Department of Environment & Conservation

SUIT Inspection

Class I, II, and III/IV Landfills

Bart Marston, SUIT Coordinator | August 9, 2023

Purpose

The purpose of this training manual is to provide DSWM inspectors best practical information for noting issues of area of concern, minor violations (V1), and major violations (V2) for Tennessee Class I landfills. In this document, violations are cross-referenced to the rule citations from *0400-11-01-.04 SPECIFIC REQUIREMENTS FOR CLASS I, II, III, AND IV DISPOSAL FACILITIES*.

Authority: T.C.A. §§ 68-211-101 et seq., 68-211-701 et seq., 68-211-801 et seq., 11-13-111, Chapter 169 of the Private Acts of 1990, and 4-5-201 et seq. Administrative History; Original rule filed June 19, 2012; effective September 17, 2012. Amendments filed December 18, 2012; effective March 18, 2013

General Information

Inspection Frequency, Solid Waste Policy (PN074):

- Class I Landfills – Monthly
  - No more than 45 days between inspections.
- Class II, III/IV – Quarterly
- Post Closure – Semi Annually
  - One Wet Season, One Growing Season

- Follow Up Inspections– As needed to ensure compliance.
  - IF a follow up inspection occurs simultaneously with the following monthly inspection (Class I), you must address the previous violations and their RTC status.

General Information

No Violation Observed (NVO):

Indicates that compliance has been achieved for the particular citation.

Area of Concern (AOC):

Areas that need to be monitored because they have the potential to become violations if they should elevate to the V1 violation criteria level. Areas of concern should typically be noted for issues that are not direct violations of the rule citations, but have the potential of becoming direct violations if preventative action isn't undertaken. However, notation of an area of concern should not be used as a pass or allowance for time to fix a first observed V1 violation.

General Information

Violations (V1) and Significant Violations (V2):

This manual provides policy information for inspectors for distinguishing between areas of concern, violations (V1), and significant violations (V2). However, this information is primarily focused towards differentiating between areas of concern and violations (V1). Generally, for all violations listed in this manual, a significant violation (V2) results from non-corrective action after a V1 violation is given. There are circumstances where significant violations (V2) can be cited upon initial inspection, however. Policy information is given for those circumstances in this document as well.

General Information

A V1 violation may only be issued if there is no present or imminent risk to public health or the environment. If a V1 is cited during an inspection, then a follow-up inspection will be needed, which requires a follow up inspection date (noted on the inspection form). **The follow up inspection date is determined by the type and condition of the violation**. If the V1 violation has not been corrected by the follow-up inspection, a V2 violation may be cited. An initial violation may have a compliance date of **up to 30 days**.

An extension may be issued by the inspector if suitable progress has been made or other circumstances warrant. The extension an inspector may give is based on the time of the initial violation date and follow up inspection. **The total time of both may not exceed 45 days**.

Records and Documents for Review

1. Check previous inspection report to determine if there are reoccurring problems or violations.
2. Check to see if there have been complaints concerning the facility.
3. Check for information on any current or new special wastes.
4. Check records for random inspections, volume of waste received, asbestos received, gas monitoring records, groundwater monitoring records and certifications for scales, operators and personnel training.

Inadequate Vector Control

Citation Reference: 0400-11-01-.04(2)(a)1

General Facility Standards – *Overall Performance Standard* - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

1. The propagation, harborage, or attraction of birds and flies, rodents, or other disease vectors.

Inadequate Vector Control

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Disease Vectors are living organisms that can transmit infectious pathogens between humans, or from animals to humans.

Common Vectors:

- Rats
- Maggots
- Mosquitos
- Birds
- Feral Animals

Inadequate Vector Control

The observation of any of the above vectors in small amounts does not constitute a violation, however, large numbers of vectors or the evidence (rat burrows, maggots) is significant, or an indication that breeding or increasing numbers is observable, this violation (V1) should be cited.

Domestic animals may be vectors. It is acceptable for domestic animals to be onsite if they are fed, shelter and water is provided, and they are being given proper care. If these animals are abandoned, creating a health or safety issue or are having to compete for food (i.e., In the waste) then a violation may be issued.

Inadequate Vector Control

While maintenance activities that aid in vector control are necessary for everyday operations, the presence of inadequacies are an effect of the overall operations. The most common deficiency at a landfill that drives this issue is **inadequate cover**. Vector issues should not be viewed as a singular problem.

Inadequate cover can be:

- Erosion Control Issues
- Inadequate Cover of Waste (Daily/Initial, Intermediate)
- Insufficient Alternate Daily Cover

Potential for Explosions or Uncontrolled Fires

Citation Reference: 0400-11-01-.04(2)(a)2

General Facility Standards - *Overall Performance Standard* - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

2. The potential for explosions or uncontrolled fires.

Potential for Explosions or Uncontrolled Fires

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Potential for explosions would be associated with the accumulation of gas from waste in confined areas or structures. The presence of flammables and explosives at the facility are another potential cause for fires and explosions.

Items to be aware of:

- **Pressurized Cylinders**
  - **Propane/Butane, Aerosols**
- **Batteries**
  - **Lithium (High Potential)**
- **Incompatible Chemicals**
  - **Pool Chemicals**
- **Flammable Liquids**
  - **Gasoline**
  - **Alcohols**
- **“Hot” Loads in active working areas, (special waste unreacted oxides)**

Potential for Explosions or Uncontrolled Fires

Exposed Solid Waste

Citation Reference: 0400-11-01-.04(2)(a)3.

Overall Performance Standard - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

3. The potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

Exposed Solid Waste

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

There should be no exposure of emplaced solid waste of an area that has received cover (initial, intermediate, or final.)

For exposed waste to be present, erosion of that area would have exceeded greater than 50% of the cover thickness. Due to this exceedance, this would also carry a violation for inadequate erosion control.

Other potential issues that may arise with this violation are new/increased leachate production, leachate outbreaks, run-on/run-off system failure, and leachate entering a watercourse.

If waste is found to have washed out and left the site this would be an unpermitted release of solid waste and would be cited as a V2 violation.

Exposed Solid Waste

A common issue with this violation is differentiating between exposed waste and unsatisfactory cover.

Exposed solid waste is a result of inadequate erosion control and maintenance of a site, where unsatisfactory cover is a failure to cover the waste adequately. The presence of erosion rills always accompany exposed waste, where unsatisfactory cover will not.

Exposed Solid Waste

Example of Exposed Solid Waste from Erosion

Exposed Solid Waste
Example of Unsatisfactory Cover

Dumping of Waste Into Water

Citation Reference: 0400-11-01-.04 (2)(a)3

General Facility Standards - *Overall Performance Standard* - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

3. The potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment, except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

Dumping of Waste into Water

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Historically, this violation has been interpreted by the DSWM to mean no dumping of waste into water at the landfill site (and not interpreted as dumping into waters of the state as that is a direct violation of the Clean Water Act).

Water at a landfill is designed to travel off the site, into sediment basins and ultimately be discharged to the ground. Waste that is dumped into water generates leachate, and leachate that travels off the cell is considered a violation.

Dumping of Waste into Water

Access Not Limited to Operating Hours

Citation Reference: 0400-11-01-.04(2)(a)4

General Facility Standards – *Overall Performance Standard* - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

4. The exposure of the public to potential health and safety hazards through uncontrolled or unauthorized public access.

Access Not Limited to Operating Hours

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

If the public had access to the landfill when it was not in operation, scavenging, burning, vandalism of equipment and indiscriminate dumping would be possible.

Public access should be limited to clearly posted hours that are consistent with facility's permit—if not, a V1 violation should be cited.

Inadequate Artificial or Natural Barrier

Citation Reference: 0400-11-01-.04(2)(b)1

General Facility Standards – Control of Access and Use - The facility must have an artificial or natural barrier which completely surrounds the active portion of the facility and must have a means to control entry, at all times, through the gate or other entrances to the active portion of the facility.

Inadequate Artificial or Natural Barrier

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

"Natural barriers" are usually described on plans or addressed in permit. They are physical features that hinder travel or are difficult to traverse (rivers, lakes, cliffs, dense vegetation, etc.)

"Artificial barriers" includes gates, cables, fencing, or other artificial means of *controlling* access (and are also usually described on plans or addressed in permit).

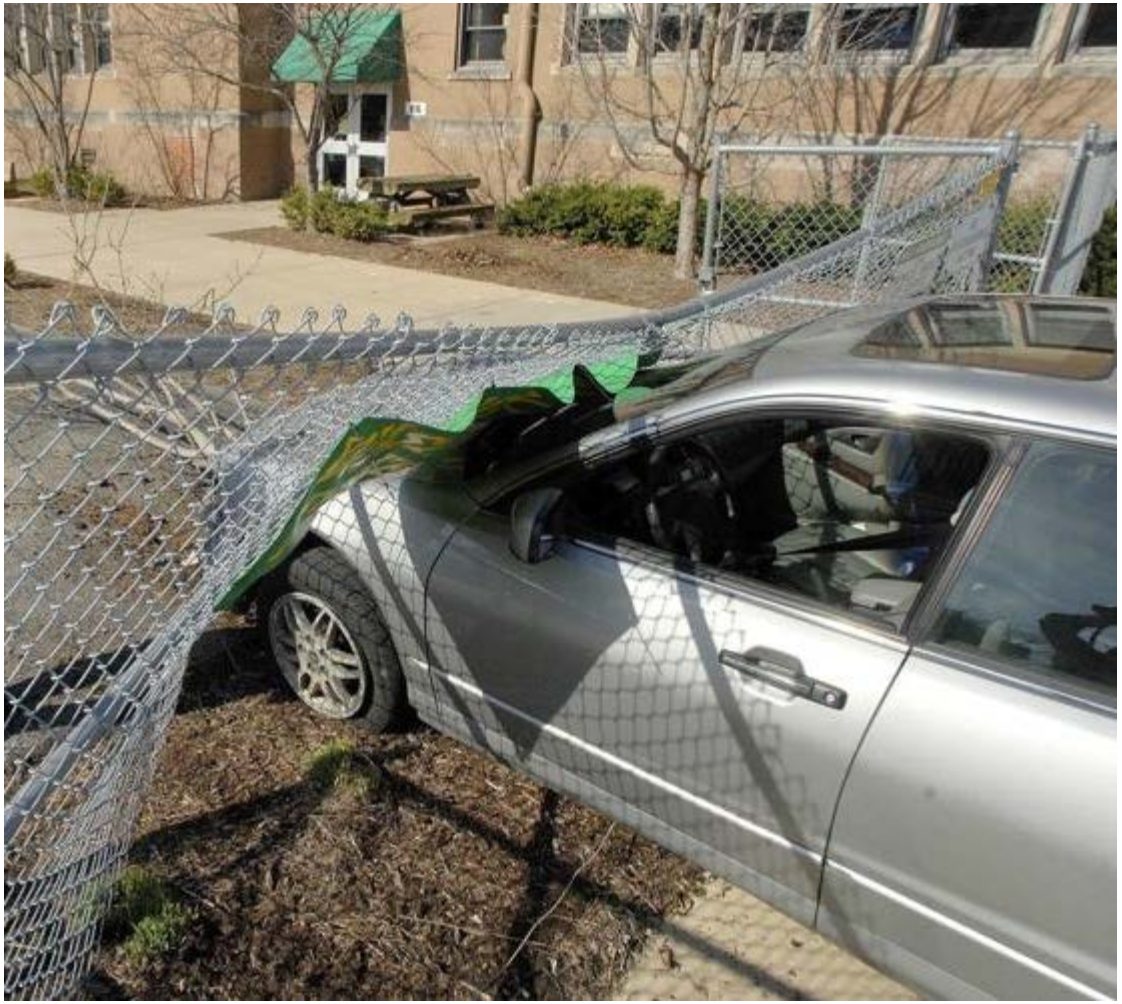
The required barrier is intended to prohibit vehicular traffic (or easy foot traffic) from entering the active portion of the landfill when the site is not in operation.

Inadequate Artificial or Natural Barrier

A violation can be cited if evidence of access (e.g., ATV or 4x4 tracks, etc.) to controlled portions of the landfill exists; there should be clear indications of non-controlled access before a violation is cited.

If a recent breach in a barrier occurs by unforeseen events (Inclement weather, vehicular accident) then an Area of Concern may be issued with an opportunity to repair the affected area. If nothing is corrected upon follow-up, a V1 violation may be cited.

Inadequate Artificial or Natural Barrier



Inadequate Information Signs

Citation Reference: 0400-11-01-.04(2)(b)2

General Facility Standards – Control of Access and Use - If open to the public, the facility must have clearly visible and legible signs at the points of public access which indicate the hours of operation, the types of waste materials that either will or will not be accepted, emergency telephone numbers, schedule of charges (if applicable), and any other necessary information.

Inadequate Information Signs

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Signage at landfills is usually described in the facility's permit. The regulatory requirement of this signage requires, at the very least, visible and legible signs at points of public access that describes:

- Hours of operation
- Types of waste materials that will or won't be accepted
- Emergency numbers
- Schedule of charges (if applicable)
- Any other necessary information

Also, as a reference, please refer to TCA 68-211-703(h) for more information on signage. However, it is possible that extreme weather events may occur (e.g., flooding or severe snow/ice storms) and consideration of such events should be given. The facility operator has the ability to adjust and modify daily operating hours in inclement weather conditions to ensure customer and employee safety at the facility. The point is to clearly convey information.

Inadequate Information Signs

Unsatisfactory Access Roads / Parking Areas

Citation Reference: 0400-11-01-.04(2)(b)3

General Facility Standards – *Control of Access and Use* - If the facility is open to the public, or if it is otherwise necessary for proper operation, roads within the facility, easements, and parking areas shall be designed, constructed, and maintained so as to be accessible in all weather conditions. Traffic control signs shall be provided as necessary to promote an orderly traffic pattern to and from the solid waste discharge area to maintain efficient operating conditions.

Unsatisfactory Access Roads / Parking Areas

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

If operating portions of the landfill are not accessible and/or are potentially dangerous to access due to poor road conditions, a V1 violation should be cited. An uncorrected V1 violation can trigger a significant V2 violation upon follow-up.

This regulatory language states that roads must be maintained to be accessible in all weather conditions. Weather can potentially impede regular operations; however, roads should be maintained to ensure operations are not drastically slowed or stopped.

If roads are impeded enough to stop operations or make travel unsafe, then public access should be suspended until conditions improve.

Unsatisfactory Access Roads / Parking Areas

Trained Personnel

Citation Reference: 0400-11-01-.04(2)(b)4

General Facility Standards *– Control of Access and Use –*

The facility must have trained personnel present and on duty at all times it is in operation to assure compliance with operational requirements and to prevent entry of unauthorized waste

Trained Personnel

This is a general performance standard and applies to Class I, II and III/IV Landfills found in Tennessee.

When operating, the facility must always have onsite on-duty trained personnel. Training is to be in operational requirements and to prevent entry of unauthorized wastes. Documentation of training must be onsite. This is an inspection record that must be reviewed. **Landfill Operator Certification Training (LOCT)** is not required for Class II, III/IV facilities.

If a certified SUIT trained personnel conducts “in-house” training, the documentation may be in the form of a signed and dated attendance sheet. Recertification of SUIT trainers will be annually.

Trained Personnel

Statewide Uniform Inspection Training (S.U.I.T.)

Date: _____

By signing below, I state that I have attended and completed the professional development program ***Statewide Uniform Inspection Training (S.U.I.T.)*** for Landfills or Permit-By-Rule Facilities.

Print Name	Sign Name	Training Type (LF or PBR)

Certified Personnel

Citation Reference: 0400-11-01-.04(2)(b)5

General Facility Standards – *Control of Access and Use* - Class I landfill facilities shall have a certified operator or attendant on site during the hours of operation that is trained and certified as provided at Rule 400-01-07-.12.

Certified Personnel

This is a general performance standard and applies to Class I Landfills found in Tennessee.

Operators of Class I landfills must have successfully completed a certification training course recognized by the Division. Typically, landfill operators take the division **Landfill Operators Certification Training (LOCT),** however, other certifications are recognized by the Division.

This rule requires a certified operator to be on duty and on site during the hours of operation when waste is being received or processed. Proper documentation must be available at the time of inspection for the certified operator(s) at the facility. If not provided, a V1 may be cited.

Unapproved Salvaging of Waste

Citation Reference: 0400-11-01-.04(2)(b)6

General Facility Standards – *Control of Access and Use* - There must be no scavenging at the facility. Any salvaging or recycling operations must be conducted at safe, designated areas (not the working face) and times, and in a sanitary manner.

Unapproved Salvaging of Waste

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

An important distinction for this violation is the difference between approved salvaging/recycling operations (conducted by landfill personnel) for the separation of reusable materials and scavenging from the public.

Scavenging is prohibited. Forms of scavenging are:

- Unapproved Salvaging/Recycling.
- Public removal of any wastes from the site.
- Removal of wastes by facility personnel for personal gain.

Evidence of Open Burning

Citation Reference: 0400-11-01-.04(2)(c)1.

General Facility Standards *- Fire Safety* –

1. Except as may be specifically authorized by the Department:

   (i) The operator must not permit or engage in open burning of solid wastes at the facility. Any open burning that does occur must be immediately extinguished.

   (ii) The operator must not allow solid wastes which are burning or smoldering to be deposited into the active portion of the facility. Any such wastes that are received must be deposited at a location safely removed from the active portion and extinguished before being deposited into the active portion.

Evidence of Open Burning

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

As the rule describes above, no deliberate burning of waste must occur at the active portion (working face) of the landfill. If burning is occurring at the working face, a V2 violation should be cited. Department position on the seriousness of deliberate burning at the working face is viewed has having significant risk to the public and environment will automatically result in a V2 violation. All other open burning will be cited as V1 or V2 at the inspector's discretion.

Each permitted facility should have a fire control plan inside the operation manual to deal with fires.

Inadequate Fire Suppression

Citation Reference: 0400-11-01-.04(2)(c)2

General Facility Standards *- Fire Safety* –

2. The facility must have, on-site and continuously available, properly maintained fire suppression equipment in sufficient quantities to control accidental surface fires that may occur, or arrangements must be made with the local fire protection agency to provide immediate fire-fighting services when needed. Additional earth moving equipment shall be brought to the facility as necessary to help suppress an underground fire.

Inadequate Fire Suppression

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

On-site and continuously available:

- Properly maintained fire suppression equipment
  - Fire Extinguishers, Plumbed Water, Foams
- Sufficient quantities to control accidental surface fires
  - >70% of total fire extinguishers passing inspection, appropriately sized sprinkler systems, dry chemicals that are within spec.

If fire suppressant equipment is not available a V2 may be issued. If a minimal a number of fire extinguishers are not operational a V1 may be issued. If a significant number of fire extinguishers are not operational then a V2 may be issued. If fire suppressant system is inconsistent with facility permit or waste interaction a V1 should be issued.

Inadequate Fire Suppression

Fire extinguishers are to undergo a full maintenance inspection by a certified fire extinguisher inspector annually. If a fire extinguisher has had the pin pulled or not inspected within 12 months, it would be considered non-operational.

Proper maintenance of a fire extinguisher is through monthly inspections. The date of the inspection should be written on the back of the annual maintenance tag attached to each extinguisher. A full manufacturer description of proper maintenance is on the following slide.

The Annual Certification Tag and monthly inspection tags should be reviewed during on-site inspection.

Inadequate Fire Suppression

AFTER USE

After any use or discharge, ensure your fire extinguisher is promptly replaced. Even only a momentary discharge will cause leakage and the extinguisher to later not operate.

After fire hazard has cooled and been properly removed, the prompt clean up of any extinguishing agent residue is recommended.

MONTHLY VISUAL INSPECTION

Fire extinguisher inspections should be performed upon initial placement into service and at regular periodic intervals not to exceed 31 days.

Visual inspection instructions:

1. Ensure the fire extinguisher is visible and access is unobstructed.
2. Ensure the fire extinguisher is properly mounted and secure.
3. Ensure the front nameplate operating instructions face outward and are legible. Relocate extinguisher or clean nameplate as required.

(Correct and resolve any discrepancies observed in steps 1, 2, and 3)

4. Ensure pull pin and/or original visual inspection tamper seal is installed and still intact. *(Replace extinguisher if broken or missing)*
5. Ensure pressure gauge needle reads within green operable area. *(Replace extinguisher if discrepancy observed)*
6. Ensure the discharge nozzle and/or hose assembly is unobstructed and securely attached. *(Wipe obstruction clear or replace extinguisher)*
7. Closely examine all external extinguisher components for any signs of damage, impact, wear, leakage or corrosion. *(Replace extinguisher if any type of discrepancy is observed)*
8. Heft or weigh fire extinguisher to ensure it is properly charged. Total charged extinguisher weight (gross weight) is indicated on the product label/nameplate. *(Replace extinguisher if used or weight is outside tolerance)*
9. Date and initial fire extinguisher inspection tag/record.

NOTE: Anytime an equipment related discrepancy described in steps 4 through 8 is observed during an inspection procedure, the fire extinguisher must be discarded and replaced.

NOTE: Annual maintenance requirements include verification of the fire extinguisher weight at least annually and that the year of manufacture stamped on the bottom of the cylinder is within the designated 12 year maximum shelf life.

ANNUAL MAINTENANCE

If you have purchased this fire extinguisher to comply with local fire code occupancy requirements, the local fire prevention authorities may require annual maintenance examinations that must be performed by properly trained and certified persons in accordance with the National Fire Protection Association (NFPA) and the manufacturer's recommendations. Contact your local fire department or Fire Marshal's office if you are unsure of these requirements.

SIX OR TWELVE-YEAR* LIMITED WARRANTY TERMS

For six (6) or twelve (12) years from date of purchase, Kidde will repair or replace this product to the original owner free of charge, if defective in material or workmanship. Date of purchase is determined by proof of original purchase or by date stamp on bottom of cylinder. This warranty does not apply to normal wear of parts and damage resulting from accident, alteration, abuse, or failure to follow instructions supplied. Kidde, at its option, may refund the purchase price in lieu of replacement or repair. ANY AND ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED TO A PERIOD OF SIX (6) OR TWELVE (12) YEARS FROM DATE OF PURCHASE. Kidde, its dealers and distributors shall not be responsible or in any way liable for any special or consequential damages for breach of any warranty or implied warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or jurisdiction.

*Twelve-year warranty applies only to these models: KD57W-5BC, KCD57W-5BC, MAR5, MAR5C, MAR10, MAR10C, MAR110, MAR110C, MAR210, MAR210C, MAR340 and MAR340C

Company Contact:

Kidde
1016 Corporate Park Drive
Mebane, NC 27302
www.Kidde.com
Product Support: 800-880-6788

Kidde

Inadequate Fire Suppression

MONTHLY VISUAL INSPECTION

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Visual inspection instructions:

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(Correct and resolve any discrepancies observed in steps 1, 2, and 3)

4. Ensure pull pin and/or original visual inspection tamper seal is installed and still intact. *(Replace extinguisher if broken or missing)*
5. Ensure pressure gauge needle reads within green operable area. *(Replace extinguisher if discrepancy observed)*
6. Ensure the discharge nozzle and/or hose assembly is unobstructed and securely attached. *(Wipe obstruction clear or replace extinguisher)*
7. Closely examine all external extinguisher components for any signs of damage, impact, wear, leakage or corrosion. *(Replace extinguisher if any type of discrepancy is observed)*
8. Heft or weigh fire extinguisher to ensure it is properly charged. Total charged extinguisher weight (gross weight) is indicated on the product label/nameplate. *(Replace extinguisher if used or weight is outside tolerance)*
9. Date and initial fire extinguisher inspection tag/record.

Inadequate Fire Suppression

Questions?

Unsatisfactory Litter Control

Citation Reference: 0400-11-01-.04(2)(d)

General Facility Standards - *Litter Control* - A facility must be operated and maintained in a manner to minimize litter. Fencing, diking and/or other practices shall be provided as necessary to confine solid wastes subject to dispersal. All litter must be collected for disposal in a timely manner.

Unsatisfactory Litter Control

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Class I landfills should be active in minimizing litter. The primary concern for this violation is whether litter is being collected and disposed of in a "timely manner" as stated by the rule.

Factors to take into consideration:

- Recent/Current Weather Events
- Active Litter Crews

If litter has been observed for a long period of time (e.g., as evidenced in comparable pictures), then a V1 violation should be issued.

Litter that is in trees that are onsite, not easily accessible and has not left the landfill property, will receive an AOC if proper litter control measures are in place and other litter issues are being dealt with in accordance with Regulations.

Unsatisfactory Litter Control

"Flagging" – reference to areas where waste is showing in various places in the cover dirt. "Flagging" should be limited to the immediate working face and in the initial cover area only.

"Flagging" is a result of cover soil that has waste intertwined in it. This typically occurs when daily cover is peeled back to begin the next days waste operations. "Flagging" should never be identified in intermediate cover or final cover. "Flagging" or excessive waste showing in intermediate cover requires a V1 violation.

Due to the nature of initial cover operations at a Class III/IV landfill, "flagging" should not be present in cover soils.

Exposed waste identified in any capacity other than the immediate working face initial cover at a Class I landfill should be identified as inadequate cover or litter depending on visual observations.

Unsatisfactory Litter Control

Inadequate Employee Facilities

Citation Reference: 0400-11-01-.04(2)(e)

Personnel Services - At Class I disposal facilities, and at Class II, Class III and Class IV disposal facilities as may be specified in the permits, there must be provided:

1. A building or other shelter which is accessible to facility personnel, and which has adequate screening, heating facilities, and lighting;

2. Safe drinking water; and

3. Sanitary hand-washing and toilet facilities.

Inadequate Employee Facilities

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Requirements:

- A building or shelter that is accessible by facility personnel that has:
  - Adequate Screening
  - Heating Facilities
  - Lighting
- Safe Drinking Water
  - Bottled water or similar is acceptable.
- Sanitary Hand Washing and Toilet Facilities
  - Portable toilets are acceptable.

If these conditions are not met, a V1 violation may be cited. If not corrected by a follow-up date or next inspection, a V2 violation may be cited.

No Communication Devices

Citation Reference: 0400-11-01-.04(2)(f)

General Facility Standards - *Communications* - The facility must have operating and effective communications devices (e.g., telephone, 2-way radio) capable of summoning emergency assistance on-site and available to facility personnel at all times the facility is in operation.

No Communication Devices

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Reasonable and effective communication (facility provided) equipment (e.g., radios, cellular phones, etc.) should be available to landfill personnel to summon emergency assistance.

Another need for communication devices are correspondence between the working face and scale house in the event a load must be inspected or rejected.

If those conditions are not met, a V1 violation should be cited. If not corrected by a follow-up date or next inspection, a significant V2 violation can be cited.

No Communication Devices

While not REQUIRED, here is some food for thought….

Landfill communications are paramount for safety in daily operations. While cellular phones are the most common method of communication, 2-way radios should be not be disregarded. In a moment of imminent threat of loss of life or bodily damage, a 2-way radio is more effective by conveying an "ALL STOP" as opposed to attempting to quickly call an equipment operator.

Another common issue with the use of cellular phones are the use and ownership. If a site uses cellular phones for landfill operations, those devices should be provided by the facility. If a facility requires their personnel to use personal devices, that should be stated in the job descriptions for employment. If some form of legal issue were to arise and cellular phones become of evidentiary value, then those phones and ***ALL*** of the content on them becomes discoverable.

Inadequate Operating/Backup Equipment

Citation Reference: 0400-11-01-.04(2)(g)

General Facility Standards - *Operating Equipment* - At Class I disposal facilities, and at Class II, Class III and Class IV disposal facilities unless the Commissioner deems some other arrangement as adequate for proper facility operation, there must be maintained on-site operating equipment capable of spreading and properly compacting the volume of solid wastes received, and capable of handling the earthwork required. Back-up equipment must be available within 24 hours of primary equipment breakdown.

Inadequate Operating/Backup Equipment

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Requirements:

- There must be maintained on-site operating equipment capable of spreading and properly compacting the volume of solid wastes received, and capable of handling the earthwork required
- Back-up equipment must be available within 24 hours of primary equipment breakdown

If equipment failure or unavailability of necessary equipment impedes the normal operation and/or daily cover requirements, then a V1 should be given. If this failure is causing other compliance issues, those violations should be noted as well.

Backup Equipment must be available within 24 hours of the primary equipment breakdown. Secondary off-site equipment or a contract service is allowable if stated in the Permit Notification.

Inadequate Operating/Backup Equipment

Inadequate Operating/Backup Equipment

Unavailability of Cover Material

Citation Reference: 0400-11-01-.04(2)(h)

General Facility Standards - *Availability of Cover Material* - Cover material sufficient to meet the initial and intermediate cover requirements of this rule must be available at the facility. If such material must be hauled in from off-site, at least a 30-day supply shall be maintained on-site at all times.

Unavailability of Cover Material

This is a general performance standard and applies to Class I Landfills found in Tennessee.

Cover should be available on-site to meet initial and intermediate requirements. Only Class I landfills are required to maintain an intermediate cover.

The amount available for use at the site (soil borrow/storage areas) is usually identified in the permit notification. If such material must be hauled in from off-site, at least a 30-day supply shall be maintained on-site at all times.

If the facility has approval from the Division, a contract and survey with a supplier who can adequately provide soil daily to not impede daily operations is acceptable.

Alternative daily cover (ADC) does count in the 30-day supply requirement.

Inadequate Maintenance of Run-On/Run-Off

Citation Reference: 0400-11-01-.04(2)(i)1-5

General Facility Standards - *Run-on, Run-off, and Erosion Control -*

1. The operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the facility for all flow up to and including peak discharge from a 24-hour, 25-year storm.

2. The operator must design, construct, operate, and maintain a run-off management system to collect and control at least the peak flow volume resulting from a 24-hour, 25-year storm.

3. Holding facilities (e.g., sediment basins) associated with run-on and run-off control systems must be designed to detain at least the water volume resulting from a 24-hour, 25-year storm and to divert through emergency spillways at least the peak flow resulting from a 24-hour, 100-year storm.

4. Collection and holding facilities associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system**.**

5. Run-on and run-off must be managed separately from leachate unless otherwise approved by the Commissioner.

Inadequate Maintenance of Run-On/Run-Off

Citation Reference: 0400-11-01-.04(8)(c)4(i)

Closure and Post-Closure Standards - *Closure Requirements*

The final surface of the disposal facility or disposal facility parcel shall be graded and/or provided with drainage facilities in a manner that minimizes precipitation run-on from adjacent areas onto the disposal facility or disposal facility parcel.

The final surface of the disposal facility or disposal facility parcel shall be graded and/or provided with drainage facilities in a manner that provides a surface drainage system which is consistent with the surrounding area and in no way significantly adversely affects proper drainage from these adjacent lands.

Inadequate Maintenance of Run-On/Run-Off

This is a general performance standard and applies to Class I, II, III/IV and Post-Closure Landfills found in Tennessee.

Requirements, in pertinent part:

1. ...maintain a run-on control system capable of preventing flow onto the active portion of the facility
2. ...maintain a run-off management system to collect and control
4. Collection and holding facilities associated with run-on and run-off control systems must be emptied or otherwise managed
5. Run-on and run-off must be managed separately from leachate

...shall be graded and/or provided with drainage facilities in a manner that minimizes precipitation run-on...

Inadequate Maintenance of Run-On/Run-Off

These Regulations require that Run-On and Run-Off Systems are Maintained appropriately.

Ditches, Lagoons, Sediment Ponds, and Engineered Structures (weirs, check dams, silt fencing, etc.) should all be maintained in a manner that does not allow them to fail in a storm event.

Run-On/Run-Off Systems must also manage water separately from leachate collection systems.

Inadequate Maintenance of Run-On/Run-Off

What to know about water:

1. Water likes to travel in a straight line.
2. Water likes to travel downhill.
3. Water likes to move as fast as possible.
4. Water wants to go where it wants to go.

Design elements of water control need to be understood and applied correctly. There will always be areas in the system that must be maintained more frequently and there will always be areas that were designed or maintained inadequately. These are the areas that must be focused on.

Inadequate Maintenance of Run-On/Run-Off

Inadequate Erosion Control

Citation Reference: 0400-11-01-.04(2)(i)6

General Facility Standards - *Run-on, Run-off, and Erosion Control* - The operator must take other erosion control measures (e.g., temporary mulching or seeding, silt barriers) as necessary to control erosion of the site.

Citation Reference: 0400-11-01-.04(8)(c)4(ii)

General Facility Standards - *Closure and Post-Closure Standards* - Closure Requirements - The final surface of the disposal facility or disposal facility parcel shall be graded and/or provided with drainage facilities in a manner that minimizes erosion of cover material (e.g., no steep slopes).

Citation Reference: 0400-11-01-.04(8)(c)5

General Facility Standards - *Closure and Post-Closure Standards* - Closure Requirements - In order to minimize soil erosion, as soon as practicable after final grading, the operator shall take steps as necessary to establish a protective vegetative cover of acceptable grasses over disturbed areas of the site. These steps shall include seeding, mulching, and any necessary fertilization at a minimum, and may include additional activities such as sodding of steeper slopes and drainage ways if such are necessary.

Inadequate Erosion Control

This is a general performance standard and applies to Class I, II, III/IV and Post-Closure Landfills found in Tennessee.

The facility must take permit-specified action for minimizing erosion. Erosion on side slopes should be evaluated. Minor erosion rills occurring on recently completed slopes where grass has yet to be established may not be a violation as long as Best Management Practices (BMPs) are being utilized to minimize and correct the erosion. When BMPs are not being consistently implemented and there are obvious signs of erosion (such as hard channelizing or uncovering of waste) or rills with a depth of 50% of the Regulatory required soil depth, a V1 violation should be issued. Observations of erosion caused by recent storms should also be taken into account when conducting an inspection.

If a discharge causing an objectionable contrast to receiving waters or visible loss of sediment from a site is observed, the Division of Water Resources (DWR) should also be notified (as described in MOA policy information, PN084)

Inadequate Erosion Control

Inadequate Dust Control

Citation Reference: 0400-11-01-.04(2)(j)

General Facility Standards - *Dust Control* - The operator must take dust control measures as necessary to prevent dust from creating a nuisance or safety hazard to adjacent landowners or to persons engaged in supervising, operating, and using the site. The use of any dust suppressants (other than water) must be approved in writing beforehand by the Department.

Inadequate Dust Control

This is a general performance standard and applies to Class I, II, III/IV and Post-Closure Landfills found in Tennessee.

Facilities should be taking measures to control dust in some way. The facility should be able to show effort in adhering to their specific permit conditions regarding dust control. In order to cite a violation, dust must be causing a safety hazard to the public, personnel on site, or adjacent property owners.

If the source of the dust is from a special waste, the facility must adhere to the special handling conditions written in the special waste permit. If those special handling conditions are not met, this violation may be paired with a violation for mishandling of special waste and a V2 may be warranted. If there is an excessive dust issue from the special waste, then the approval may also need to be revisited.

Questions?

Waste Restrictions

Citation Reference: 0400-11-01-.04(2)(k)1

General Facility Standards - *Waste Restrictions* - A facility may receive for disposal only those solid wastes it is allowed to manage under the terms of its permit.

- Liquid Wastes
- Discarded Tires
- Medical Wastes
- Dead Animals
- Municipal Solid Wase Combustion Ash

Waste Restrictions – Liquid Wastes

Citation Reference: 0400-11-01-.04(2)(k)2.

2. Liquid wastes.

(i) Bulk or non-containerized liquid waste may not be placed in disposal facilities/units unless:

(I) The waste is domestic waste; or

(II) The waste is leachate or gas condensate derived from the disposal facilities/units which are designed with a liner and leachate collection system.

(ii) Containers holding liquid waste may not be placed in disposal facilities/units unless:

(I) The container is a small container similar in size to that normally found in domestic waste;

(II) The container is designed to hold liquids for use other than storage; or

(III) The waste is domestic waste.

Waste Restrictions – Liquid Wastes

- No liquids unless:
  - Domestic Waste
  - Leachate or Gas Condensate (Bulk or Non-Containerized)
  - Small in Size (Containerized, Drink bottles, Detergents etc.)
  - Designed to hold liquid (Containerized, Dielectrics, oils)

- "Domestic wastes" means any solid waste (including garbage, trash) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Waste Restrictions – Discarded Tires

Citation Reference: 0400-11-01-.04(2)(k)3.

3. Discarded Tires

(i) No landfill shall accept for disposal any whole tires. Tires received at Class I, Class II, Class III and Class IV disposal facilities shall be managed as follows:

(I) Tires may be disposed of in the same manner as other waste after they have been shredded, chipped, chopped, sliced, or have been otherwise processed and are rendered not whole to effectively prevent floating.

(II) Whole tires or shredded, chipped, chopped or circumferentially sliced tires may be stored on site provided that the tire storage areas conform with the following standards:

Waste Restrictions – Discarded Tires

I. The storage area shall be surrounded by an 18-inch-high earthen berm to manage run-on and run-off and be sufficient to contain water in the event of a fire, and to provide that:

   A. All surface run-off is directed around the site;

   B. All rain water collected within the berm must be directed to an appropriate release point; and

   C. All fire control water can be contained until release is approved.

II. Tire piles shall be restricted to the following dimensions - 200 feet long, 50 feet wide, and 15 feet high. Whole tires shall be covered by a material sufficient to shield the tires from precipitation or an effective insect vector and rodent control program shall be established.

Waste Restrictions – Discarded Tires

III. A buffer zone of at least 50 feet wide shall separate tire piles from each other and from active disposal areas.

IV. In order to reduce the risk of fires;

- A. The storage areas and the buffer zone shall be kept free of brush and high grass;
- B. No flammable liquids may be stored nor may equipment with an open flame be utilized in or within 50 feet of the storage area;
- C. Communication equipment, capable of immediately notifying the responding fire department, shall be maintained; and
- D. A letter assuring response from the responding fire district must be filed with the Division and the telephone number of the responding fire district must be posted at the facility. If service is not available specific fire control measures must be specified by letter to the Division.

Waste Restrictions – Discarded Tires

V. The storage area may not be located:

A. On an active disposal area;

B. On a closed disposal area, unless no remaining area is available and remedial closure is specified in writing to the Division;

C. On an area to be utilized for disposal within one year;

D. In the 100 year floodplain, unless the demonstration is made to the Commissioner as required at subparagraph (n) of this paragraph; and

E. In wetlands, unless the demonstration is made to the Commissioner as required at subparagraph (p) of this paragraph.

Waste Restrictions – Discarded Tires

VI. Tires or shredded tires may not be stored for more than one (1) year without the written approval of the Division. The operator shall maintain records sufficient to establish the date each tire pile within a storage area was begun.

Waste Restrictions – Discarded Tires

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

To Summarize:

1. Landfills CANNOT take whole tires. They must be rendered non-whole in some way to prevent floating.
2. Tires at landfills can be stored in a designed area, that follows guidelines set forth in the Rule.

Waste Restrictions – Discarded Tires

Waste Restrictions – Medical Waste

Citation Reference: 0400-11-01-.04(2)(k)4(i-iv)

Waste Restrictions - Medical waste. –

i. Sharps must be securely packaged in puncture-proof containers prior to landfilling.

ii. Cultures and stocks of infectious agents and associated biologicals must not be landfilled unless and until they have been treated (e.g., autoclaved, incinerated) to render them non-infectious.

Waste Restrictions – Medical Waste

iii. Human blood, blood products, and other body fluids may not be landfilled. This restriction applies to bulk liquids or wastes containing substantive amounts of free liquids but does not apply to simply blood contaminated materials such as emptied blood bags, bandages, or "dirty" linens.

iv. Recognizable human organs and body parts may not be landfilled.

Waste Restrictions – Medical Waste

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

This restriction requires that:

1. Sharps be in a puncture proof container.
2. Only autoclaved wastes from cultures and stocks (lab wastes) may be landfilled.
3. Blood, blood products, bodily fluids may not be landfilled. EXCEPTION: blood contaminated materials.
4. Human body parts and organs.

These restrictions only apply to **commercial entities**. Residential wastes are excluded from this. Be aware of Home Medical Care providers.

Waste Restrictions – Dead Animals

Citation Reference: 0400-11-01-.04(2)(k)5(ii) (I-III)

(ii) Be disposed of in Class I disposal facilities only if managed as follows:

(I) Dead animals must be covered upon receipt with a minimum of two feet of cover and placed in an area which will receive additional waste and cover within 48 hours; or covered with three feet of compacted cover soil if placed in an area which will not receive additional waste and cover within 48 hours.

(II) Dead animals must not be disposed of in an area of a landfill which will not accommodate a minimum of five feet of depth from the finished landfill surface elevation when final cover has been put in place.

(III) Dead animals must be distributed for disposal over the landfill area in such a manner as to minimize the occurrences of future sinks and depressions in the final landfill cover caused by carcass decay.

Waste Restrictions – Dead Animals

This is a general performance standard and applies to Class I Landfills found in Tennessee. It is prohibited in any other Class landfill.

Requirements:

1a. Placed immediately with 2ft of cover soil, and additional waste and cover within 48 hours.

1b. Placed immediately with 3ft of compacted cover soil if no additional waste and cover within 48 hours.

2. Must not be within 5ft. of final grade.

3. Must be distributed over the landfill to avoid decay sinks.

Waste Restrictions – Dead Animals

Waste Restrictions – Dead Animals

Waste Restrictions – Combustion Ash

Citation Reference: 0400-11-01-.04(2)(k)6

Waste Restrictions - Ash generated from municipal solid waste combustion (MSWC), may only be disposed of in a unit meeting all applicable standards for a Class II disposal facility, including a liner system and a leachate collection system. Such a unit may be located at a Class I facility.

Waste Restrictions – Combustion Ash

This is a general performance standard and applies to Class II Landfills found in Tennessee. It may be also found at a Class I landfill and is prohibited in a Class III/IV landfill.

Combustion ash waste is to be only disposed of at a Class II Landfill. Typically, not open to the public, on-site of the combustion facility, privately owned, mono-fill that contains only this waste stream. Most common sites such as this are Coal Combustion Residuals Landfills (CCR's).

It is possible, but infrequent, to have a permitted cell that contains this waste at a Class I landfill.

Waste Restrictions – Combustion Ash

Unapproved Special Waste Accepted

Citation Reference: 0400-11-01-.01(4)(b)

General Requirement - Except as may be specifically allowed in the permit, an operator may not accept for processing or disposal at his facility any special waste unless and until specifically approved to do so in writing by the Department. Facilities shall not process or dispose of special waste for which approval by the Department has expired. Special waste generators shall not send off-site to processing or disposal facilities special waste for which approval by the Department has expired, unless the facility has specific authority in the permit to accept such waste.

Citation Reference: 0400-11-01-.01(4)(c)5

Procedures - Landfills and/or waste processing facilities shall not accept a special waste at their facilities without the written, special waste approval from the Department unless the waste is specifically authorized in the facility permit.

Unapproved Special Waste Accepted

Citation Reference: 0400-11-01-.01(4)(d)1.

Special Waste Approval Process - Conditional Approval - In his approval, the Commissioner shall specify those management conditions which he deems necessary to prevent or minimize potential adverse impacts to public health, and the environment in order to promote safe and efficient facility operation. Failure to meet the required management conditions is unlawful disposal under the Act.

Unapproved Special Waste Accepted

Class I, III/IV facilities are issued special waste approvals for individual waste streams that, by regulatory definition, are: either difficult or dangerous to manage. Some examples of these wastes may include; sludges, bulky wastes, pesticide wastes, medical wastes, industrial wastes, hazardous wastes which are not subject to hazardous waste regulations, liquid wastes, friable asbestos wastes, and combustion wastes (see Special Waste Evaluation Policy SWP-P-141). Inspectors should be familiar with their site's approved special wastes. If a waste is in question at time of inspection, the inspector may confirm the approval of that special waste stream. The facility is required to have all approved special waste letters onsite. If such a waste is observed at the disposal area and there is no approval, a V2 violation may be cited.

Unauthorized Waste Accepted – Class I

Citation Reference: 0400-11-01-.04(2)(k)1.

Waste Restrictions - A facility may receive for disposal only those solid wastes it is allowed to manage under the terms of its permit.

Citation Reference: 0400-11-01-.04(2)(k)6.

Waste Restrictions - Ash generated from municipal solid waste combustion (MSWC), may only be disposed of in a unit meeting all applicable standards for a Class II disposal facility, including a liner system and a leachate collection system. Such a unit may be located at a Class I facility.

Unauthorized Waste Accepted – Class I

Class I wastes are specified in individual permits. If a facility is accepting wastes that have not been approved in the facility permit (e.g., liquid wastes, whole tires, improperly controlled medical waste, radioactive wastes), then a violation may be cited. **Refer to permit and special waste approvals. If approved in individual permit, ash from MSWC can be accepted.** Refer to individual permit for any questionable waste acceptance practices.

Unauthorized Waste Accepted – Class II

Citation Reference: 0400-11-01-.04(2)(k)1.

Waste Restrictions - A facility may receive for disposal only those solid wastes it is allowed to manage under the terms of its permit.

Citation Reference: 0400-11-01-.01(3)(c) and (d)

Class II Disposal Facility refers to a landfill which receives waste which is generated by one or more industrial or manufacturing plants and is used or to be used for the disposal of solid waste generated by such plants, which may include industrial wastes, commercial wastes, institutional wastes, farming wastes, bulky wastes, landscaping and land clearing wastes, construction/demolition wastes, and shredded automotive tires. Additionally, a Class II disposal facility may also serve as a monofill for ash disposal from the incineration of municipal solid waste.

Unauthorized Waste Accepted – Class II

…landfill which receives waste which is **generated by** one or more industrial or manufacturing plants and is used or to be used for the disposal of solid waste generated **by such plants.**

Permitted Class II wastes are specified in individual permits. If a facility is accepting wastes that have not been approved in the facility permit (e.g., liquid wastes, whole tires, properly controlled medical waste, radioactive wastes), then a violation may be cited. **Refer to individual permit for any questionable waste acceptance practices.**

Unauthorized Waste Accepted – Class III/IV

Citation Reference: 0400-11-01-.04(2)(k)1.

Waste Restrictions - A facility may receive for disposal only those solid wastes it is allowed to manage under the terms of its permit.

Citation Reference: 0400-11-01-.01(3)(c) and (d)

Class III Disposal Facility refers to a landfill which is used or to be used for the disposal of farming wastes, landscaping and land clearing wastes, demolition/construction waste, shredded automotive tires, and/or certain wastes having similar characteristics and approved in writing by the Department.

Class IV Disposal Facility refers to a landfill which is used or to be used for the disposal of demolition/construction wastes, shredded automotive tires, and certain wastes having similar characteristics and approved in writing by the Department.

Unauthorized Waste Accepted – Class III/IV

Permitted Class III/IV wastes are specified in individual permits. If a facility is accepting wastes that have not been approved in the facility permit (e.g., liquid wastes, whole tires, properly controlled medical waste, radioactive wastes), then a violation may be cited. **Refer to permit and special waste approvals. Refer to individual permit for any questionable waste acceptance practices.** Dead animals should be a V2 violation.

Permanent Benchmark

Citation Reference: 0400-11-01-.04(2)(o)

Permanent Benchmark - There must be installed on-site a permanent benchmark (e.g., a concrete marker) of known elevation.

Permanent Benchmark

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

A readily identifiable, fixed point that is capable of maintaining its elevation without a change over a long period of time must be maintained on site. This is a reference point for all surveying at the site and is required by Rule.

Inadequate Random Inspection Program

Citation Reference: 0400-11-01-.04(2)(s)

General Facility Standard *- Random Inspection Program* - The owner or operator of a permitted landfill must implement a program at the facility for detecting and preventing the disposal of regulated hazardous waste, unauthorized special waste, PCB's(>50 ppm), whole tires, lead-acid batteries, and liquid wastes. This program must include at a minimum:

1. Random inspection of five percent of the daily incoming loads.
2. Inspection of all suspicious loads.
3. Records of all inspections must be maintained in a bound notebook, and include the inspection date, vehicle identification, driver signature, identification of any unauthorize waste, disposition of any unauthorized waste, and facility inspector signature.
4. Training of facility personnel to recognize regulated hazardous waste.
5. Procedures for notifying the appropriate Division field office if an unauthorized waste is identified and left at the facility.

Inadequate Random Inspection Program

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

A random inspection program must contain all of the elements of the Rule. The program must be a random selection of 5% of incoming daily loads. “Cherry Picking” certain loads is not considered random in nature and deters from the purpose of the program. Suspicious loads must also be inspected. Facility personnel must be trained to recognize hazardous wastes. Documentation of the inspections must be maintained on-site. A procedure for rejected loads must also be in place.

Inadequate Random Inspection Program

LANDFILL INCOMING WASTE
RANDOM INSPECTION CHECKLIST

Use checklist for all suspicious loads and for 5% of all incoming loads of solid waste brought into the facility for disposal. Random inspections and records are required by the Rules promulgated under the Solid Waste Management Act at Rule 0400-11-01-.04(2)(s)

Date _____ Time _____

Customer _____ Vehicle License Plate # _____

_____

Type Waste:

☐ Municipal / County ☐ Commercial ☐ Industrial ☐ Construction / Demo

Are there any unauthorized wastes?

☐ automobile batteries
☐ whole tires
☐ bulk liquid
☐ pcb's
☐ unauthorized special waste
☐ unauthorized hazardous waste (corrosive, ignitable, reactive, TCLP Toxic or listed hazardous waste)
☐ Other _____

Waste accepted?

☐ yes ☐ no

Comments: _____

_____

_____

Inspector's Name (Print) **Driver's Name (Print)**

Inspector's Signature / Date

Driver's Signature / Date

Notification of unauthorized waste:

☐ TN Division of Solid Waste Management — Name / Date _____

☐ Waste Hauler — Name / Date _____

☐ Waste Generator — Name / Date _____

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Inadequate Random Inspection Program

Multiple Class Landfills on one site must adhere to the program per each permitted landfill.

Example: A site has a permitted Class I Landfill and a Class III/IV both on property. All incoming loads are managed on a single set of scales. 5% of the daily loads must undergo random inspection for each landfill, not the total day for both landfills.

In one day, site A takes in 300 loads, with the mix being 177 Class I and 123 Class III/IV.

Inadequate Random Inspection Program – Example

1	16	31	46	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271	286
2	17	32	47	62	77	92	107	122	137	152	167	182	197	212	227	242	257	272	287
3	18	33	48	63	78	93	108	123	138	153	168	183	198	213	228	243	258	273	288
4	19	34	49	64	79	94	109	124	139	154	169	184	199	214	229	244	259	274	289
5	20	35	50	65	80	95	110	125	140	155	170	185	200	215	230	245	260	275	290
6	21	36	51	66	81	96	111	126	141	156	171	186	201	216	231	246	261	276	291
7	22	37	52	67	82	97	112	127	142	157	172	187	202	217	232	247	262	277	292
8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	248	263	278	293
9	24	39	54	69	84	99	114	129	144	159	174	189	204	219	234	249	264	279	294
10	25	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295
11	26	41	56	71	86	101	116	131	146	161	176	191	206	221	236	251	266	281	296
12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300

177 Class I		5% = 8.85~9	
123 Demo		5% = 6.15 ~ 7	

Inadequate Random Inspection Program – Example

1	16	31	46	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271	286
2	17	32	47	62	77	92	107	122	137	152	167	182	197	212	227	242	257	272	287
3	18	33	48	63	78	93	108	123	138	153	168	183	198	213	228	243	258	273	288
4	19	34	49	64	79	94	109	124	139	154	169	184	199	214	229	244	259	274	289
5	20	35	50	65	80	95	110	125	140	155	170	185	200	215	230	245	260	275	290
6	21	36	51	66	81	96	111	126	141	156	171	186	201	216	231	246	261	276	291
7	22	37	52	67	82	97	112	127	142	157	172	187	202	217	232	247	262	277	292
8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	248	263	278	293
9	24	39	54	69	84	99	114	129	144	159	174	189	204	219	234	249	264	279	294
10	25	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295
11	26	41	56	71	86	101	116	131	146	161	176	191	206	221	236	251	266	281	296
12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300

177 Class I		5% = 8.85~9	**5 Done**
123 Demo		5% = 6.15 ~ 7	**10 Done**

Random Inspection Program

Rule 0400-11-01-.04(2)(s) requires training:

Random Inspection Program - The owner or operator of a permitted landfill must implement a program at the facility for detecting and preventing the disposal of regulated hazardous waste, unauthorized special waste, PCB's (>50 ppm), whole tires, lead-acid batteries, and liquid wastes. This program must include at a minimum:

…… …… …… …… …… …… …… …… …… …… …… ……

4. **Training of facility personnel to recognize regulated hazardous waste.**

Random Inspections – Recognize Hazardous Waste

Two basic categories of hazardous waste

- **Listed hazardous waste**
  - **Based on specific industry**
  - **Based on a specific process**

- **Characteristic hazardous waste**
  - **Based on specific, measureable "characteristics"**

It can be difficult to recognize hazardous waste, even for experienced operators. Occasionally generators may not have an accurate waste determination. There are some indicators or specific waste streams which warrant some extra attention.

Random Inspections – Recognize Hazardous Waste

Common Indicators and Placards

Random Inspections – Recognize Hazardous Waste

Often difficult or impossible to tell by visual inspection. There are some indicators or specific waste streams which warrant some extra attention and have a higher potential to be hazardous waste.

- **Special waste**
  - Special waste require a specific approval from the DSWM
- **Drummed waste**
  - Be cautious of liquids (Free liquids are not allowed in Subtitle D Landfills)
  - Many solid wastes are drummed and are excluded hazardous waste
- **Sludges**
  - Listed hazardous waste sludges from certain processes comprise a significant volume of hazardous waste.
  - Sludge disposal typically requires a special waste approval
- **Compressed gas cylinders**

Random Inspections - Best Practices

There is no substitute for good communication and awareness of incoming waste loads. The profile of a routinely generated waste should not vary significantly

Awareness and Communication

- Familiarity with routinely generated and approved "special waste" streams
- Note any drummed waste and maintain awareness of contents
- Verify any sludges have special waste approval and take necessary actions

Excluded Hazardous Waste

There are many exclusions and other items that meet the definition of hazardous waste but are accepted at class 1 landfills.

Most notable are hazardous wastes generated by households.

These wastes are typically collected by city or county government operated garbage trucks or privately owned haulers who contract with individual households for collection. The hazardous wastes are mixed in with commonly generated solid waste.

Universal Waste

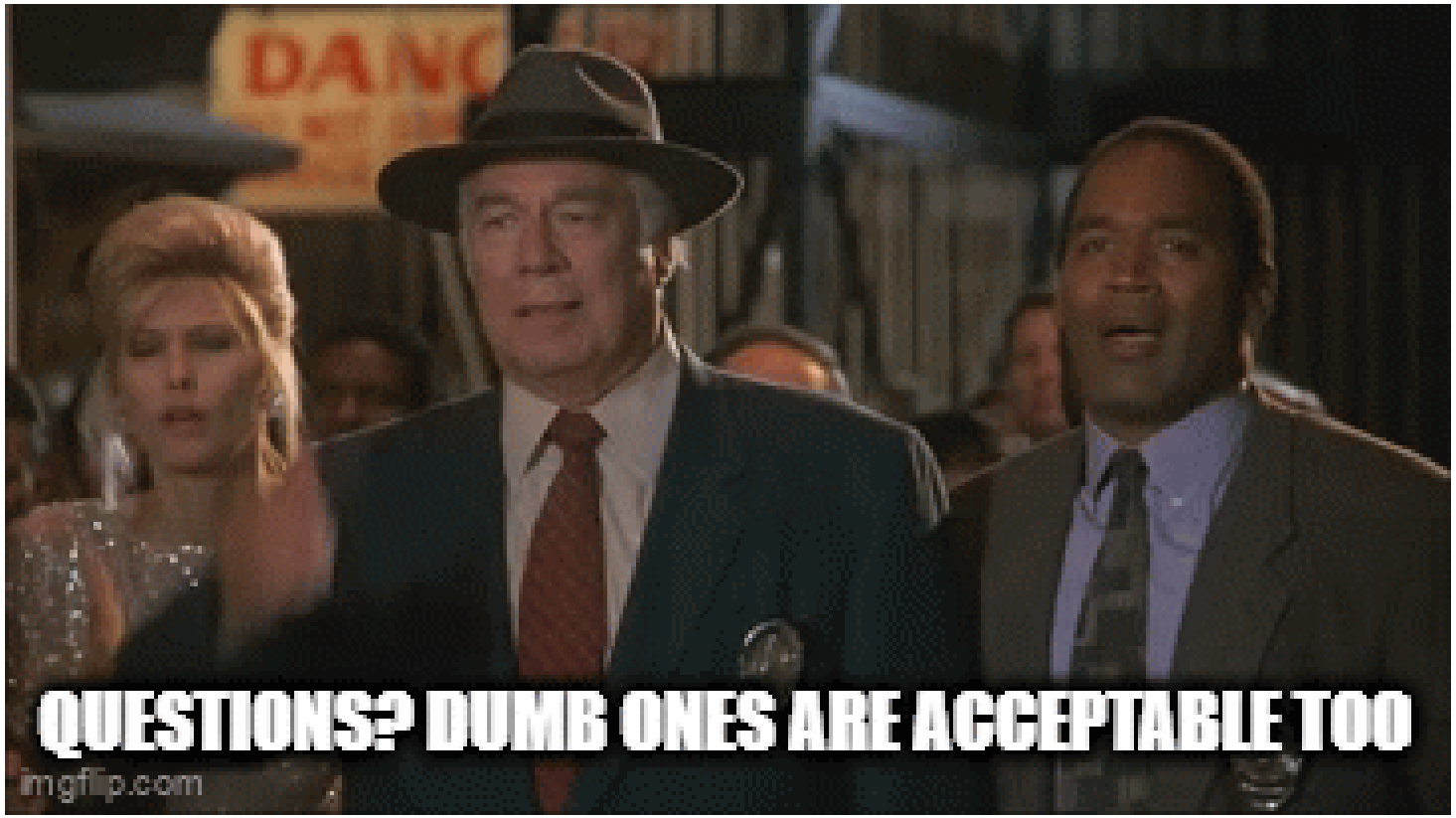
Universal waste are hazardous wastes when disposed of in a class 1 landfill. Universal wastes are required to be recycled and may not be disposed of in a landfill.

Universal waste include the following:

- Lamps
- Mercury containing products (thermometers/switches)
- Batteries
- Aerosol Cans
- Pesticides

Universal waste generated by households are not hazardous waste and may be disposed of in a class 1 landfill

Questions?



Buffer Zone Violated

Citation Reference: 0400-11-01-.04(3)(a)

Buffer Zone Standards for Siting Landfills - Class I Disposal Facilities must be located, designed, constructed, operated, and maintained such that the fill areas are, at a minimum:

1. 100 feet from all property lines;
2. 500 feet from all residences, unless the owner of the residential property agrees in writing to a shorter distance;
3. 500 feet from all wells determined to be downgradient and used as a source of drinking water by humans or livestock; and
4. 200 feet from the normal boundaries of springs, streams, lakes, (except that this standard shall not apply to any wet weather conveyance nor to bodies of water constructed and designed to be a part of the facility),
5. A total site buffer with no constructed appurtenances within 50 feet of the property line.

Buffer Zone Violated

Inadequate Leachate System Design, Management, Maintenance

Citation Reference: 0400-11-01-.04(4)(a)7

Class I Disposal Facilities - The leachate collection and removal system must, at a minimum, meet the following requirements:

(i) The leachate collection and removal system must be designed, constructed, operated, and maintained such that the leachate depth over the liner does not exceed one foot as calculated referencing the infiltration volume of the 25-year 24-hour storm through the intermediate cover.

(ii) Leachate interception surfaces and associated piping must be designed, constructed, operated, and maintained to function without clogging throughout the scheduled post-closure care period;

(iii) Leachate collection reservoirs must:

(I) Be constructed (e.g., lined) such that collected leachate is contained;

(II) Have sufficient capacity to store the volume of leachate expected to be generated in 30 days, or other adequate provisions approved by the Commissioner; and

(III) Have a reliable and convenient means of detecting the level of collected leachate in the reservoir and of sampling such leachate.

Inadequate Leachate System Design, Management, Maintenance

This is a general performance standard and applies to Class I Landfills found in Tennessee.

This violation is focused on maintenance and will typically accompany another violation involving leachate since maintenance of leachate equipment is often the likely cause of leachate problems. Equipment (e.g., leachate pumps, pipes, tanks, sump monitors, etc.) should be checked regularly. Maintenance requirements may be spelled out in the individual permit. If questions arise, the DSWM engineer can be consulted.

Inadequate Management of Leachate Management System (Inspector to check and record leachate levels at every landfill cell sump.)

- Owner must demonstrate compliance. In order to accomplish this, facility should have the means to detect liquid level, and a way to read the liquid levels detected.

Inadequate Leachate System Design, Management, Maintenance

- If no level indication exists, it is owner's responsibility to demonstrate that there is <=12-inches of head above the cell liner. If this cannot be done, it will result in a V1 violation; If this situation is not resolved by the next inspection, it will result in a V2 violation.

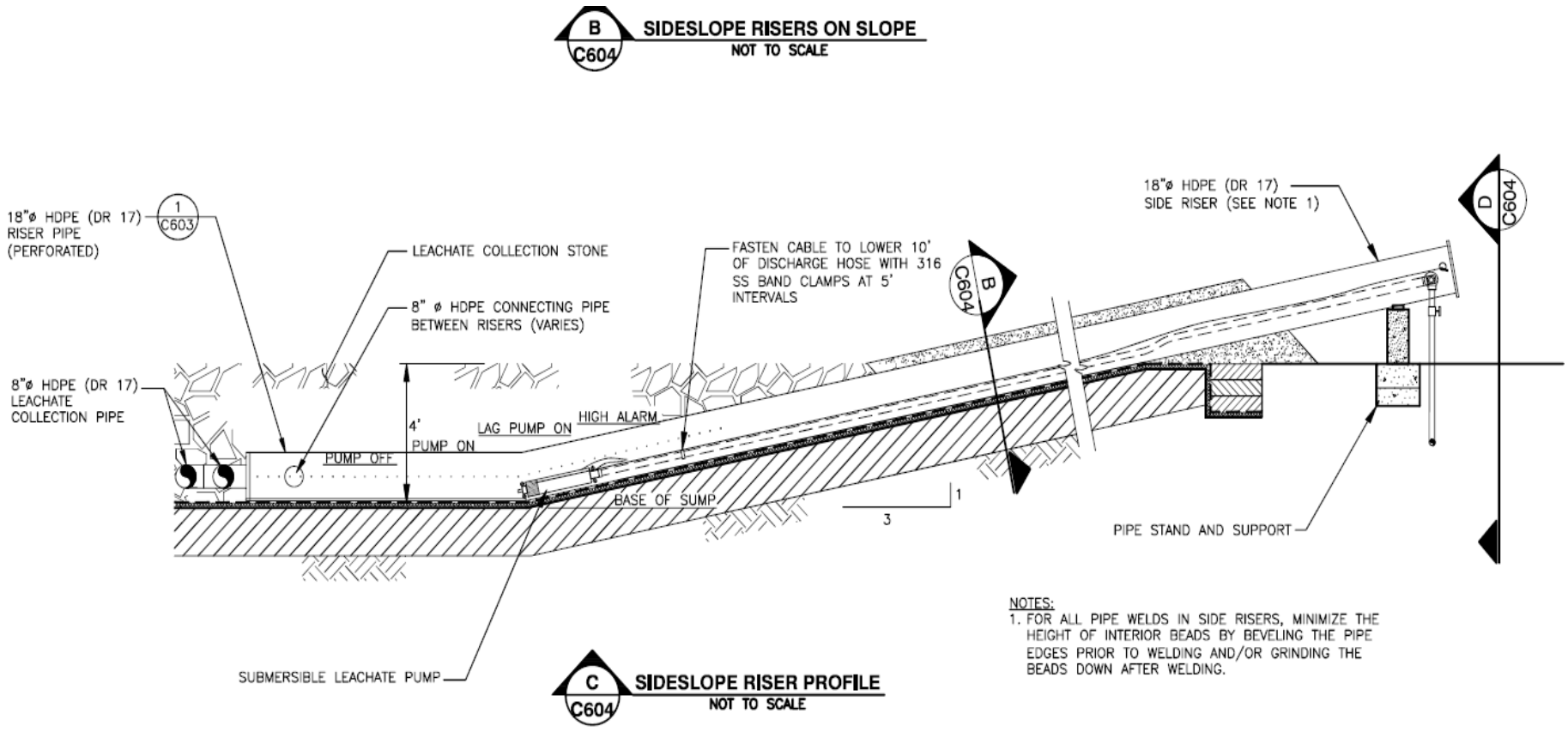
- Liquid level readings >12-inches but <= 36-inches above the cell liner (top of sump) result in a V1 violation; If not resolved by the next inspection, it will result in a V2 violation

- Readings >36 inches above the liner identified during any inspection result in an automatic V2 violation.

See Liquid Level Readings Flow Chart in Appendices.

Improperly Managed (Inspect availability of 30-days of storage, or other adequate storage / disposal provisions)

Inadequate Leachate System Design, Management, Maintenance



Inadequate Leachate System Design, Management, Maintenance

- Rule states that owner must have 30-days of storage capacity, or other adequate provisions approved by the Commissioner.

Questions to ask / Inspection points:

- Does the facility have tankage, ponds, lagoons, or other storage device capable of storing 30-days of leachate?
- 30-day calculation based on current expected leachate generation. Owner or owner's engineer to provide current expected generation figures.
- If storage is available, is it empty, partially full, completely full? Having completely or partially full tanks does not constitute complete storage availability for constructed components.

Inadequate Leachate System Design, Management, Maintenance

- If no storage vessels are constructed, less than 30-days of storage is constructed, or constructed storage is full or partially full, does facility have other adequate provisions (POTW direct discharge, back-up to POTW, 3rd party disposal, Contingency Plan, etc.)?

- To be an adequate provision, owner should have provided a 3rd party disposal facility, or other POTW with an analysis of the site's leachate, possess approval from the alternate site (in writing), and have a means to transport the leachate to those facilities in the event the primary disposal option is unavailable.

If no storage, inadequate storage, and / or no alternative disposal / storage provision exists, it should be listed as an AOC. If adequate storage, or other alternative provision does not exist in 90-days, it is a V1 violation. A Contingency Plan will constitute alternative provision.

Inadequate Maintenance of Leachate System

LEACHATE IMPROPERLY MANAGED

Citation Reference: 0400-11-01-.04(4)(a)8.

(a) Class I Disposal Facilities –

8. Collected leachate:

(i) Must be managed in accordance with any other applicable state and local regulations; and

(ii) Must be sampled and analyzed, at least annually for Appendix I constituents, or for those ground water monitoring parameters listed in the permit, using sampling and analysis procedures as found in the facility permit. All leachate analysis results with all pertinent supporting data must be reported to the Commissioner with the next semi-annual ground water analysis report.

(iii) Nothing in this rule shall prohibit the recirculation of leachate through the emplaced waste provided that the requirements of this Chapter are met.

LEACHATE IMPROPERLY MANAGED

This violation centers on the management of leachate associated with post-pumping activity. This is leachate that has been collected. Individual permits describe leachate management requirements. As the rules stipulate, leachate should be managed as described in the permit and sampled/analyzed annually. A V1 violation may be cited if these requirements are not met. A V2 violation may be cited if the V1 violation isn't corrected, or leachate is being released from holding tank(s)/impoundment(s) into the environment.

Records of leachate production and disposal should be checked regularly.

LEACHATE OBSERVED AT THE SITE

Citation Reference: 0400-11-01-.04(2)(a)3.

Overall Performance Standard - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable:

3. The potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

LEACHATE OBSERVED AT THE SITE - CLOSED

Citation Reference: 0400-11-01-.04(4)(a)6,

Class I Disposal Facilities - Such facilities must be designed, constructed, operated, and maintained such that the final cover includes a cap which will:

(i) Provide long-term minimization of migration of liquids through the closed facility;
(ii) Function with minimum maintenance;
(iii) Promote drainage;
(iv) Accommodate settling and subsidence so that the cap's integrity is maintained; and
(v) Meet the closure requirements of paragraph (8) of this rule.

Citation Reference : 0400-11-01-.04(8)(a)1(ii).

Closure and Post-Closure Standards – General Performance Standards - The operator must close the disposal facility or disposal facility parcel in a manner that Controls, minimizes, or eliminates, to the extent necessary to prevent threats to public health and the environment, post-closure escape of solid waste, solid waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

LEACHATE OBSERVED AT THE SITE

Leachate observed on an interior slope and has no potential to leave the cell is not an issue.

Leachate observed on an exterior slope will be dealt with using the following guidelines:

- If the leachate outbreak is **identified** by facility personnel, **contained** to prevent possible further contamination, the DSWM is **notified** and a **corrective** action plan established, then an area of concern may be issued. Identify, Contain, Notify, Correct and Verify (ICNCV.) Notification may be a phone call, email or some type of logbook so the inspector can be notified prior to beginning the inspection. Landfill staff should be prepared to identify the precise location of the outbreak. The inspector MUST **VERIFY** that this has occurred.
- If the leachate seep is discovered by the inspector and is still within the cell perimeter a V1 violation may be issued.
- If the leachate outbreak is outside the cell perimeter whether found by facility personnel or the inspector a V2 violation may be issued.

LEACHATE OBSERVED AT THE SITE

- For ICNCV to be allowable, the inspector should determine where in the sequence of events the facility currently is. If the leachate outbreak is recent and has been identified, contained and notified but has not been corrected, an AOC may still be allowed.
- If the facility has implemented the process but has not completed the action items (contain, notify, correct) in a reasonable time, then the ability to apply ICNCV may be revoked and a V1 may be issued.

LEACHATE OBSERVED AT THE SITE

LEACHATE OBSERVED AT THE SITE

LEACHATE ENTERING RUNOFF

Citation Reference : 0400-11-01-.04(2)(a)(3)

Overall Performance Standard – The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable The potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

LEACHATE ENTERING RUNOFF

Citation Reference: 0400-11-01-.04(4)(a)6,

Class I Disposal Facilities - Such facilities must be designed, constructed, operated, and maintained such that the final cover includes a cap which will:

(i) Provide long-term minimization of migration of liquids through the closed facility;
(ii) Function with minimum maintenance;
(iii) Promote drainage;
(iv) Accommodate settling and subsidence so that the cap's integrity is maintained; and
(v) Meet the closure requirements of paragraph (8) of this rule.

Citation Reference : 0400-11-01-.04(8)(a)1(ii).

Closure and Post-Closure Standards – General Performance Standards - The operator must close the disposal facility or disposal facility parcel in a manner that Controls, minimizes, or eliminates, to the extent necessary to prevent threats to public health and the environment, post-closure escape of solid waste, solid waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

LEACHATE ENTERING RUNOFF

Leachate that enters runoff has a high potential for harm to the environment. This violation will be determined in part by the location of the violation. If the violation is in any runoff area that is outside the perimeter of the cell, then a V2 violation may be cited. Any leachate outside the cell perimeter has a high potential for impact on surface and/or groundwater. While it is required that this leachate be collected and properly dealt with, it is impossible to ensure that environmental impacts have not already occurred.

LEACHATE ENTERING RUNOFF

If the leachate is still within the cell perimeter, then the inspector may apply the following approach:

- If the leachate outbreak is **identified** by facility personnel, **contained** to prevent possible further contamination, the DSWM is **notified** and a **corrective** action plan established, then an area of concern may be issued. Notification may be a phone call, email or some type of logbook so the inspector can be notified prior to beginning the inspection (ICNCV.) Landfill staff should be prepared to identify the precise location of the outbreak. The inspector MUST **VERIFY** that this process has occurred.
- If the corrective action plan is not followed, then a V1 may be issued.
- If the leachate seep is discovered by the inspector and is still within the cell perimeter a V1 violation will be issued.
- If the leachate outbreak is outside the cell perimeter whether found by facility personnel or the inspector a V2 violation may be issued.

LEACHATE ENTERING RUNOFF

- For ICNCV to be allowable, the inspector should determine where in the sequence of events the facility currently is. If the leachate outbreak is recent and has been identified, contained and notified but has not been corrected, an AOC may still be allowed.
- If the facility has implemented the process but has not completed the action items (contain, notify, correct) in a reasonable time, then the ability to apply ICNCV may be revoked and a V1 may be issued.

Leachate Entering a Water Course

Citation Reference: 0400-11-01-.04(2)(a)(3)

Overall Performance **Standard** - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable the potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

Leachate Entering a Water Course

If leachate is observed entering surface water or likely groundwater (waters of the state), then a V2 violation should automatically be cited. There should be no V1s cited for this violation.

In addition, normally a plan to conduct sampling of the body of water and/or coordination of an investigation with the DWR should be implemented (PN084). A violation could result in additional action from other state and Federal agencies (e.g., Division of Water Resources or the Army Corps of Engineers).

Leachate Entering a Water Course

INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM

Citation Reference: 0400-11-01-.04(5)(a)

Gas Migration Control Standards - Class I Disposal Facilities must be designed, constructed, operated, and maintained such that any gases generated by decomposition or other reaction of solid waste are collected and vented, recovered, or otherwise managed such that:

1. There is no buildup of gas pressure under the final cover such that the functions of such cover (including any cap) are compromised;

2. The concentration of explosive gases in facility structures (excluding gas control or recovery system components) does not exceed 25 percent of the lower explosive limit for the gases;

3. The concentration of explosive gases at the property boundary does not exceed the lower explosive limit for the gases.

INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM

4. The minimum frequency of monitoring shall be quarterly, and the operator shall keep records to comply with the monitoring and records requirements at part (5)(a)9 of Rule 0400-11-01-.02; and monitoring shall include at least the following locations:

   (i) Underneath or in the low area of each on-site building;
   (ii) At locations along the boundary as shown in the permit;
   (iii) At any potential gas problem areas, as revealed by dead vegetation or other indicators; and
   (iv) At any other points required by the permit.

5. Within 60 days of detection above the limits set in parts 1, 2, and 3 of this subparagraph, implement a Department approved remediation plan for the methane gas releases. Pending the remediation, the owner/operator must take all necessary steps to ensure immediate protection of human health.

INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM

In the case of above-ground components of the gas migration control system, the walkover inspection should reveal leaking joints, line breaks, bubbling low points, an indication of major pressure differentials (e.g., liners bubbling up), line displacement due to thermal expansion, etc., that need repairing. If any of these problems are observed, a V1 violation may be cited.

INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM

WASTE NOT CONFINED TO A MANAGEABLE AREA

Citation Reference: 0400-11-01-.04(6)(a)1

Waste Handling and Cover Standards - Class I Disposal Facilities - The unloading of solid wastes at the disposal area must be confined to the smallest practicable area and must be supervised by trained facility personnel to ensure safety and compliance with waste restriction requirements.

WASTE NOT CONFINED TO A MANAGEABLE AREA

At Class I disposal facilities, the unloading of solid wastes at the disposal area (working face) must be confined to the smallest practicable area and must be supervised by trained facility personnel to ensure safety and compliance with waste restriction requirements. The smallest practicable area can be determined by considering the area that could be covered at the end of the day by the landfill operator. If the working face is larger than an area that can practicably be covered at the end of the day, a V1 may be cited. Also, the size needed to accommodate normal daily waste receipt and traffic should be considered.

WASTE NOT CONFINED TO A MANAGEABLE AREA

IMPROPER SPREADING AND COMPACTING OF WASTE

Citation Reference: 0400-11-01-.04(6)(a)2

Waste Handling and Cover Standards - Class I Disposal Facilities - Promptly upon unloading, solid wastes (except in the case of solid waste balefills or other instances specifically approved in writing by the Commissioner) shall be spread in shallow (less than three-foot) layers and compacted with appropriate equipment to the maximum practicable density. Special wastes must be handled as specified either in the permit or in the special waste approval granted by the Commissioner.

IMPROPER SPREADING AND COMPACTING OF WASTE

This is a general performance standard and applies to Class I Landfills found in Tennessee.

Spreading and Compaction- As described in the above citation, when waste is unloaded at the working face(s), unless otherwise permitted, it should be spread out in layers three-foot thick or less and compacted before additional waste is unloaded. Unloading too much waste at one time can result in improper spreading and impede with the operator's ability to achieve a maximum practicable density. A V1 violation may be cited if waste is spread in lifts that are clearly thicker than three-foot prior to compaction.

IMPROPER SPREADING AND COMPACTING OF WASTE

Citation Reference: 0400-11-01-.04(6)(b)1

Class II, Class III, and Class IV Disposal Facilities

1. Solid waste disposal activities shall be confined to the smallest practicable area. Compaction will be performed as necessary to ensure a stable fill.

IMPROPER SPREADING AND COMPACTING OF WASTE

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Compaction - Compaction should be at a maximum practicable density. Maximum practicable density can generally be determined if the compactor is operating on top of the waste and not **in** the waste. "Loose mounds" of garbage at the end of the working day should not be allowed. A V1 may be cited if improper compaction is observed. It is TDEC's expectation that proper compaction equipment should be used to achieve maximum practicable density for compaction. However, if other equipment can be demonstrated to achieve maximum practicable density, facilities will be required to show that demonstration formally.

IMPROPER SPREADING AND COMPACTING OF WASTE

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IMPROPER SPREADING AND COMPACTING OF WASTE

Questions?

Cover Requirements

The following section is complex and will be outlined here:

- Initial Cover
  - Class I
  - Class III/IV
  - Class II
- Intermediate Cover
  - Class I
  - Class II, III/IV
- Final Cover
  - Class I
  - Class II, III/IV

UNSATISFACTORY INITIAL COVER – Class I

Citation Reference: 0400-11-01-.04(6)(a)3

Waste Handling and Cover Standards - Class I Disposal Facilities - The compacted solid waste must be covered at the end of each operating day with an initial cover consisting of at least a six-inch layer of compacted soil or an adequate standard of other material as approved by the Commissioner.

Citation Reference: 0400-11-01-.04(6)(a)5

Waste Handling and Cover Standards - Class I Disposal Facilities - All initial and intermediate cover depths must be maintained until either additional wastes are placed over the area or final cover is applied.

UNSATISFACTORY INITIAL COVER – Class I

At Class I landfills, the compacted solid waste must be covered at the end of each operating day with an initial cover consisting of a **six-inch layer of compacted soil or an adequate standard of other material** (e.g., alternate daily cover [ADC]) as approved by the Commissioner.

The *compacted* six-inch daily cover required at the end of the working day at Class I facilities is intended to provide a barrier against vectors that may try to invade the buried waste. It also provides a means to minimize blowing litter and surface water infiltration. In addition, it provides a barrier against fires that may occur in the waste. The six-inch depth is a minimum, not an average, so that the daily cover may wind up being well over six inches in many areas of the daily cell.

UNSATISFACTORY INITIAL COVER – Class II

Citation Reference: 0400-11-01-.04(6)(b)2(ii)

Waste Handling and Cover Standards - Class II disposal facilities shall have a frequency and depth of initial and intermediate cover specified in its permit conditions.

UNSATISFACTORY INITIAL COVER – Class II

This ONLY applies to Class II Landfills.

There is no standard. This requirement will be based purely on what the permit conditions state. **The Owner/Operator** and the **Inspector** must READ the permit to know what this requirement is.

UNSATISFACTORY INITIAL COVER – Class III/IV

Citation Reference: 0400-11-01-.04(6)(b)2(ii)

Waste Handling and Cover Standards - Unless otherwise specified by the Commissioner, Class III disposal facilities must be covered at least once every 14 days with at least a six-inch layer of compacted soil or an adequate standard of other material as approved by the Commissioner.

Citation Reference: 0400-11-01-.04(6)(b)2(iii)

Waste Handling and Cover Standards - Unless otherwise specified by the Commissioner, Class IV disposal facilities must be covered at least once every 30 days with at least a six inch layer of compacted soil or an adequate standard of other material as approved by the Commissioner.

UNSATISFACTORY INITIAL COVER – Class III/IV

At Class III/IV disposal facilities, the compacted solid waste must be covered with a cover consisting of a **six-inch layer of compacted soil or an adequate standard of other material** (e.g., alternate cover) as permit frequency requires or as approved by the Commissioner. It provides a means to minimize blowing litter and surface water infiltration. Coverage is 14 Days for Class III, 30 Days for Class IV, unless stated in the permit.

In addition, it provides a barrier against fires that may occur in the waste. The six-inch soil depth is a minimum, not an average. The surface should be sloped according to the plans and permit operating manual so that rainfall moves off the area rather than percolates into it. Alternative cover (e.g., tarps, shredder fluff) may be approved but should be clearly stated and approved within the permit or by the Commissioner in writing. "Compaction", as used in this context above, means a surface seal compaction and can usually be accomplished with tracked equipment.

UNSATISFACTORY INTERMEDIATE COVER – Class I

Citation Reference: 0400-11-01-.04(6)(a)4.

Waste Handling and Cover Standards - Class I Disposal Facilities - Except for those completed portions to be finally closed (e.g., the final lift), all surfaces which will be left exposed for a period of over thirty days (e.g., initial and intermediate lifts) must be covered by an intermediate cover consisting of at least a one-foot layer of compacted soil or other material approved by the Commissioner.

Citation Reference: 0400-11-01-.04(6)(a)5

Waste Handling and Cover Standards - Class I Disposal Facilities - All initial and intermediate cover depths must be maintained until either additional wastes are placed over the area or final cover is applied.

UNSATISFACTORY INTERMEDIATE COVER – Class I

At Class I disposal facilities, except for those completed portions to be finally closed (e.g., the final lift), all surfaces which will be left exposed for a period of over **thirty (30) days** must be covered by an intermediate cover consisting of at least a **one-foot (12-in) layer** of compacted soil or other material approved by the Commissioner. Intermediate cover (for surfaces left exposed for over thirty days) is intended to provide an extra measure of protection.

Large non-vegetated areas for long periods of time should be avoided. Intermediate cover must be maintained to provide the same protection throughout the period until more waste is added or final cover is applied. **No "flagging"** (areas where waste is showing in various places in the cover dirt) should be observed in intermediate cover areas. If intermediate cover does not meet the standards in their permit or rules above, a V1 violation may be cited.

UNSATISFACTORY INTERMEDIATE COVER – Class II, III/IV

Class II - There is no standard. This requirement will be based purely on what the permit conditions state. **The Owner/Operator** and the **Inspector** must READ the permit to know what this requirement is, if there is one.

Class III/IV - There is no standard. The only exception to this is if an intermediate layer is required by the permit. If that exists, **The Owner/Operator** and the **Inspector** must READ the permit to know what this requirement is, if there is one.

UNSATISFACTORY FINAL COVER – Class I

Citation Reference:. 0400-11-01-.04(6)(a)6,

Waste Handling and Cover Standards - Upon achieving final grade or as otherwise required by the Commissioner, final cover shall be placed as set forth in the closure standards of paragraph (8) of this rule.

Citation Reference: 0400-11-01-.04(8)(c)3(i)

Closure and Post-Closure Standards –

(i) At Class I and Class II Facilities the depth of final cover system shall be at least 36 inches of soil of which a minimum of 12 inches shall be for the support of vegetative cover.

UNSATISFACTORY FINAL COVER – Class I

Citation Reference: 0400-11-01-.04(8)(c)3(i)

(ii) The design of the final cover system shall be such that the infiltration volume of water will be equal to or less than the percolation volume through the bottom liner system or a design which includes a compacted soil layer of at least 24 inches which has a permeability no greater than 1 x 10-7 cm/sec, whichever is less. This design shall be supported by the use of the HELP model or other equivalent method approved by the Commissioner.

An alternate final cover system may be used provided that it is demonstrated to the satisfaction of the Commissioner that the final cover system provides equivalent or superior performance to the minimum performance standard in this subpart.

UNSATISFACTORY FINAL COVER – Class I

- **The Basics:**
- 24” of compacted soil
- Permeability no greater than 1 x 10^{-7} cm/sec
  - Don’t let the – sign trip you up.
- 12” of vegetative support layer
- 36” total minimum cover

UNSATISFACTORY FINAL COVER – Class II, III/IV

Citation Reference:. 0400-11-01-.04(6)(b)3.

***Waste Handling and Cover Standards* -** Class II, Class III, and Class IV Disposal Facilities - Upon achieving final grade or as otherwise required, final cover shall be placed as set forth in the closure standards of paragraph (8) of this rule.

Citation Reference: 0400-11-01-.04(8)(c)3(ii)

Closure Requirements - The following requirements apply to active portions of the facility:

(ii) At Class III and Class IV facilities, unless the Commissioner determines that a greater depth is needed to achieve the general performance standard of subparagraph (a) of this paragraph, the depth of final cover shall be at least 30 inches of compacted soil. The final cover shall consist of an 18-inch compacted soil layer with a maximum hydraulic conductivity of 1×10^{-5} cm/s overlain by a 12-inch protective layer.

UNSATISFACTORY FINAL COVER – Class III/IV

- **The Basics:**
- 18” of compacted soil
- Permeability no greater than 1 x 10^{-5} cm/sec
  - Don’t let the – sign trip you up.
- 12” of protective layer
- 30” total minimum cover

- **Wait, what happened to Class II??**

UNSATISFACTORY FINAL COVER – Class II

Citation Reference:. 0400-11-01-.04(6)(b)3.

Waste Handling and Cover Standards - Class II, Class III, and Class IV Disposal Facilities - Upon achieving final grade or as otherwise required, final cover shall be placed as set forth in the closure standards of paragraph (8) of this rule.

Citation Reference: 0400-11-01-.04(8)(c)3(i)

Closure and Post-Closure Standards –

(i) At Class I and **Class II Facilities** the depth of final cover system shall be at least 36 inches of soil of which a minimum of 12 inches shall be for the support of vegetative cover.

UNSATISFACTORY FINAL COVER – Class II

- **Class II are subject to the below Class I Closure Requirements.**

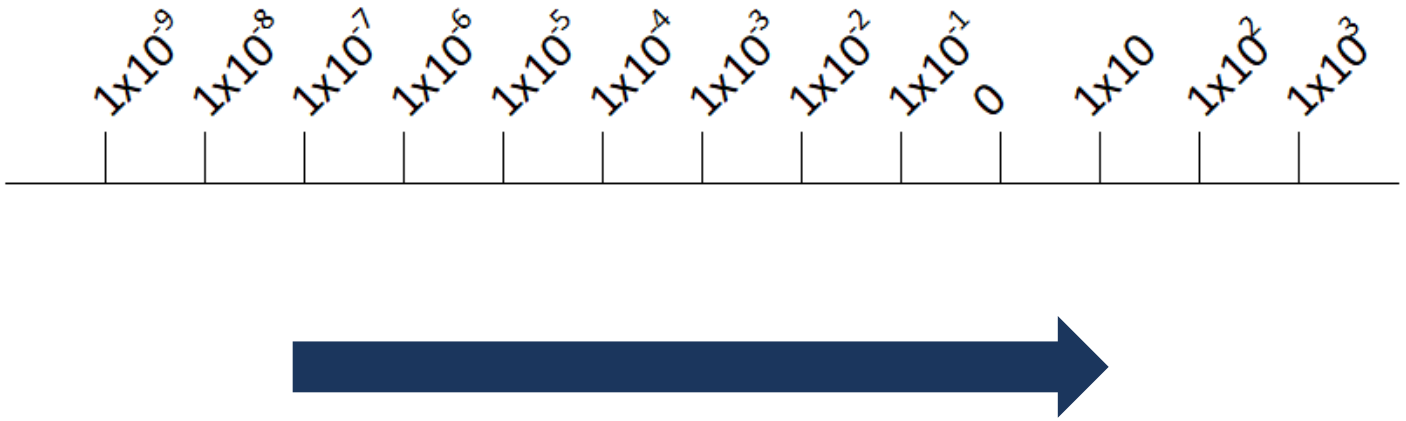
- **The Basics:**
- 24” of compacted soil
- Permeability no greater than 1 x 10^{-7} cm/sec
  - Don’t let the – sign trip you up.
- 12” of vegetative support layer

A WORD ABOUT PERMEABILITY

- Darcy's Law – The capability for a liquid to flow via a porous media. $q=Q/A=-K(dh/dl)$
- K= Hydraulic Conductivity aka Permeability.
- A fine grained clay soil is desirable due to its plastic nature. These soils typically have a K of 10^{-5} or less.
- $1x10^{-5}$ m/s = 0.00001 (m/s) = 0.0003936 ≈ 0.0004 (in/s)
- $1x10^{-7}$ m/s = 0.0000001 (m/s) ≈ 0.000004 (in/s)

The point is to allow water to drain via gravity into the runoff system before it has the chance to permeate into the landfill.

A WORD ABOUT PERMEABILITY



Numerically, “Greater” Moves This Way

UNSATISFACTORY FINAL COVER – Class I, II, III/IV

Citation Reference: 0400-11-01-.04(8)(c)3(iii)

Closure and Post-Closure Standards - Unless otherwise noted in the permit a depth of compacted final cover material (e.g., soil) shall be placed on the disposal facility or disposal facility parcel in the shortest practicable time, not to exceed 90 days, after achieving final grade of any fill area or any portion of a fill area. At least the top twelve inches of this cover material shall be soil which will support the growth of suitable vegetation (e.g., topsoil).

(iii) At Class I, II, III, and IV facilities, with approval of the Commissioner any other low permeability layer construction techniques or materials may be used to provide the final cover, provided that it provides equivalent or superior performance to the requirements of this part.

Citation Reference: 0400-11-01-.04(8)(c)4.

Closure and Post-Closure Standards - The final surface of the disposal facility or disposal facility parcel shall be graded and/or provided with drainage facilities in a manner that:

(i) Minimizes precipitation run-on from adjacent areas onto the disposal facility or disposal facility parcel;

(ii) Minimizes erosion of cover material (e.g., no steep slopes);

UNSATISFACTORY FINAL COVER – Class I, II, III/IV

These are general performance standards and apply to Class I, II, and III/IV Landfills found in Tennessee.

This will be identified in the engineering plans for the facility and must be approved by the DSWM. Basic requirements are:

- Soil cover <90 days after reaching final grade.
  - Alternate means allowable if approved by the DSWM.
- 12” vegetation layer
- Run-On/Run-Off Management and Maintenance

Excessive Pooling of Water

Citation Reference: 0400-11-01-.04 (2)(a)3

Overall Performance Standard - The facility must be located, designed, constructed, operated, maintained, closed, and cared for after closure in such a manner as to minimize to the extent practicable the potential for releases of solid wastes, solid waste constituents, or other potentially harmful materials to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management control agencies.

Citation Reference: 0400-11-01-.04(8)(c)4(iii)

Closure and Post-Closure Standards - Closure Requirements - The final surface of the disposal facility or disposal facility parcel shall be graded and/or provided with drainage facilities in a manner that optimizes:

(iii) drainage of precipitation falling on the disposal facility or disposal facility parcel (e.g., prevent pooling).

Citation Reference: 0400-11-01-.04(9)(b)1(ix)

Engineering Plans - The Part II permit application must include: How run-on will be diverted from, and run-off will be removed from, the work areas, illustrating the locations and slopes of ditches, dikes, etc., to be utilized for such diversion/removal and the directions of flow.

Excessive Pooling of Water

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

These Rules apply specifically to the final surface. Pooling violations should not be applied to any other surface at a landfill.

A V1 violation may be applied if pooling is excessive, and a V2 violation may be issued if pooling is a reoccurring problem. Inspector discretion should be applied if pooling is the result of a major precipitation event.

Unsatisfactory Stabilization of Cover – Class I

Citation reference: 0400-11-01-.04(6)(a)5,6

5. All initial and intermediate cover depths must be maintained until either additional wastes are placed over the area or final cover is applied.

6. Upon achieving final grade or as otherwise required by the Commissioner, final cover shall be placed as set forth in the closure standards of paragraph (8) of this rule.

Citation Reference:. 0400-11-01-.04(8)(c)6.

6. In addition to the drainage and grading requirements and vegetative cover requirements, the operator shall take other measures as may be necessary to minimize and control erosion and sedimentation (e.g., soil stabilization, sediment ponds) at the site.

Unsatisfactory Stabilization of Cover – Class II, III/IV

Citation Reference:. 0400-11-01-.04(6)(b)3.

Waste Handling and Cover Standards - Class II, Class III, and Class IV Disposal Facilities - Upon achieving final grade or as otherwise required, final cover shall be placed as set forth in the closure standards of paragraph (8) of this rule.

Citation Reference:. 0400-11-01-.04(8)(c)6.

6. In addition to the drainage and grading requirements and vegetative cover requirements, the operator shall take other measures as may be necessary to minimize and control erosion and sedimentation (e.g., soil stabilization, sediment ponds) at the site.

Unsatisfactory Stabilization of Cover – Class I, II, III, IV

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Cover must be stabilized in some fashion to prevent the loss of cover. When reaching final grade final cover must be placed on the cell as set forth in the permit. This may also be included with erosion violations.

Grading and vegetative cover must be established as soon as practicable and not to exceed 180 days during closure activities.

Questions?

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.02(4)(a)7

Duty to Provide Information - The permittee must furnish to the Commissioner, within a reasonable time, any information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the Commissioner, upon request, copies of records required to be kept by this permit. All records, including a copy of the permit and the approved Part I and Part II application, must be maintained at the facility or other locations as approved by the Commissioner.

Unsatisfactory Records or Reports

Citation Reference: TCA 68-211-862(a)

Records of amount of solid waste received at disposal facilities and incinerators - The owner or operator of each Class I municipal solid waste disposal facility or incinerator shall be responsible for keeping an accurate written record of all amounts of solid waste, measured in tons, received at the facility.

Citation Reference: 0400-11-01-.04(7)(a)4(vii)

The operator must keep records of all ground water sampling activities conducted, the sample analysis results, and the associated ground water surface elevation throughout the active life of the facility and throughout the post-closure care period as well. Such records must be kept at the facility or at some other location within Tennessee as specified in the permit.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.04(2)(k)3(i)(II)VI

Tires or shredded tires may not be stored for more than one (1) year without the written approval of the Division. The operator shall maintain records sufficient to establish the date each tire pile within a storage area was begun.

Citation Reference: 0400-11-01-.02(5)(a)4.

The minimum frequency of monitoring shall be quarterly, and the operator shall keep records to comply with the monitoring and records requirements at part (5)(a)9 of Rule 0400-11-01-.02; and monitoring shall include at least the following locations:

(i) Underneath or in the low area of each on-site building;

(ii) At locations along the boundary as shown in the permit;

(iii) At any potential gas problem areas, as revealed by dead vegetation or other indicators; and

(iv) At any other points required by the permit.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.04(2)(s)

Random Inspection Program - The owner or operator of a permitted landfill must implement a program at the facility for detecting and preventing the disposal of regulated hazardous waste, unauthorized special waste, PCB's (>50 ppm), whole tires, lead-acid batteries, and liquid wastes

1. Random inspection of five percent of the daily incoming loads.
2. Inspection of all suspicious loads.
3. Records of all inspections must be maintained in a bound notebook, and include inspection date, vehicle identification, driver signature, identification of any unauthorized waste, disposition of any unauthorized waste, and facility inspector signature.
4. Training of facility personnel to recognize regulated hazardous waste.
5. Procedures for notifying the appropriate Division field office if an unauthorized waste is identified and left at the facility.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.01(4)(d)2.

The Commissioner may require the operator to keep records on the receipt and management of certain special wastes. The operator shall keep copies of special waste approvals by the Department which the facility has accepted into the landfill and all recertifications submitted by generators of such waste.

Citation Reference: 0400-11-01-.02(3)(a)4.

Operators shall keep records of all data and supplemental information used to complete permit applications until the end of the post-closure care period.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.02(5)(a)9.

Monitoring and Records

(i) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(ii) The permittee shall retain records of all required monitoring information. The permittee shall maintain records from all ground-water monitoring wells and associated ground-water surface elevations, for the active life of the facility, and for the post-closure care period as well. This period may be extended by request of the Commissioner at any time.

(iii) Records of monitoring information shall include:

- (I) The date, exact place, and time of sampling or measurements;
- (II) The individual(s) who performed the sampling or measurements;
- (III) The date(s) analyses were performed;
- (IV) The individual(s) who performed the analyses;
- (V) The analytical techniques or methods used (including equipment used); and
- (VI) The results of such analyses.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.08(3)

Records - The owner/operators of all municipal solid waste disposal facilities or incinerators shall maintain written records of waste received in tons. All records for the current month shall be maintained at the facility and open for inspection by the Department during normal operating hours. All other records shall be maintained at suitable office space in order that they may be protected from damage or loss. These records shall also be open for inspection during normal working hours. The maintenance site for these records shall be designated on the date of the first payment to the Department.

Unsatisfactory Records or Reports

Citation Reference: 0400-11-01-.08(3) (Continued)

Any change in location shall be designated on the payment to the fund. Records shall be maintained for three years. In the event that records are damaged or destroyed, the amount of waste received for that month or quarter shall be based on the maximum day on record multiplied by the number of working days in the month or quarter. Records shall be maintained on a daily basis organized by month. Waste shall be measured at the gate on a vehicle by vehicle basis. Each facility must use a standard reporting form provided by the Department.

Unsatisfactory Records or Reports

Records are an integral part of an inspection. It is the checks and balance to ensure that operations, inbound and outbound, are operating correctly. An inspection without a Records Review is an incomplete inspection.

Record	Class I	Class II	Class III/IV	Notes
Record Location				Must be onsite unless approved for alternate
Trained Personnel	X	X	X	LOCT and Trained for Class I
Special Waste Records	X		X	Be Random
Apps, Plans and Supporting Docs	X	X	X	During site changes, plans should be reviewed everytime
Tires	X	X		If/When tire piles exist.
Random Inspections	X		X	5% of daily, do the math. 3yrs retention. Training
Gas Migration Monitoring Records	X	X	X	Determine last monitoring date.
Ground Water Monitoring Records	X	X	X	Determine last monitoring date.
Waste Received	X		X	Must have current months tonnage, MSW facilities
Asbestos	X		X	Policy #43 ACWM, not in regulation.

Groundwater Monitoring System Improperly Maintained

Citation Reference: 0400-11-01-.02(5)(a)4.

Proper Operation and Maintenance - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

Groundwater Monitoring System Improperly Maintained

This is a general performance standard and applies to Class I, II, and III/IV Landfills found in Tennessee.

Monitoring wells should not be damaged (cracks in the base, bollards are not intact or have been moved) and should be inaccessible by non-facility personnel. If questions arise about groundwater monitoring system, inspectors should consult with the DSWM Geologist for guidance. A V1 violation may be cited if wells are not inaccessible or maintained.

Operation Does Not Correspond with Engineering Plans

Citation Reference: TCA 68-211-104(3)

Unlawful Methods of Disposal **-** It is unlawful to construct, alter, or operate a solid waste processing or disposal facility or site in violation of the rules, regulations, or orders of the commissioner or in such a manner as to create a public nuisance.

Citation Reference: TCA 68-211-105(b)

No new construction shall be initiated, nor shall any change be made in any solid waste processing facility or disposal facility or site until the plans for such new construction or change have been submitted to and approved by the Department.

Citation Reference: 0400-11-01-.02(5)(a)1.

Duty to Comply - The permittee must comply with all conditions of this permit, unless otherwise authorized by the Department in writing. Any permit noncompliance constitutes a violation of the Act and is grounds for termination, revocation and/or reissuance, or modification of the permit and/or the assessment of civil penalties by the Commissioner.

Operation Does Not Correspond with Engineering Plans

Inspectors should be familiar with landfill plans and operating permit operating manual. Inspectors should understand that each permit may state conditions that may not otherwise be declared elsewhere. Those conditions need to be reviewed and understood. Any permit condition that provides a compliance item that is stricter than Regulation becomes the new threshold. Any engineering questions regarding this violation should warrant a consultation with the DSWM engineer.

Operation Does Not Correspond with Permit Conditions

Citation Reference: TCA 68-211-104(3)

Unlawful Methods of Disposal **-** It is unlawful to construct, alter, or operate a solid waste processing or disposal facility or site in violation of the rules, regulations, or orders of the commissioner or in such a manner as to create a public nuisance.

Citation Reference: 0400-11-01-.02(5)(a)(1)

Duty to Comply - The permittee must comply with all conditions of this permit-by-rule, unless otherwise authorized by the Department in writing. Any noncompliance constitutes a violation of the Act and is grounds for the assessment of civil penalties by the Commissioner.

Operation Does Not Correspond with Permit Conditions

Inspectors should understand that each permit may state conditions that may not otherwise be declared elsewhere. Those conditions need to be reviewed and understood. Any condition that provides a compliance item that is stricter than Regulation becomes the new threshold. Any permitting questions regarding this violation should warrant a consultation with the DSWM permit writer.

Permit Condition Examples

FACILITY-SPECIFIC PERMIT CONDITIONS

The following conditions of this permit are established pursuant to Rule 1200-1-7-.02(4)(b):

1. Groundwater monitoring shall be conducted at the frequency and for the parameters specified by the Division of Solid Waste Management.

2. No hazardous waste, as defined by the Tennessee Hazardous Waste Act (Tennessee Code Annotated, Section 53-6301, et.seq.) and the Rules adopted pursuant to that Act, shall be accepted for disposal at this site.

3. No liquid, chemical, industrial special wastes, or wastes requiring special handling shall be placed in this disposal facility without obtaining prior evaluation and written approval for each individual waste from the Division of Solid Waste Management.

   The disposal facility shall apply operation (initial) cover of at least six (6) inches of on-site soils once every two (2) to three (3) weeks.

Permit Condition Examples

VARIANCES AND WAIVERS

The following variances or waivers from standards or requirements in Rule 0400-11-01, Solid Waste Processing and Disposal Amendments, are hereby granted in accordance with Rule 0400-11-01-.01(5):

1. A variance is granted from the requirement of Rule 0400-11-01-.04(2)(c)2, which requires the operator to have fire suppression equipment, is waived because no combustible wastes will be disposed in the landfill.

2. A variance is granted from the requirement of Rule 0400-11-01-.04(2)(g), which requires the operator to maintain equipment at the site, is waived because only monthly grading and periodic maintenance is required, and the equipment will be supplied by a contractor.

Permit Condition Examples

FACILITY-SPECIFIC PERMIT CONDITIONS

The following conditions of this permit are established pursuant to Rule 0400-11-01-.02(5)(b):

1. Disposal shall be limited to salt cake, baghouse dust, used refractory material, and other similar wastes that may be subsequently approved in writing by the Division of Solid Waste Management (Division), which are generated during the secondary aluminum recycling processes performed by the

2. In the event ammonia air-borne emissions create a public nuisance, the Division may request the submittal of an updated ammonia monitoring plan as a minor modification to become part of this permit in accordance with Rule 0400-11-01-02(6)(b)5. The updated plan would include at a minimum, increased monitoring frequencies, and changes to detection limit thresholds and/or mitigation plans.

Permit Condition Examples

FACILITY-SPECIFIC PERMIT CONDITIONS

The following conditions of this permit are established pursuant to Rule 0400-11-01-.02(4)(b):

1. Only foundry sand, slag, waste refractories, and baghouse dust from the Enterprises, Inc., Tennessee plant may be disposed at this site. A representative sample of each of these four waste streams must be collected by December 31st of each year and analyzed for total concentration of the metals arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, and selenium by appropriate EPA-approved methods. In addition, the samples of foundry sand and baghouse dust must also be analyzed for their total concentrations of cyanide, phenols, and formaldehyde by appropriate EPA-approved methods. The results must be reported to the Division within 60 days of the sampling date. Re-analysis is also required with any process change which could affect the composition of the waste.

Permit Condition Examples

VARIANCES AND WAIVERS

The following variances or waivers from standards or requirements in Rule 1200-1-7, Solid Waste Processing and Disposal Amendments, are hereby granted in accordance with Rule 1200-1-7-.01(5):

1. Waiver from leachate migration control standards [Rule 1200-1-7-.04(4)].
2. Waiver from gas migration control standards [Rule 1200-1-7-.04(5)].
3. Waiver from groundwater monitoring standards [Rule 1200-1-7-.04(7)].
4. Waiver from final cover standards [Rule 1200-1-7-.08(c)(3)(i)].

Permits, Plans and Operating Manual Not Available

Citation Reference: 0400-11-01-.02(5)(a)(7)

Duty to Provide Information - The permittee must furnish to the Commissioner, within a reasonable time, any information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the Commissioner, upon request, copies of records required to be kept by this permit. All records, including a copy of the permit and the approved Part I and Part II application, must be maintained at the facility or other locations as approved by the Commissioner.

Permits, Plans and Operating Manual Not Available

All Class I, II, and III/IV disposal facilities are required to keep a copy of the permit, engineering plans, and operating manual on site or at a site agreed upon by the Commissioner. If these items are not available at the time of inspection a V1 may be cited.

No Operating Scales and/or Failure to Maintain Waste Records

Citation Reference: TCA 68-211-862(a)-(b)

Records of origin and amount of solid waste received at transfer stations, disposal facilities, and incinerators -- Exclusion -- Measurement of amount of solid waste received.

(a) The owner or operator of each Class I municipal solid waste disposal facility or incinerator or transfer station required to remit a surcharge under 68-211-835(d) shall be responsible for keeping an accurate written record of all amounts and county of origin of solid waste, measured in tons, received at the facility. This information shall be

(b) Measurement in tons of solid waste received shall be accomplished by one (1) or more of the following methods:

(1) The provision of stationary or portable scales at the disposal facility or incinerator or transfer station for weighing incoming waste; or

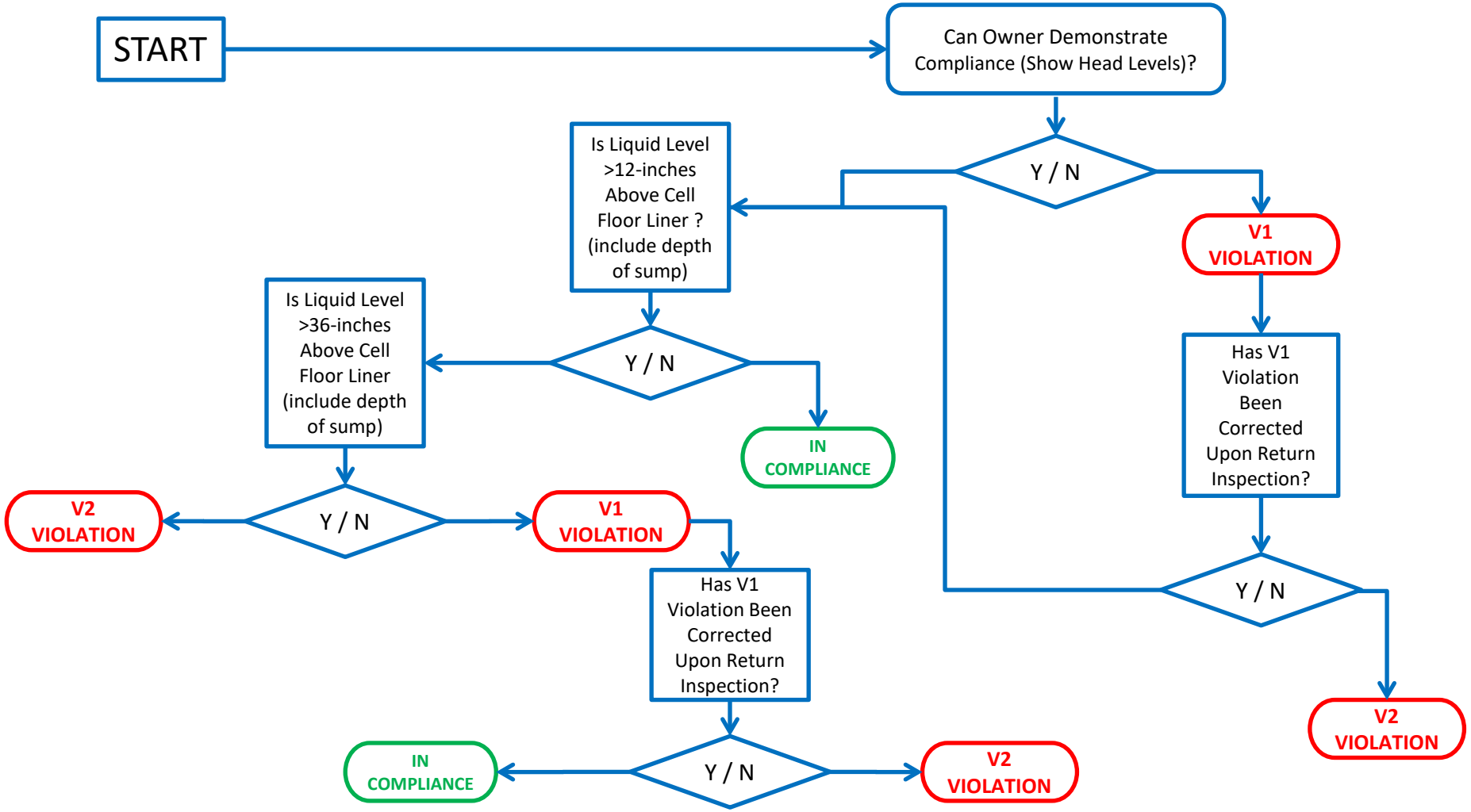
(2) Implementation of contractual or other arrangements for the use of scales at a location other than the disposal facility, incinerator, or transfer station for weighing all waste destined for disposal at the facility.

No Operating Scales and/or Failure to Maintain Waste Records

This is a general performance standard and applies to Class I Landfills found in Tennessee.

All Class I disposal facilities are required to keep on site operational scales certified by the Division of Weights and Measures, or other persons qualified to certify scales or a contractual agreement to use third party outside scales. If the scales are not operational and there is not a contract to use third party scale are at the time of inspection, a V1 may be cited.

Leachate System (Head Level Compliance – Flow Chart)



Quick Reference Guide - Class I, III/IV

Quick Reference Guide				
Description	Class I	Class II	Class III/IV	Notes
Vector Control	Standard			
Access Operating Hours	Standard			
Natural/Artificial Barrier	Standard			
Info Signs	Standard			
Roads/Parking	Standard			
Certified/Trained Personnel	LOCT + SUIT or Equivalent	SUIT or Equivalent		
Salvaging	Standard			
Open Burning	Standard			Active Area. Refer to Permit Specific Cond.
Fire Protection	Standard			
Litter	Timely		Timely	No Flagging on Intermediate (Class I)
Employee Facilities	Standard			
Comm Devices	Standard			Personal device conditional
Operating Equip	Standard			
Operative Equip (availability)	Standard			
Cover Material (availability)	Standard			
Run On/Off (maintenance)	Standard			
Erosion Control	Standard			
Dust Control	Standard			
Unauthorized Waste Accepted	Permit + Sp Waste	Permit	C&D + Sp Waste	
Special Waste (Unapproved)	Standard	Specific	Specific	
Tires	Standard	Prohibited	Standard	Tires Rendered Not Whole
Medical Waste	Standard	Prohibited	Prohibited	

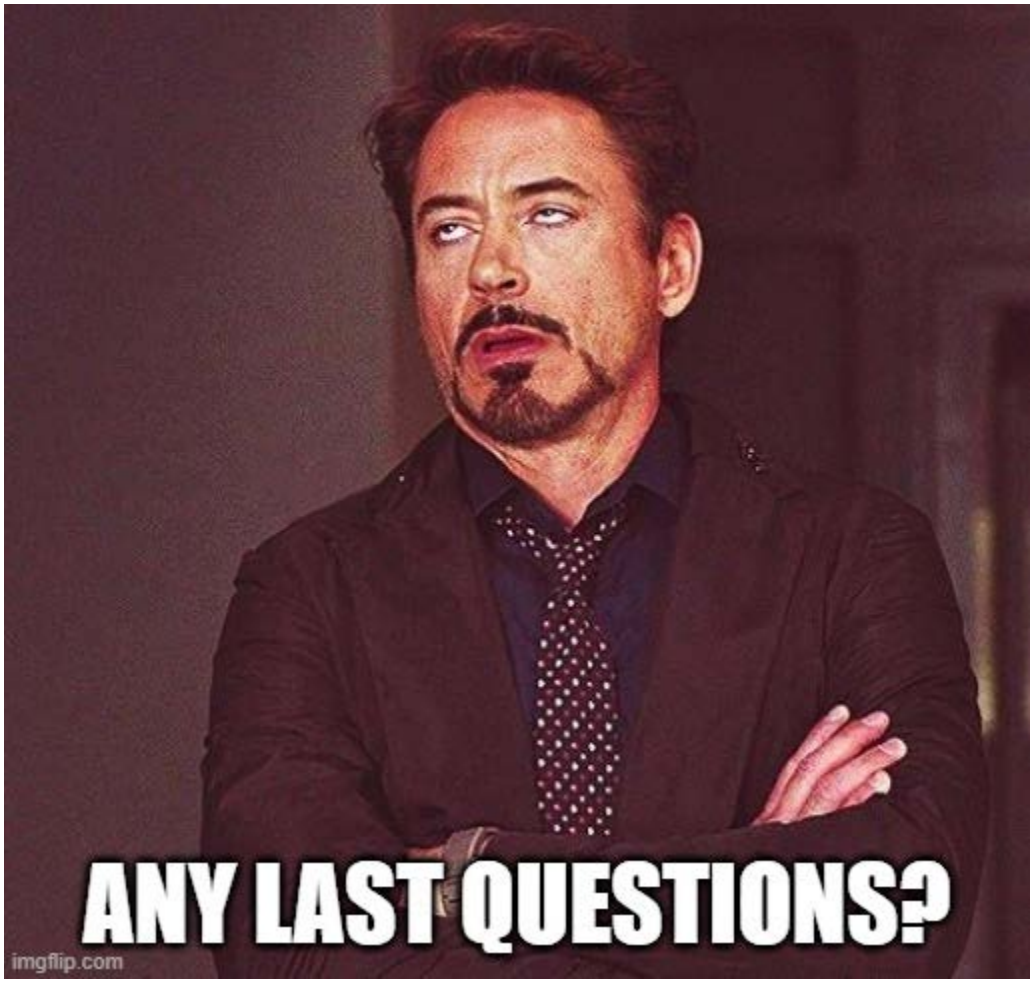
Quick Reference Guide - Class I, III/IV

Quick Reference Guide				
Description	Class I	Class II	Class III/IV	Notes
Dead Animals	Standard	Prohibited	Prohibited	
MSWC Ash	Standard	Standard	Prohibited	
Exposed Solid Waste	Standard			Erosion Issue
Benchmark	Standard			
Random Inspection Program	Standard			5% Minimum unless specified in permit
Special Waste (Mishandling)	Standard			Refer to Sp Waste Permit
Buffer Zone	Standard			
Leachate (Maintenance System)	Standard		No Req	Compliance: Liner + 12". V1: 12-36". V2: 36" +
Leachate (Management)	Standard		No Req	
Leachate (Collection System)	Standard		No Req	
Leachate (Observed)	Standard			ICNC
Leachate (Run-Off)	Standard			ICNC
Leachate (Water Course)	Standard			NO V1's Given
Gas Migration (Inadequate System)	Standard			
Gas Migration (Maintenance)	Standard			
Explosions/Uncontrolled Fires	Standard			
Waste Manageable Area	Standard			
Improper Spreading	Standard	No Req		
Improper Compacting	Standard			
Initial Cover	6"	Permit	6"	Minimum
Intermediate Cover	12"	Permit	N/A	Minimum

Quick Reference Guide - Class I, III/IV

Quick Reference Guide				
Description	Class I	Class II	Class III/IV	Notes
Final Cover	24" Comp + 12" Stab	24" Comp + 12" Stab	18" Comp + 12" Stab	$1x10^{-7}$ (Class I), Low Perm/$1x10^{-5}$ (Class III)
Pooling of Water	Standard			ONLY for Closed Sections
Stabilization	Standard			
Dumping waste into Water	Standard			Exception: Pressure Testing Mains
Records (Unsatisfactory)	Standard			
Groundwater Monitoring (Maintenance)	Standard			
Engineering Plans	Standard			
Permit Conditions	Standard			Specific, Waivers, Variances, READ THE PERMIT
Permits, Plans, O&M Not Available	Standard			On-site, Unless Approved
Scales	Standard	No Req		

Questions?



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