COMMONWEALTH of VIRGINIA

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SOLID WASTE FACILITY PERMIT
PERMIT NUMBER 604

.

Facility Name: Skinquarter Land Construction Demolition Debris Landfill

Facility Type: Construction/Demolition and Debris Landfill **Latitude:** 37º23'35"N

Site Location: Chesterfield County **Longitude:** 77º47'23"W

Location Description: The Skinquarter Land CDD Landfill is located at 20701 Hull Street in western Chesterfield County near the town of Moseley. The facility is approximately 0.5 miles west of State Route 603 (Skinquarter Road) and about 4.7 miles east of the Appomattox River.

Background: The facility is to serve as a Construction, Demolition and Debris landfill, in compliance with Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80-10 et seq.). The facility serves both the private and public sectors primarily in the Greater Richmond Area but is also capable of accepting waste generated within 600 miles of the facility. Skinquarter Land CDD Landfill is open to the general public to accept the wastes described in Section II "Service Information" of Module II of this permit. Furthermore, a complete list of authorized and unauthorized wastes is located in Appendix I of Module II. No municipal solid wastes, hazardous waste, friable asbestos, any free liquids, compressed gases or semi-liquids may be accepted. The facility is located on 115 acre parcel of land owned by Skinquarter Land LLC. Within the 115 acre property boundary there is an 86 acre facility boundary. The facility boundary encompasses a waste management boundary (69 acres). Contained within the waste management boundary is the solid waste disposal area (approximately 52.1 acres). The proposed lined 52.1 acre disposal area includes 6 cells (Cells 1-6). The remaining 16.9 acres of the waste management boundary are used for ancillary features such as sedimentation basins and a leachate storage tank. The total design volume of the 6 cells is 7.8 million cubic yards. It is estimated that the site life is approximately 21 years. This site life is based on an average daily intake rate of 500 tons per day, a cover/waste ratio of 10%, 312 days of operation per year, and an in-place density of 0.5 tons per cubic yard. The waste will be transported to the landfill by road and will conform to those wastes listed in Permit Appendix I (Operations).

Permit Limits: The landfill's daily maximum disposal limit is 5,500 tons/day. This limit is based on the design, infrastructure, equipment, and staffing maintained by this facility.

Permit Highlights:
The permit includes seven permit modules and associated permit attachment which are in general, based on information submitted in the permit application. Permit Module I includes general permit conditions and Permit Modules II and IV stipulate requirements for the operations and design of the landfill respectively. Permit Modules X and XI contain groundwater monitoring requirements. Requirements regarding closure and post-closure of the landfill are addressed in Permit Modules XII and XIII respectively.

The facility has the option to construct the disposal areas using either a soil or synthetic liner system described below.

Soil Liner System

The soil liner system on the cell bottom shall consist of (from top to bottom):

- 12 inch granular drainage layer with a permeability no less than 9×10^{-2} cm/sec;
- 6 oz/sy Non-woven geotextile;
- 12 inches compacted soil layer with a maximum permeability of 1×10^{-7} cm/sec; and
- Prepared Subgrade

The soil liner system on the cell side slopes shall consist of (from top to bottom):

- 12 inch protective cover layer with a permeability no less than 1×10^{-3} cm/sec;
- Geocomposite (drainage); and
- 12 inch compacted soil layer with a maximum permeability of 1×10^{-7} cm/sec

Synthetic Liner System

The synthetic liner system on the cell bottom shall consist of (from top to bottom):

- Protective cover/drainage layer – (see acceptable protective cover options below);
- 14oz/sy Non-woven geotextile;
- Flexible Membrane Liner (textured 60-mil HDPE); and
- Prepared Subgrade

The synthetic liner system on the side slopes shall consist of (from top to bottom):

- 18 inch protective cover layer with a permeability of no less than 1×10^{-3} cm/sec;
- Geocomposite (drainage);
- Flexible Membrane Liner (texture 60-mil HDPE); and
- Prepared Subgrade

Protective Cover
The protective cover/drainage layer shall consist of one of the following options:

Drainage Layer

- 18 inch drainage layer material with a permeability of no less than 9×10^{-2} cm/sec

OR

There are two alternate protective cover/drainage layer options:

Alternate Drainage Layer #1 (top to bottom)

- 6 inch protective cover material with a permeability no less than 1 x 10^{-3} cm/sec;
- 6 oz/sy Non-woven geotextile (filter/separation layer); and
- 12 inch Drainage layer material with a permeability no less than 9 x 10^{-2} cm/sec

OR

Alternate Drainage Layer #2 (top to bottom)

- 9 inches of tire chips with a permeability no less than 9 x 10^{-2} cm/sec
- 12 inch drainage layer material with permeability of no less than 9 x 10^{-2} cm/sec

**Note: Materials acceptable for use in the drainage layer include crushed rubble, aggregate or sandy material meeting specification listed in the Design Report (Section IV.A.1). Tire chips may be used as the protective cover layer as described in Alternate Drainage layer #2 option for the Geomebrane liner. The facility shall notify DEQ 60 days prior to commencement of construction of a new cell as to which liner system will be used.

Leachate generated by Cells 1-3 drain by gravity via 8 inch perforated HDPE collection and header pipes to a sump (Sump 1) located on the western perimeter of Cell 1. Leachate generated by cells 4, 5 and 6 also drain via perforate HDPE collection and header pipes to Sump 2, located in the northeast corner of Cell 4. The leachate sumps discharge the leachate via side riser pumps to a 500,000 gal storage tank via a dually contained force main piping system. After leachate is pumped to the holding tank for storage it is then transported off-site to either RECO or an existing, permitted wastewater treatment plant for appropriate disposal.

Soil Final Cover Option (top to bottom)

- 12 inches vegetative soil layer
- 18 inches infiltration layer with permeability less than 1 x 10^{-7} cm/sec
- 12 inches of intermediate cover soil

Synthetic Final Cover Option (top to bottom)

- 24 inches of vegetative soil layer
- Geocomposite drainage layer (geonet drainage media)
- Geomembrane (60-mil HDPE)
- Geocomposite gas migration layer (geonet drainage media)
- 12 inches of intermediate cover soil

**Note: Soil Cover Option shall only be used with soil liner. Synthetic Final Cover Option may be used with either soil liner or synthetic liner.

The permit contains Permit Modules as listed in the Permit Modules and Permit Attachments Reference List. All permit attachments are prepared based on information submitted in the permit application.

THIS IS TO CERTIFY THAT:

Skinquarter Land, LLC
20701 Hull Street Road
Moseley, Virginia 23120

is hereby granted a permit to construct, operate, and maintain the facility as described in the attached Permit Modules and Permit Attachments cited in these Modules. 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.

APPROVED:

Kyle Ivar Winter, P.E.
Regional Deputy Director

DATE: 02JUL19

PERMIT MODULES AND PERMIT ATTACHMENTS[1]

REFERENCE LIST

PERMIT MODULE I – GENERAL PERMIT CONDITIONS
PERMIT ATTACHMENT I-1 – PART A APPROVAL LETTERS

PERMIT MODULE II[2] – OPERATIONS
PERMIT ATTACHMENT II-1 – OPERATIONS MANUAL
PERMIT ATTACHMENT II-2 – EMERGENCY CONTINGENCY PLAN

PERMIT MODULE IV – CONSTRUCTION/DEMOLITION/DEBRIS LANDFILL
PERMIT ATTACHMENT IV-1 – DESIGN REPORT
PERMIT ATTACHMENT IV-2 – DESIGN PLANS
PERMIT ATTACHMENT IV-3 – LANDFILL GAS MANAGEMENT PLAN
PERMIT ATTACHMENT IV-4 – TECHNICAL SPECIFICATIONS
PERMIT ATTACHMENT IV-5 – CONSTRUCTION QUALITY ASSURANCE PLAN
PERMIT ATTACHMENT IV-6 – STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL PLAN

PERMIT MODULE X – FIRST DETERMINATION GROUNDWATER MONITORING
PERMIT ATTACHMENT X-1 GROUNDWATER MONITORING PLAN
PERMIT MODULE XI -- PHASE II GROUNDWATER MONITORING

PERMIT MODULES XII AND XIII[2] – CLOSURE AND POST-CLOSURE
PERMIT ATTACHMENT XII AND XIII-1 – CLOSURE AND POST-CLOSURE PLAN

NOTES:

1. Should information contained in any permit module that consists of documents submitted by the permittee, conflict with the any requirement or condition contained in the permit modules I, II, IV, X, XII, XIII, or the 9 VAC 20-80-10 *et seq.*, the regulatory/permit module requirement or condition shall prevail (unless an appropriate variance has been granted). The Department is not responsible for spelling, typographical, or syntax errors in modules based on information submitted by the permittee.
2. The Emergency/Contingency Plan (Permit Attachment II-2 of Permit Module II), or the Closure and Post-Closure Plan (Permit Modules XII and XIII) emergency contact lists may be revised with Department approval.