



STAFF DECISION SUMMARY

APPROVAL of the Permit Modification for the Update in the Annual Disposal Rate for the Highway 93 Class 2 Landfill

This summary is in support of the South Carolina Department of Health and Environmental Control's (DHEC) decision to approve the tonnage increase for the Highway 93 Class 2 Landfill. The landfill is located at 2180 Greenville Highway, Liberty, Pickens County, South Carolina. This landfill is for the disposal of Class 2 wastes that include: asphalt, concrete, bricks, lumber, construction and demolition debris, and other items listed in Appendix I of Reg. 61-107.19.

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The following responses have been generated regarding comments received during the comment period and the Public Hearing:

Section 1: SOLID WASTE MANAGEMENT

The principal law governing solid waste management in this state is the South Carolina Solid Waste Policy and Management Act of 1991 (the Act), S.C. Code Ann. § 44-96-10 *et seq.* (2002 & Supp. 2015). One of the main purposes of the Act is to ensure those activities associated with solid waste management are executed in a manner adequate to protect human health, safety, and the welfare of the environment.

The passage of the Act acknowledged a growing statewide need to address the generation, management, and disposal of solid waste. The Act gives DHEC the responsibility of developing regulations that establish minimum standards for solid waste management facilities. Regulation 61-107.19, *Solid Waste Management: Solid Waste Landfills & Structural Fill* (the Regulation) became effective May 23, 2008. This regulation outlines the requirements for permitting the design, construction, operation, maintenance, and closure of landfills. Please see the following web page:

<https://live-sc-dhec.pantheonsite.io/sites/default/files/media/document/R.61-107.19.pdf>

for a copy of the Regulation.

Section 2: INCREASING THE SIZE OF THE LANDFILL

This modification to the permit does not increase the size of the landfill. This modification only updates the annual disposal rate. The annual disposal rate dictates how much waste can be disposed on an annual basis.

Section 3: LOCATION / PROPERTY VALUES / ECONOMIC DEVELOPMENT

DHEC does not choose or propose the locations for landfills. DHEC is responsible for determining if a proposed site that is submitted by a Permittee can meet all the regulatory requirements. The Permittee selects the location. The rules and ordinances of local governments may influence where a landfill can or cannot be sited. The requirements of the Regulations and local land-use and zoning requirements are all key factors in determining the suitability of a site for a landfill. If a given location meets the requirements of the Act, the Regulation, and local zoning, then a permit may be issued, regardless of whether a less objectionable location exists. The Act and the Solid Waste Regulation do not require the Permittee to evaluate alternate sites, nor do they specifically provide for consideration of property values during DHEC's review of an application. However, the Act and the Regulation do require certain buffers to be met and that the landfill application be consistent with local zoning.

Section 4: GROUNDWATER TESTING, PROTECTION, and MONITORING

Prior to designing and constructing a landfill, the applicant is required to collect groundwater level data to establish the seasonal high-water table. Per R.61-107.19, Part IV, Section D.1: "The estimated deflected (or settled) bottom elevation of the landfill base grade shall be a minimum of two feet above the seasonal high water table elevation as it exists prior to the construction of the disposal area." This requirement in the regulation gives the groundwater another level of protection against any possible constituents of concern impacting groundwater quality.

Once constructed, groundwater monitoring is required at all Class 2 Landfills. Each active landfill is required to install monitoring wells and sample and analyze them semi-annually (twice per year). The Department requires a minimum of one upgradient well (for baseline purposes) and three downgradient wells (in the direction of groundwater flow).

All groundwater wells are required to be sampled for the full list of Appendix III constituents, which are listed below:

Inorganic Constituents:

- | | | |
|--------------|--------------|--------------|
| (1) Arsenic | (5) Lead | (9) Chloride |
| (2) Barium | (6) Mercury | (10) Nitrate |
| (3) Cadmium | (7) Selenium | (11) Sulfate |
| (4) Chromium | (8) Silver | |

Organic Constituents:

- (12) Benzene
- (13) Carbon tetrachloride
- (14) Chlorobenzene
- (15) Chloroform; Trichloromethane
- (16) 1,1-Dichloroethane; Ethylidene chloride
- (17) 1,2-Dichloroethane; Ethylene dichloride
- (18) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
- (19) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
- (20) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
- (21) Ethylbenzene
- (22) Methylene chloride
- (23) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
- (24) Toluene
- (25) 1,1,1-Trichloroethane; Methylchloroform
- (26) 1,1,2-Trichloroethane
- (27) Trichloroethylene; Trichloroethene
- (28) Vinyl chloride
- (29) Xylenes

While the permittee is allowed to choose the lab used for testing, the applicant are required to choose a lab that is certified by DHEC to perform the analysis.

Section 5: HYDROGEN SULFIDE (H₂S)

Hydrogen sulfide (H₂S) is a colorless gas with a “rotten egg” smell. It occurs naturally and can be produced by the breakdown of organics (e.g., yard trimmings, food waste) and human/animal waste (e.g., sewage). It is heavier than air and can collect in low-lying or poorly ventilated areas. Hydrogen sulfide can be produced at landfills in two primary ways: 1) from the breakdown of organic matter; and 2) from the breakdown of gypsum-containing materials such as wallboard/sheetrock. The production of hydrogen sulfide can increase when materials are crushed, compacted, or come in contact with rainwater – all of which commonly occur at landfills. For more detailed information about hydrogen sulfide at landfills, please see the following link:

<https://scdhec.gov/sites/default/files/Library/OR-1906.pdf>

Section 6: TRUCK TRAFFIC

DHEC does not have authority to consider truck traffic or road conditions in its permitting process. All issues regarding roads are evaluated by the South Carolina Department of Transportation (SCDOT) or Pickens County, depending on who owns the road in question. State roads would typically be under the jurisdiction of the SCDOT, and County roads would be under the jurisdiction of Pickens County.

Section 7: NOISE

Although sound and/or noise from Class 2 landfills are not regulated by DHEC, local zoning ordinances may address noise at industrial sites and determine acceptable levels off-site. DHEC requires the landfill facility to be consistent with all local zoning ordinances.

Section 8: ACCEPTABLE WASTES

The MRR Highway 93 Class 2 Landfill is allowed to only bring in Class 2 wastes, generally referred to as C&D Debris. The acceptable wastes are listed in Appendix I of Reg. 61-107.19 and includes, but is not limited to: concrete, asphalt, shingles, land-clearing debris, glass, pallets, pipes, mattresses, asbestos-containing material, tile, painted waste (including lead-based paint), and lumber.

Section 9: UNACCEPTABLE WASTES

Wastes that cannot be accepted at the MRR Highway 93 Class 2 Landfill include all items listed in Appendix II of Reg. 61-107.19. Other wastes that cannot be accepted include municipal solid waste (MSW), radiological waste, hazardous waste, infectious waste, and coal combustion residuals.

Section 10: METHANE GAS CONTAMINATION

Methane gas production is associated with disposal of large amounts of organic matter within the waste mass. This facility is not allowed to accept food waste. Typically, Class 2 Landfills do not accept the organic matter necessary for methane to be an issue; therefore, the Department does not require methane monitoring at Class 2 Landfills.