GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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SOLID WASTE SOLIDIFICATION DESIGN AND OPERATIONAL PLAN

Supplemental Data for Solid Waste Handling Permit

The Design and Operational (D&O) Plan should be developed only after the letter of site acceptability from the EPD has been received. It is recommended that design review meetings with the applicant, consultant and EPD take place during plan development. EPD staff will also do an on-site investigation as part of the design review procedure. Please adhere to the following format and address the following specifications when developing the plan.

General

1. Plan sheet dimensions should be 24" x 36". Sheet dimensions should neither exceed 30" x 46" nor be less than 24" x 30".

2. All sheets in the plan should be the same size using a title block.

3. The plan should be complete in and of itself. Auxiliary manuals will not be accepted.

4. All sheets must be stamped and signed by a professional engineer registered to practice in the State of Georgia.

5. An electronic copy of the D&O Plan must be submitted via the Georgia EPD Online System (GEOS). A hard copy of the D&O Plan is required for initial review and three (3) hard copies are required for final review.

Format

I. Title Sheet

A. Location map:

1. Minimum five (5) mile radius from site perimeter.

2. DOT County Map or equivalent: map should be updated through local reconnaissance.

3. Direction of stream flow.

4. Show north arrow.

B. Official site name.

C. Table of contents.

D. Responsible official: title, address and telephone number.

E. Property owner: name, address and telephone number.

F. Consultant: name, address and telephone number.

II. Site Design Sheets

A. Scale: 1 inch = 100 feet.
Include a scale line.

B. Indicate north arrow.

C. Property lines: show bearings and lengths.

D. Existing site topography:

1. Contour interval: two (2) feet unless another interval is approved by the EPD.

2. Identify all existing physical/land features.

3. Must extend at least 50 feet beyond property lines.

E. 100-year floodplain.

F. Wetlands.

G. Limited access to the facility.

H. Facility layout.

I. Cross-sections:

1. All cross-sections should be chosen to show maximum details.

2. For each section, show the location of transverse sections passing through it.

III. Detail plan of the facility

A. Facility layout:

1. Receiving area.

2. Pre-solidification storage area.

3. Location of solidification equipment (pit, vessel, etc.).

4. Post-solidification storage area.

5. Emergency storage area.

6. Drainage system discharge for wastewater, surface run-on and run-off. Include profiles, if necessary.

7. Vehicle and equipment cleaning area.

B. Process flow diagram: show the flow of waste through the solidification equipment. Include required tests and label each part of the process.

C. The entire solidification operation must be under cover. A plan and profile of the enclosed structure are required. An enclosed structure for solidification operations at landfills is not required.

D. All solidification equipment areas should be constructed of non-earthen material (e.g. concrete, metal) for sufficient structural strength in order to prevent unit failure. The process area must have secondary containment. If the processing structure is in-ground, a leachate detection system or a groundwater monitoring system must be installed. The leak detection system should signal releases from the processing area at the earliest practicable time. A raised berm around the perimeter must be constructed to prevent waste run-off to the environment. A detailed plan view and cross-sections of the solidification area are required.

E. Waste loading and unloading docks must be constructed of non-earthen material. The docks should be sloped to a sump area that is designed to contain spills and leaks during waste transfer.

F. If required, a groundwater monitoring plan shall be designed in accordance with Solid Waste Management Rule 391-2-4-.14., Groundwater Monitoring and Corrective action. The groundwater monitoring plan shall be a part of the Design and Operational Plan. Groundwater monitoring after facility closure will be determined by the EPD.

IV. Narrative

A. Description of incoming waste stream(s):

1. Sources

2. Types

3. Estimated daily average weight or volume of each waste stream to be received and processed.

B. Bulking agents: type and average processing volume.

C. Storage and containment:

Storage capacity of the facility in volume (cubic yards) must be a minimum of three (3) times the daily processing capacity, including storage in the:

1. Receiving area.

2. Pre-solidification storage area.

3. Post-solidification storage area.

4. Emergency storage area: emergency storage is only to be used for defined emergencies (i.e., circumstances that impede facility operations or transport of waste). Circumstances that constitute an emergency should be specified in the plan.

No waste is to be stored in excess of the permitted capacity.

D. Waste approval procedure:

All waste streams to be received must be evaluated, and a generator waste profile must be approved prior to accepting waste at the site. A generator waste profile must include, at a minimum, the following data:

1. Verification that the waste is not hazardous as specified in the Code of Federal Regulation Chapter 40, parts 261 and 262, in accordance with the Georgia Rules for Hazardous Waste Management.

2. Verification that the waste has been collected and sampled in accordance with EPA SW-846, Chapter 9, Sampling Plan.

3. Documentation that the laboratory work was conducted by an accredited NELAC/NELAP laboratory. Any person submitting data to the EPD prepared by a commercial analytical laboratory shall stipulate that the laboratory is approved. The stipulation shall include: 1. name of the laboratory, 2. name of the accrediting agency, 3. accreditation number or identifier issued by the accreditation agency, 4. scope of accreditation relevant to the data submitted (e.g., air, drinking water, non-potable water, solid/hazardous wastes), 5. effective (or issued) date of accreditation, 6. expiration date of accreditation.

An annual recertification of the profile is required.

E. Waste verification procedure:

Verification that the received waste is not hazardous:

1. All waste streams received at the facility must be manifested with a generator waste profile.

2. Each waste container received at the facility must be evaluated to determine whether the waste conforms to its waste profile.

3. A hazardous waste screening procedure that includes, at a minimum, pH and flash point testing for all liquid waste received must be specified.

4. Quarterly, the facility must conduct random toxicity characteristic testing of a single liquid waste stream received prior to processing.

5. Quarterly, the facility must conduct random toxicity characteristic testing of mixed but not solidified waste.

The EPD Hazardous Waste Management program must be notified within 24 hours if hazardous waste is identified. The most current Hazardous Waste Management Program telephone number is to be posted in the facility.

F. Processing of waste:

1. Description of the solidification equipment and leak detection system.

2. Prior to the mixing of any different waste streams and/or the addition of bulking agents, compatibility testing must be performed to ensure that the mixing or addition of bulking agents will not result in any reaction that could constitute a threat to human health and the environment. Waste compatibility test procedures for the facility must be developed by a professional engineer registered to practice in the State of Georgia and upon approval will be made a permanent part of the facility's standard operating procedures.

3. The addition of chemicals or products other than bulking agents, which are agents that decrease waste moisture content, is prohibited.

G. Disposal of waste:

1. Containment, handling and removal of waste from facility.

2. Treatment and disposal of wastewater.

3. Each batch of solidified waste must pass the paint filter test prior to being transported for disposal at a permitted municipal solid waste landfill or for energy recovery at a permitted waste-to-energy facility.

4. Transport of waste to a permitted disposal or waste-to-energy facility.

5. Disposal of rinsate from vehicles and storage tanks.

H. Contingency plan and emergency procedures:

1. Procedures in response to fires, spills, explosions, or equipment failure at facility.

2. Listing of all emergency equipment and spill containment equipment.

3. Include a statement specifying that the type and quantity of fire suppression equipment will be installed per directions of the local fire marshal and require a letter of

coordination with appropriate emergency response personnel. Solidification operations performed at landfills are required to specify the appropriate fire protection measures.

4. Arrangements for handling waste if storage capacity is exceeded due to equipment failure, fire, explosion, etc.

5. Arrangements for handling prohibited waste if detected at the facility after a load has been accepted, but before it has been managed at the site. The generator must be notified, and the waste must be secured in a designated area until it is removed from the facility within a reasonable period of time. Records of the waste type, received date, notification and removal date must be maintained at the facility.

6. The local emergency coordinator and contact information must be posted in the facility at all the times.

7. The EPD District Office and the Solid Waste Management Program must be notified of any fires, explosions, or releases to the environment that occur at the facility by phone no more than 24 hours after occurrence and in writing no more than 5 days after occurrence.

8. The most current district and program telephone numbers are to be posted at designated locations in the facility.

I. Supervision and manpower requirements:

1. Supervision of facility.

2. Training of supervisor(s) and employees.

J. Maintenance procedure: include regular daily maintenance of the facility (frequency of cleaning, emptying of storm water collection sumps etc.).

K. Dust control.

L. Operational records/daily logs:

1. Record of all waste received by volume or weight, with generator name, address and telephone number.

2. Record of bulking agents received by volume or weight.

3. Amount of processed waste and location of waste disposal/recycling.

4. Verification/Testing records.

5. Compatibility procedure and testing.

6. Maintenance and repair records.

7. Emergencies: records of emergency storage use should include use date, waste generator profile number and waste generator name.

8. All records must be available for EPD review and be kept for a minimum of three years.

M. Construction certification: must be provided by a professional engineer registered to practice in the State of Georgia prior to the receipt of waste.

N. Annual certification: a qualified professional engineer registered to practice in the State of Georgia must annually inspect the solidification or mixing process structures and submit a written assessment of the integrity of the system to the EPD (not required for solidification operations at landfills).

O. Prohibited waste.

P. Directional and information signs: sign posted at the entrance to the facility should indicate the days and hours of operation.

Q. On-site first aid.

R. Site equipment.

S. Backup equipment.

T. Site communications.

U. Zoning: NOTE - Permit will not be issued until written local zoning approval is received by the EPD.

V. Site acceptability limitations.

W. Other state and local permits, as applicable.

V. Closure Plan

A closure plan must describe the steps necessary to close the solidification facility at any time during its intended operating life. The plan must include, at a minimum:

A. Requirements for notice of final closure, closure certification and deed notification in accordance with the Rules for Solid Waste Management, 391-3-4-.11.

B. Name, address and telephone number of the person or office to contact about the facility during closure.

C. Closure cost:

1. Provide a detailed cost estimate, in current dollars, that equals the maximum potential cost for final closure at any time during the active life of the facility. Estimate must be based upon third party closure that includes, at a minimum, itemized costs for:

a. Removal of waste:

All wastes for closure cost determination must be evaluated as unprocessed waste. Liquid waste handling, transportation and processing costs must be specified.

b. Removal of solidification agents.

c. Removal of contaminated wastewater from sumps and floor drains.

d. Pressure washing and decontamination of floors, walls and equipment.

e. Soil sampling for Appendix II: sampling and analysis of soil from underneath the in-ground processing structure of each solidification area. The soil samples are to be collected every 300 square feet from soil located no less than 18 inches from the bottom of the in-ground processing structure. The soil samples are to be sampled and analyzed for Appendix II constituents in accordance with the Rules for Solid Waste Management, 391-3-4-.14, Groundwater Monitoring and Corrective Action using EPA publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

f. A contingent vertical and horizontal delineation plan for Appendix II constituents [40 CFR Part 258, Subpart E, as amended, 56 Fed. Reg. 51032-51039 (October 9, 1991)] determined to be released into the environment and costs for plan implementation.

g. Contingency cost (5% of total cost).

2. Closure cost estimates are to be adjusted annually to account for inflation in accordance with GA EPD inflation calculation.

Solidification operations performed at landfills are only required to provide cost estimates for clean up and removal of solidification pit.

VI. Financial Responsibility

Provide proof of adequate financial responsibility for closure in accordance with the Rules for Solid Waste Management, Chapter 391-3-4.