



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY VALLEY REGIONAL OFFICE

Matthew J. Strickler
Secretary of Natural Resources

P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800 Fax (540) 574-7878
Located at 4411 Early Road, Harrisonburg, VA
www.deq.virginia.gov

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

SOLID WASTE FACILITY PERMIT PERMIT NUMBER 585

Facility Name: Augusta Regional Landfill

Facility Type: Sanitary Landfill

Latitude: N 38° 04' 47"

Site Location: Augusta County

Longitude: W 79°04' 18"

Location Description: The facility is located at 749 Christians Creek Road (Route 648), Staunton, approximately three miles south of City of Staunton, Virginia.

Background: The facility is a publicly owned/operated sanitary landfill that serves the County of Augusta, the City of Staunton, the City of Waynesboro, the County of Highland, and the surrounding areas. The facility is owned by the County of Augusta, the City of Staunton, and the City of Waynesboro and is operated by the Augusta County Service Authority. The Augusta Regional Landfill was previously referred to as Augusta County/Staunton Landfill No. 2. The landfill is adjacent to the closed Augusta County Landfill No. 1 (SWP021). The wastes accepted include those wastes identified in Module II, which is based on the information provided on DEQ Form SW PTB dated April 20, 2020.

The landfill encompasses approximately 357 acres, of which 77.7 acres are permitted as Phases 1 through 7 waste disposal units. Phases 1 through 4 have been constructed and filled with waste. The total capacity of Phases 1-7, as provided in the Design Report, is approximately 12,371,000 to 12,565,000 cubic yards depending on the selected final cover systems described in Module XII; the estimated site life for Phases 1-7 is approximately until 2048. This landfill life is based on an estimated in-place waste density of 1,200 pounds/cubic yard.

Permit Modification: This modification (No. 14) to the permit approves an alternate final cover system designated as Option No. 2 described in Module XII. The modification also approves revisions to the following documents: Design Plan, Closure Plan, Post Closure Care Plan, Design Report, and Gas Management Plan.

All previous permit modifications are outlined in detail in Module I, Section I.G.

THIS IS TO CERTIFY THAT:

Owners

County of Augusta
P.O. Box 590
Verona, VA 24482

City of Staunton
P.O. Box 58
Staunton, VA 24402

City of Waynesboro
P.O. Box 1028
Waynesboro, VA 22980

Operator

Augusta County Service Authority
18 Government Center Lane
Verona, VA 24482

is hereby granted a permit to construct, operate, and maintain the facility as described in the attached Permit Modules I, II, III, X, XI, XII, and XIII and Permit Documents incorporated by reference. These Permit Modules and Permit Documents are as referenced hereinafter and are incorporated into and become a part of this permit.

The herein described activity is to be established, modified, constructed, installed, operated, used, maintained, and closed in accordance with the terms and conditions of this permit and the plans, specifications, and reports submitted and cited in the permit. The facility shall comply with all regulations of the Virginia Waste Management Board. In accordance with Chapter 14, § 10.1 - 1408.1(D) of the Code of Virginia, prior to issuing this permit, any comments by the local government and general public have been investigated and evaluated and it has been determined that the facility poses no substantial present or potential danger to human health or the environment. The permit contains such conditions and requirements as are deemed necessary to comply with the requirements of the Virginia Code, the regulations of the Board, and to prevent substantial or present danger to human health or the environment.

Failure to comply with the terms and conditions of this permit shall constitute grounds for the revocation or suspension of this permit and for the initiation of necessary enforcement actions.

The permit is issued in accordance with the provisions of 10.1-1408.1.A, Chapter 14, Title 10.1, Code of Virginia (1950) as amended. Variances that have been approved for this facility are included in Permit Attachment I-1.

Issued:	May 31, 1995
Modification No. 1:	June 27, 2002
Modification No. 2:	June 26, 2003
Modification No. 3:	March 30, 2004
Modification No. 4:	March 11, 2005

Modification No. 5: March 21, 2006
Temporary Authorization (TA) #1: March 27, 2006
Reissuance of TA #1: September 19, 2006
Modification No. 6: March 13, 2007
Modification No. 7: August 8, 2008
Modification No. 8: July 31, 2009
Modification No. 9: February 1, 2010
Modification No. 10: March 11, 2011
Modification No. 11: August 16, 2013
Modification No. 12: June 23, 2015
Modification No. 13: December 13, 2017

APPROVED:

B. Keith Fowler
Deputy Regional Director

DATE:

Modification No. 14

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PERMIT MODULES REFERENCE LIST

PERMIT MODULE I – GENERAL PERMIT CONDITIONS

PERMIT ATTACHMENT I-1, PREVIOUS PERMIT APPROVAL LETTERS

PERMIT MODULE II – CONDITIONS OF OPERATION

PERMIT MODULE III – SANITARY LANDFILL DESIGN

PERMIT MODULE X – DETECTION MONITORING

PERMIT MODULE XI – ASSESSMENT MONITORING

PERMIT MODULE XII – CLOSURE

PERMIT MODULE XIII – POST CLOSURE CARE

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PERMIT DOCUMENTS

The documents listed below are hereby incorporated into this permit and the permittee is subject to all conditions contained therein. It is the responsibility of the permittee to properly maintain and update these documents. Any version with a revision date other than as listed below is not considered to be the official approved version and is subject to Department review and approval prior to being recognized as the “permitted” version.

1. *Design Plans, Augusta Regional Landfill, Permit #585, Permit Amendment, Part B, Phases 4-7*, prepared by Draper Aden Associate, last revised March 2008 with the following revisions:
 - a. Sheets 6, 10, 11, and 17 prepared by SCS Engineers, dated November 2010.
 - b. Sheets 6 and 21 revised by SCS Engineers.
 - c. Sheet 18A prepared by SCS Engineers, last revised July 22, 2020.
2. *Closure Plan*, prepared by SCS Engineers, last revised July 22, 2020.
3. *Post-Closure Care Plan*, prepared by SCS Engineers, last revised July 22, 2020.
4. *Design Report [for Phases 4-7], Augusta Regional Landfill*, prepared by Draper Aden Associate, dated July 2, 2007 with the following revisions: Pages iv, 5, and Attachment 9 Table 1, revised by SCS Engineers, last revised February 2020.
5. *Technical Specifications Section 13302*, prepared by SCS Engineers, dated February 14, 2020.
6. *Landfill Gas Management Plan*, revised by SCS Engineers, last revised July 22, 2020.
7. *Landfill Gas Collection and Control System Design Criteria Memorandum*, prepared by SCS Engineers, last revised April 21, 2020.
8. *Landfill Gas System Master Plan, Sheets 0-10*, prepared by SCS Engineers, last revised August 4, 2020.
9. *Groundwater Monitoring Plan*, prepared by Draper Aden Associate, last revised May 9, 2008.
10. *Alternate Final Cover Demonstration*, prepared by SCS Engineers, September 30, 2019.
11. *Evaluation of the Leachate Collection and Pumping System*, prepared by Draper Aden Associate, last revised January 10, 2008.
12. *Design Plans [for Phases 1-3], Augusta County/Staunton Landfill No. 2, Part B Permit Application*, prepared by Draper Aden Associate, last revised November 30, 1994.
13. *Design Report [for Phases 1-3] for the Augusta Regional Landfill*, prepared by Draper Aden Associate, last revised March 30, 2004.

The following documents have been submitted to satisfy permit or regulatory requirements; however, are considered reference documents and are not incorporated into SWP 585. This list may not be all-inclusive.

1. *Augusta County Service Authority Sanitary Landfill, Solid Waste Authority Permit Application, Part A*, prepared by Virginia Geotechnical Services, P.C. and Draper Aden Associates, dated April 1990.
2. *Part A Permit Application, Augusta County/Staunton Sanitary Landfill No. 2, Addendum 3*, prepared by Draper Aden Associates, dated December 5, 1994.
3. *Construction Documentation Report, Phase I Cell Construction*, prepared by Draper Aden Associates, dated November 1997.
4. *Augusta County/Staunton Landfill No. 2, Phase II and Phase III Construction, Volumes 1-3*, prepared by Draper Aden Associates, dated May 2002.
5. *Construction Certification Report, Augusta Regional Landfill, Landfill #2-Phase 4 construction*, prepared by SCS Engineers, dated September 28, 2009.

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PERMIT MODULE I GENERAL PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

The permittee is allowed to dispose solid waste on-site in accordance with the conditions of this permit. Any disposal of solid waste not authorized by this permit is prohibited. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 10.1-1402(18), 10.1-1402(19), or 10.1-1402(21) of the Virginia Waste Management Act (Chapter 14, Title 10.1, Code of Virginia (1950), as amended); or any other law or regulation for protection of public health or the environment. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. For purposes of this permit, terms used herein shall have the same meaning as those in the Virginia Waste Management Act, and Part I and other pertinent parts of the Virginia Solid Waste Management Regulations (VSWMR, 9VAC20-81), unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by the generally accepted scientific or industrial meaning of the term or a standard dictionary reference. "Director" means the Director of the Department of Environmental Quality, or his designated or authorized representative.

I.B. DUTIES AND REQUIREMENTS

The permittee shall comply with all conditions of this permit and 9VAC20-81. The effect of this permit is detailed in 9VAC20-81-490, and it shall be the duty of the permittee to ensure the applicable requirements are met. Additionally, the permittee is subject to the recording and reporting requirements detailed in 9VAC20-81-530. In addition to these requirements, the following additional conditions are invoked per 9VAC20-81-430, and shall be complied with:

I.B.1. Noncompliance may be authorized by a schedule of compliance [9VAC20-81-490.D. and 9VAC20-81-490.H.]. Any other permit noncompliance constitutes a violation of Virginia Waste Management Act and is grounds for enforcement action, or for permit revocation, revocation and reissuance, or modification [9VAC20-81-570 and 9VAC20-81-600].

I.B.2 The permittee shall comply with the requirements of this permit and any provisions of RCRA Subtitle D (Title 40, Code of Federal Regulations, Section 258) requirements as they become applicable upon their effective date. This permit may not act as a shield against compliance with any part of RCRA or any other applicable federal regulation, state regulation or state law.

- I.B.3. In an enforcement action, it shall not be a defense for the permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- I.B.4. In the event of noncompliance with this permit, the permittee shall take all reasonable steps to minimize releases of solid wastes or waste constituents to the environment and shall carry out measures to prevent substantial adverse impacts on human health or the environment.
- I.B.5. The permittee shall at all times properly operate and maintain all units (and related appurtenances) which are installed or used by the permittee to achieve compliance with the operations manual and 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/quality control procedures. This provision requires the operation of back-up or auxiliary equipment only when necessary to achieve compliance with the conditions of this permit.
- I.B.6. The permittee shall furnish to the Director, within a reasonable time, any relevant information that the Director may request to determine compliance with this permit, regulations or the Act. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit by the date specified in the request.
- I.B.7. The permittee shall allow the Director, or an authorized representative, at a reasonable time, upon the presentation of appropriate credentials, to:
- I.B.7.a. Enter the permitted facility where a regulated unit or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - I.B.7.b. Have access to and copy any records that must be kept under the conditions of this permit;
 - I.B.7.c. Inspect any unit, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
 - I.B.7.d. Sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by Virginia Waste Management Act, any substances or parameters at any location within his control.
- I.B.8. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample to be analyzed must be the appropriate method from the

latest edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, if available.

Laboratory samples shall be analyzed in accordance with 1 VAC 30-45, Certification for Noncommercial Environmental Laboratories, or 1 VAC 30-46, Accreditation for Commercial Environmental Laboratories.

- I.B.9. This permit is not transferable to any person, unless approved by the Director. The Director may require modification or revocation and reissuance of the permit pursuant to 9VAC20-81-490.G. Before transferring ownership or operation of the facility during its operational life, the permittee shall notify the new owner or operator in writing of the requirements of Parts III and V, of the Virginia Solid Waste Management Regulations, the Financial Assurance Regulations, 9VAC20-70, and this permit.
- I.B.10. In accordance with § 10.1-1408.2, all facilities must have a Certified Operator as required by the Board of Waste Management Facility Operators-Licensing Regulations, 18 VAC 155-20.
- I.B.11. Specifications for all drainage media should specify that the material shall contain no greater than 15% calcium carbonate equivalent. Department literature regarding research on leachate collection media indicates that weight loss greater than 15% results in an unacceptable loss of performance. If a greater percentage is specified or allowed, a demonstration that performance is not adversely affected must be provided to the Department for review and approval.
- I.B.12. Recirculation of collected leachate shall not be allowed, in accordance with 9VAC20-81-210.D.3., except when the area to be irrigated is underlain by a composite liner system. Furthermore, in accordance with 9VAC20-81-200.C.3.c., decomposition gas condensate may be recirculated into the landfill provided the facility complies with the composite liner requirement and the leachate control system requirements of Part III of VSWMR. A composite liner system is a system designed to meet the requirements of 9VAC20-81-130.J.1.
- I.B.13. The closure cost estimate must reflect the maximum cost of closure at all times. The owner has the responsibility to maintain the closure and post closure cost estimate and associated financial assurance funding as conditions change.
- I.B.14. Land-clearing, excavation, and construction activities that involve the disturbance of wetlands or streams shall not commence without authorization from the Virginia Water Protection (VWP) Program and/or Army Corps of Engineers.
- I.B.15. Blasting operations shall be conducted to avoid changes in the hydrogeologic character of the remaining underlying formations, and to avoid creation of instabilities or irregularities in these that might potentially lead to damage to the impermeable membrane to be installed. It shall be ensured that adjacent landfill

facilities not be damaged, which includes the geosynthetic landfill liner and gas and groundwater compliance monitoring locations.

I.B.16. The facility shall maintain and follow an approved Erosion & Sediment Control Plan for all land-disturbing activities in accordance with the Erosion and Sediment Control Regulations, 9 VAC 25-840.

I.C. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The permittee shall maintain a complete copy of the Solid Waste Permit and incorporated Permit Documents at the facility, or another location approved by the Director, until post-closure is complete and certified by a professional engineer, and shall maintain amendments, revisions, and modification to these documents. In addition, the facility shall maintain the following additional documents:

I.C.1. Operations Manual with annual certification by Responsible Official

I.C.2. Detailed, written estimate, in current dollars, of the cost of closing the facility, post-closure care and corrective action measures

I.C.3. All other documents/records required and applicable from the following:

I.C.3.a. Monitoring records from leachate, gas, and groundwater monitoring.

I.C.3.b. Inspection records as required from construction/installation, operational, closure, post-closure inspection requirements.

I.C.3.c. Personnel training records

I.C.3.d. Daily operational records (i.e., solid waste received and processed, fill area records, records of special wastes accepted, a logbook which is a daily narrative account of the activities at the landfill).

I.C.3.e. Construction quality assurance reports, record drawings and engineers certifications for all new liner and/or final cover construction

I.C.4. An approved copy of the complete Part A permit application

I.C.5. Documentation of the authorization to discharge leachate into the publicly/privately owned treatment works, leachate volumes sent to the POTW, and periodic leachate sampling analytical results

I.C.6. Research, Development, and Demonstration Plan documentation and testing data, if applicable.

I.D. DOCUMENTS TO BE SUBMITTED

In addition to the documents/records/reports to be submitted per the requirements of this permit or 9VAC20-81, the permittee shall also submit the following documents to the Director according to indicated schedules:

- I.D.1. Prior to expansion into each new phase, the permittee shall submit all required certification documents per 9VAC20-81-490.A., and:
 - I.D.1.a. Authorization from the Augusta County Services Authority's Wastewater Treatment Plant in Fishersville to discharge the increased volume of leachate and wastewater to the sewerage system and treatment works.
 - I.D.1.b. Report and supporting documents resulting from quality control/quality assurance activities performed during construction and installation of the liner/drainage systems, including the installation contractor's written acceptance of the surfaces to be lined, synthetic liner manufacturer and installer warranties, laboratory test results of the permeability of the clay liner and the drainage media overlying the liner, and representative copies (sufficient to demonstrate responsible control) of the accumulated inspection schedules resulting from the professional engineer's oversight of the construction.
- I.D.2. In accordance with 9VAC20-81-490.A., certification from a design engineer, who must be a professional engineer licensed to practice in the Commonwealth, that the construction of the facility has been completed in accordance with the permit, approved plans and specifications and is ready to begin operation. A certification will be required for each lined phase of development.
- I.D.3. Certification (separate from I.D.2, above) from the Construction Quality Assurance (CQA) officer that the approved CQA plan has been successfully carried out and that the constructed unit meets all requirements of the permitted CQA plan, in accordance with 9VAC20-81-130.Q. A certification will be required for each lined phase of development. The CQA officer must be a professional engineer licensed to practice in Virginia.
- I.D.4. The as-built plans of all groundwater and gas monitoring wells shall be submitted as these wells are installed or modified. Information to be included on the as-built plans shall include, but is not limited to, the total depth of the well, the surveyed elevations of the top of casing and ground surface (or apron), and the length and location of the screened interval and annular space seal. All dimensions are to be shown on well construction schematics.

I.E. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DIRECTOR

All reports, notifications, or other submissions which are required by this permit to be sent or given to the Director should be sent to:

Virginia Department of Environmental Quality
Division of Land Protection & Revitalization
Valley Regional Office
4411 Early Road
P.O. Box 3000
Harrisonburg, VA 22801

I.F. SITE SPECIFIC CONDITIONS

The provisions of this section are in addition to the permit conditions and regulatory requirements and are specifically developed for this facility. The permittee shall comply with all conditions of this section, as follows:

- I.F.1. The final permit is based on permit application submittals (drawings and reports) that may contain the word “proposed” and similarly tentative language. The documents that are incorporated into SWP585 have been evaluated for administrative and technical adequacy and have been approved as proposed. Therefore, any references to a design, construction, operation, monitoring or closure criteria are considered to be approved as proposed.
- I.F.2. The facility is subject to the conditions listed in the Part A approval letters dated January 15, 1991 and March 1, 1995. Disposal operations shall not extend beyond the area described as “Limits of Fill” on the plans, last revised November 1994.
- I.F.3. By December 31 of 2020 and each calendar year thereafter, the permittee shall perform a topographic survey of the facility; this survey shall be certified by a professional engineer or certified land surveyor licensed in the Commonwealth of Virginia. The permittee shall submit a report to the DEQ Valley Regional Office Waste Program by April 1 of the year following with a determination of areas of the landfill that have attained final elevations and grades. The report shall also assess the capacity used during the year, the remaining permitted capacity, and the projected remaining site life. The remaining permitted capacity shall be calculated by the comparison of the existing grade and the permitted final cover grade and presented in a cut/fill drawing. Areas that have attained final elevations and slopes must be stabilized in accordance with the permit until final cover is applied within the timeframe specified in the Closure Plan. Except as may be separately approved or permitted in writing by DEQ for exigent or emergency situations, no waste shall be placed in areas where the elevation exceed those shown on Drawing No. 6 Overall Closure Grade dated November 2010 and Drawing No. 6 Final Phase LFG Design, last revised August 4, 2020.

I.G. PERMIT MODIFICATIONS

- I.G.1. The permit was modified by a minor modification (No. 1) on June 27, 2002 approving the modification of the groundwater monitoring system, affecting Module X and Attachment X-1.
- I.G.2. The permit was modified by a minor modification (No. 2) on June 30, 2003 approving the change in the name of the facility to Augusta Regional Landfill, the addition of the City of Waynesboro to the Augusta County Service Authority and the use of leachate for dust suppression provided the leachate is applied only within the lined waste footprint and there is no ponding of the liquids.
- I.G.3. The permit was modified by a minor modification (No. 3) on March 30, 2004 approving the addition of the County of Highland to the service area of the Augusta Regional Landfill and allowing the facility to accumulate up to 10,000 tires on-site and to extend landfill operational hours up to two hours per day during April of each year to facilitate an annual, county-wide Spring Clean-up.
- I.G.4. The permit was modified by a minor modification (No. 4) on March 11, 2005 approving an additional alternate daily cover (ADC), which consists of wood chip and wastewater treatment plant (WWTP) sludge mixed on-site at a ratio of 4 parts (wood chips):1 part (WWTP sludge), with additional soil mixed in as necessary to increase workability and coverage.
- I.G.5. The permit was modified by a minor modification (No. 5) on March 21, 2006 setting the permit limits at an average daily tonnage rate of 1,000 tons per day and a maximum daily tonnage rate of 1,500 tons per day.
- I.G.6. The Temporary Authorization (TA No. 1) was issued on March 27, 2006 allowing the capacity increase for Phases I, II, and III by increasing the final slopes from 4:1 to 3:1, mainly along the southwestern and western face of Phase III.
- I.G.7. TA No. 1 was reissued on September 19, 2006 for a period not to exceed 180 days, until March 22, 2007, or until the permit amendment application to increase the final grades in Phases 1, 2, and 3 from 4:1 to 3:1 was approved, whichever occurred first.
- I.G.8. The permit was modified by a major modification (No. 6) on March 13, 2007 approving the change of the final grades for Phases 1 – 3 from 4:1 to 3:1. The increased disposal volume allowed the facility to continue waste filling until late Spring 2009. This major modification finalized TA No. 1.
- I.G.9. The permit was modified by a major modification (No. 7) on August 8, 2008 approving lateral expansion consisting of Phases 4 through 7 and a variance petition for an alternate geomembrane/GCL composite bottom liner system.

Permit Module I, the Operations Manual, the Gas Monitoring Plan, the Groundwater Monitoring Plan, and the Closure/Post-Closure Care Plan, and final cover system were amended as well.

- I.G.10. The permit was modified by a minor modification (No. 8) on July 31, 2009 allowing revisions to the Operation Manual to provide standard operating procedures for Daily Cover, Wind-Blown Litter, and Leachate Seep Minimization and Repair.
- I.G.11. The permit was modified by a minor modification (No. 9) on February 1, 2010 approving the revisions of Technical Specification 02200 to allow the use of blasted shot rock as structural fill material and Technical Specification 02207 to increase the size of particles allowed in cushion layer material. The revisions allow additional flexibility in the construction of a liner system that is functionally equivalent to the system originally specified.
- I.G.12. The permit was modified by a major modification (No. 10) on March 11, 2011 allowing the increase of the capacity of Phases 1 through 7 to 12,371,000 cubic yards by revising the closure grades at Phases 1 through 3 to a uniform grade of 3H:1V along all outside slopes. The modification included revisions to design plans, operations manual, and design report.
- I.G.13. The permit was modified by a minor modification (No. 11) on August 16, 2013 allowing the facility to accumulate and process up to 25,000 tires on-site.
- I.G.14. The permit was modified by a minor modification (No. 12) on June 23, 2015 approving the revision of the interim closure grade of Phases 1 through 3 resulting in the maximum elevation increased from 1564 feet to 1630 feet. The modification increases the capacity in Phases 1 through 3 by approximately 239,000 cubic yard, from approximately 3,550,000 cubic yards to approximately 3,789,000 cubic yards while the total capacity of the landfill (Phases 1 through 7) remains the same at approximately 12,371,000 cubic yards.
- I.G.15. The permit was modified by a minor modification (No. 13) on December 13, 2017 allowing the use of the tarp ARMOR TDS-30 HS Tarp as an ADC.

Permit Attachment I-1
Previous Permit Approval Letters



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY VALLEY REGIONAL OFFICE

Molly Joseph Ward
Secretary of Natural Resources

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David K. Paylor
Director

Amy Thatcher Owens
Regional Director

December 13, 2017

Mr. Gregory A. Thomasson, P. E.
Director of Solid Waste Management
Augusta County Service Authority
P.O. Box 859
18 Government Center Lane
Verona, Virginia 24482-0859

Re: Augusta Regional Landfill, Solid Waste Permit (SWP) 585
Minor Modification No. 13 - Tarp Alternate Daily Cover (ADC)
Staunton, Virginia

Dear Mr. Thomasson:

The Department of Environmental Quality (DEQ) Valley Regional Office (VRO) is in receipt of the facility's request, via an e-mail dated November 26, 2017, for a minor permit modification to allow the use of the tarpARMOR TDS-30 HS Tarp as ADC. The request contains a report dated November 27, 2017, evaluating the effectiveness of the TDS-30 HC Tarp following the 180-day demonstration period.

The request has been reviewed for technical adequacy and regulatory compliance and appears to meet the requirements for Sanitary Landfills in §9 VAC 20-81-140.B.1.c. In accordance with 9 VAC 20-81-600.F.2.c. of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-81 et seq.), approval of using the tarpARMOR TDS-30 HC Tarp as ADC is a minor modification requiring director approval. In order to document this permit modification, please incorporate a copy of this letter into each copy of SWP585. In addition, the facility shall comply with the following conditions for the use of the tarpARMOR TDS-30 HC Tarp as ADC:

1. The facility shall update its Operations Manual to include procedures for using the new ADC material and a Responsible Official shall certify that the Operations Manual is up-to-date per Guidance Memo LPR-SW-01-2011A: Implementation of New Operations Manual Requirements (<http://www.townhall.virginia.gov/L/ViewGDoc.cfm?gdid=4428>).

2. As required by 9 VAC 20-81-140.B.1.c., at least three days of acceptable soil or approved ADC material, at the average usage rate, shall be maintained at the landfill at all times for contingency use.
3. The use of the TDS-30 HC Tarp ADC material shall cease if the material is not effective at achieving the purposes of daily cover, if the use of the alternate cover material results in nuisances, or if the alternate material erodes and results in waste being exposed.
4. All waste shall be covered with either the approved ADC material or soil at the end of the working day.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Division of Land Protection & Revitalization
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of the facility to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact JengHwa Lyang, Solid Waste Permit Writer, at (540) 574-7826 or jenghwa.lyang@deq.virginia.gov.

Sincerely,



B. Keith Fowler
Deputy Regional Director

cc: Timothy Fitzgerald, Augusta County Administrator
Graham H. Simmerman, Jr., P.G., Regional Land Protection Program Manager
Kathryn J. Perszyk, DEQ CO
Gregory W. Adamson, DEQ-VRO
JengHwa Lyang, Ph.D., P.E., DEQ-VRO



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

June 23, 2015

Mr. Greg Thomasson, P. E.
Director of Solid Waste Management
Augusta County Service Authority
P.O. Box 859
18 Government Center Lane
Verona, Virginia 24482

RE: Minor Permit Modification No. 12
Augusta Regional Landfill, Solid Waste Permit No. 585
County of Augusta, Virginia

Dear Mr. Thomasson:

The Department of Environmental Quality (DEQ) Valley Regional Office (VRO) has reviewed the revised plans and pages, which were submitted as part of a minor modification request dated April 29, 2015 on behalf of the facility by SCS Engineers. The revised plans included a Drawing No. 1 of 1 Phases 1 through 3 Closure Grades and revised pages of (1) the Pages iv and 5, and Table 1 in Attachment 9, of the Design Report; and (2) the Pages iii and 3 of Closure Plan. These revised documents modify the interim closure grade of Phases 1 through 3 resulting in the maximum elevation increased from 1564 feet to 1630 feet. The modification increases the capacity in Phases 1 through 3 by approximately 239,000 cubic yard, from approximately 3,550,000 cubic yards to approximately 3,789,000 cubic yards while the total capacity of the landfill (Phases 1 through 7) remains the same at approximately 12,371,000 cubic yards. These plans have been reviewed for technical adequacy and regulatory compliance and appear to meet the requirements for Sanitary Landfills in §9 VAC 20-81-100 through 260 and the Part B Permit in §9 VAC 20-81-470.

In accordance with 9 VAC 20-81-600.F.2.c. of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-81 *et seq.*), incorporation of these plans into Permit No. 585 is a minor modification requiring director approval. In order to document this modification, please incorporate a copy of this letter, and the following documents into each copy of Permit No. 585.

Permit Module III – Sanitary Landfill
Permit Attachment IIIA-1: Design Plan

- a. Drawing No. 1 of 1 Phases 1 through 3 Closure Grades, dated April 2015.

Permit Attachment IIIB-2: Design Plan

- a. Insert Pages iv and 5 last revised April 2015
b. Insert Table 1 last revised March 2015 in Attachment 9.

Permit Modules XII and XIII – Closure and Post-Closure Care

Permit Attachment XII-1: Closure and Post-Closure Care Plan

- a. Insert Pages iii and 3 last revised June 2015.

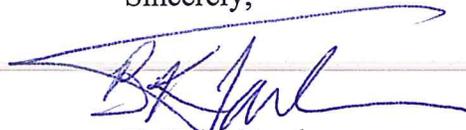
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Division of Land Protection & Revitalization
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of the Augusta County Service Authority to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact JengHwa Lyang, Solid Waste Permit Writer, at (540) 574-7826 or jenghwa.lyang@deq.virginia.gov.

Sincerely,



B. Keith Fowler
Deputy Regional Director

cc: Graham H. Simmerman, Jr., P.G., Regional Land Protection Program Manager
Kathryn J. Perszyk, Solid Waste Permit Coordinator
Tad Williams, Solid Waste Inspector
JengHwa Lyang, Ph.D., P.E., Solid Waste Permit Writer
Permit File
Robert H. Isenberg, P.E., CPG, SCS Engineers
Denise Wessels, P.E., SCS Engineers



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801

(540) 574-7800 Fax (540) 574-7878

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

August 16, 2013

Mr. Greg Thomasson, P. E.
Director of Solid Waste Management
Augusta County Service Authority
P.O. Box 859
18 Government Center Lane
Verona, Virginia 24482

RE: Minor Permit Modification No. 11
Augusta Regional Landfill, Solid Waste Permit No. 585
County of Augusta, Virginia

Dear Mr. Thomasson:

The Department of Environmental Quality (DEQ) Valley Regional Office (VRO) has reviewed your letter requesting a minor permit modification to allow the Augusta Regional Landfill to accumulate and process up to 25,000 tires on-site. The letter, dated July 11, 2013, includes the following attachments: (A) the first page of the DEQ Form SW PTB, (B) a map entitled Tire Processing Location – Vicinity Map, and (C) revised pages of the facility's operation manual. The letter and its attachments have been reviewed for technical adequacy and regulatory compliance and appear to meet the requirements for Sanitary Landfills in §9 VAC 20-81-100 through 260. Please note that the accumulation of tires should follow the provisions under 9VAC20-81-640.

In accordance with 9 VAC 20-81-600.F.2.c. of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-81 *et seq.*), incorporation of the submitted documents into Permit No. 585 is a minor permit modification requiring director approval. In order to document this modification, please incorporate a copy of this letter into each copy of Permit No. 585. Also, please incorporate the revised pages and the Tire Processing Location – Vicinity Map in the facility's operation manual.

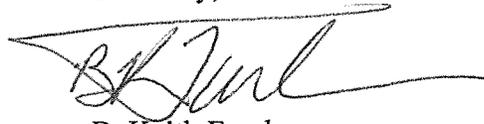
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Land Protection & Revitalization Division
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of the Augusta County Service Authority to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact JengHwa Lyang, Solid Waste Permit Writer, at (540) 574-7826 or jenghwa.lyang@deq.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Keith Fowler", with a long horizontal flourish extending to the right.

B. Keith Fowler
Deputy Regional Director

cc: Patrick J. Coffield, Augusta County Administrator
Graham H. Simmerman, Jr., P.G., Regional Land Protection Program Manager
Kathryn Perszyk, DEQ, CO
Priscilla Fisher, DEQ VRO
JengHwa Lyang, Ph.D., P.E., DEQ VRO
Permit File



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

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(540) 574-7800 Fax (540) 574-7878

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

March 1, 2011

Mr. Greg Thomasson, P. E.
Director of Solid Waste Management
Augusta County Service Authority
P.O. Box 859
18 Government Center Lane
Verona, Virginia 24482

Re: Issuance of Permit Amendment No. 10
Augusta Regional Landfill, Solid Waste Permit No. 585
County of Augusta, Virginia

Dear Mr. Thomasson:

Enclosed is Permit #585 for Augusta Regional Landfill. The public participation period ended on February 25, 2011. No comments requiring changes to the Draft Permit Amendment were received; therefore, only incidental editing occurred.

The Permit Amendment allows the closure grades at Phases 1 through 3 to have a uniform grade of 3H:1V along all outside slopes. The modification to the closure grades will increase the landfill capacity in Phases 1 through 3 by approximate 720,000 cubic yards and will increase the overall landfill capacity (Phases 1 through 7) by approximately 456,000 cubic yards.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to

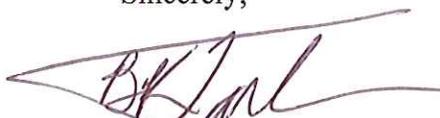
Mr. Greg Thomasson, P.E.
Augusta Regional Landfill, Solid Waste Permit No. 585
Issuance of Permit Amendment No. 10
March 1, 2011, Page 2 of 2

which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please replace the appropriate pages in your existing Draft Permit with the permit introductory and Permit Module I pages attached to this letter.

Please note that it is the responsibility of applicant to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact JengHwa Lyang, Permit Writer, by telephone at (540) 574-7826 or by e-mail at jenghwa.lyang@deq.virginia.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read 'K. Fowler', written over a horizontal line.

Keith Fowler
Deputy Regional Director

Enclosure: Permit Introductory Pages
Permit Module I pages

cc: Graham H. Simmerman, Jr., P.G., Regional Land Protection Program Manager
JengHwa Lyang, Solid Waste Permit Writer
Permit File; Permit No. 585
Robert H. Isenberg, P.E., CPG, SCS Engineers (w/n enclosure)
Denise Wessels, P.E., SCS Engineers (w/n enclosure)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801

(540) 574-7800 Fax (540) 574-7878

www.deq.virginia.gov

February 1, 2010

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

Gregory A. Thomasson, P.E.
Director of Solid Waste Management
Augusta County Service Authority
PO Box 859
Verona, VA 24482

RE: Non-Director Approval - Minor Permit Amendment #9
Update of Technical Specification Sections 02200 and 02207
Augusta Regional Landfill (No. 2), Permit #585
Augusta County, Virginia

Dear Mr. Thomasson:

The Virginia Department of Environmental Quality (DEQ) is in receipt of a minor permit amendment request for the above-referenced facility. The submittal was prepared on behalf of the Augusta County Service Authority by SCS Engineers.

The requested amendment involves the update of Technical Specification §02200 to allow the use of blasted shot rock as structural fill material and Technical Specification §02207 to increase the size of particles allowed in cushion layer material. The amendment has been requested to allow additional flexibility in the construction of a liner system that is functionally equivalent to the system originally specified.

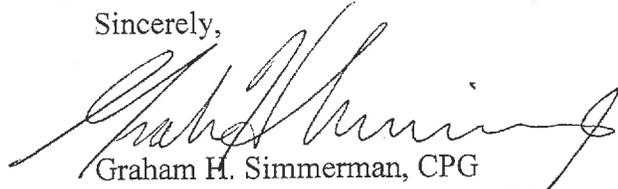
In accordance with 9 VAC 20-80-620, §F.1.a and Table 7.2, Item A.3, of the Virginia Solid Waste Management Regulations (VSWMR), the Department acknowledges this submittal as a minor permit amendment. In order to document this approval, please include a copy of this letter in each copy of Permit #585. Additionally, please ensure that the following are inserted into Module IIIB, Attachment IIIB-3, of each copy of Permit #585:

Specification 02200 – Earthwork – Revised September, 2009
Specification 02207 – Liner System Cushion Layer (Protective Cover) – Revised
September, 2009

Non-Director Approval - Minor Permit Amendment #9
February 1, 2010
Page 2

Please do not hesitate to contact Kemper Loyd by telephone at (540) 574-7814, and/or by e-mail at Kemper.Loyd@deq.virginia.gov with any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Graham H. Simmerman". The signature is fluid and cursive, with a large initial "G" and "S".

Graham H. Simmerman, CPG
VRO, Regional Waste Program Manager

cc: Kemper Loyd, P.E. – VRO
Denise Wessels, P.E. – SCS Engineers



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

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www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

July 30, 2009

Kenneth Fanfoni, P.E.
Executive Director, Augusta County Service Authority
PO Box 859
Verona, VA 24482

RE: Augusta Regional Landfill
Augusta County, Virginia
Minor Amendment (#8) – Permit No. 585

Dear Mr. Fanfoni:

Please accept this as a response to your letter of June 29, 2009, which requested a minor amendment to Permit # 585. The minor permit amendment is approved and consists of revisions to the Operation Manual to include standard operating procedures for Daily Cover, Wind-Blown Litter, and Leachate Seep Minimization and Repair.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
PO Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

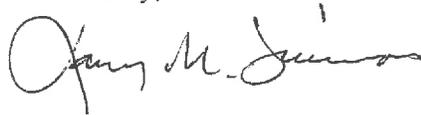
In accordance with 9 VAC 20-80-620.F.1.a(2), you are required to send a notice of this modification to the local governing body of the county in which this facility is located within 90 calendar days of this approval.

Mr. Kenneth Fanfoni, P.E.
ACSA
Page 2

Please replace the appropriate pages in your existing permit with the permit introductory pages attached to this letter and the revised Operation Manual.

Please note that it is the responsibility of applicant to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact Kemper Loyd, Environmental Engineer Senior, at (540) 574-7814 or kemper.loyd@deq.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry M. Simmons". The signature is written in a cursive style with a large initial "L".

Larry M. Simmons, P.E.
Deputy Regional Director

Enclosure:

cc: File
Graham Simmerman - VRO Waste Program Manager
Gregory A. Thomasson, P.E. - Augusta County Service Authority



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

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(540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Amy T. Owens, JD
Regional Director

August 8, 2008

Kenneth Fanfoni, P.E.
Executive Director
Augusta County Service Authority
PO Box 859
18 Government Center Lane
Verona, VA 244820

RE: Augusta Regional Landfill – Permit No. 585
Permit Amendment #7 – Lateral Expansion (Phases 4 – 7)
Variance Petition Application – Alternate Liner
Final Approval

Dear Mr. Fanfoni:

Please accept this as a response to your variance petition submitted to the Department on November 1, 2006. The public participation period for tentative approval of the variance ended on July 25, 2008. No comments were received on the Variance Petition during the public participation period. The Variance, as approved, is to *Virginia Solid Waste Management Regulations* §9 VAC 20-80-250.B.9.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor
Virginia Department of Environmental Quality
ATTN: Waste Division
PO Box 1105
Richmond, VA 23218-1105

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Augusta Regional Landfill 0085
Permit Amendment #7 – Lateral Expansion (Phases 4 – 7)
Variance Petition Application – Alternate Liner
Final Approval
Page 2

Please note that it is the responsibility of Augusta County Service Authority to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact Rebecca Dietrich at (540) 562-6790 or rddietrich@deq.virginia.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry M. Simmons".

Larry M. Simmons, P.E.
Deputy Regional Director

cc: Lynn Klappich, Draper Aden Associates (Blacksburg)
Jennifer Hoover, P.E., Augusta County Service Authority
Graham H. Simmerman, Jr., CPG, DEQ-VRO
Pat McDorman, DEQ-VRO



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY VALLEY REGIONAL OFFICE

L. Preston Bryant, Jr.
Secretary of Natural Resources

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

David K. Paylor
Director

Amy T. Owens
Regional Director

March 13, 2007

Kenneth Fanfoni, P.E.
Executive Director
Augusta County Service Authority
PO Box 859
18 Government Center Lane
Verona, VA 24482

RE: Augusta Regional Landfill – Permit No. 585
Permit Amendment #6 – Increase Final Grades of Phases 1 - 3
Transmittal of Final Permit Amendment

Dear Mr. Fanfoni:

Enclosed is Permit #585 for Augusta Regional Landfill. The public participation period ended on March 9, 2007. No comments requiring changes to the Draft Permit Amendment were received; therefore, only incidental editing occurred.

The Permit Amendment allows the facility to vertically expand the existing landfill in Augusta County, Virginia. The final grades for Phases 1 – 3 will increase from 4:1 to 3:1.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 1105
Richmond, Virginia 23218

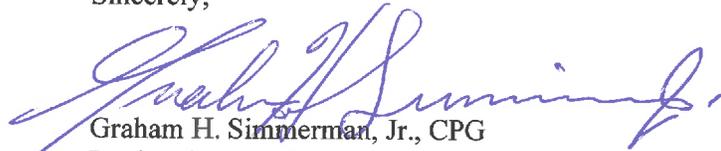
In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Augusta Regional Landfill #58
Permit Amendment #6
Page 2 of 2

Please replace the appropriate pages in your existing permit with the permit introductory pages attached to this letter and Permit Module I and the pages in your copy of the Draft Permit Amendment.

Please note that it is the responsibility of Augusta County Service Authority to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact Rebecca Dietrich, Environmental Engineer Senior, at (540) 562-6790 or rddietrich@deq.virginia.gov.

Sincerely,



Graham H. Simmerman, Jr., CPG
Regional Waste Program Manager

Enclosure: Final Permit Amendment

cc: Jennifer Hoover, Augusta County Public Service Authority (w/o Enclosure)
Lynn Klappich, P.E., Draper Aden Associates – Richmond, VA (w/o Enclosure)
Pat McDorman, DEQ-VRO (w/ Enclosure)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801

(540) 574-7800 Fax (540) 574-7878

www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

R. Bradley Chewning, P.E.
Regional Director

September 20, 2006

Jerry Martin
Solid Waste Facility Manager
Augusta County Service Authority
749 Christians Creek Road
Route 2, Box 432M
Staunton, VA 24401

RE: Augusta Regional Landfill
Permit #585
Reissuance of Temporary Authorization #1
Increased Final Grades of Phases I, II, and III

Dear Mr. Martin:

The Department is in receipt of the request, dated August 24, 2006, to reissue Temporary Authorization #1, which allows Augusta Regional Landfill to increase the final grades in Phases I, II, and III from 4:1 to 3:1. The reissuance of Temporary Authorization #1, which was submitted in accordance with §9 VAC 20-80-620.F.5, has been approved. The authorized activities are in compliance with the standards of §9 VAC 20-80-250 of the *Virginia Solid Waste Management Regulations* and, in accordance with §9 VAC 20-80-620.F.5.c(2)(b). The temporary authorization is necessary to prevent disruption of ongoing waste management activities.

Please find attached, copies of the revised pages of Permit #585 for your records. The condition of the Temporary Authorization has been included in Permit Module I, Section I.F.7 and is listed below.

- 1) Reissuance of Temporary Authorization #1 shall be effective until March 22, 2007, or until the permit amendment application to increase the final grades in Phases I, II, and III from 4:1 to 3:1 is approved, whichever occurs first.

Augusta Regional Landfill
Reissuance of Temporary Authorization #1
Increased Final Grades of Phases I, II, and III
Page 2

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of applicant to obtain any other authorizations that may be necessary to conduct this activity. If you have any questions please feel free to contact Rebecca Dietrich at (540) 562-6790 (rddietrich@deq.virginia.gov).

Sincerely,



Larry M. Simmons, P.E.
Deputy Regional Director, VRO

cc: Chris Cornellissen, P.E., Draper Aden Associates – Blacksburg, VA



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

David K. Paylor
Director

R. Bradley Chewning, P.E.
Regional Director

L. Preston Bryant, Jr.
Secretary of Natural Resources

March 27, 2006

Jerry Martin
Solid Waste Facility Manager
Augusta County Service Authority
749 Christians Creek Road
Route 2, Box 432M
Staunton, VA 24401

RE: Augusta Regional Landfill
Permit #585
Temporary Authorization Approval – Increased Final Grades for Phases I, II, and III

Dear Mr. Martin:

The Department is in receipt of your Temporary Authorization request, dated March 7, 2006, to increase the final grades in Phases I, II, and III from 4:1 to 3:1. The Temporary Authorization, which was submitted in accordance with §9 VAC 20-80-620.F.5, has been approved. The authorized activities are in compliance with the standards of §9 VAC 20-80-250 of the *Virginia Solid Waste Management Regulations* and, in accordance with §9 VAC 20-80-620.F.c(2)(b). The temporary authorization is necessary to prevent disruption of ongoing waste management activities.

Please find attached, copies of the revised pages of Permit #585 for your records. The conditions of the Temporary Authorization have been included in Permit Module I, Section I.F.7 and are listed below.

- 1) The Temporary Authorization shall have a term of not more than 180 days from the date of this letter or until the permit application to increase the final grades in Phases I, II, and III from 4:1 to 3:1 is approved, which ever is less.
- 2) The Temporary Authorization may be reissued for one additional term of up to 180 days provided that the permit application is being processed by the Department and is warranted to allow the authorized activities to continue.

- 3) Augusta County Service Authority shall submit a comprehensive major permit amendment application to increase the final grades of Phases I, II, and III with appropriate payment for the major permit amendment application in the amount of \$3,640 to the Department of Environmental Quality. At a minimum, the major permit amendment application shall include revised Design Plans, Technical Specification, QA/QC Plan, and Closure/Post-Closure Care Plan.

The major permit amendment fee of \$3,640 shall be submitted to:

Judy Newcomb
Financial Services Manager
Department of Environmental Quality
PO Box 10150
Richmond, VA 23240

Checks should be made payable to the Treasurer of Virginia. In addition, please include the following information with your payment: facility name, facility permit number, and DEQ region in which facility is located (Valley Regional Office).

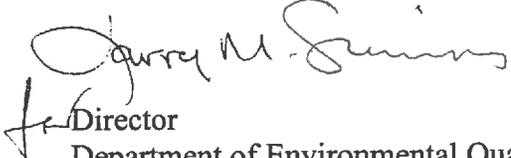
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, Virginia 23240-0009

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of applicant to obtain any other authorizations that may be necessary to conduct this activity. If you have any questions please feel free to contact Rebecca Dietrich at (540) 562-6790 (rddietrich@deq.virginia.gov).

Sincerely,


for Director
Department of Environmental Quality

cc: Chris Cornellissen, P.E., Draper Aden Associates – Blacksburg, VA



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

R. Bradley Chewning, P.E.
Regional Director

March 22, 2006

Jerry Martin
Solid Waste Facility Manager
Augusta County Service Authority
749 Christians Creek Road
Route 2, Box 432M
Staunton, VA 24401

RE: Augusta Regional Landfill – Permit No. 585
Permit Amendment #5 Approval
Waste Acceptance Rates

Dear Mr. Martin:

Please accept this package as a response to the March 14, 2006, letter, which requested a minor permit amendment of Solid Waste Permit #585 for Augusta Regional Landfill. The minor permit amendment is approved to include the following waste acceptance rates:

Average Daily Intake Rate = 1,000 tons per day
Maximum Daily Intake Rate = 1,500 tons per day

Provided below is a list of revised pages pertaining to this minor permit amendment. It is the permittee's responsibility to ensure that all pages get inserted/replaced in all copies of the facility's Solid Waste Permit #585.

- Revised permit introduction pages
- Revised page in Permit Module I "General Permit Conditions" to include Site Specific Condition I.F.6

DEQ understands that the landfill submitted a Notice of Intent June 22, 2005, for a major permit amendment to include Phases IV – VIII. Therefore, submittal of the replacement pages for the Operations Manual will not be required at this time. Rather, Site Specific Condition I.F.6 has been added to Permit Module I for the interim period.

Augusta Regional Landfill #585

Permit Amendment #5

Page 2 of 2

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, Virginia 23240-0009

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

In accordance with the *Virginia Solid Waste Management Regulations*, §9 VAC 20-80-620.F.1.a (2), you are required to notify the local governing body of the county, city, or town in which the facility is located. This notification shall be made within 90 calendar days after the Director approves the minor amendment request.

Please note that it is the responsibility of the permittee to obtain any other permit or authorizations that may be necessary. Your attention to this matter is appreciated. If you have any questions, please contact Rebecca Dietrich at (540) 562-6790 or rddietrich@deq.virginia.gov.

Sincerely,



Larry M. Simmons, P.E.
Deputy Regional Director

Attachments:

Revised Permit Pages

cc: Lynn Klappich, Draper Aden Associates – Blacksburg, VA
Graham H. Simmerman, Jr., CPG - DEQ-VRO

File



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Street address: 4411 Early Road, Harrisonburg, Virginia 22801
Mailing address: P.O. Box 3000, Harrisonburg, Virginia 22801-9519
Telephone (540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

Robert G. Burnley
Director

R. Bradley Chewning, P.E.
Valley Regional Director

March 11, 2005

Mr. Jerry N. Martin
Solid Waste Facility Manager
Augusta County Service Authority
Augusta Regional Landfill
Post Office Box 859
Verona, Virginia 24482

**RE: Augusta Regional Landfill
Augusta County Service Authority
Minor Amendment No. 4, Permit #585**

Dear Mr. Martin:

Please accept this as a response to your letters of January 28, 2005, which requested minor amendments to Solid Waste Facility Permit No. 585. This letter is to inform you that the minor permit amendment has been approved for the use of an additional alternative daily cover. The approved ADC is composed of wood chips and WWTP sludge mixed on site at a ratio of 4:1, with additional soil mixed in as necessary to increase workability and coverage. An updated introduction and Module I for Permit No. 585 is attached.

These activities are eligible for a minor amendment, in accordance with 9 VAC 20-80-620.F.1.b of Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80). The proposed actions are consistent with the requirements of VSWMR, and are hereby approved. Please update all copies of the Permit No. 585 with the attached Module I revision with attachments. Further, ensure that a copy of this letter is maintained in the facility operating record to verify this approval.

DEQ understands that the landfill intends to file a new Notice of Intent for a Major Permit Amendment within the next 30 days. Therefore, the submittal of replacement pages for their existing Operations Plan will not be required at this time. Rather, the correspondence attached to Module I is adequate for the interim period. The terms for use of the ADC shall remain those specified in

Augusta Regional Landfill
Minor Amendment No. 4, Permit #585
Page 2 of 2

DEQ's ADC Trial Authorization letter dated August 23, 2005. All approved daily cover types should be fully documented in the new operations plan submittal. A change in the closure plan and financial assurance for the facility will not required for this amendment since the amendment will not alter the closure conditions at the landfill.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

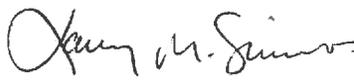
Robert G. Burnley, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, Virginia 23240-0009

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Also, please be advised that, in accordance with 9 VAC 20-80-620.F.1.b(2), the permittee must send a notice of this modification to the local governing body within 90 days after the date of approval of this change.

Please note that it is the responsibility of applicant to obtain any other permits or authorizations that may be necessary. If you have any questions regarding this matter, please contact Mr. Larry Simmons at (540) 574-7810 or Mr. Graham Simmerman at (540) 574-7865.

Sincerely,


for Robert G. Burnley
Director, DEQ

LMS/ghs
Attachments

cc: Edward P. Farrell, DEQ-Central Office Richmond
Graham H. Simmerman, Jr., P.G., DEQ-Valley Regional Office (letter only)
File: SWP # 585



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Street address: 4411 Early Road, Harrisonburg, Virginia 22801
Mailing address: P.O. Box 3000, Harrisonburg, Virginia 22801-9519
Telephone (540)574-7800 Fax (540)574-7878
www.deq.state.va.us

Robert G. Burnley
Director

R. Bradley Chewning, P.E.
Valley Regional Director

March 30, 2004

Mr. Jerry N. Martin
Solid Waste Facility Manager
Augusta County Service Authority
Augusta Regional Landfill
Post Office Box 859
Verona, Virginia 24482

**RE: Augusta Regional Landfill
Augusta County Service Authority
Minor Amendment No. 3, Permit #585**

Dear Mr. Martin:

Please accept this as a response to your letters of February 19 and March 12, 2004, which requested minor amendments to Solid Waste Facility Permit No. 585. This letter is to inform you that a single minor permit amendment has been approved that addresses both requests. The request to a change to the landfill service area to include the County of Highland is approved, and the associated waste acceptance rate, remaining capacity and facility life calculations in the permit introduction have been revised accordingly. The second action to increase in the tire accumulation rate and operational hours during April of each year is also approved, to facilitate annual countywide Spring Clean-up events. An updated introduction and Module I for Permit No. 585 is attached.

These activities are eligible for a minor amendment, in accordance with 9 VAC 20-80-620.F.1.b of Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80). The proposed actions are consistent with the requirements of VSWMR, and are hereby approved. Please update all copies of the Permit No. 585 with the attached Module I revision. Further, ensure that a copy of this letter is maintained in the facility operating record to verify this approval.

The Augusta Regional Landfill is required submit revision pages for the affected portions permit documents to DEQ with 30 day of this approval. Specifically, the following documents

must be revised:

1. A Design Report, dated July 3, 2002, addresses the effects of the increase in waste intake rate from 378 tons per day to 460 tons per day and impact on facility life.
2. An Operations Manual, dated July 3, 2002, that incorporates the change in service area, the increased waste intake, and the effects of the increased waste intake rate.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

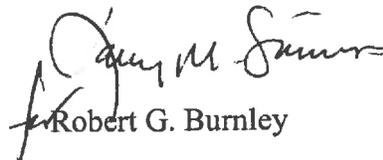
Robert G. Burnley, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, Virginia 23240-0009

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Also, please be advised that, in accordance with 9 VAC 20-80-620.F.1.b(2), the permittee must send a notice of this modification to the local governing body within 90 days after the date of approval of this change.

Please note that it is the responsibility of applicant to obtain any other permits or authorizations that may be necessary. If you have any questions regarding this matter, please contact Mr. Larry Simmons at (540) 574-7810 or Mr. Graham Simmerman at (540) 574-7865.

Sincerely,



Robert G. Burnley

LMS/ghs

Attachments

cc: Edward P. Farrell, DEQ-Central Office Richmond
Graham H. Simmerman, Jr., P.G., DEQ-Valley Regional Office (letter only)
File: SWP # 585



RECEIVED
SEP - 2 2003
BY: _____

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Street address: 4411 Early Road, Harrisonburg, Virginia 22801
Mailing address: P.O. Box 3000, Harrisonburg, Virginia 22801-9519
Telephone (540)574-7800 Fax (540)574-7878
www.deq.state.va.us

Robert G. Burnley
Director

R. Bradley Chewning, P.E.
Valley Regional Director

August 28, 2003

Mr. Jerry N. Martin
Solid Waste Facility Manager
Augusta County Service Authority
Augusta Regional Landfill
Post Office Box 859
Verona, Virginia 24482

Re: **Minor Amendment #2**
Augusta County Service Authority
Augusta Regional Landfill, Permit #585

Dear Mr. Martin:

The Office of Waste Permitting has reviewed the information submitted for the amendment of Permit No. 585, for the Augusta Regional Landfill. The actions for which the permit amendment was requested include the change in the service area, the waste acceptance rate and other aspects of the operation and closure of the landfill associated with the incorporation of the City of Waynesboro into the Augusta County Service Authority. The revised portions of the permit are dated July 3, 2002, and were received by the Department November 8, 2002.

These activities are a minor amendment, in accordance with 9 VAC 20-80-620.F.1.b of Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80). The proposed actions are consistent with the requirements of VSWMR, and are hereby approved.

The specific actions and the revised portions of the permit are as follows:

1. A Design Report, dated July 3, 2002, that changes the name of the facility to "Augusta Regional Landfill" and addresses the effects of the increase in waste intake rate from 233 tons per day to 378 tons per day.

Augusta Regional Landfill

Page 2

2. An Operations Manual, dated July 3, 2002, that incorporates the change in the name of the facility to "Augusta Regional Landfill" and the effects of the increased waste intake rate.
3. A Final Grading and Closure Plan, dated as having been revised July 3, 2002.
4. A Quality Control and Quality Assurance Plan, date as having been revised July 3, 2002.

A new and updated Module I is attached with the revised documentation referenced above.

Please update all copies of the Permit No. 585 with the attached revised documentation referenced above. Further, ensure that a copy of this letter is maintained in the facility operating record to verify this approval.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

Robert G. Burnley, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, Virginia 23240-0009

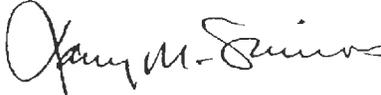
In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Also, please be advised that, in accordance with 9 VAC 20-80-620.F.1.b(2), the permittee must send a notice of this modification to the local governing body within 90 days after the date of approval of this change.

Augusta Regional Landfill
Page 3

If you have any questions regarding this matter, please contact Mr. Ray Tesh at (540) 574-7830 or Mr. John Godfrey at (804) 527-5028.

Sincerely,


for Robert G. Burnley

Attachments

c: DEQ – R. Tesh
DEQ – J. Godfrey, Piedmont Regional Office (letter only)

Letter only:
Draper Aden Associates, Inc.
8090 Villa Park Drive
Richmond, Virginia 23228



SWP#585
Amendment #1

FILE
Permitting

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 10009, Richmond, Virginia 23240

Fax (804) 698-4500 TDD (804) 698-4021

www.deq.state.va.us

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Robert G. Burnley
Director

(804) 698-4000
1-800-592-5482

July 1, 2002

Mr. Jerry Martin
Solid Waste Facility Manager
749 Christian Creek Road
Staunton, Virginia 24401

DEQ-VALLEY

JUL 17 2002

TO: RFT
FILE: _____

**Re: Augusta/Staunton Sanitary Landfill, Permit No. 585
Minor Permit Amendment - Groundwater Monitoring System**

Dear Mr. Martin:

The Department has amended Modules X and XI of the facility's permit to reflect changes in the permitted groundwater monitoring network. Changes in the monitoring network have been required, and will continue to be required, as the facility expands and more wells are added to the system.

The attached modified documents include the permit title page, Module X (detection monitoring), Module XI (assessment monitoring), and Permit Attachment XI (groundwater monitoring plan).

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of the service of this decision to initiate an appeal of this decision, by filing notice with:

Robert G. Burnley, Director
Virginia Department of Environmental Quality
ATTN: Waste Division
P.O. Box 10009
Richmond, VA 23240-0009

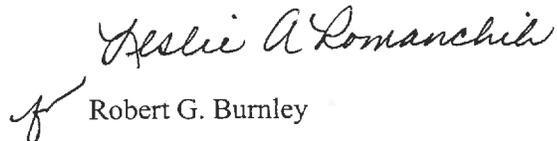
In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which the appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Mr. Jerry Martin
No. 585

Also, please be reminded that 9 VAC 20-80-620.F.1.a.(2) requires you to notify the governing body of the jurisdiction in which the facility is located of this change in your permit within 90 days after it is put into effect.

Should you have any questions regarding this matter, please contact Rosemarie Ballance at (804) 698-4223.

Sincerely,


Robert G. Burnley

Attachments

c:

Rick Anderson, DEQ VRO
Howard Freeland, DEQ
Mike Lawless, DAA

Track # 02-0200



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 10009, Richmond, Virginia 23240

Fax (804) 698-4500 TDD (804) 698-4021

www.deq.state.va.us

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Robert G. Burnley
Director

(804) 698-4000
1-800-592-5482

SOLID WASTE FACILITY PERMIT

PERMIT NUMBER 585

Facility Name: Augusta County / Staunton Landfill No.2

Facility Type: Sanitary Landfill

Latitude: 38°04'30"N

Site Location: Augusta County, Virginia

Longitude: 79°05'00"W

Location Description: The facility is located on State Route 648, approximately one and one-half miles south of the City of Staunton.

Background: The facility is to serve as a sanitary landfill in compliance with 9 VAC 20-80-10 et. seq. (9 VAC 20-10), Amendment 2. The Augusta County/Staunton Landfill No. 2 is on parcels of land presently owned by Augusta County and the City of Staunton, which is adjacent to the existing Augusta County Landfill No. 1 (Permit Number #21).

The facility is located on approximately 356.6 acres, of which 84.4 acres are included as Phases I through VII. However, only Phases I, II, and III are permitted for disposal and comprise 37.6 of the aforementioned 84.4 disposal acres. The site is to serve as the sanitary landfill for Augusta County, City of Staunton, and City of Waynesboro. Based on an estimated disposal rate of 233 tons per day, 312 days/year, the approximate disposal volume of this proposed landfill permit is 1,516,818 cubic yards within Phases I, II, and III over an estimated life of 10.4 years.

The operator of the facility will be the Augusta County Service Authority, while Augusta County, City of Staunton, and City of Waynesboro remain the owners. In order to comply with Department of Environmental Quality (DEQ) regulations, Augusta County and the City of Staunton will construct this landfill in accordance with this Permit.

Permit Highlights: This permit includes permit modules and associated permit attachments which are, in general, based on information submitted in the permit application. Development of the landfill will progress in phases. Phase I will be constructed first. The permit incorporates design elements for a composite liner. The liner system design includes, from bottom to top, the following components: compacted subgrade, 24-inch clay liner with an in-field permeability less than or equal to 1×10^{-7} cm/sec, a 60-mil thick layer of high density polyethylene (HDPE) liner material, 10 oz. nonwoven geotextile, 12-inches of Virginia Department of Transportation (VDOT) #8 or #78 stone drainage material with a minimum permeability of 0.5 cm/sec. For side slopes 25% or greater, a geonet/geotextile

composite drainage layer will be used. Leachate generated by this landfill will flow from sump areas through liner penetrations located in each Phases I, II, and III to an 8-inch gravity main. The 8-inch gravity main is connected to the Augusta County sanitary sewer system. The cap system will consist of three layers. The top layer will be uncompacted soil with a minimum thickness of 24-inches. The second layer will be a 40-mil textured VLDPE geomembrane. The third layer will be a soil layer having a thickness of at least 18-inches and a maximum permeability of 1×10^{-5} cm/sec.

Permit Amendments: The original permit, issued on May 31, 1995, is amended due to the modification of the groundwater monitoring system, affecting Module X and Attachment X-1.

THIS IS TO CERTIFY THAT:

Augusta County Service Authority
P.O. Box 859
Verona, VA 24482-0859

is hereby granted a permit to construct, operate, and maintain the facility as described in the attached Permit Modules I, II, III, X, XI, XII, XIII, and their associated Permit Attachments. These Permit Modules and Permit Attachments are as referenced hereinafter and are incorporated into and become a part of this permit.

The herein described activity is to be established, modified, constructed, installed, operated, used, maintained, and closed in accordance with the terms and conditions of this permit and the plans, specifications, and reports submitted and cited in the permit. The facility shall comply with all regulations of the Virginia Waste Management Board. In accordance with Chapter 14, § 10.1 - 1408.1(D) of the Code of Virginia, prior to issuing this permit, any comments by the local government and general public have been investigated and evaluated and it has been determined that the proposed facility poses no substantial present or potential danger to human health or the environment. The permit contains such conditions and requirements as are deemed necessary to comply with the requirements of the Virginia Code, the regulations of the Board, and to prevent substantial or present danger to human health or the environment.

Failure to comply with the terms and conditions of this permit shall constitute grounds for the revocation or suspension of this permit and for the initiation of necessary enforcement actions.

The permit is issued in accordance with the provisions of § 10.1-1408.1.A, Chapter 14, Title 10.1, Code of Virginia (1950) as amended.

Issued: May 31, 1995

APPROVED:


Robert G. Burnley
Director

6/27/02
Date Amended

PERMIT MODULE II CONDITIONS OF OPERATION

II.A. HOURS OF OPERATION

II.A.1. The normal operating hours are Monday through Saturday, 8:00 a.m. to 4:15 p.m. and the hours for waste acceptance are Monday through Saturday, 8:00 a.m. to 3:00 p.m. The landfill is closed on Sundays and holidays.

Operational hours may be altered by the facility upon notification to the Department.

II.A.2. Emergency conditions or unusual circumstances that require accepting waste outside of the normal operating hours shall be reported orally to the DEQ Valley Regional Office at (540) 574-7800 within 24 hours followed by a formal written submission within 5 days.

II.B. WASTES ACCEPTED

The Augusta Regional Landfill may receive the following wastes, as defined by 9VAC20-81-10, or described below:

II.B.1 Agricultural waste.

II.B.2. Animal carcasses. Small carcasses (e.g. dogs and cats) may be handled with incoming waste. Large animals and small volumes of animal carcasses (<20 cubic yards) may be received by the facility, but must be placed in a separate area within the disposal unit and provided with a cover of compacted soil or other suitable material. Disposal of large volumes of animal carcasses must be approved by the Department prior to disposal.

II.B.3. Ashes and air pollution control residues that are not classified as hazardous waste. Incinerator and air pollution and control residues should be incorporated into the working face and covered at such intervals as necessary to keep them from becoming airborne.

II.B.4. Commercial Waste.

II.B.5. Construction, demolition and debris waste.

II.B.6. Contaminated Soils meeting the requirements of 9VAC20-81-660.

II.B.7. Fossil Fuel Combustion Products.

II.B.8. Industrial Waste

- II.B.9. Institutional Waste
- II.B.10. Municipal solid wastes, including garbage, household waste, refuse, residential waste, rubbish and trash.
- II.B.11. Non-regulated hazardous wastes and treated wastes rendered nonhazardous, upon approval from the Department.
- II.B.12. Scrap metal.
- II.B.13. Sludge, industrial and POTW. Municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, and air pollution control facility sludges that have been dewatered.

Sludges shall be disposed of by mixing with other solid wastes, placed, and compacted at the working face in a manner to prevent localized pockets of sludge or conditions which might result in future instability of the waste mass.
- II.B.14. Vegetative and yard waste, including stumps that are less than 12 inches in diameter.
- II.B.15. Waste Tires. Tires shall be stored at the waste tire storage area in an appropriate manner in accordance with 9 VAC 20-81-640. Tires may also be split, cut, or shredded and then beneficially used or dispersed in the workface with other solid wastes for disposal.
- II.B.16. White goods, provided that all appliances are free of chlorofluorocarbons, hydrochlorofluorocarbons, and PCBs prior to placement on the working face. White goods may be accumulated at the facility in accordance with 9VAC20-81-650.
- II.B.17. UNAUTHORIZED WASTE – The Augusta Regional Landfill may not receive any unauthorized wastes identified in 9 VAC 20-81-140.B.4. or any of the following: waste oil that has not been adequately absorbed through site cleanup; radioactive wastes; lead acid batteries; pressurized tanks or pressurized containers; automobile gas tanks; friable and some non-friable asbestos-containing waste materials as defined by 9VAC20-81-620; regulated medical waste; explosives or other dangerous materials; and junked automobiles.

II.C. PERMIT LIMITS

The facility has a disposal limit of 1,500 tons per day as specified in the permit modification No. 5 approval letter.

II.D. COMPACTION & COVER

II.D.1. Daily cover consisting of six inches of compacted soil or other approved material shall be placed upon and maintained on all exposed solid waste prior to the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging. Approved alternate daily cover materials include:

II.D.1.a. Posi-Shell

II.D.1.b. Tarp

II.D.1.c. Mixture of soil, mulch, and treated sludge (only in areas runoff to be collected as leachate)

II.D.1.d. Other alternate materials that have been approved by the Director for use at this facility.

II.D.1.e. The use of an ADC material shall cease if the material is not effective at achieving the purposes of daily cover set forth in 9 VAC 20-81-140.B.1.c., if the use results in nuisances, or if the material is erodible and results in waste being exposed.

II.D.2. Intermediate cover shall be applied when another lift of waste will not be placed for more than 30 days or to areas, which exhibit erosion, cracking, or settlement.

II.D.3. Before placement of new waste in areas with low permeability daily cover soil or alternate daily covers, or in areas with intermediate cover, cover materials shall be removed or penetrated such that leachate can flow downward unimpeded to the leachate collection system.

II.D.4. Final cover construction as outlined in Permit Module XII shall be initiated when the requirements of 9 VAC 20-81-140.B.1.e. are met.

II.E. HOUSEKEEPING

II.E.1. The facility shall control odors in accordance with 9VAC20-81-200.D. and/or as necessary to protect human health and the environment.

II.E.2 The facility shall use fencing or other suitable control means to control litter migration. All litter blown from the operations shall be collected on a weekly basis.

II.E.3 Fugitive dust and mud deposits on main offsite roads and access roads shall be limited at all time to limit nuisances. Dust shall be controlled to meet the requirements of 9VAC20-81-140.A.12.

II.E.4. Salvaging may only be performed in areas of the facility designated for salvaging or recycling. Salvaging operations must not interfere with the operations of the landfill or create hazards or nuisances.

II.E.5. Open burning at active landfills shall comply with the requirements of 9VAC20-81-140.A.4. Open burning is prohibited at areas where waste has been disposed or is being used for active disposal.

II.F. SAFETY PROGRAM

Safety hazards to operating personnel shall be controlled through an active safety program consistent with the requirements of 29 CFR Part 1910. Safety training shall be performed annually, at a minimum.

II.G. SELF-INSPECTION PROGRAM

The landfill shall implement an inspection routine including a schedule for inspecting all applicable major aspects of facility operations necessary to ensure compliance with the requirements of Part III of the VSWMR (9 VAC 20-81-100 through 9 VAC 20-81-260). Records of these inspections must be maintained in the operating record and available for review. At a minimum, the following aspects of the facility shall be inspected on a monthly basis: erosion and sediment controls, storm water conveyance system, leachate collection system, safety and emergency equipment, internal roads, and operating equipment.

II.H. OPERATIONS MANUAL REQUIREMENTS

II.H.1. The facility shall be operated in accordance with 9 VAC 20-81-140, Module II, and an operations manual which has been certified by a responsible official and placed in the facility's operating record.

II.H.2. The operations manual shall include the following items as required by 9 VAC 20-81-485:

- A certification page;
- Operations Plan;
- Inspection Plan;
- Health and Safety Plan;
- Unauthorized Waste Control Plan;
- Emergency Contingency Plan; and
- Landscaping Plan.

II.H.3. The operations manual shall be reviewed and recertified annually to ensure consistency with the current operations and regulatory requirements.

II.I. LEACHATE MANAGEMENT

Leachate shall be managed in accordance with 9 VAC 20-81-210, Module III, and the facility's Design Report and Evaluation of the Leachate Collection and Pumping System. If a leachate seep(s) occurs, the owner or operator shall repair the seep(s) and follow the procedures outlined in 9 VAC20-81-210.F.

II.J. LANDFILL GAS MANAGEMENT

Landfill gas shall be monitored in accordance with 9VAC20-81-200, Module III, and the facility's Landfill Gas Management Plan. The gas management system shall be inspected at a rate consistent with the system's monitoring frequency.

II.K. GROUNDWATER MONITORING

Groundwater shall be monitored in accordance with 9VAC20-81-250 and 9 VAC 20-81-260; Modules X and XI; and the respective groundwater permit documents, as applicable. The groundwater monitoring system shall be inspected at a rate consistent with the system's monitoring frequency.

PERMIT MODULE III SANITARY LANDFILL DESIGN

III.A. LINER DESIGN

Phases 5 through 7 of the landfill shall be underlain by the composite liner systems described below:

Type 1 for slopes < 4 (horizontal):1 (vertical), from top to bottom

- 6" cushion on-site soil
- 16-oz non-woven geotextile
- 12" VDOT #57 aggregate leachate collection layer
- 16-oz non-woven geotextile
- 60-mil textured high-density polyethylene (HDPE) geomembrane
- Geosynthetic Clay Liner (GCL)
- 12" controlled subgrade

Type 2 for $4:1 \leq$ slopes < 3:1, from top to bottom

- 18" cushion on-site soil
- Geocomposite drainage layer
- 60-mil textured HDPE geomembrane
- GCL
- 12" controlled subgrade

Type 3 for slopes \geq 3:1, from top to bottom

- 18" cushion on-site soil
- Geocomposite drainage layer
- 60-mil textured HDPE geomembrane
- 2' compacted soil with hydraulic conductivity < 1×10^{-7} cm/s
- Prepared subgrade

Phases 1 through 3 were underlain by the composite liner systems described below:

For slopes < 4:1, from top to bottom

- 6" cushion on-site soil
- 10-oz non-woven geotextile
- 12" VDOT #78 aggregate leachate collection layer a minimum hydraulic conductivity of 0.5 cm/sec
- 10-oz non-woven geotextile
- 60-mil textured HDPE geomembrane
- 2' compacted soil with a maximum hydraulic conductivity of 1×10^{-7} cm/s
- Prepared subgrade

For slopes $\geq 4:1$, from top to bottom

- 18" cushion on-site soil
- Geocomposite drainage layer
- 60-mil textured HDPE geomembrane
- 2' compacted soil with a maximum hydraulic conductivity of 1×10^{-7} cm/s
- Prepared subgrade

Phases 4 was underlain by the composite liner systems described above for Phases 5-7.

III.B. LINER CONSTRUCTION & CERTIFICATION

The landfill base liner for Phases 5 through 7 shall be constructed in accordance with the approved Design Plans, Technical Specifications, and Construction Quality Assurance Plan.

Prior to expansion into each new Phase, the permittee shall submit all required certification documents as indicated in Permit Module I Section I.D.1 – 3 as required by 9 VAC 20-81-490.A. Once this documentation has been submitted and approved by the Department, and a site inspection of the new Phase has been conducted, a Certificate to Operate (CTO) must be issued by the Regional Office prior to the facility accepting waste in the newly constructed Phase.

III.C. LANDFILL GAS MANAGEMENT SYSTEM

III.C.1. The facility shall implement and maintain a gas management plan in accordance with 9 VAC 20-81-200 to provide for the protection of public health, safety, and the environment during the periods of operation, closure, and post-closure care, in accordance with the following requirements:

III.C.1.a. The concentration of methane gas generated by the facility shall not exceed 25 percent of the lower explosive limit for methane (1.25% methane) in facility structures (excluding gas control or recovery system components); and

III.C.1.b. The concentration of methane gas shall not exceed the lower explosive limit for methane (5.0% methane) at the facility boundary.

III.C.2. The facility shall perform quarterly landfill gas monitoring of the perimeter gas monitoring network and facility structures in accordance with 9 VAC 20-81-200.B.4.

III.C.3. The facility shall make any necessary repairs to the gas monitoring network (including, but not limited to, dewatering if necessary because probes cannot be routinely monitored or making repairs to the concrete pad, cap, lock, or cover) and

gas management and remediation systems prior to the next gas quarterly monitoring event unless an alternate repair timeframe is requested and approved.

III.C.4. Perimeter Gas Monitoring Network

III.C.4.a. The facility shall install and maintain perimeter gas monitoring probes at the locations specified in Figure 4 of the Gas Management Plan. The current perimeter gas monitoring network consists of a series of six landfill gas monitoring probes designated GP-15, GP-18, and GP-20 through GP-23 located along the southern and western waste boundaries. Additional perimeter gas monitoring probes shall be added to the network if onsite or offsite property development encroaches within 1000 feet of the waste management boundary along the property boundary.

III.C.4.b. If the perimeter gas monitoring network is expanded with the installation of new or replacement gas monitoring wells, the facility shall submit copies of the well boring logs and probe as-builts for inclusion in Appendix 5 of the Landfill Gas Management Plan within 30 days following construction completion.

III.C.4.c. All existing and future onsite structures shall be monitored in accordance with condition III.C.2 or have explosive gas monitoring equipment installed.

III.C.5. Landfill Gas Control Components

The planned gas control system at Phases 1 through 7 of the landfill consists of the following main elements:

III.C.5.a. A series of vertical gas extraction wells to be installed no deeper than 100 feet to a depth of 20 feet from the top of the drainage layer associated with the bottom liner system, spaced at approximately 150-foot to 250-foot intervals.

III.C.5.b. Horizontal collectors to be installed within Phases II and III to facilitate LFG extraction from areas of shallower waste depths insufficient to install vertical extraction wells and within Phases IV through VII in conjunction with waste placement activities to facilitate LFG extraction from areas to receive additional waste.

III.C.5.c. Vertical caissons connected to the horizontal collectors to be installed at approximately 250-foot on-center intervals to a depth of 15 feet from the top of the drainage layer associated with the bottom liner system, yielding a caisson depth in the range of 33 to 50 feet.

III.C.5.d. Selected leachate cleanouts located around the perimeter of Phases II through VII to be connected to the system to assist gas collection.

III.C.5.e. A network of header and lateral piping installed to connect the vertical extraction wells/caissons, horizontal collectors, and leachate cleanouts, and to direct the collected gas to a blower/flare station.

III.C.5.f. A condensate control system consisting of four condensate sumps located at low points in the piping outside of the waste boundary. Each condensate sump will be equipped with a submersible pump to pump the condensate to a leachate cleanout or an onsite sanitary sewer.

III.C.5.g. A blower/flare station to manage the gas collected via the active gas collection system.

III.C.6. Landfill Gas Monitoring Response and Remediation

III.C.6.a. Should the results of landfill gas monitoring indicate concentrations of methane in excess of the methane action level (4% methane or 80% of the lower explosive limit (LEL) at the facility boundary or 1.25% or 25% LEL in facility structures), the Operator shall:

- i. Take all immediate steps necessary to protect public health and safety (safety precautions should include evacuation of occupied structures, if affected; notifying local fire/safety officials of potential landfill gas migration; and coordinating for off-site monitoring of structures located within 1,000 feet of the facility boundary);
- ii. Investigate any active or passive gas control or remediation systems for proper connections and operation and make adjustments to vacuum, flow, or control valves, remove condensate, or make any other adjustments or repairs necessary to ensure proper operation, if applicable;
- iii. Provide written notification within 5 working days of the methane action level exceedance indicating what has been done or is planned to be done to resolve the problem; and
- iv. Increase the gas monitoring frequency per the requirements of III.C.6.c.

III.C.6.b. Should the results of landfill gas monitoring indicate concentrations of methane in excess of the methane compliance level (5% methane or 100% of the LEL at the facility boundary or 1.25% methane or 25% LEL in facility structures), the Operator shall:

- i. Perform the response actions outlined under III.C.6.a.i. and a.ii.;
- ii. Provide 24-hour oral notification of the methane compliance

level exceedance;

- iii. Provide written notification within 5 working days of the methane compliance level exceedance containing a description of the circumstances and its cause; the period of occurrence, including exact dates and times, and, if the circumstance has not been corrected, the anticipated time it is expected to continue. It shall also contain steps taken or planned to reduce, eliminate, and prevent reoccurrence of the circumstances resulting in an unusual condition or noncompliance;
- iv. Increase the gas monitoring frequency per the requirements of III.C.6.c.
- v. Implement a remediation plan within 60 days and submit the plan to DEQ for approval; and
- vi. Assess the spacing of the entire perimeter monitoring network. If the spacing between any probes exceeds 250 foot spacing, the facility shall install additional perimeter probes unless the facility can show that such spacing is unwarranted based on site-specific factors.

III.C.6.c. The facility shall monitor a subset of the perimeter monitoring network consisting of the exceeding probe(s) and structure(s) and those probes/structures immediately adjacent, such that at least one (1) probe on either side of each exceeding probe/structure is being monitored at the increased frequency.

- i. The increased monitoring frequency shall be monthly unless an alternate frequency is approved by the Department.
- ii. Monthly monitoring shall continue until three (3) consecutive monthly readings yield methane concentrations below 80% LEL at the facility boundary or 25% LEL in facility structures. At that time, the facility can return to quarterly monitoring.
- iii. Once the required minimum number of consecutive monitoring events resulting in gas concentrations below action level are completed per III.C.6.c.ii. to justify returning to a lesser monitoring frequency, the facility shall submit monitoring data for ALL monitoring events since the implementation of the remedial action or remediation plan phase in order to assess progress towards return to compliance. If the return to a lesser monitoring frequency takes longer than six (6) months, monitoring data shall be submitted in tabular form with an accompanying graph to clearly document trends in data over time to justify the change in monitoring frequency.

III.D. LEACHATE MANAGEMENT

III.D.1. Leachate Storage

All leachate collected in the leachate collection system shall be stored in an on-site 3.3-million gallon equalization basin.

III.D.2. Leachate Disposal

Leachate in the basin will be pumped through a fore main to the Augusta County Services Authority's Wastewater Treatment Plant in Fishersville.

DRAFT

PERMIT MODULE X DETECTION GROUNDWATER MONITORING

The purpose of Detection monitoring is to ensure the earliest possible recognition of a landfill's impact to the uppermost aquifer at levels which exceed background.

X.A. GROUNDWATER COMPLIANCE POINT

X.A.1. Uppermost Aquifer

The groundwater monitoring compliance point is the uppermost aquifer [250.A.2.a] which encompasses the entire thickness between the first encounter with groundwater (not to include any perched water) and the first encounter with a confining unit forming the lower boundary of the uppermost aquifer [A.3.f.(1).(b/c)].

X.A.2. Monitoring Well Locations

All wells in the monitoring network, including those at the disposal unit boundary, or at an alternate compliance point [250.A.3.a.(3)], shall be installed within the permitted facility boundary and be screened within the uppermost aquifer unless a variance [250.A.3.a.(2)] meeting the requirements of 740.B has been granted.

X.A.3. Location Restrictions

No monitoring well serving the function defined under 250.A.3.a.(2) can be located at a distance more than 500 feet away from the disposal unit boundary or outside of the facility boundary [740.A].

X.B. MONITORING NETWORK REQUIREMENTS

X.B.1. The following Performance Standards shall be met:

X.B.1.a. Network requirements of 250.A.2.a and 250.A.3.a, b and f.

X.B.1.b. Wells requiring replacement due to non-performance shall be reported to the Department within 30 days of recognizing the non-performance. The notification shall include a site plan depicting the proposed location for the replacement well(s) for Department review [530.C.1].

X.B.1.c. Wells that require replacement must be replaced prior to the next regularly scheduled groundwater sampling event unless the Director has granted an extension to meeting the monitoring system compliance requirements under 250.A.3.a.

X.B.1.d. Any wells that require abandonment shall be sealed and abandoned in accordance with existing USEPA Resource Conservation and Recovery Act (RCRA) guidance as well as any applicable state or local requirements.

X.B.2. Installation, Operations and Maintenance

All wells shall be installed, operated and maintained during the life of the monitoring program in accordance with requirements of 250.A.3.c-e.

X.B.3. Well Designations

The following wells shall be included in the groundwater monitoring network:

Upgradient/ Background Wells	Downgradient Wells	
MW-4	MW-1	MW-2
MW-15	MW-7	MW-8
	MW-9	MW-11
	MW-12	MW-13
	MW-14	

X.C. AQUIFER INFORMATION

X.C.1. Aquifer Data Acquisition - Requirements

X.C.1.a. Static groundwater elevations [250.A.4.c] shall be:

X.C.1.a.(1). Measured in all monitoring wells;

X.C.1.a.(2). Measured to an accuracy of 0.01 foot;

X.C.1.a.(3). Measured each time groundwater is sampled on site; and

X.C.1.a.(4) obtained from all wells in the network within a single 24 hour period to avoid temporal variations/fluctuations in the groundwater table.

X.C.1.b. Groundwater flow rate and direction [250.A.4.c] shall be:

X.C.1.b.(1). Determined each time groundwater is sampled on site, and

X.C.1.b.(2). Calculated using technical methods accepted for use in EPA RCRA groundwater programs.

X.C.2. Aquifer Data Acquisition - Response

X.C.2.a. The Permittee shall evaluate the function of each monitoring network well each time groundwater is sampled. If the evaluation shows that one or more of the wells no longer functions in a manner that meets the requirements of 250.A.3.e, the Permittee shall:

X.C.2.a.(1). Within 30 days of recognizing the non-performance, notify the Department of the need to modify the number, location, or depth of the monitoring wells, and provide for Department review, proposed locations for new, or replacement, monitoring wells keyed to a site plan; and

X.C.2.a.(2). Complete additions or modifications to the network, prior to the next regularly scheduled groundwater sampling event, unless an extension has been granted by the Director for meeting the monitoring system compliance requirements under 250.A.3.a.

X.D. SAMPLING ACTIONS

The Permittee shall:

X.D.1. Meet the field sampling and laboratory procedures of 250.A.4.a;

X.D.2. Use the analytical methods of EPA SW-846 as amended [250.A.4.b];

X.D.3. Not filter groundwater samples prior to analysis [250.A.4.b]; and

X.D.4. Sample all Detection constituents referenced under Table 3.1 Column A [250.B.2.a].

X.E. SAMPLING FREQUENCY

X.E.1. The Permittee shall, during the active life and post-closure care periods, sample groundwater and analyze for the required Table 3.1 constituents in all monitoring wells on at least a semi-annual basis [250.B.2.a.(2)] unless the quarterly wetlands provisions apply to an active sanitary landfill [250.B.1.e.].

X.E.2. The length of the semi-annual sampling period shall not conflict with the requirements of 9 VAC 20-81-10.

X.F. DETERMINATION OF BACKGROUND

The Permittee shall establish site background values [250.A.4.d-f] for all Detection monitoring constituents within the timeframes of 250.B.2.a.(1).

X.G. STATISTICAL PROCEDURES

X.G.1. When evaluating the groundwater sampling event results, the Permittee shall, within 30 days of completion of the laboratory analysis for each sampling event [250.A.4.h.(2)], determine whether or not there is a statistically significant increase (SSI) over site background for each monitoring constituent using a method meeting the requirements of 250.A.4.h.(1) and A.4.g and D.

X.G.2. For the purpose of this Permit, laboratory analysis is considered complete upon issuance of the analytical report under laboratory signature.

X.H. BACKGROUND EXCEEDANCE ACTIONS

X.H.1. If the statistical comparisons required under the monitoring program show no exceedances, the Permittee shall continue monitoring groundwater within the current program.

X.H.2. When the Permittee determines there has been a SSI exceedance over site background for one or more of the Detection monitoring constituents, the Permittee shall upon the end of the 30-day SSI determination period allowed by 250.A.4.h.(2), notify the Director within the timeframes of 250.B.2.b.(1)(a). The notification must indicate which groundwater monitoring constituents have shown statistically significant increases over background and describe whether the Permittee shall:

X.H.2.a. Initiate Assessment monitoring described under 250.B.3 within the timeframes of 250.B.3.a., or if applicable,

X.H.2.b. Submit an Alternate Source Demonstration meeting the content requirements and timeframes of 250.A.5. Unless Director approval of the demonstration is obtained, the Permittee shall follow the sampling requirements and timeframes required of Assessment monitoring.

X.I. RECORD-KEEPING REQUIREMENTS

The Permittee shall retain all records identified under 250.E.1, 530.B.1 and 530.B.2 throughout the facility active life (including closure) and post-closure care period. The records shall be retained at the facility or another location approved by the Director.

X.J. REPORTING REQUIREMENTS

X.J.1. Annual Groundwater Reports

Annual Groundwater Reports containing, at a minimum, content under 250.E.2.a.(2), shall be submitted to the Director within the timeframes of 250.E.2.a.(1).

X.J.2. Semi-annual Groundwater Reports

Semi-annual Groundwater Reports containing at a minimum, groundwater flow rate and direction determinations [250.A.4.c], statistical comparison results [250.B.2] and content defined under 250.E.2.b.(1), shall be submitted to the Department within the timeframes of 250.E.2.b.(1) unless qualifying facilities have received a variance from this requirement.

X.J.3. Facility Background Determination Report

Within 30 days of establishing facility background, or re-establishing background due to the installation of new monitoring wells, or a change in sampling technique, the Permittee shall report the background values and statistical computations forming the basis for those values in a report entitled *Facility Background Determination Report*.

X.J.4. Well Installation Report

Within 44 days of well completion, the Permittee shall supply the Director a *Well Installation Report* containing the well number, surveyed elevation, boring log [250.A.3.d], casing length, total depth, and a completion diagram [250.E.1.c] for each monitoring well, along with a certification [250.A.3.g] from a qualified groundwater scientist, that the monitoring wells have been installed in accordance with the submitted plans.

X.J.5. Well Abandonment Report

Within 44 days of well abandonment, the Permittee shall supply the Director a *Well Abandonment Report* containing information including field methods utilized, and a certification from a qualified groundwater scientist verifying the well abandonment activities met all applicable requirements [250.E.1.c].

X.K. NOTIFICATION REQUIREMENTS

X.K.1. Background Statistically Significant Increase (SSI) Notifications

Background SSI Notifications shall be submitted to the Director within the timeframes noted under 250.B.2.b.(1)(a).

X.K.2. Well Non-Performance Notifications

Well Non-Performance Notifications, recognizing the non-performance issue, shall be submitted to the Director within the timeframes noted under 530.C.1-3.

X.L. MISCELLANEOUS DEMONSTRATIONS

X.L.1. Use of Alternate Site Background

The Permittee may request the Director allow site background to be developed using wells that are not hydrologically upgradient of the disposal unit as long as the request addresses the technical criteria contained under 250.A.4.e, and is certified by a qualified groundwater scientist. Until such time as Director approval is obtained, background shall be determined by sampling wells which are upgradient of the disposal unit and meet the requirements of 250.A.3.f.(2).

X.L.2. Use of Alternate Statistical Method

The Permittee may request the Director allow the use of an *Alternate Statistical Method* as long as the Permittee can demonstrate the alternate method can meet the technical criteria defined under 250.D.2. Until such time as Director approval is obtained, the statistical test(s) applied to site groundwater data shall be from 250.D.1. Whichever method is approved for use at the site, the method shall be listed in the facility *Groundwater Monitoring Plan* as required under 250.A.4.g.

X.L.3. Verification Sampling

The Permittee, at any time within the 30 day statistical determination period defined under 250.A.4.h.(2) may obtain verification samples. Undertaking verification sampling shall not alter the timeframes associated with determining or reporting a statistically significant increase as otherwise defined under 250.A.4.i.

X.L.4. Data Validation

The Permittee may at any time within the 30 day statistical determination period defined under 250.A.4.h.(2), undertake third-party data validation of the analytical data received from the laboratory. Undertaking such validation efforts shall not alter the timeframes associated with determining or reporting a statistically significant increase as otherwise defined under 250.A.4.j.

X.L.5. When the Permittee recognizes a failure to submit any relevant facts or has submitted incorrect information in any groundwater monitoring report to the Director, he shall, within 7 days, submit such omitted facts or the correct information with a full explanation [530.E].

X.M. MISCELLANEOUS DEMONSTRATIONS

X.M.1. Alternate Source Demonstration

To address an exceedance which is the result of something other than a release of solid waste constituents, the Permittee may submit a report entitled *Alternate Source Demonstration*, certified by a qualified groundwater scientist, for review by the Director within 90 days of providing the SSI notification unless the submission and approval timeframe has been extended by the Director for good cause [250.A.5.b].

X.M.1.a. If a successful demonstration of an alternate source for the noted SSI is made by the Permittee and approved by the Director within the 90 day timeframe, the Permittee may continue in the applicable monitoring program as defined in this Permit Module.

X.M.1.b. If a successful demonstration of an alternate source for the noted SSI is not made by the Permittee within the 90 day timeframe, the Permittee shall take actions required under 250.A.5.c.(3) within Regulatory timeframes unless an extension has been granted by the Director.

X.M.2. Multi-unit Groundwater Monitoring System Demonstration

The Permittee may submit to the Director, a *Multi-unit Groundwater Monitoring System Demonstration* containing the content defined under 250.A.3.b, and certified by a qualified groundwater scientist, when in their opinion, the implementation of such a monitoring system will be as protective of human health and the environment as individual systems would be.

X.M.2.a. If a successful demonstration is made and approved by the Director, the Permittee may discontinue use of individual monitoring systems and institute the monitoring of a multi-unit system.

X.M.2.b. If a successful demonstration is not made, the Permittee shall initiate (or continue) to monitor individual networks under the applicable monitoring program.

X.M.3. No-Potential-Migration Demonstration

The Permittee may request that the Director suspend groundwater monitoring requirements by submitting a *No-Potential-Migration Demonstration*, certified by a qualified groundwater scientist, and meeting the technical requirements of 250.A.1.c.

X.M.3.a. If a successful demonstration is made and approved by the Director, the Permittee may suspend groundwater monitoring actions.

- X.M.3.b. If a successful demonstration is not made, the Permittee shall continue monitoring as required under 250.B.2.

X.N. PERMIT DOCUMENTS

- X.N.1. As required under 470.A.1, the Permittee must have Design Plans that include detailed instructions concerning groundwater monitoring [470.A.1.g]. These detailed groundwater monitoring instructions must at a minimum cover the items listed under 300.A.4.a and applicable information under 250 and 260. The document containing these instructions, called the *Groundwater Monitoring Plan*, shall be placed in the file record.
- X.N.2. The Permittee shall update this monitoring plan as needed [250.B.3.e], which may include actions otherwise defined under 600.A-F, if changes to the monitoring program have taken place since original Plan development.

X.O. LIMITATIONS/AUTHORITIES

- X.O.1. Solid waste shall not be deposited in or permitted to enter any surface waters or groundwater [240.C.10].
- X.O.2. Should information contained in any Permittee-authored document referenced in this Module conflict with any requirement or condition of this Module, or requirements found within 9 VAC 20-81-10 et seq., as amended; the Module condition and/or Regulatory requirement shall prevail over the language in the Permittee-authored document [35.D and 490.E] unless it can be demonstrated that a Variance from that regulatory requirement has been granted by the Director following the procedures under 700 et seq.
- X.O.3. The groundwater monitoring and reporting requirements set forth herein are minimum requirements. The Director may require, by amending the Permit, that the Permittee install, operate, and maintain a groundwater monitoring system and program that contains requirements more stringent than those of the Regulations whenever it is determined that such requirements are necessary to prevent significant adverse effects on public health or the environment [250.A.2.c].

PERMIT MODULE XI ASSESSMENT GROUNDWATER MONITORING

The purpose of Assessment monitoring is to ensure the earliest possible recognition of a landfill's impact to the uppermost aquifer at levels which exceed groundwater protection standards and therefore may trigger potential groundwater remediation.

XI.A. GROUNDWATER COMPLIANCE POINT

XI.A.1. Uppermost Aquifer

The groundwater monitoring compliance point is the uppermost aquifer [250.A.2.a] which encompasses the entire thickness between the first encounter with groundwater (not to include any perched water) and the first encounter with a confining unit forming the lower boundary of the uppermost aquifer [A.3.f.(1).(b/c)].

XI.A.2. Monitoring Well Locations

All wells in the monitoring network, including those at the disposal unit boundary, or at an alternate compliance point [250.A.3.a.(3)], shall be installed within the permitted facility boundary and be screened within the uppermost aquifer unless a variance [250.A.3.a.(2)] meeting the requirements of 740.B has been granted.

XI.A.3. Location Restrictions

No monitoring well serving the function defined under 250.A.3.a can be located at a distance more than 500 feet away from the disposal unit boundary or outside of the facility boundary [740.A].

XI.B. MONITORING NETWORK REQUIREMENTS

XI.B.1. The following Performance Standards shall be met:

XI.B.1.a. Network requirements of 250.A.2.a and 250.A.3.a, b and f.

XI.B.1.b. Wells requiring replacement due to non-performance shall be reported to the Department within 30 days of recognizing the non-performance. The notification shall include a site plan depicting the proposed location for the replacement well(s) for Department review [530.C.1].

XI.B.1.c. Wells that require replacement must be replaced prior to the next regularly scheduled groundwater sampling event unless the Director has granted an extension to meeting the monitoring system compliance requirements under 250.A.3.a.

XI.B.1.d. Any wells that require abandonment shall be sealed and abandoned in accordance with existing USEPA Resource Conservation and Recovery Act (RCRA) guidance as well as any applicable state or local requirements.

XI.B.2. Installation, Operations and Maintenance

All wells shall be installed, operated and maintained during the life of the monitoring program in accordance with requirements of 250.A.3.c-e.

XI.B.3. Well Designations

The following wells shall be included in the groundwater monitoring network:

Upgradient/ Background Wells	Downgradient Wells	
MW-4	MW-1	MW-2
MW-15	MW-7	MW-8
	MW-9	MW-11
	MW-12	MW-13
	MW-14	

XI.C. AQUIFER INFORMATION

XI.C.1. Aquifer Data Acquisition - Requirements

XI.C.1.a. Static groundwater elevations [250.A.4.c] shall be:

XI.C.1.a.(1). Measured in all monitoring wells;

XI.C.1.a.(2). Measured to an accuracy of 0.01 foot;

XI.C.1.a.(3). Measured each time groundwater is sampled on site;
and

XI.C.1.a.(4) Obtained from all wells in the network within a single
24 hour period to avoid temporal
variations/fluctuations in the groundwater table.

XI.C.1.b. Groundwater flow rate and direction [250.A.4.c] shall be:

XI.C.1.b.(1). Determined each time groundwater is sampled on site,
and

XI.C.1.b.(2). Calculated using technical methods accepted for use in
USEPA RCRA groundwater programs.

XI.C.2. Aquifer Data Acquisition - Response

XI.C.2.a. The Permittee shall evaluate the function of each monitoring network well each time groundwater is sampled. If the evaluation shows that one or more of the wells no longer functions in a manner that meets the requirements of 250.A.3.e, the Permittee shall:

XI.C.2.a.(1). Within 30 days of recognizing the non-performance, notify the Department of the need to modify the number, location, or depth of the monitoring wells, and provide for Department review, proposed locations for new, or replacement, monitoring wells keyed to a site plan; and

XI.C.2.a.(2). Complete additions or modifications to the network, prior to the next regularly scheduled groundwater sampling event, unless an extension has been granted by the Director for meeting the monitoring system compliance requirements under 250.A.3.a.

XI.D. SAMPLING ACTIONS

The Permittee shall:

XI.D.1. Meet the field sampling and laboratory procedures of 250.A.4.a;

XI.D.2. Use the analytical methods of EPA SW-846 as amended [250.A.4.b];

XI.D.3. Not filter groundwater samples prior to analysis [250.A.4.b]; and

XI.D.4. Sample all Assessment constituents referenced under Table 3.1 Column B [250.B.3.a] during annual sampling events and all Detection constituents referenced under Table 3.1 Column A as well as those constituents in Column B that were previously detected [250.B.3.c.(2)] during semiannual sampling events.

XI.E. SAMPLING FREQUENCY

XI.E.1. The Permittee shall, during the active life and post-closure care periods, sample groundwater and analyze for the required Table 3.1 constituents in all monitoring wells on at least a semi-annual basis [250.B.3.c.(2)] unless the quarterly wetlands provisions apply to an active sanitary landfill.

XI.E.2. The length of the semi-annual sampling period shall not conflict with the requirements of 9 VAC 20-81-10.

XI.E.3. Upon triggering the need for Assessment monitoring, the initial Assessment sampling event shall be completed in a timeframe meeting the requirements of 250.B.3.a.

XI.F. DETERMINATION OF BACKGROUND and GROUNDWATER PROTECTION STANDARDS

XI.F.1. The Permittee shall establish site-specific Assessment background values [250.A.4.d-f] for all detected constituents within the timeframes of 250.B.3.c.(3).

XI.F.2. Groundwater Protection Standards (GPS) established using the process defined under 250.A.6.b, for each detected Assessment monitoring constituent shall be proposed within the timelines of 250.B.3.c and d and shall be updated as follows:

XI.F.2.a. Federal Maximum Contaminant Level-based GPS or Department approved background, following the process under 250.A.6.d.

XI.F.2.b. Alternate Concentration Limit (ACL)-based GPS, following the process under 250.A.6.e.

XI.G. STATISTICAL PROCEDURES

XI.G.1. When evaluating the groundwater sampling event results, the Permittee shall, within 30 days of completion of the laboratory analysis for each sampling event [250.A.4.h.(2)], determine whether or not there is a statistically significant increase (SSI) over site background and GPS for each monitoring constituent using a statistical method meeting the requirements of 250.A.4.h.(1), 250.A.4.g and 250.D.

XI.G.1.a. For GPS based on Federal Maximum Contaminant Level or ACLs, the comparison of analytical results from the downgradient wells shall be based on either a point to point comparison to the GPS, or a statistical comparison using the 95% Lower Confidence Limit derived from at least four independent sampling events completed during the compliance period.

XI.G.1.b. For GPS based on statistically calculated site background, the comparison of analytical results from the downgradient wells shall be based on a point to point comparison to the GPS.

XI.G.2. For the purpose of this Permit, laboratory analysis is considered complete upon issuance of the final analytical report under laboratory signature.

XI.H. GPS EXCEEDANCE ACTIONS

- XI.H.1. If the statistical comparisons required under the monitoring program show no exceedances, the Permittee shall continue monitoring groundwater within the current program.
- XI.H.2. When the Permittee determines there has been a SSI exceedance over GPS for one or more of the Assessment monitoring constituents, the Permittee shall notify the Director within the timeframe of 250.B.3.f.(3)(a). The notification must indicate which groundwater monitoring constituents have shown statistically significant increases over GPS and describe whether the Permittee shall:
- XI.H.2.a. Initiate groundwater Corrective Actions described under 260.C within the timeframes of 260.C.1, including defining the horizontal and lateral extent of the GPS exceeding release [260.C.1.a], as well as the actions described under 260.C.1.b, c, d and e; or
 - XI.H.2.b. Submit an Alternate Source Demonstration meeting the content requirements and timeframes of 250.A.5. Unless Director approval for the demonstration is obtained, the Permittee shall follow the sampling requirements and timeframes required of Corrective Action Program [260.C.] in response to a GPS exceedance.

XI.I. RECORD-KEEPING REQUIREMENTS

The Permittee shall retain all records identified under 250.E.1, 530.B.1 and 530.B.2 throughout the facility active life (including closure) and post-closure care period. The records shall be retained at the facility or another location approved by the Director.

XI.J. REPORTING REQUIREMENTS

XI.J.1. Annual Groundwater Reports

Annual Groundwater Reports containing, at a minimum, content under 250.E.2.a.(2), shall be submitted to the Director within the timeframes of 250.E.2.a.(1).

XI.J.2. Semi-annual Groundwater Reports

Semi-annual Groundwater Reports containing at a minimum, groundwater flow rate and direction determinations [250.A.4.c], statistical comparison results [250.B.3] and content defined under 250.E.2.b.(1), shall be submitted to the Department within the timeframes of 250.E.2.b.(1) unless qualifying facilities have received a variance from this requirement.

XI.J.3. Facility Background Determination Report

Within 30 days of establishing facility background, or re-establishing background

due to the installation of new monitoring wells, or a change in sampling technique, the Permittee shall report the background values and statistical computations forming the basis for those values in a report entitled *Facility Background Determination Report*.

XI.J.4. Well Installation Report

Within 44 days of well completion, the Permittee shall supply the Director a *Well Installation Report* containing the well number, surveyed elevation, boring log [250.A.3.d], casing length, total depth, and a completion diagram [250.E.1.c] for each monitoring well, along with a certification [250.A.3.g] from a qualified groundwater scientist, stating that the monitoring wells have been installed in accordance with the submitted plans.

XI.J.5. Well Abandonment Report

Within 44 days of well abandonment, the Permittee shall supply the Director a *Well Abandonment Report* containing information including field methods utilized, and a certification from a qualified groundwater scientist verifying the well abandonment activities met all applicable requirements [250.E.1.c].

XI.J.6. Upon issuance of GPS, the Permittee shall place the GPS listing in the operating record [250.A.6.c] and update that record as needed upon any changes in GPS.

XI.K. NOTIFICATION REQUIREMENTS

XI.K.1. *GPS and SSI Notifications* shall be submitted to the Director within the timeframes noted under 250.B.3.f.(3)(a).

XI.K.2. *Well Non-Performance Notifications*, recognizing the non-performance issue, shall be submitted to the Director within the timeframes noted under 530.C.1-3.

XI.K.3. *Off-site Plume Notifications* shall be submitted to the affected landowner [260.C.1.b] and copied to the Director within 15 days of identifying the impacts.

XI.K.4. Table 3.1 Column B Detect Notifications shall be submitted to the Director within the timeframes noted under 250.B.3.c.(1).

XI.K.5. Return to Detection Monitoring Notification shall be submitted to the Director [250.B.3.f.(1)] no less than 30 days prior to reinstating Detection monitoring.

XI.L. MISCELLANEOUS ALLOWANCES

XI.L.1. Use of Alternate Site Background

The Permittee may request the Director allow site background to be developed using wells that are not hydrologically upgradient of the disposal unit as long as the request addresses the technical criteria contained under 250.A.4.e, and is certified by a qualified groundwater scientist. Until such time as Director approval is obtained, background shall be determined by sampling wells which are upgradient of the disposal unit and meet the requirements of 250.A.3.f.(2).

XI.L.2. Use of Alternate Statistical Method

The Permittee may request the Director allow the use of an *Alternate Statistical Method* as long as the Permittee can demonstrate the alternate method can meet the technical criteria defined under 250.D.2. Until such time as Director approval is obtained, the statistical test(s) applied to site groundwater data shall be from 250.D.1. Whichever method is approved for use at the site, the method shall be listed in the facility *Groundwater Monitoring Plan* as required under 250.A.4.g.

XI.L.3. Verification Sampling

The Permittee, at any time within the 30 day statistical determination period defined under 250.A.4.h.(2), may obtain verification samples. Undertaking verification sampling shall not alter the timeframes associated with determining or reporting a statistically significant increase as otherwise defined under 250.A.4.i.

XI.L.4. Data Validation

The Permittee may at any time within the 30 day statistical determination period defined under 250.A.4.h.(2), undertake third-party data validation of the analytical data received from the laboratory. Undertaking such validation efforts shall not alter the timeframes associated with determining or reporting a statistically significant increase as otherwise defined under 250.A.4.j.

XI.L.5. When the Permittee recognizes a failure to submit any relevant facts or has submitted incorrect information in any groundwater monitoring report to the Director, he shall, within 7 days, submit such omitted facts or the correct information with a full explanation [530.E].

XI.L.6. The Permittee may request the Director allow an alternate frequency for the repeated sampling of the full Table 3.1 Column B constituent list as long as the request addresses the technical items contained under 250.B.3.b.(3), and is certified by a qualified groundwater scientist. Until such time as Director approval is obtained, sampling for the full Table 3.1 Column B shall continue on an annual basis consistent with 250.B.3.a.

XI.L.7. In an effort to reduce sampling costs, the Permittee may request the Director:

- XI.L.7.a. Allow a subset of wells to be sampled for the annual Table 3.1 Column B constituent list [250.B.3.b.(1)] as long as the request contains information showing that wells not included in the subset are 1] devoid of any Table 3.1 column B detects, 2] the well shows no exceedances over background for any Table 3.1 Column A constituents, and 3] the request is certified by a qualified groundwater scientist. Until such time as Director approval is obtained, all site wells shall be sampled annually for the Table 3.1 Column B constituent list consistent with 250.B.3.a; and/or,
- XI.L.7.b. Allow for the deletion of certain Table 3.1 Column B constituents from the sampling list [250.B.3.b(2)] as long as the request contains information showing that the constituents are not reasonably expected to be in or derived from the waste mass, and the request is certified by a qualified groundwater scientist. Until such time as Director approval is obtained, all site wells shall be sampled annually for the full Table 3.1 Column B constituent list consistent with 250.B.3.a.

XI.M. MISCELLANEOUS DEMONSTRATIONS

XI.M.1. Alternate Source Demonstration

To address an exceedance which is the result of something other than a release of solid waste constituents, the Permittee may submit a report entitled *Alternate Source Demonstration*, certified by a qualified groundwater scientist, for review by the Director within 90 days of providing the SSI notification unless the submission and approval timeframe has been extended by the Director for good cause [250.A.5.b].

- XI.M.1.a. If a successful demonstration of an alternate source for the noted SSI is made by the Permittee and approved by the Director within the 90 day timeframe, the Permittee may continue in the applicable monitoring program as defined in this Permit Module.
- XI.M.1.b. If a successful demonstration of an alternate source for the noted SSI is not made by the Permittee within the 90 day timeframe, the Permittee shall take actions required under 250.A.5.c.(3) within Regulatory timeframes unless an extension has been granted by the Director.

XI.M.2. Multi-unit Groundwater Monitoring System Demonstration

The Permittee may submit to the Director, a *Multi-unit Groundwater Monitoring System Demonstration* containing the content defined under 250.A.3.b, and certified by a qualified groundwater scientist, when in their opinion, the

implementation of such a monitoring system will be as protective of human health and the environment as individual systems would be.

XI.M.2.a. If a successful demonstration is made and approved by the Director, the Permittee may discontinue use of individual monitoring systems and institute the monitoring of a multi-unit system.

XI.M.2.b. If a successful demonstration is not made, the Permittee shall initiate (or continue) to monitor individual networks under the applicable monitoring program.

XI.M.3. No-Potential-Migration Demonstration

The Permittee may request that the Director suspend groundwater monitoring requirements by submitting a *No-Potential-Migration Demonstration*, certified by a qualified groundwater scientist, and meeting the technical requirements of 250.A.1.c.

XI.M.3.a. If a successful demonstration is made and approved by the Director, the Permittee may suspend groundwater monitoring actions.

XI.M.3.b. If a successful demonstration is not made, the Permittee shall continue monitoring as required under B.3.

XI.N. PERMIT DOCUMENTS

XI.N.1. As required under 470.A.1, the Permittee must have Design Plans that include detailed instructions concerning groundwater monitoring [470.A.1.g]. These detailed groundwater monitoring instructions must at a minimum cover the items listed under 250.A.4a and applicable information under 250 and 260. The document containing these instructions, called the *Groundwater Monitoring Plan*, shall be placed in the file record.

XI.N.2. The Permittee shall update this monitoring plan as needed [250.B.3.e], which may include actions otherwise defined under 600.A-F, if changes to the monitoring program have taken place since original Plan development.

XI.O. LIMITATIONS/AUTHORITIES

XI.O.1. Solid waste shall not be deposited in or permitted to enter any surface waters or groundwater [240.C.10].

XI.O.2. Should information contained in any Permittee-authored document referenced in this Module conflict with any requirement or condition of this Module, or requirements found within 9 VAC 20-81-10 et seq., as amended; the Module condition and/or Regulatory requirement shall prevail over the language in the

Permittee-authored document [35.D and 490.E] unless it can be demonstrated that a Variance from that regulatory requirement has been granted by the Director following the procedures under 700 et seq.

- XI.O.3. The groundwater monitoring and reporting requirements set forth herein are minimum requirements. The Director may require, by amending the Permit, that the Permittee install, operate, and maintain a groundwater monitoring system and program that contains requirements more stringent than those of the Regulations whenever it is determined that such requirements are necessary to prevent significant adverse effects on public health or the environment [250.A.2.c].

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PERMIT MODULE XII CLOSURE

XII.A. CLOSURE PLAN MODIFICATION

XII.A.1. The closure plan shall be amended any time changes in operating plans or landfill design affect the closure plan.

XII.A.2. Amended closure plans shall be submitted to the department at least 180 days before the date the facility expects to begin construction activities related to closure.

XII.B. TIME ALLOWED FOR CLOSURE

The facility shall close each unit and install a final cover system in accordance with the timeframes specified in 9 VAC 20-81-140.B.1.e. and 9 VAC 20-81-160.

The following alternate closure schedule is specified in the Closure Plan:

Closure activities shall begin no later than 6 months after the date on which the facility (or disposal area) receives the final load of waste, provided the disposal area has no remaining capacity and placement of additional wastes with the area is unlikely. Closure activities are expected to be completed within 12 months after initiation of closure construction.

XII.C. FINAL COVER SYSTEM

The landfill final cover design profiles from top to bottom are as follows:

Option No. 1

- a 6-inch vegetative supporting soil layer;
- an 18-inch protective soil cover;
- a geocomposite drainage net;
- a 40-mil textured LLDPE geomembrane; and
- an 18-inch infiltration layer with a hydraulic conductivity less than 1×10^{-5} cm/sec.

Option No. 2

- a 6-inch vegetative supporting soil layer;
- an 18-inch protective soil cover;
- a geocomposite drainage net;
- a 40-mil textured LLDPE geomembrane; and
- a geosynthetic clay liner (GCL) layer.

Note: the GCL will only be placed on the top flat portion and not be placed on the final cover side slope of the final cover area.

XII.D. CLOSURE CERTIFICATION

- XII.D.1. Following construction of the final cover system for each unit, certification, signed by a registered professional engineer, shall be submitted verifying that closure has been completed in accordance with the permit, approved plans, and specifications. A certification will be required for each capped landfill phase and shall include the results of the CQA/QC requirements under 9VAC20-81-130.Q.1.b.(6).
- XII.D.2. Following the closure of all units, certification, signed by a registered professional engineer, shall be submitted verifying that closure has been completed in accordance with the requirements of 9VAC20-81-160.D.5.a. through 5.c., which require posting a sign at the facility entrance and erecting suitable barriers to prevent access; submitting a survey plat to the local land reporting authority; and recording a notation on the deed to the facility property.

PERMIT MODULE XIII POST-CLOSURE CARE

XIII.A. POST-CLOSURE CARE REQUIREMENTS

XIII.A.1. The facility shall conduct post-closure care of the landfill in accordance with its approved Post-closure Care Plan.

XIII.A.1.a. Leachate shall be managed in accordance with 9 VAC 20-81-210 and the facility's Design Report and Evaluation of the Leachate Collection and Pumping System. If a leachate seep(s) occurs, the owner or operator shall repair the seep(s) and follow the procedures outlined in 9 VAC20-81-210.F.

XIII.A.1.b. Landfill gas shall be monitored in accordance with 9VAC20-81-200 and the facility's Landfill Gas Management Plan. The gas management system shall be inspected at a rate consistent with the system's monitoring frequency.

XIII.A.1.c. Groundwater shall be monitored in accordance with 9VAC20-81-250, Module X, and Module XI and the respective groundwater permit documents as applicable. The groundwater monitoring system shall be inspected at a rate consistent with the system's monitoring frequency.

XIII.A.2. Amended Post-closure Care Plans shall be submitted to the department for review and approval by the director.

XIII.B. POST-CLOSURE PERIOD

XIII.B.1. Post-closure care shall be conducted for 30 years.

XIII.B.2. The length of the post-closure care period may be decreased by the director if the owner or operator demonstrates that the reduced period is equally protective of human health and the environment and the demonstration is approved by the director. This demonstration shall contain:

XIII.B.2.a. Certification, signed by the owner or operator and a professional engineer licensed in the Commonwealth, verifying that decreasing the post-closure care period will be equally protective of human health and the environment; and

XIII.B.2.b. An evaluation prepared by a professional engineer or professional geologist licensed in the Commonwealth, which assesses and evaluates the landfill's potential for harm to human health and the

environment in the event that post-closure monitoring and maintenance are discontinued.

- XIII.B.3. The facility shall continue post-closure care and monitoring until such time that the department approves termination or the post-closure care and/or monitoring activity.

XIII.C. CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

Not less than 180 days prior to the completion of the post-closure monitoring and maintenance period as prescribed by the Board's regulations or by the Director, the owner or operator shall submit to the Director:

- XIII.C.1. Certification, signed by the owner or operator and a professional engineer licensed in the Commonwealth, verifying that post-closure monitoring and maintenance have been completed in accordance with the facility's Post-closure Care Plan; and
- XIII.C.2. An evaluation prepared by a professional engineer or professional geologist licensed in the Commonwealth, which assesses and evaluates the landfill's potential for harm to human health and the environment in the event that post-closure monitoring and maintenance are discontinued.

If the Director determines that continued post-closure monitoring or maintenance is necessary to prevent harm to human health or the environment, he shall extend the post-closure period for such additional time as the Director deems necessary to protect human health and the environment and shall direct the owner or operator to submit a revised post-closure plan and to continue post-closure monitoring and maintenance in accordance therewith. Requirements for financial assurance shall apply throughout such extended post-closure period.