. high levels ethanol) → UST system component breakdown
- Greater chance of spills / releases

Spills

Reportable Spills per DEC

1. Petroleum in spill bucket
2. Petroleum in tank top sump
3. Petroleum in dispenser sump
4. Petroleum in tank secondary containment
5. Petroleum in the environment
6. Suspected spill not investigated
7. Suspected spill not reported
8. Spill not reported (surface)
9. Release not reported (sub-surface)
10. Failed spill bucket test not reported
11. Failed sump test not reported

Insurance Challenges

- Common belief – USTs have 30-year useful life (30-year mfr. warranties)
- USTs very difficult to insure after 20 years
- Older USTs → higher insurance rates

Tank Replacement

When Considering Replacement

- Talk to School Business Official → budget / allocate funds
- Talk to insurance carrier
- Decide whether to replace with UST / AST

Before Closure (old) / Installation (new)

- Review tank closure requirements (DEC / Delegated County)
- Check on potential regulatory revisions / upcoming rulemaking
- Ensure that contractors know regulatory requirements (esp. closure)
- Submit *Pre-Work Notification* form to DEC / County
  https://www.dec.ny.gov/docs/remediation_hudson_pdf/tankmodnotice.pdf

During Installation

* District or authorized representative

- Inspect / photograph tanks
- Ballast tanks with water, not fuel
- Create a “UST Birth Certificate”

  Obtained from Source Fueling Equipment Solutions:

  https://www.sourcena.com/ust-birth-certificate/

UST "Birth Certificate"

UNDERGROUND STORAGE TANK & PIPING

BIRTH CERTIFICATE

Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

TANK DESCRIPTION:

Serial/part number:

Manufacturer/brand:

Tank diameter:

Tank capacity:

Tank length:

Tank weight:

Materials of construction:

Number of compartments:

Number of sumps/risers:

Secondary containment type:

- O Doublewall/jacketed tank
- O Liner/bladder
- O Leakproof excavation liner

Description of interstitial monitoring system:

Additional notes about the UST (e.g. primary fuel in tank):

Continued on Page 2

Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

INSTALLATION INFORMATION:

Contractor/installation company name:

City:

State:

Installation date:

How many tanks were installed in the tank field:

Distance between tanks:

If more than one tank is installed in the tank field, describe this tank's placement in relation to the other tanks in the field (i.e. "tank is the second closest tank to the front of the C-store"):

Burial depth:

Was a geotextile fabric installed?

- O Yes
- O No

Description of backfill type and size:

Description of anchoring:

- O Deadman anchors
- O Concrete anchor pad
- O None

Continued on Page 3

UST "Birth Certificate" (cont'd)

UNDERGROUND STORAGE TANK & PIPING **BIRTH CERTIFICATE**

Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

Description of method used to connect hold-down straps to anchors:

O Drop-forged turnbuckle O Looped wire rope O Combination of turnbuckle and wire rope

O Other (please describe)

The number of anchor straps installed:

If installing a steel tank, were isolation pads used to separate the anchor strap from the tank?

O Yes O No

If installing a fiberglass tank, what was the final vertical deflection measurement?

RECOMMENDATIONS FOR THIS UST BIRTH CERTIFICATE

✓	✓	✓	✓
Include photo(s) of tank prior to installation of backfill	Include a copy of the registration form submitted to EPA/supervising regulatory body	Include a copy of the manufacturer's warranty	Include a copy of the UST insurance policy

Continued on Page 4

UNDERGROUND STORAGE TANK & PIPING **BIRTH CERTIFICATE**

Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

PIPING:

Manufacturer & brand:

Part number:

Description (i.e. double wall primary pipe)

Materials of construction:

Diameter:

Color:

Type of fuel piping will transfer:

Thread sealant used on connections:

After Installation (before operation)

* Complete this in order

- Update PBS registration with DEC / County
- Order first product delivery

Resources

DEC

Tank IQ

https://www.dec.ny.gov/docs/remediation_hudson_pdf/tankiq.pdf

PBS Inspection Form v.6 (2/12/2019)

http://www.dec.ny.gov/docs/remediation_hudson_pdf/pbsinspfrm.pdf

Source Fueling Equipment Solutions

UST Birth Certificate

https://www.sourcena.com/ust-birth-certificate/

QUESTIONS

???

Thank You!

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