NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

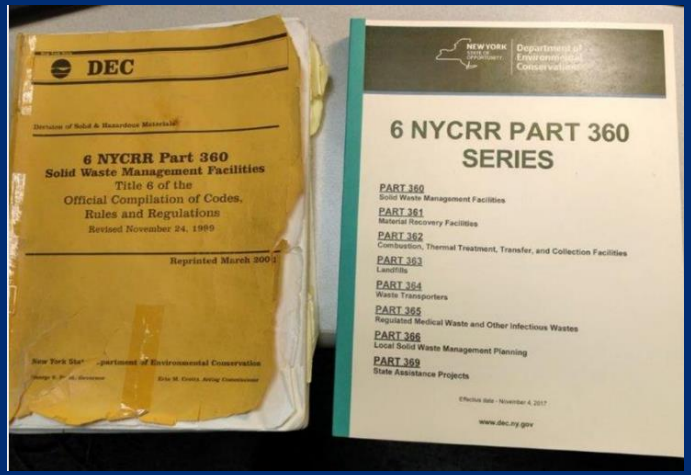
Part 360
Solid Waste Management Facility Regulations

Landfill Operator Certification
New York State Association for Solid Waste Management

March 19, 2024

Outline

1. General Overview – Part 360 & Part 363
2. Siting Requirements
3. Landfill Design
4. Operating Requirements
5. Recordkeeping and Reporting



General Overview
Part 360 & Part 363

Part 360 Series Structure *(Effective 07/22/2023)*

Part 360 General Requirements

Part 361 Material Recovery Facilities

Part 362 Combustion, Thermal Treatment, Transfer, and Collection Facilities

Part 363 Landfills

Part 364 Waste Transporters

Part 365 Regulated Medical Waste and Other Infectious Wastes

Part 366 Local Solid Waste Management Planning

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Part 360 General Requirements *(Effective 07/22/2023)*

Applicable to All Solid Waste Management Facilities

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360.2 Definitions
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360.8 Prohibited Siting
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Part 360 General Requirements *(Effective 07/22/2023)*

Applicable to All Solid Waste Management Facilities

360.13 Special Requirements for Beneficial Use of Fill Material
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Part 363 Landfills

(Effective 07/22/2023)

Part 363 Landfills *(Effective 07/22/2023)*

Subpart 363-1	Applicability
Subpart 363-2	Exempt Facilities
Subpart 363-3	Inactive Disposal Facilities
Subpart 363-4	Permit Application Requirements
Subpart 363-5	Siting Requirements **
Subpart 363-6	Design, Construction and Certification Requirements **
Subpart 363-7	Operating Requirements **
Subpart 363-8	Recordkeeping and Reporting
Subpart 363-9	Closure, Post-closure and Custodial Care
Subpart 363-10	Corrective Measures
Subpart 363-11	Landfill Reclamation

Section 360.4 – Landfill Transition Requirements

Status	Pre-2017 Part 360	11/4/2017 - Part 360 & 363	07/22/2023 - Part 360 & 363
Permits issued prior to Nov 4, 2017.	Apply until the current permit is renewed or modified. Any reports, plans, and drawings which were approved prior to Nov 4, 2017, are not required to be modified to meet new requirements.	N/A	Subsequent landfill development for areas included in the permit but for which engineering reports, plans, and drawings were not approved prior to July 22, 2023, must comply with the requirements in the new regulations.
Complete application prior to Nov 4, 2017, and permit issued after Nov 4, 2017,	Permit application to be reviewed for conformance with pre 2017 regulations.	Must comply with operational, closure, and post-closure requirements of the November 4, 2017, regulations.	
Both complete application and permit issued after Nov 4, 2017.	N/A	The permit application will be reviewed and issued per the November 4, 2017, and it must comply with these regulations.	
Complete application prior to July 22, 2023, and permit issued after July 22, 2023.	N/A	Permit application to be reviewed for conformance with the November 4, 2017, regulations.	Must comply with operational, closure, and post-closure requirements of the July 22, 2023, regulations.
Both complete application and permit issued after July 22, 2023.	N/A	N/A	Permit application will be reviewed and issued per July 22, 2023, regulations.

Section 360.4 – Transition

- Retrofitting of existing structures or structural components to meet new design or construction requirements is not required.

Section 360.4 – Transition
Revisions effective 07/22/2023

- At the time of permit renewal, the application from a facility operating under the Part 360 regulation in effect prior to November 4, 2017, will be considered a permit modification request, and the facility must comply with the regulations that pertain to the type of facility in effect at the time of permit renewal.
- A permit application that is deemed complete by the department will be reviewed for conformance with the Part 360, 361, 362, and 365 regulations in effect at the time the application was deemed complete.
- Construction of the first landfill cell, for which construction plans and drawings were approved by the department prior to 180 following the effective date of this rulemaking must comply with the design, construction, and certification requirements of the Part 360 and Subpart 363-6 regulations in effect on the date of that approval. Construction of any subsequent landfill cells must comply with the design, construction and certification requirements of Part 363.
- For landfills that ceased accepting waste after October 9, 1993, final cover systems must comply with the design, construction, and certification requirements of Part 363.

2. Siting Requirements

Part 363-5 Siting Requirements *(Effective 07/22/2023)*

Subpart 363-5.1(a) Bedrock/unconsolidated deposits
Subpart 363-5.1(b) Mines/caves
Subpart 363-5.1(c) Agricultural land
Subpart 363-5.1(d) Primary/principal Aquifers
Subpart 363-5.1(e) Aircraft safety
Subpart 363-5.1(f) Unstable areas
Subpart 363-5.1(g) Unmonitorable/unremediable areas
Subpart 363-5.1(h) Fault areas
Subpart 363-5.1(I) Seismic impact zones
Subpart 363-5.1(j) Wetlands
Subpart 363-5.1(k) School and residence **

Subpart 363-5 Siting Requirements

363-5.1(k) School and Residence

1,000 feet distance is measured from the closest location on the landfill property where waste is placed to the residence or school building.
Residences or schools that are owned by or have entered into legal agreements with the landfill owner or operator are excluded from this requirement.

When does it apply?

(1) A new landfill that submits an initial permit application after July 22, 2023, cannot be located within 1,000 feet of a school or residence.

This requirement excludes schools or residences constructed after the landfill has submitted an initial Part 360 permit application deemed complete by the DEC.

(2) A lateral or vertical expansion of a landfill is prohibited within 1,000 feet of a school or residence.

Schools or residences constructed within 1,000 feet of a proposed expanded footprint of a landfill after a Part 360 permit modification application has been submitted are excluded from this requirement.

(3) This requirement does not apply to A Part 360 permit modification application for a landfill expansion that the department deemed complete prior to the effective date of this rulemaking.

3. Landfill Design

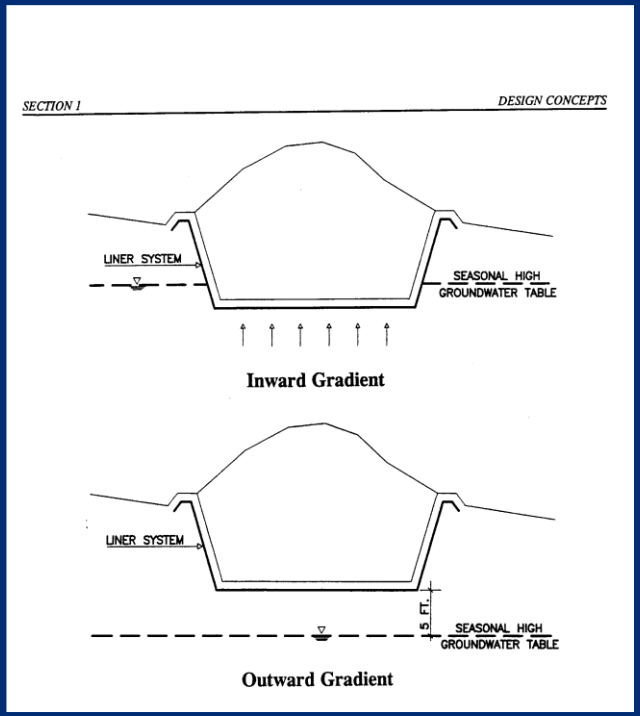
Subpart 363-6 Design, Construction and Certification Requirements

363-6.1	General requirements
363-6.2	Horizontal separation requirements
363-6.3	Groundwater separation
363-6.4	Bedrock separation
363-6.5	Landfill subgrade
363-6.6	Liner and final cover components
363-6.7	Components of double composite liner system
363-6.8	Geomembrane liners
363-6.9	Geocushion material
363-6.10	Soil drainage layers
363-6.11	Leachate collection pipes

Subpart 363-6 Design, Construction and Certification Requirements

363-6.12	Geosynthetic drainage layer
363-6.13	Filter layer criteria
363-6.14	Intermediate cover
363-6.15	Gas venting
363-6.16	Final cover – composite barrier layer
363-6.17	Final cover – barrier protection and drainage layer
363-6.18	Final cover – topsoil
363-6.19	Construction certification
363-6.20	Aboveground and on-ground leachate storage tank requirements
363-6.21	Equivalent design standards and use of wastes as construction and operational material
363-6.22	Survey control and location coordinates

Inward Gradient Landfill vs. Outward Gradient Landfill

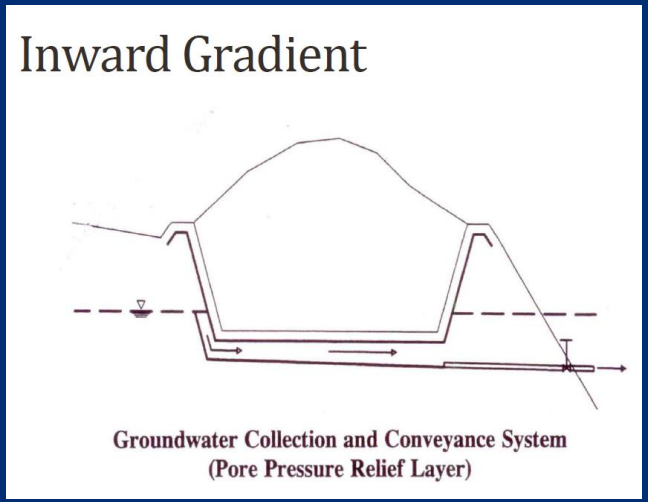


363-6.3 Groundwater separation

- A minimum separation of 5 ft must be maintained between the base of the constructed liner system and the seasonal high groundwater elevation.

- Less than 5 ft of separation
  - Department waiver
  - Pore Pressure Relief System

Inward Gradient Landfill with Pore Pressure Relief System (PPRS)



- Must include groundwater suppression (PPRS)
- Provides tertiary monitoring point
- PPRS can technically be shut off when sufficient waste is in place - Requires DEC approval

Bedrock separation

- 363-5.1(a): Siting requirements:
  - Minimum of **10 ft** of unconsolidated deposits must exist beneath the proposed landfill site to minimize the migration of contaminants from the site

- 363-6.4: Construction requirements:
  - Minimum of **10 ft** of separation must exist between bedrock and the base of the liner system at all points along the liner system
  - Material must consist of low permeability soils with silty and clayey characteristics with the ability to attenuate and absorb contaminants

Landfill Liner System

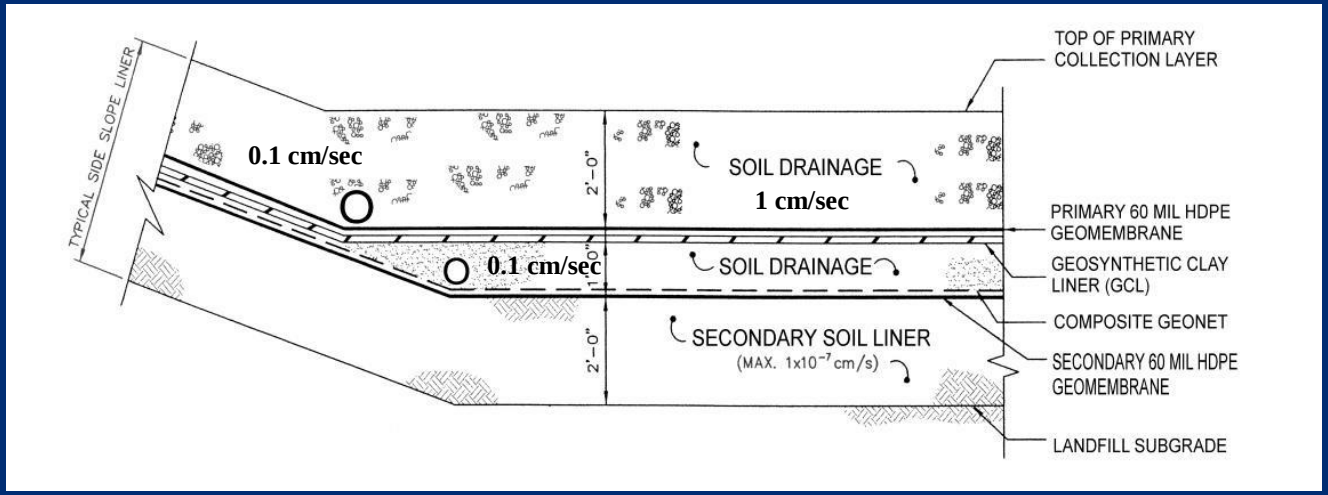
Primary Objective

- Remain stable during construction & full load conditions
- Properly contain waste and leachate

Liner Grades: Minimum 2%, Maximum 33%

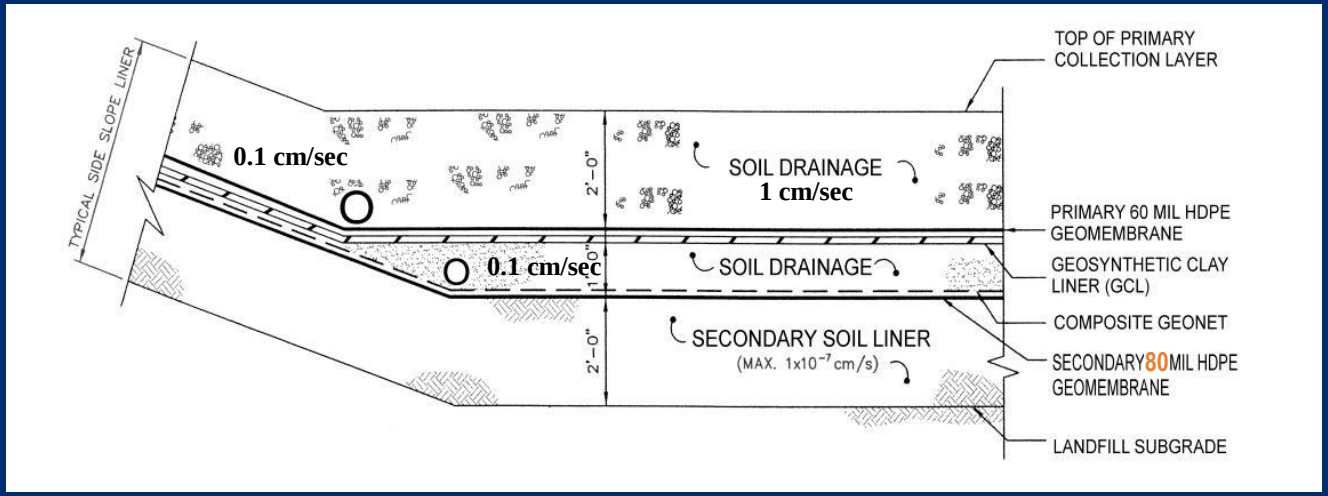
Double Composite Liner System

** MSW, C&D debris, papermill sludge, municipal waste combustor ash, or solid waste resulting from industrial operations landfills



Composite Liner: Geomembrane + Low Flow Soil Liner

Double Composite Liner System



Secondary soil liner

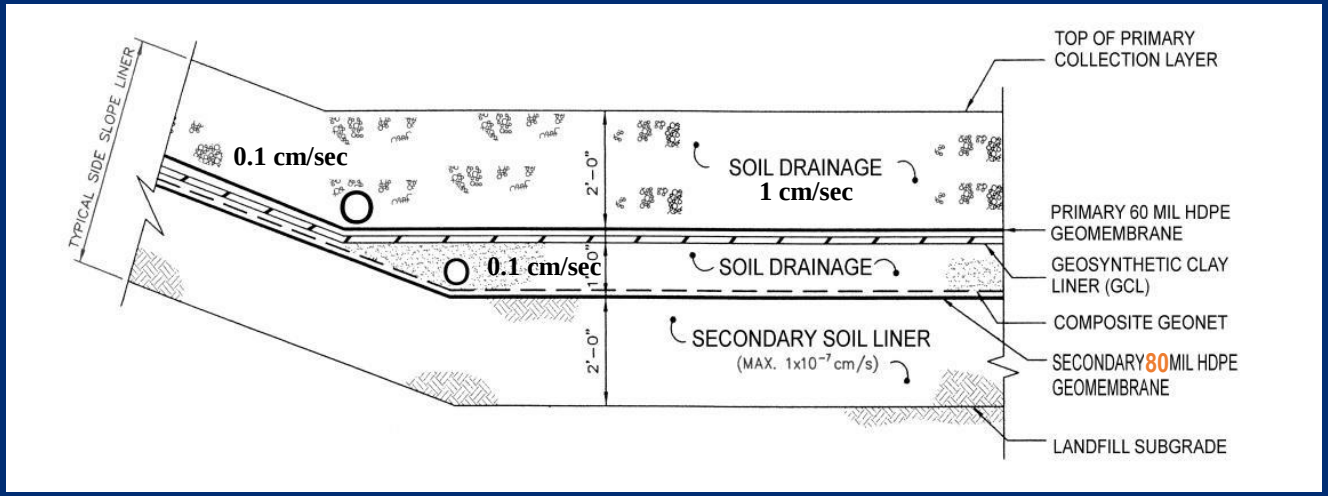
- Hydraulic conductivity = 1×10^{-7} cm/s or less (~1.2 inches/year)
- Stones less than 1 inch in diameter
- No stones with angular surface

Secondary geomembrane = 80 mil HDPE

Secondary Leachate Collection & Removal System

- Geosynthetic drainage layer
- 1 ft of drainage media with hydraulic conductivity of 0.1 cm/s
- Secondary Leachate Collection Pipe Diameter = 6 inches
- Design Capacity = **1,000 gal/acre/day**
- Max detection time of 24 hr
  - guarantee that any breach to the primary liner is identified quickly
  - to allow for adequate collection and removal in the event of a catastrophic breach of the primary liner

Double Composite Liner System



Primary soil liner

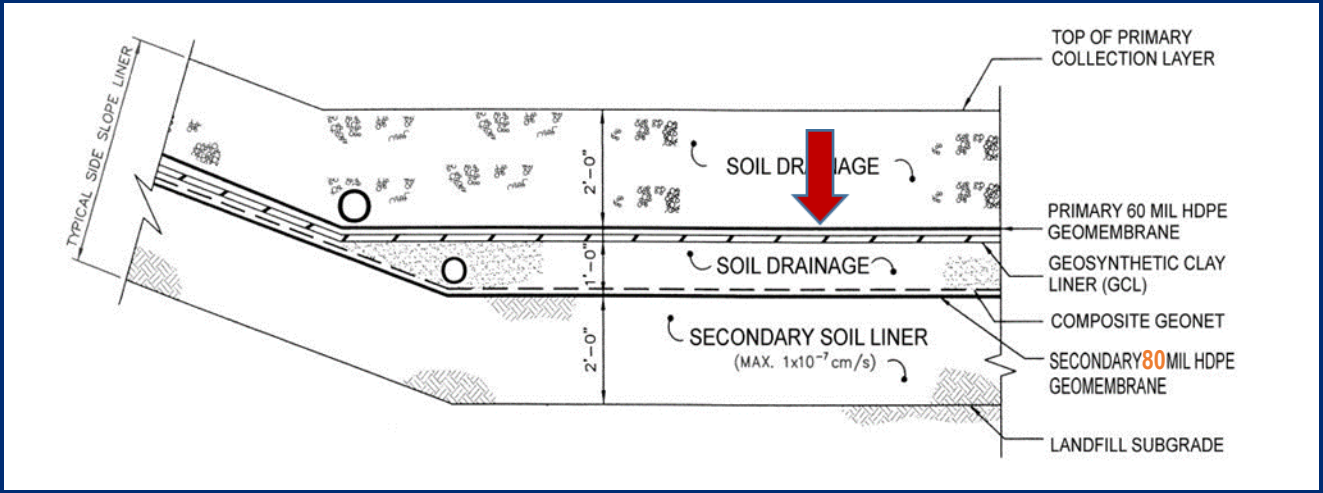
- Geosynthetic Clay Liner (GCL)
- Hydraulic conductivity = 1×10^{-7} cm/s or less (~1.2 inches/year)

Primary geomembrane = 60 mil HDPE

Primary Leachate Collection & Removal System

- Base - 2 ft with hydraulic conductivity of 1 cm/s
- Sideslopes - 2 ft with hydraulic conductivity of 0.1 cm/s
- Primary Leachate Collection Pipe Diameter = 8 inches

Head Buildup



- Maximum **1 foot** of leachate on primary liner system
- Reduce by
  - Increasing permeability of drainage materials
  - Increasing slope
- Lower head = lower flow through defects

Improved Containment System Performance & Construction Quality

363-6.8(c)(3)(v)

Require destructive seam testing frequency every 1,000 ft

363-6.8(c)(3)(vii)

Electrical Resistivity Testing after placement of the soil drainage media on both upper & lower liners

- slopes ≤ 10%

Improved Containment System Performance & Construction Quality

363-6.8(c)(3)(vii)

- The soil drainage layer must have adequate electrical isolation from the surrounding ground or adjacent material.

- The evaluation must not be performed during or after periods of heavy rains that result in run-off that could impact the isolation of the soil drainage layer.

- When the tie-in area connecting a new cell with an existing cell is unable to be evaluated by electrical leak location testing due to an inability to effectively isolate the tie-in area, the tie-in area may be evaluated for liner defects using an exposed geomembrane electrical testing method.

- All discovered liner defects must be repaired.

- Findings included in the Construction Certification Report, including

  - GPS-based electrical map of the survey
  - Description of the number of defects and their cause
  - Verification of repairs

Survey control and location coordinates

363-6.22 One permanent survey benchmark…must be established and maintained for each 25 acres of developed landfill…. This benchmark must be the reference point for establishing vertical elevation control.

Used for:

- Construction
- Daily waste placement grid
- Verification of waste elevations
- Airspace consumption calculations

363-6.15 Gas Venting

Adequately control landfill gas:

- Ensure stability of landfill and final cover system
- Reduce the concentration and pressure gradient of explosive gases to prevent gas migration

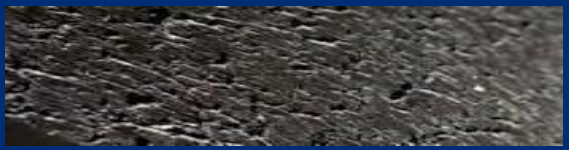
Closure Design – Final Cover System

Components:

- 6” Topsoil
- 12” Barrier Protection Layer
- Drainage Layer (soil or geosynthetic)
- Geocushion
- 40 mil LLDPE geomembrane
- GCL (on slopes <25%)

- Prevent infiltration of precipitation
- Enhance gas collection
- Help control odors
- Prevent erosion
- Promote surface water drainage

Geosynthetic Materials



Geomembrane – Thick plastic sheet

Use – Fluid Barrier

Textured Geomembranes

Use – Fluid Barrier

Increased slope stability

** Language added regarding storage of geosynthetics.

Geosynthetic Materials

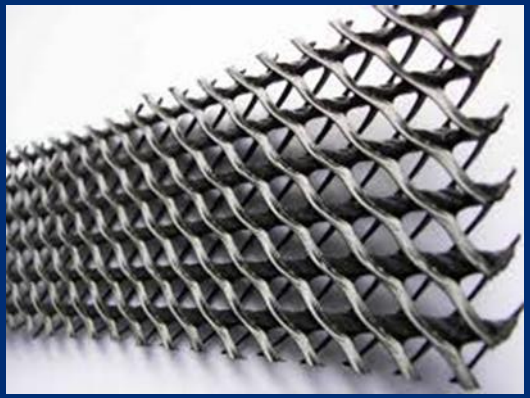
Geosynthetic Clay Liner (GCL)

Bentonite between geotextiles
Use – Fluid Barrier

Geotextile

Use – Separation/Filtration
Use – Cushioning (nonwoven)

Geosynthetic Materials



Geonet – Three-dimensional grid structure

Use – Fluid Flow

Geogrid – two-dimensional structure

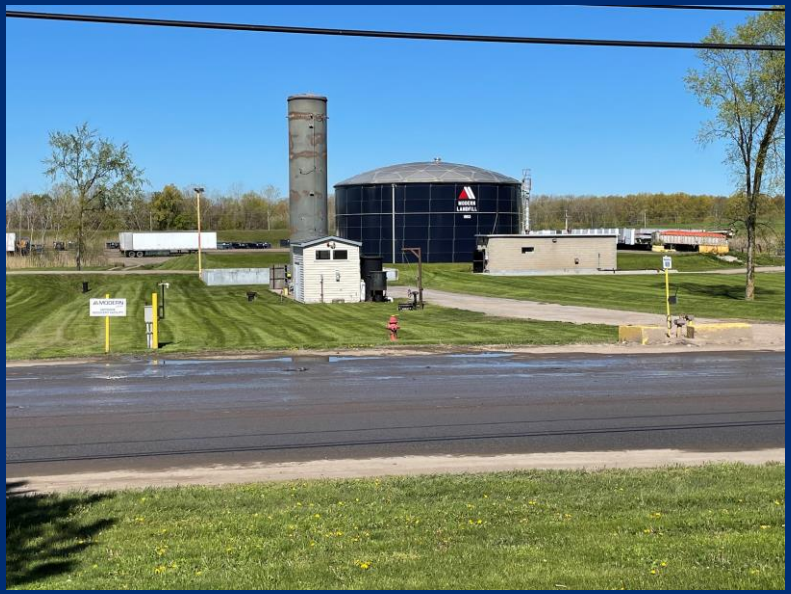
Use – Soil Stability

363-6.20 Leachate storage tank requirements

363-6.20(a) The storage tank system **must** be capable of containing a minimum of **3 consecutive months** combined primary and secondary flow

363-6.20(a)(3) All tanks must be equipped with an overfill protection system.

363-6.20(a)(4) All uncovered tanks must maintain a minimum **2 ft** of freeboard.



363-6.20 Leachate storage tank requirements Secondary containment

- Storage tank system must have a secondary containment system capable of retaining leachate in the event of a leachate spill
- Must be at least 110% of the volume of the largest tank or the total volume of all interconnected tanks, whichever is greater

3. Operating Requirements

Subpart 363-7 Operating Requirements

363-7.1(a)	Waste control requirements
363-7.1(b)	Operating cover
363-7.1(c)	Intermediate cover
363-7.1(d)	Final cover
363-7.1(e)	Decomposition gases
363-7.1(f)	Leachate management
363-7.1(g)	Maintenance for primary and secondary leachate collection and removal systems
363-7.1(h)	Leachate recirculation
363-7.1(i)	Moisture content of waste

Subpart 363-7 Operating Requirements

363-7.1(j) Biosolids

363-7.1(k) Friable asbestos-containing waste disposal

363-7.1(l) Non-friable asbestos-containing waste disposal

363-7.1(m) Inspection for unauthorized waste

363-7.1(n) Weight scales

363-7.1(o) Disposal prohibitions

363-7.1(p) Industrial waste or drilling and production waste disposal

363-7.1(q) Training requirements

363-7.1(r) Deed description

363-7.1(s) Financial assurance

363-7.1(a)(2) LF Operating Requirements Waste Control Requirements

Select waste

The first lift of waste placed above the primary leachate collection and removal system must be:

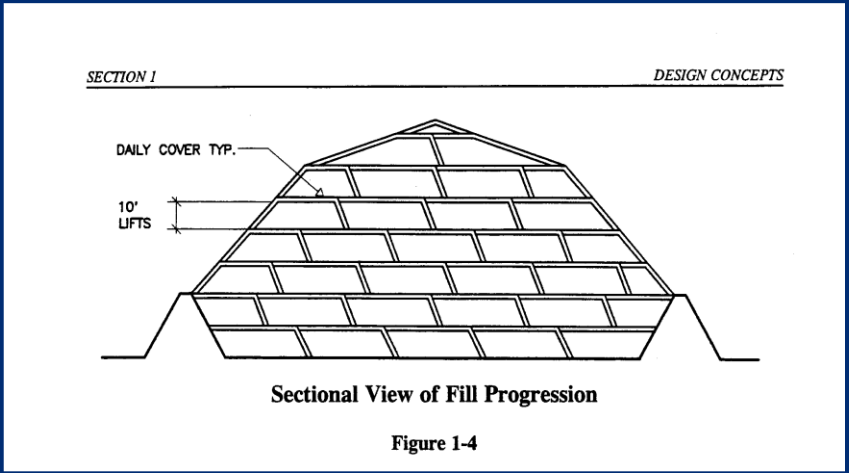
- at least **5 ft** in compacted thickness,
- of a select nature, containing no large, rigid objects, such as bed springs or posts, and
- placed in a manner to avoid damage to the liner system.

363-7.1(a)(2) LF Operating Requirements
Waste Control Requirements

Waste Placement

360.2(b)(160) Lift means the vertical thickness of compacted waste and the cover material immediately above it…

363-4.6(c) Fill progression and placement plan



Sectional View of Fill Progression

Figure 1-4

363-7.1(a) LF Operating Requirements
Waste Control Requirements

363-7.1(a)(1)

- Final external slopes must not be steeper than 33%
- Interim external slopes – May be steeper than 33% if approved/demonstrated that the slope is stable and will settle to 33% prior to cell closure.

363-7.1(a)(3) Drilling and Production Waste – not within 6 ft of LCRS or 10 ft of final cover.

363-7.1(a)(4) Low-perm or low shear strength waste

363-7.1(a)(5) Radiation Detector for LFs that take MSW or drilling and production wastes.

363-7.1(b) LF Operating Requirements
Operating cover

360.2(b)(184) Operating cover means a compacted layer of soil placed on all exposed waste.

Minimum of **6 in** of compacted cover material must be applied on all exposed surfaces of solid waste at the close **of each operating day** to control vectors, fires, odors, dust and blowing litter.

Minimum of **12 in** of compacted operating cover must be applied and maintained on all landfill surfaces **where no additional waste has been or will be placed within 30 calendar days** of the last placement of waste.

LF Operating Requirements
Alternative operating cover (AOC)

AOC can potentially save airspace (e.g., sprayed products, tarps) or generate income (e.g., contaminated soil).

363-6.21(c)&(d) Use of AOC must be approved in writing by DEC. AOC must adequately control vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health or the environment.

Waste-derived alternative operating cover

363-7.1(b)(4) Must be identified in the facility's permit as a separate annual tonnage.

363-7.1(b)(5) Must be stored over a lined area of the landfill and run-off managed as leachate.

Landfill Operating Requirements
AOC

Information necessary for approval of a proposed AOC material

1. Description and specific source of the material
2. How the material will comply with 363-7.1(b)
3. How the material will be used (thickness, manner of placement, etc.)
4. How and where the material will be stockpiled
5. How tracking the material out of the landfill footprint will be prevented
6. How much will be used annually

Landfill Operating Requirements
Examples of AOC

Spray-ons

Geosynthetic tarps

Landfill Operating Requirements Examples of AOC

Thin Film Polyethylene

Daily cover system deployed with stone ballast. Need not be removed; covered with next day's waste. - Effective for odors issues

Snow is not generally acceptable as AOC.

363-7.1(c) Landfill Operating Requirements Intermediate cover

360-.2(b)(148) Intermediate cover means a geomembrane or soil layer which will inhibit precipitation from entering the waste mass, contain leachate outbreaks, and inhibit migration of decomposition gases.

363-7.1(c) Intermediate cover. An intermediate cover must be applied and maintained on all external surface slopes for every **20 ft** of vertical rise.

Geomembrane Cover Systems as Intermediate Cover

- When coupled with appropriate gas extraction, geomembranes are extremely effective at controlling fugitive gas emissions
- Anchoring, ballast and wind protection are paramount
- Long term maintenance is required (can not just install and forget about it)
- Creates additional stormwater challenges that must be managed

363-7.1(d) Landfill operating requirements Final cover

363-7.1(d) Must be installed and maintained in accordance with closure, post-closure care and custodial care requirements.

363-9.3(a) Must be installed on any **cell** that has achieved final grades within **5 years**

363-9.3(b) Must be installed on **landfill** within **365 days** of last receipt of waste

363-7.1(e) Landfill operating requirements Decomposition gases

Decomposition gases must be controlled to prevent safety issues and offsite odors.

Concentration of methane and other explosive gases must not exceed 25% of the lower explosive limit for gases:

- At or beyond the property boundary; or
- Within on-site structures

Putrescible waste **or C&D Debris** - horizontal gas lines must be installed in the waste mass:

- horizontal spacing of not more than **100 ft**
- vertical spacing of not more than **20 ft**
- terminate at least **100 ft** from the exterior slope

** DEC may approved site specific spacing for LFs that received only C&DD with the condition that as nuisance odor issues occur the LF will be required to meet the spacing described above.

363-7.1(e) Landfill operating requirements Decomposition gases

Ongoing gas monitoring program

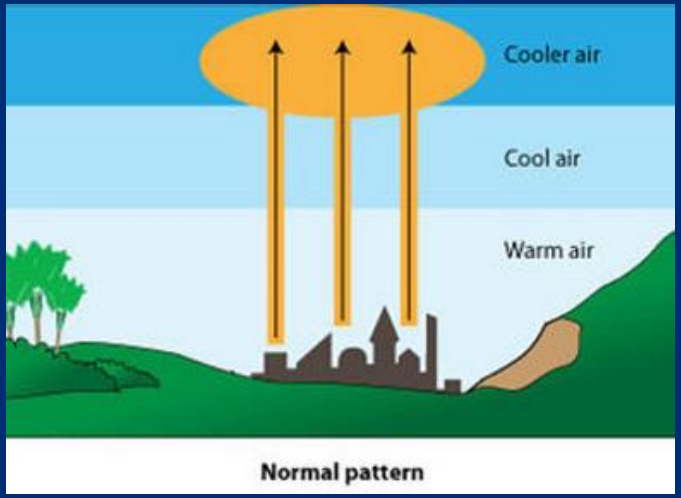
- Based on soil conditions, hydrogeologic and hydraulic conditions and location of structures and property boundaries
- Conducted at least quarterly
  - 100 ft intervals – temporary sampling locations
  - 400 ft intervals – permanent monitoring wells

- 363-4.6(k) – Facility Manual - Gas monitoring and emissions control plan

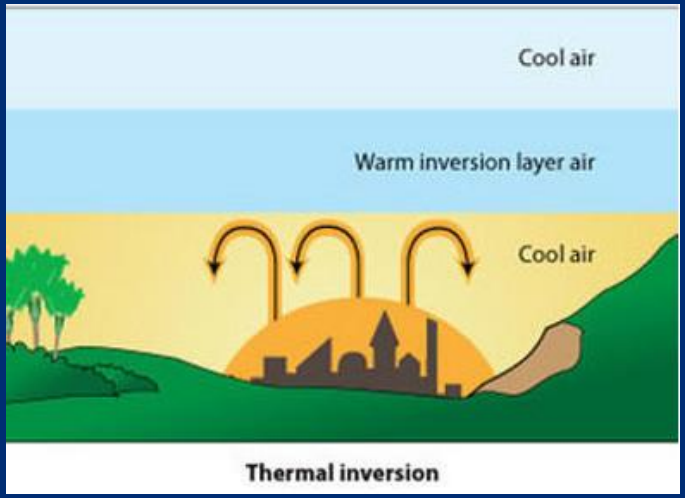
Upon detection of methane or other explosive gases above limits:

- Notify DEC within 24 hrs
- Written assessment within 7 days
- Submit plan and schedule within 30 days

Temperature Inversion



Normal pattern



Thermal inversion

Under certain conditions, the normal vertical temperature gradient is inverted such that the air is colder near the surface of the Earth. This can occur when, for example, a warmer, less-dense air mass moves over a cooler, denser air mass. This type of inversion occurs in the vicinity of warm fronts. With sufficient humidity in the cooler layer, fog is typically present below the inversion cap. An inversion is also produced whenever radiation from the surface of the earth exceeds the amount of radiation received from the sun, which commonly occurs at night.

Odors

- Maintain communication with neighbors
- Stay involved in local zoning decisions
- Patrol area – Be proactive
- Operating cover and intermediate cover
- Efficient collection of landfill gas
- Compliance with Odor Control Plan
- Be aware of weather and be prepared to react– wind direction, temperature inversions, low pressure systems

Landfill Gas vs Operational Odor Problems

Methods to address fugitive landfill gas problems may include:

- Installation of additional gas collection wells and associated infrastructure
- More frequent installation of horizontal collectors
- Improved cover systems, including geomembrane with gas collection underneath
- Enhanced progressive capping to reduce area of uncovered waste mass and improve emission capture
- Additional gas-to-energy or flare capacity
- Restricting biosolids intake to less than 10% of MSW
- More frequent surface scans and inspections of penetrations through cover systems to identify and repair leaks
- Limiting or ceasing recirculation of leachate

Landfill Gas vs Operational Odor Problems

Methods to address operational (garbage) odor problems may include:

- Keeping the working face small
- **A**dding operating cover throughout the day, not just at the close of the operating day
- **R**estricting special handling of odorous waste
- Use of odor control (neutralizer) misting systems

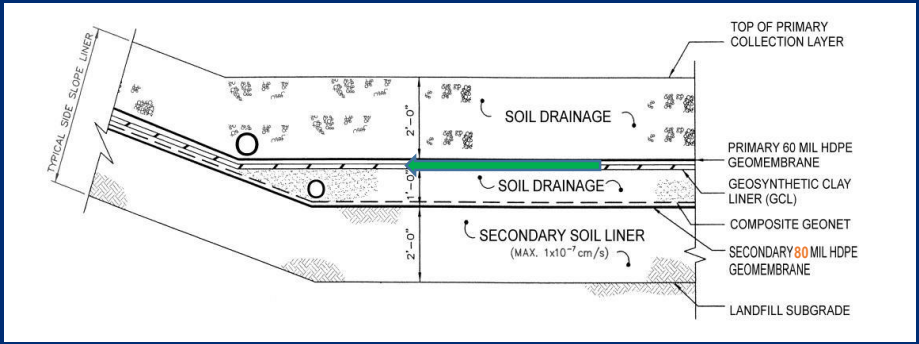
363-7.1(f) Landfill operating requirements Leachate management

363-7.1(f)(2)...Ensure leachate head on the primary liner does not exceed 1 foot

363-7.1(f)(2) primary and secondary leachate collection and removal systems must be operated in a free-draining manner …

Liner System Performance
Allowable Leakage Rate (ALR)

Relates to flow out of the secondary collection system



363-7.1(f)(7) leakage rate in the secondary leachate collection and removal system shall not exceed 20 gallon/acre/day based on a rolling 30-day average

If above **20 gallon/acre/day**:

- Report to DEC – 72 hours
- Sample and analyze for baseline parameters
- Written assessment – 14 days
- Investigate

Leakage Rate

A 7.5-acre cell is operating with a continuous secondary flow of 0.8 gal/min. Calculate the leakage rate for the cell.

0.8 gallon/min x 60 min/hr x 24 hr/day = 1152 gallon/day

1152 gallon/day / 7.5 acres = 153.6 gallon/acre/day

Above the ALR of 20 gallon/acre/day

Contact DEC immediately

363-7.1(g) Landfill operating requirements Maintenance for primary and secondary leachate collection and removal systems

- **Primary LCRS** must be maintained and cleaned annually.
- **Secondary LCRS** monitoring must be conducted and recorded daily.
- Video Inspection must be performed biennially for P&S -LCRS.
- Operational log must be kept at the site and included in landfill's annual report.

363-7.1(h) Landfill operating requirements Leachate recirculation

- Double composite liners with active gas collection

- No closer than 100 ft from exterior slope of waste mass
- Must not be introduced directly into operating cover
- Recirculation rates must be established
- Primary leachate flowrates must be monitored
- ALR must be under 20 gpad

363-7.1(i) Landfill operating requirements Moisture content of waste

Wastes accepted for disposal:

- Must exhibit no free liquids
- Must contain a minimum of 20% solids

363-7.1(j) Landfill operating requirements Biosolids

All Biosolids accepted for disposal must be :

- stabilized
- dewatered to 20% solids
- exhibit no free liquid

Stabilization criteria:

- Digested
- Lime stabilized – pH to 12 for at least 30 minutes

Disposal of Treated RMW

- RMW must have been treated by a NYSDEC- or NYSDOH-approved facility
- All sharps must be treated and destroyed prior to disposal (e.g., incineration)
- TRMW must be accompanied by a certificate of treatment
- Landfill must have written NYSDEC approval to accept TRMW
- TRMW received for disposal must be transported according to Part 364

- Visual inspection should verify that sharps have been destroyed and are unrecognizable

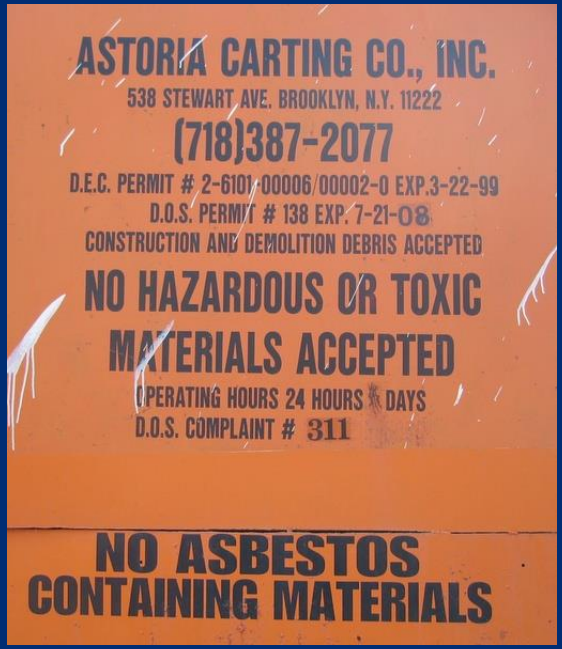
- Plastic components of RMW treated in a moist heat autoclave should appear discolored, deformed, misshapen or stuck together

Untreated Regulated Medical Waste (RMW)

Treated RMW

363-7.1(k) Landfill operating requirements Friable asbestos-containing waste disposal

- Must be addressed in Waste Control Plan
- Must be transported per Part 364 and packaged properly
- Special area designated for disposal of friable asbestos waste
- Needs to be put in pre-dug trench in waste or at bottom of working face and covered with at least 3' of waste or 18" of soil before compaction.
- Must be prevented from becoming airborne or coming into contact with landfill equipment.



363-7.1(l) Landfill operating requirements Non-friable asbestos-containing waste disposal

363-7.1(l) Non-friable asbestos-containing waste may be disposed of at a landfill provided it is not reduced in size or crushed or otherwise processed.

363-7.1(m) Landfill operating requirements Inspection for unauthorized waste

363-7.1(m) Inspection for unauthorized waste. …Select a waste collection vehicle at random at least weekly and unload its contents at the working face

363-4.6(d)(4) Done in accordance with waste control plan

Inspection for unauthorized waste

- Look for anything unusual, such as:
  - -Drums or five-gallon pails
  - -Packaging materials with warnings
  - -Sludge-like materials
  - -Materials with strong or unusual odors
  - -Pesticides
  - -Prohibited wastes

- Questionable loads should segregated until their status can be confirmed

- Record of results must be kept on premises

363-7.1(n) Landfill operating requirements Weight scales

- ≥ 20 tons/day – must install and utilize a weight scale
- < 20 tons/day – utilize a DEC approved alternate means

363-7.1(o) Landfill operating requirements Disposal prohibitions

- Waste Tires – whole or portion (363-7.1(o)(1))
- Lead acid batteries (363-7.1(o)(2))
- Source -separated recyclables, HHW, electronic waste, rechargeable batteries, mercury-containing products, and other source-separated items that are subject to legislatively enacted product stewardship programs (363-7.1(o)(3))

363-7.1(o) Landfill operating requirements Disposal prohibitions

- Mercury-added consumer products or Mercury-added thermostats (363-7.1(o)(4))
- Bulk liquids (any liquids except those from households in containers of 5 gallons or less) (363-7.1(o)(5))
- Hazardous waste as defined in Part 371 of this Title;

363-7.1(o) Landfill operating requirements
Disposal prohibitions
Regulated Hazardous Waste* (363-7.1(o)(6))

§371.4 - Lists of Hazardous Waste

§371.3 - Characteristics of Hazardous Waste

- Ignitability
- Corrosivity
- Reactivity
- Toxicity characteristic – TCLP

*Does not include Household Hazardous Waste

363-7.1(o) Landfill operating requirements Disposal prohibitions

- Low-level radioactive waste, processed and naturally occurring radioactive material (NORM) waste, or nuclear accelerator-produced radioactive material (NARM) waste (363-7.1(o)(7))
- Wastes with exhibit concentration > 25 pCi/g of Radium-226 (363-7.1(o)(8))
- Fluids produced from oil or gas production wells, including flowback water and production brines (363-7.1(o)(9))
- Any other materials prohibited by law (363-7.1(o)(10))
- Individual permits may prohibit disposal of additional materials (e.g., yard waste)

363-7.1(p) Landfill operating requirements
Industrial waste or drilling and production waste disposal

Industrial waste or drilling and production wastes, if accepted, must be handled and disposed of in accordance with the landfill's waste control plan

363-7.1(q) Landfill operating requirements Training requirements

- Landfill operations must be directed by a facility operator who has attended and successfully completed a landfill operations training course
- Operator must renew this training every 5 years
- Training related to radiation detection system operating procedures and radiation investigation alarm response procedures must be conducted at least annually

363-7.1(s) Landfill operating requirements Financial assurance

Must maintain financial assurance in an amount sufficient to cover the cost of closure, post-closure care, custodial care and corrective measures, if required.

- Annual updates to cost estimates
- Annual updates to financial assurance mechanism, if needed

Section 360.19
Operating requirements

360.19(a)	Applicability
360.19(b)	Water protection
360.19(c)	Waste acceptance and control
360.19(d)	Operation and maintenance
360.19(e)	Routine inspection
360.19(f)	Confinement of waste
360.19(g)	Dust control

Section 360.19
Operating requirements

360.19(h)	Vector control
360.19(i)	Odor control
360.19(j)	Noise
360.19(k)	Recordkeeping and reporting
360.19(l)	Personnel training
360.19(m)	Emergency response
360.19(n)	Tank Requirements

360.19(b) General operating requirements Water Protection

Prevent waste from being deposited in or entering surface water or groundwater

Operate the facility in a manner that minimizes the generation of leachate

Prevent leachate from entering surface water or groundwater except under a SPDES permit

360.19(c)(5) General Operational Requirements Waste acceptance and control

Solid waste must not be accepted at a solid waste management facility unless the waste is containerized or adequately covered in the vehicle transporting the waste to prevent dust and blowing litter.

General Operational Requirements
Waste acceptance and control

360.19(c)(12) Public access.

- Receipt of solid waste may occur only when an attendant is on duty. This provision does not apply to facilities (such as transfer stations) without permanent operating mechanical equipment.

360.19(c)(10) Control of access.

- Access to and use of all areas containing waste must be strictly and continuously controlled by fencing, gates, signs, natural barriers or other suitable means.

360.19(d) General operating requirements Operation and maintenance

- Accommodate traffic flow in a safe and efficient manner
- Ensure roadways are passable in all weather conditions

General Operational Requirements
Operation and maintenance

360.19(d)(4) Adequate numbers, types and sizes of properly maintained equipment must be available at the facility during all hours of operation….

360.19(d) General operating requirements Operation and maintenance

Tracking of soil, waste, leachate and other materials from the facility onto offsite roadways is prevented.

- Removal of snow from working face
- Haul roads should have proper drainage and slope and adequate drainage ditches
- Regular scraping of mud from haul roads
- To minimize tracking of mud from working face:

1. Roll and slope the area adjacent to the working face
2. Use wood chips in the area where the waste haulers turn around and back up to the working face

360.19(e) General operating requirements Routine inspection

- Monitor and inspect the facility for malfunctions, deteriorations, operator errors, and incidents on a daily basis.

360.19(f) General operating requirements Confinement of solid waste.

- Blowing litter must be confined to solid waste holding and operating areas by fencing or other suitable means. Solid waste must be confined to an area that can be effectively maintained, operated and controlled.

- Facilities need to control litter at the source by fencing and removal of debris from fencing on a routine basis.

360.19(g) General operating requirements Dust control

- Effectively control dust so that it is not a nuisance
- Maintain and control dust at and emanating from the facility

360.19(h) General operating requirements Vector control

- Effectively control on-site populations of vectors

360.19(j) General operating requirements Noise

- Ensure that noise resulting from equipment or operations does not exceed the sound levels beyond the property line at locations authorized for residential purposes

- Mufflers are required on all internal combustion-powered equipment used at the facility

Character of Community within a one mile radius of facility	Leq Energy Equivalent Sound Levels	
Time	7 am to 10 pm	10 pm to 7 am
Rural	57 decibals (A)	47 decibals (A)
Suburban	62 decibals (A)	52 decibals (A)
Urban	67 decibals (A)	57 decibals (A)

Emergency Response

360.19(m) General Operating requirements

- **Respond to emergencies such as fires, explosions, natural disasters, and spills at facility**

363-4.6(o) Facility Manual

- **Plan must describe actions to be taken in response to:**
  - Uncontrolled explosive landfill gases on-site or beyond property boundary
  - Unexpected events during the operation of the landfill gas management system
  - Unexpected events during the operation of the landfill's leachate collection and removal system

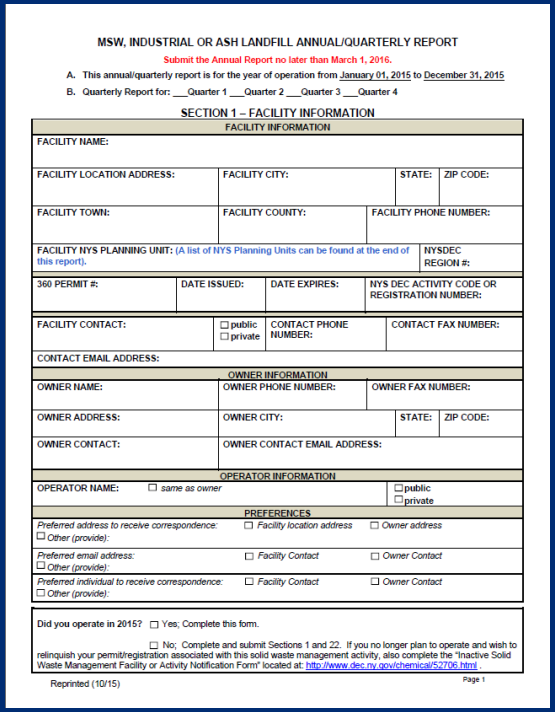
4. Recordkeeping and Reporting

363-8 & 360.19(k) Recordkeeping and reporting

- Daily log of wastes received & location of placement
- Inspection log
- Water quality records
- Maintenance log
- Training records

- Operational log of monthly total leachate generation amounts
- Records associated with radioactive waste detection procedures

363-8 & 360.19(k) Recordkeeping and reporting



MSW, INDUSTRIAL OR ASH LANDFILL ANNUAL/QUARTERLY REPORT

Submit the Annual Report no later than March 1, 2016.

A. This annual/quarterly report is for the year of operation from January 01, 2015 to December 31, 2015

B. Quarterly Report for: ___Quarter 1 ___Quarter 2 ___Quarter 3 ___Quarter 4

SECTION 1 – FACILITY INFORMATION

FACILITY INFORMATION

FACILITY NAME:			
FACILITY LOCATION ADDRESS:	FACILITY CITY:	STATE:	ZIP CODE:
FACILITY TOWN:	FACILITY COUNTY:	FACILITY PHONE NUMBER:	
FACILITY NYS PLANNING UNIT: (A list of NYS Planning Units can be found at the end of this report).		NYSDEC REGION #:	
360 PERMIT #:	DATE ISSUED:	DATE EXPIRES:	NYS DEC ACTIVITY CODE OR REGISTRATION NUMBER:
FACILITY CONTACT:	☐ public ☐ private	CONTACT PHONE NUMBER:	CONTACT FAX NUMBER:
CONTACT EMAIL ADDRESS:			

OWNER INFORMATION

OWNER NAME:	OWNER PHONE NUMBER:	OWNER FAX NUMBER:	
OWNER ADDRESS:	OWNER CITY:	STATE:	ZIP CODE:
OWNER CONTACT:	OWNER CONTACT EMAIL ADDRESS:		

OPERATOR INFORMATION

OPERATOR NAME: ☐ *same as owner*		☐ public ☐ private

PREFERENCES

Preferred address to receive correspondence: ☐ *Other (provide):*	☐ *Facility location address*	☐ *Owner address*
Preferred email address: ☐ *Other (provide):*	☐ *Facility Contact*	☐ *Owner Contact*
Preferred individual to receive correspondence: ☐ *Other (provide):*	☐ *Facility Contact*	☐ *Owner Contact*

Did you operate in 2015? ☐ Yes; Complete this form.

☐ No; Complete and submit Sections 1 and 22. If you no longer plan to operate and wish to relinquish your permit/registration associated with this solid waste management activity, also complete the "Inactive Solid Waste Management Facility or Activity Notification Form" located at: http://www.dec.ny.gov/chemical/52706.html .

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Annual Report

- For all active landfills, the operator must submit to both the central office and the appropriate regional office of the department, an annual report no later than March 1

Water Quality Monitoring Results

- Due within 90 days of sample collection
- Summary in Annual Report

Title V Permit

MSW landfills subject to Title V permit

- Accepted waste at any time since November 8, 1987
- Have a design capacity of 2.5 million megagrams (2.75 million tons) or 2.5 million cubic meters (3.3 million cubic yards)

Thank You

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