This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, industrial permit. The discharge results from a yard waste composting operation. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards, effective 6 January 2011, and updating permit language as appropriate. The effluent limitations, monitoring requirements and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Loudoun Composting, LLC 44150 Wade Drive Chantilly, VA 20152	SIC Code: 2875	Yard Waste Composting Brush & Stump Processing
	Facility Location:	44150 Wade Drive Chantilly, VA 20152	County:	Loudoun
	Facility Contact Name:	Tim Hutchinson / General Manager	Telephone Number:	703-327-8428
	Facility Email Address:	Tim.lcllc@verizon.net		
2.	Permit Number:	VA0091430	Expiration Date:	6 April 2014
	Other VPDES Permits:	Not Applicable		
	Other Permits:	VDEQ PBR 141 – Solid Waste permit for Vegetative Waste Composting Facility Loudoun SWMF #2013-001 Loudoun County permit for Vegetative Waste Management & Yard Composting Facility		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	Loudoun Composting, LLC		
	Owner Contact / Title:	Tim Hutchinson / General Manager	Telephone Number:	703-327-8428
	Owner Email Address:	Tim.lcllc@verizon.net		
4.	Application Complete Date:	5 December 2013		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	27 February 2014
	Draft Permit Reviewed By:	Susan Mackert	Date Reviewed:	5 March 2014
	WPM Review By:	Bryant Thomas	Date Reviewed:	13 March 2014
	Public Comment Period:	Start Date: 15 May 2014	End Date:	16 June 2014
5.	Receiving Waters Information:			
	Receiving Stream Name:	Sand Branch, UT	Stream Code:	1aXKO
	Drainage Area at Outfall:	< 1.0 square miles	River Mile:	0.14
	Stream Basin:	Potomac River	Subbasin:	Lower Potomac River
	Section:	7a	Stream Class:	III
	Special Standards:	g	Waterbody ID:	VAN-A22R
	7Q10 Low Flow:	0.0 MGD*	7Q10 High Flow:	Not Applicable**
	1Q10 Low Flow:	0.0 MGD*	1Q10 High Flow:	Not Applicable**
	30Q10 Low Flow:	0.0 MGD*	30Q10 High Flow:	Not Applicable**
	Harmonic Mean Flow:	0.0 MGD*	30Q5 Flow:	Not Applicable**

*Due to the small drainage area at the outfall, it is staff's best professional judgement that the critical low flows of the receiving stream would be zero.

**The flow within the receiving stream would be highly variable during a wet weather event; dependent upon the previous precipitation event, amount/type of precipitation and longevity of the event. A mixing zone determination is not feasible.

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

✓	State Water Control Law	✓	EPA NPDES Regulation
✓	Clean Water Act	✓	Water Quality Standards
✓	VPDES Permit Regulation		Other:

7. **Licensed Operator Requirements:** Not Applicable

8. **Reliability Class:** Not Applicable

9. **Facility / Permit Characterization:**

✓ Private	✓ Effluent Limited	Possible Interstate Effect
Federal	✓ Water Quality Limited	✓ Compliance Schedule
State	✓ Whole Effluent Toxicity Testing	✓ Interim Limits in Permit
Water Treatment Plant	Pretreatment Program	Interim Limits in Other Document
eDMR Participant	✓ Total Maximum Daily Load (TMDL)	

10. **Wastewater Sources and Treatment Description:**

Loudoun Composting accepts leaves, grass, yard trimmings, topsoil, stumps, vegetative land clearing debris and logs for processing and sorting. Leaves and grass are processed through a trommel screen and the finer materials are transported to the composting area. After composting is complete, the materials are screened for final product (compost) and sold to customers. Brush and stump are processed by a tub grinder and sold to customers as mulch. De-limbed logs are stockpiled, sorted, graded, resized and transported to customers.

Yard waste material is deposited into two composting areas. The eastern composting area has a drainage area of 4.65 acres with the composting area comprising approximately 2.7 acres. Runoff from the eastern composting area flows to stormwater holding Pond #1. The western composting area has a drainage area of 13.25 acres with the composting area comprising approximately 5.6 acres. Runoff from the western composting area and vegetative waste handling area flows to stormwater holding Pond #2. Pond #1 is pumped to Pond #2 as needed to manage the stormwater level. Pond #2 discharges to a storm sewer manhole on the property which empties into a stormwater conveyance pipe; designated as Outfall 001.

See **Attachment 1** for the NPDES Permit Rating Worksheet.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Max 30-day Flow	Latitude / Longitude
001	Industrial Stormwater	See Section 10	Variable	38° 55' 12" / 77° 28' 28"
See **Attachment 3** for the Herndon topographic map.				

11. **Solids Treatment and Disposal Methods:**

The facility does not generate nor treat domestic sewage.

12. **Permitted Discharges Located Within Waterbody VAN-A22R:**

TABLE 2
PERMITTED DISCHARGES WITHIN WATERBODY VAN-A22R

Permit Number	Facility Name	Type	Receiving Stream
VA0090441	Adaptive Concrete Solutions	Industrial Stormwater Individual Permits	Sand Branch
VA0089541	MWAA – Washington Dulles International Airport		Dead Run Cub Run Cub Run, UT
VA0024988	UOSA – Centreville	Municipal Discharge Individual Permit	Bull Run, UT

TABLE 2 (continued)			
Permit Number	Facility Name	Type	Receiving Stream
VAG110094	DuBrook Concrete – Loudoun	Concrete Products General Permit	Sand Branch
VAG110096	Atlantic Contracting and Material Company Inc.		Dead Run, UT
VAG110318	Aggregate Industries MAR – Chantilly		Sand Branch, UT
VAG110089	Virginia Concrete Company Inc. – Chantilly		Sand Branch, UT
VAR051036	United Parcel Service – Dulles Center	Stormwater Industrial General Permits	Cain Branch
VAR051813	AAA Disposal Service Incorporated		Big Rocky Run, UT
VAR050863	Virginia Paving Company – Chantilly		Sand Branch
VAR051773	Fairfax County – West Ox Road Maintenance Facility		Big Rocky Run, UT
VAR051074	Interstate 66 – Solid Waste Management Facility		Big Rocky Run, UT
VAG830467	Proposed CVS 5437	Petroleum General Permits	Big Rocky Run, UT
VAG830460	Stringfellow Road Widening Project – VDOT		Cub Run, UT
VAG406540	Butsay Residence	Municipal Discharge ≤ 1,000 GPD General Permits	Cub Run, UT
VAG406171	Deli O Texaco		Elllick Run, UT
VAG406265	Chantilly Truck Stop		Sand Branch, UT
VAG840106	Chantilly Crushed Stone Incorporated	Nonmetallic Mineral Mining General Permit	Cub Branch, UT Sand Branch
VAG750223	Enterprise Rent A Car – Chantilly	Car Wash General Permit	Flatlick Branch, UT
VAG750225	Enterprise Rent A Car – Centreville		Big Rocky Run, UT

13. Material Storage:

Loudoun Composting accepts leaves, grass, yard trimmings, topsoil, stumps, vegetative land clearing debris and logs for processing on site. The facility receives approximately 40 tons of leaves and grass annually, which produces 27 tons of compost (annually). Additionally, the facility receives approximately 200 tons of stumps and brush, which produces 100 tons of mulch (annually).

14. Site Visit:

Performed by NRO Permit Staff on 25 February 2014 to discuss proposed permit changes and viable options with regard to effluent quality and discharge management. A technical inspection was conducted on 31 August 2007. It should be noted that the facility does not reuse the stormwater during the composting process; ponds are maintained for fire suppression. See **Attachment 4** for a copy of the 2007 inspection.

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

This facility discharges into an unnamed tributary to Sand Branch. This unnamed tributary flows into Sand Branch 0.14 miles downstream of Outfall 001. Sand Branch flows into Cub Run approximately 0.6 miles downstream of Outfall 001. There is a DEQ ambient water quality monitoring station on Cub Run, station 1aCUB002.61, located at the Rt. 658 bridge crossing, approximately 9.3 miles downstream of Outfall 001. The following is the water quality summary for this segment of Cub Run, as taken from the 2012 Integrated Report:

Class III, Section 7a, special standards g.

The DEQ monitoring stations located on this segment of Cub Run:

- DEQ ambient monitoring station 1aCUB002.61, at Route 658
- DEQ freshwater probabilistic monitoring station 1aCUB004.63, upstream of Route 281

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the Recreation Use. This impairment is nested within the downstream completed bacteria TMDL for the Occoquan River watershed.

The facility is not permitted for bacteria control since it is an industrial activity and not treating domestic sewage; thus, this facility was not assigned a wasteload allocation since the pollutant of concern is not expected to be present in the discharge except in the form of wildlife deposition.

Biological monitoring finds benthic macroinvertebrate impairments, resulting in an impaired classification for the Aquatic Life Use. Citizen monitoring finds high probability of adverse conditions for biota.

Loudoun Composting did not receive a wasteload allocation (WLA) as part of the Bull Run Benthic total maximum daily load (TMDL) which was approved by the Environmental Protection Agency (EPA) in 2006. The overall wasteload allocation for this TMDL was developed with a reserve designated for future growth, as described in Section 7.2 of the TMDL report. The future growth reserve is available for allocation to new and expanding permits in the watershed on a first-come, first-serve basis and is tracked as permits are added or terminated within the watershed. The Bull Run Benthic TMDL was developed with a future growth allocation of 60 tons/year for total suspended solids (TSS). There is sufficient future growth in the TMDL to allocate a WLA of 0.36 tons/year TSS for this permit. The assignment of this future growth allocation for the WLA for the Loudoun Composting facility is consistent with the assumptions and requirements of the Bull Run Benthic TMDL.

The Clean Water Act (CWA) requires that permits for stormwater discharges associated with industrial activity comply with section 301 of the Act, including the requirement under section 301 (b)(1)(C) to contain water quality-based effluent limitations for any discharge that the permitting authority determines has the reasonable potential to cause or contribute to a water quality standard excursion. Based on Discharge Monitoring Report data for 2010 and 2011, the facility may have exceeded the aforementioned TMDL assigned WLA. Furthermore, the 12 November 2010 EPA Guidance Memorandum (**Attachment 5**) states that if the State or EPA has established a TMDL for an impaired water that includes WLAs for stormwater discharge, permits for industrial stormwater discharges must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in the TMDL.

The permittee will be provided a four year compliance schedule to comply with this TMDL (see Section 20.b). During this time period, the permittee will be required to submit for approval a plan and implementation schedule to (1) provide further treatment of the stormwater prior to discharging to the surface waters, (2) develop and implement a discharge/retention pond level management procedure and (3) to eliminate the noted acute toxicity from this facility's discharge (see Sections 21.d and e.).

The Fish Consumption Use is classified as fully supporting with observed effects. Exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs), 300 ppb for mercury (Hg), and 110 ppb for total chlordane in fish tissue were recorded in one specie (flathead catfish) of fish samples collected in 2004 at monitoring station 1aCUB002.61.

It is staff's best professional judgement that this facility is not a source of PCBs, mercury or chlordane and this assumption was subsequently confirmed by sampling data submitted with the reissuance application. Therefore, discharges associated with this facility should neither cause nor contribute to the noted Fish Consumption Use observed effect.

The Wildlife Use is considered fully supporting.

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b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 3 INFORMATION ON DOWNSTREAM 303(d) IMPAIRMENTS AND TMDLs						
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL Completion/Schedule	WLA	Basis for WLA
Impairment Information in the 2012 Integrated Report						
Cub Run	Recreation	*E. coli*	5.2 miles	Occoquan River Watershed Bacteria 15 November 2006	None (not expected to discharge pollutant)	NA
	Aquatic Life	Benthic Macroinvertebrates	5.2 miles	2024	NA	NA
Bull Run	Fish Consumption	PCBs	11.8 miles	2016	NA	NA
	Aquatic Life	Benthic Macroinvertebrates	11.8 miles	Bull Run Benthic 26 September 2006	0.36 tons/year TSS	60 mg/L TSS --- 0.004 MGD*

*Based upon a TSS concentration of 60 mg/L and a maximum flow rate of 0.004 MGD. The TSS concentration is based on limits assigned to other industrial facilities with stormwater management ponds. The maximum flow rate was calculated from the total discharge volume reported for the 2013 reporting year.

This facility discharges to an unnamed tributary to Sand Branch in the Chesapeake Bay watershed in the lower Potomac River subbasin. The receiving stream has been addressed in the Chesapeake Bay Total Maximum Daily Load (TMDL); approved by the Environmental Protection Agency (EPA) on 29 December 2010. This TMDL addresses dissolved oxygen (D.O.), chlorophyll a and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tributaries by establishing non-point source load allocations (LAs) and point-source waste load allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) to meet applicable Virginia Water Quality Standards contained within 9VAC25-260-185.

The Chesapeake Bay TDML implementation is currently administered in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on 29 December 2010. The approved WIP recognizes the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia*, 9VAC25-820 et seq., as governing the nutrient allocations for non-significant Chesapeake Bay dischargers. Nutrient WLAs for non-significant industrial facilities were based on estimated TN and TP load levels obtained from Discharge Monitoring Report data and typical effluent concentrations established by Standard Industrial Classification (SIC) codes.

The TN and TP wasteload allocations contained within the WIP are considered aggregate allocations and are not included in individual permits for these types of facilities. All non-significant discharges with individual permits in existence as of 1 July 2005 are covered by rule under the watershed general permit. New or expanding facilities will be required to register under the watershed general permit as established under the Code of Virginia and will be assigned individual wasteload allocations as applicable. Similarly, the WIP also considers total suspended solids (TSS) WLAs for non-significant facilities to be aggregate allocations. The TSS limits included in individual permits are based on the annual WLA as set forth in the Bull Run Benthic TMDL and subsequently consistent with the Chesapeake Bay TMDL and the aggregate TSS load in the WIP.

40 CFR 122.44(d)(1)(vii)(B) requires permits to be written to meet water quality standards and to be consistent with the assumptions and requirements of applicable WLAs. This facility is classified as a non-significant Chesapeake Bay discharger because it has a permitted equivalent load of less than 500,000 gallons per day into nontidal waters. This facility has not applied for a new or expanded discharge; therefore, it is covered by rule under the 9VAC25-820 regulation.

Total nitrogen and total phosphorus load limits are not included in this individual permit. Based on staff's review of data reported during the last permit term and the application, this individual permit is in conformance with the aforementioned requirements; therefore, consistent with the Chesapeake Bay TMDL on an annual basis.

Implementation of the full Chesapeake Bay WIP, including GP reductions combined with actions proposed in other source sectors is expected to adequately address ambient conditions such that the requirements of this individual permit are consistent with the Chesapeake Bay TMDL and will not cause an impairment or observed violation of the standards for D.O., chlorophyll a or SAV as required by 9VAC25-260-185.

The full planning statement is found in **Attachment 6**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Sand Branch, UT, is located within Section 7a of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

Some Water Quality Criteria are dependent on the pH, temperature or total hardness values of the receiving stream and/or final effluent. These values were utilized to determine the criterion found in **Attachment 7** for the following pollutants:

pH and temperature for Ammonia Criteria

This facility composts yard waste to produce a beneficial product for consumer use. The windrows associated with this practice are exposed to wet weather events. The stormwater runoff from these types of operations is expected to contain high levels of ammonia and nutrients. Reported effluent data between July 2009 and May 2013 found in **Attachment 8** verifies this assumption.

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream pH and temperature values. The 90th percentile pH and temperature values are utilized since they best represent the critical conditions of the receiving stream. The critical 30Q10 flow, utilized to ascertain ammonia criteria, for this receiving stream has been determined to be 0.0 MGD. In cases such as this, effluent pH and temperature data may be employed to establish the ammonia criterion.

See **Attachment 8** for the 90th percentile pH derivation for reported effluent data values reported between July 2009 and May 2013. Since effluent temperature data was not readily available, staff utilized a default value of 25° C and an assumed value of 15° C for summer and winter, respectively.

The water quality criteria are presented in **Attachment 7**.

Total hardness for Metals Criteria

The Water Quality Criteria for some metals are dependent on the receiving stream and /or the effluent hardness values (expressed as mg/L calcium carbonate). The 7Q10 of the receiving stream is zero and no ambient data is available; therefore, effluent hardness data may be employed in determination of the metals criteria. The hardness value as reported on Attachment A of the permit application package was 334 mg/L $CaCO_3$.

The hardness-dependent metals criteria shown in **Attachment 7** are based on this value.

Bacteria Criteria

The Virginia Water Quality Standards at 9VAC25-260-170.A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli and enterococci bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 mL)	126

[1]For a minimum of four weekly samples taken during any calendar month

Due to the type of operations at this facility, it is staff's best professional judgement that bacteria is not expected to be present in this discharge, except in the form of wildlife deposition.

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Sand Branch, UT, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of "g".

Special Standard "g" refers to the Occoquan Watershed policy (9VAC25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new domestic sewage treatment plants and only allows minor industrial discharges.

e. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 3 December 2013 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 3 mile radius of the discharge: Atlantic sturgeon (*Acipenser oxyrinchus*); brook floater (*Alasmidonta varicosa*); wood turtle (*Glyptemys insculpta*); upland sandpiper (*Bartramia longicauda*); loggerhead shrike (*Lanius ludovicianus*); Henslow's sparrow (*Ammodramus henslowii*); Appalachian grizzled skipper (*Pyrgus wyandot*); green floater (*Lasmigona subviridis*); migrant loggerhead shrike (*Lanius ludovicianus migrans*). The conditions and requirements contained within this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

In addition, the Virginia Department of Game and Inland Fisheries, Virginia Department of Conservation and Recreation and the United States Fish and Wildlife Service were coordinated during this reissuance per the procedures as set forth in the 2007 Memorandum of Understanding concerning Threatened and Endangered Species Screening for VPDES Permits. The purpose of this coordination is to obtain input from other agencies during the permitting process to ascertain potential adverse impacts to threatened and endangered species and/or their habitats.

Any comments pertaining to the draft permit from these agencies are located in Section 26 of this Fact Sheet.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the fact that critical stream flows have been determined to be zero and the noted downstream impairments. Monitoring requirements ensure that water quality standards are maintained within the receiving stream. Proposed permit conditions have been established which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation and Effluent Monitoring Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical 7Q10, 30Q10 and 1Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the July 2009 to May 2013 Discharge Monitoring Reports (DMRs), Attachment A and the permit reissuance application have been reviewed and determined to be suitable for evaluation.

Please see **Attachment 8** for a summary of effluent data reported between July 2009 and May 2013.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = Instream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10, 30Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Screening Criteria, Outfall 001 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

Staff reevaluated effluent pH and temperature values to determine ammonia water quality criteria, wasteload allocations (WLAs) and ammonia endpoints (**Attachment 9**). As stated previously, discharges from this facility are infrequent and occur to manage the water level in the retention ponds; therefore, the monitoring endpoint would equate to the ammonia acute criteria. Staff utilized the reported ammonia data found in **Attachment 8** to ascertain the monitoring endpoint. The facility exceeded the acute criteria 14 out of 15 discharge/monitoring events. The permittee will be required to submit a plan and schedule to reduce the ammonia levels in this discharge (see Section 21.d.).

2). Total Residual Chlorine:

Chlorine is not utilized at this facility and is not expected to be present in the discharge. Therefore, chlorine limitation derivation is not warranted.

3). Metals/Organics:

Based on the type of operations at this facility and results obtained for the Attachment A sampling requirements, it is staff's best professional judgement that metals are not pollutants of concern; therefore, limitation derivations are not warranted.

d. Effluent Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

pH limitations are set at the water quality criteria.

Monitoring for total suspended solids is based on best professional judgement and the assigned wasteload allocation noted in the Bull Run Benthic TMDL. See Section 15.b. of this Fact Sheet.

e. Effluent Screening Criteria, Outfall 001

For pollutants of concern that have not been generally identified within a TMDL, staff refers to current DEQ guidance and policy which recommends that limits not be placed on stormwater outfalls at this time. Rather, an interim approach to limiting stormwater could be through the use of best management practices rather than numerical limits.

The basis for this methodology is that stormwater discharges are considered intermittent and as such, the primary concern would be acute water quality impacts. The duration of this discharge is not expected to occur for four or more consecutive days (96 hours). Water Quality Criteria for human health (and chronic toxicity to a lesser degree) are based upon long term, continuous exposure to pollutants from effluents. Since stormwater discharges are short term and intermittent, it is staff's best professional judgement that acute criteria would be utilized to derive screening criteria.

Screening (i.e. decision) values expressed as monitoring endpoints are established at two times the acute water quality criterion established in the Virginia Water Quality Standards (9VAC25-260 et seq.). There are two primary reasons the endpoints are established at two times the criterion. First, the acute criterion is defined as one-half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species and is based on the level of a chemical or mixture of chemicals that does not allow the mortality or other specified response of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period.

Second, if it is raining a sufficient amount to generate a discharge of stormwater, it is assumed that the receiving stream flow would be greater than the critical flows of 0.0 MGD for intermittent streams due to stormwater runoff within the stream's drainage area. In recognition of the FAV and the dilution caused by the rainfall, the monitoring endpoints are calculated by multiplying the acute Water Quality Criteria by a factor of two (2).

However, this outfall is a manual discharge in order to manage the water level in the retention pond. A discharge may not necessarily occur during a storm event; thus, allowance for the aforementioned dilution would not be applicable for this outfall. Therefore, it is staff's best professional judgement that the screening point will equal the acute criteria only without applying the dilution factor. See Section 21.d.

The permittee shall utilize best management practices as part of the Stormwater Pollution Prevention Plan to ensure that there is no contamination of stormwater runoff that impact State Waters from this facility. In addition, the permittee will be evaluating various options in order to enhance the effluent quality from this facility during this permit term. A plan and schedule for full implementation will be submitted to DEQ for review, comment and approval (see Section 21.d.).

f. Effluent Monitoring Summary

The effluent monitoring requirements are presented in Section 19 of this Fact Sheet. Monitoring requirements were established for pH, total suspended solids, total dissolved solids, dissolved oxygen, ammonia as N, chemical oxygen demand, total nitrogen, total phosphorus and acute whole effluent toxicity.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All conditions and requirements within this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

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19. Effluent Monitoring Requirements:

Discharges are a result of a yard waste composting operation/stormwater retention pond water level management.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Quantity/Loading		Quality/Concentration			
		Average	Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	2,3	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	2,4,5	NA	NA	NA	NL mg/L	1/M	Grab
TSS – Monthly Load [a]	5	NA	NL lbs/month	NA	NA	1/M	Calculated
TSS – Year-to-Date [a]	5	NA	NL tons	NA	NA	1/M	Calculated
TSS – Calendar Year [a]	5	NA	0.36 tons	NA	NA	1/Y	Calculated
Total Dissolved Solids (TDS)	2,5	NA	NA	NA	NL mg/L	1/M	Grab
Dissolved Oxygen (DO)	2,3,4	NA	NA	NL mg/L	NA	1/M	Grab
Ammonia, as N	2,3,4	NA	NA	NA	NL mg/L	1/M	Grab
Chemical Oxygen Demand (COD)	2	NA	NA	NA	NL mg/L	1/M	Grab
Total Nitrogen	2,4	NA	NA	NA	NL mg/L	1/Q [c]	Grab
Total Phosphorus	2,4	NA	NA	NA	NL mg/L	1/Q [c]	Grab
Acute Toxicity – *C. dubia* (%) [b]		NA	NA	NA	NL (NOAEC)	1/6M [d]	Grab
Acute Toxicity – *P. promelas* (%) [b]		NA	NA	NA	NL (NOAEC)	1/6M [d]	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. Chesapeake Bay TMDL
5. Bull Run Benthic TMDL

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
NOAEC = No Observed Adverse Effect Concentration.

1/M = Once every calendar month.
1/Q = Once every calendar quarter.
1/6M = Once every six months.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

[a] See Section 20.a.

[b] See Section 20.c. and Section 21.f.

[c] The quarterly monitoring periods shall be January through March, April through June, July through September, and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

[d] The semiannual monitoring periods shall be January through June and July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

20. Other Permit Requirements:

a. Permit Section Part I.B. contains quantification levels and compliance reporting instructions

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required calculation methodologies are also specified.

b. Permit Section Part I.C. details the requirements for a Schedule of Compliance

The VPDES Permit Regulation, 9VAC25-31-250 states that a permit may, when appropriate, specify a schedule of compliance leading to compliance with the law, the Clean Water Act and regulations. The permit contains newly established loading limits for total suspended solids on an annual basis. A schedule of compliance has been provided to permit time for facility to investigate and evaluate various, available options. The permittee shall achieve compliance with the final loading limits specified in Part I.A. of the VPDES permit in accordance with the following schedule as contained in Part I.C. of the permit:

SCHDULE OF COMPLIANCE	
ACTION	TIME FRAME
Submit proposed plan and implementation schedule for approval to achieve compliance with final limits.	Within nine (9) months of the permit effective date. (See Section 21.d.)
Achieve compliance with final limits.	Within four (4) years of the permit effective date.

c. Permit Section Part I.D. details the requirements for Whole Effluent Toxicity (WET) Program

The VPDES Permit Regulation at 9VAC25-31-210 requires monitoring and 9VAC25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A WET Program is imposed for municipal facilities with a design rate > 1.0 MGD, with an approved pretreatment program or required to develop a pretreatment program, or those determined by the Board based on effluent variability, compliance history, instream waste concentration (IWC) and receiving stream characteristics.

The discharge from this facility has reported WET results which indicate that the effluent from the stormwater retention ponds may exhibit acute toxicity to the test species (see **Attachment 10**). The permittee will be required to address the quality of the effluent during this permit term with a submission of a plan and schedule due within nine (9) months of the permit effective date. Upon DEQ approval and full implementation of the plan; if subsequent effluent testing indicates that pollutants of concern have been reduced and acute toxicity has been controlled, the testing requirements under this special condition may be reduced. See Section 21.f. for further details.

The permittee will conduct acute toxicity at a frequency of once per six months (semi-annual). This will allow the permittee the commit the necessary resources to develop and implement a plan to enhance the quality of the effluent from the retention ponds.

d. Permit Section Part I.E. details the requirements of a Stormwater Management Plan

Industrial stormwater discharges may contain pollutants in quantities that could adversely affect water quality. Stormwater discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES permit. The primary method to reduce or eliminate pollutants in stormwater discharges from an industrial facility is through the use of best management practices (BMPs). Stormwater Management Plan requirements are derived from the *VPDES General Permit for Storm Water Discharges Associated with Industrial Activity*, 9VAC25-151 et seq.

21. Other Special Conditions:

a. O&M Manual Requirement. Required by VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the facility in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b. Notification Levels. Required by VPDES Permit Regulation, 9VAC25-31-200.A for existing manufacturing, commercial, mining and silvicultural dischargers. The permittee shall report discharges of toxic pollutants not limited by this permit that exceed notification levels.

c. Materials Handling/Storage. 9VAC25-31-50.A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d. Effluent Management. Code of Virginia §62.1-44.3 defines other wastes as all other substances, except industrial wastes and sewage, which may cause pollution in any state waters. The Clean Water Act states that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. Furthermore, 9VAC25-31-220.D details that limitations must control all pollutants or pollutant parameters (either conventional, nonconventional or toxic pollutants) which the board determines are or may be discharged at a level which will cause, have the reasonable potential to cause or contribute to an excursion above any Virginia water quality standard, including narrative criteria. The permittee will be required to submit a plan and implementation schedule to manage the stormwater pond effluent to prevent toxicity and exceedances to water quality standards within nine (9) months of the effective permit date for DEQ staff review, comment and approval.

The plan, at a minimum, will provide details to manage the effluent quality with an emphasis on achieving the following:

Ammonia, as N	3.88 mg/L
Total Suspended Solids	0.36 tons/year
Acute Toxicity	NOAEC $\geq$ 100%

Monitoring data submitted by the permittee above these concentration levels will not constitute a violation of the permit; however, will require corrective action and/or modifications to the Effluent Management plan.

e. Stormwater Retention Pond Discharge. The permittee shall proactively manage the water level in the retention ponds in such a way as to cease batch discharges of stormwater into the receiving stream. An established discharge procedure and flow rate will be employed by the facility and will be referenced in the approved Effluent Management plan required in Section 21.d.

If the stormwater level in the ponds exceeds the maximum holding capacity due to an extreme rain event, the permittee may discharge above the referenced discharge rate in order not to cause unnecessary property damage. The permittee will notify DEQ-NRO of any such event within 48 hours.

f. Whole Effluent Toxicity. DEQ Guidance Memo No. 00-2012 suggests that testing requirements may be removed at specific facilities if testing indicates that no reasonable potential exists. Once the permittee has fully implemented the plan as specified in Section 21.d. above and four subsequent, consecutive WET results indicate that a reasonable potential no longer exists, the permittee may request that the WET testing requirements be reduced to once per year. If future toxicity is suspected; an increased testing regime may be reinstated by DEQ.

g. TMDL Reopener. Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

22. Permit Section Part II:

Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- The Water Quality Criteria Reopener condition was removed with this reissuance. The permittee will be assessing alternative treatment options in order to address noted discharge quality during this permit term.
- The Water Quality Criteria Monitoring special condition was removed with this reissuance since the requirements for Attachment A monitoring were completed as part of the reissuance application.
- Effluent Management, Stormwater Retention Pond Discharge and Whole Effluent Toxicity special conditions were included with this reissuance. These conditions pertain to the management of the manual discharge and the quality of effluent.

b. Monitoring:

- Included monitoring for dissolved oxygen and total dissolved solids with this reissuance in conformance with the Bull Run Benthic TMDL.
- The Whole Effluent Toxicity testing regime was reduced to once per six months for this reissuance. This allows the permittee to concentrate resources towards developing and implementing a plan in order to address pollutants of concern; including acute toxicity.

c. Other:

- The Standard Industrial Classification (SIC) Code was changed from 4953 to 2875 during this reissuance. It is staff's best professional judgement that this SIC Code better classifies this type of operation.

24. Variances/Alternate Limits or Conditions: Not Applicable.

25. Public Notice Information:

First Public Notice Date: 14 May 2014 Second Public Notice Date: 21 May 2014

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 11** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

(The remainder of this page intentionally left blank)

26. Additional Comments:

Previous Board Action(s):	Not applicable.
Staff Comments:	The permit was not reissued prior to the expiration date due to Department processing delays.
State/Federal Agency Comments:	Virginia Department of Conservation and Recreation noted the designation of the Wood Turtle (*Glyptemys insculpta*) recommended implementation of and strict adherence to applicable stormwater management laws and regulations. Virginia Department of Game and Inland Fisheries also noted the above species and do not anticipate adverse impacts as a result of this operation. See **Attachment 12** for correspondences.
Public Comments:	No comments were received during the public comment period.
Owner Comments:	Minor correction to the TSS loading equation found in Part I.B.3 of the permit was noted by the owner. DEQ staff corrected the typographical error prior to Public Notice.

Fact Sheet Attachments

Table of Contents

Loudoun Composting
VA0091430
2014 Reissuance

Attachment 1	NPDES Permit Rating Worksheet
Attachment 2	Facility Schematic/Diagram
Attachment 3	Topographic Map
Attachment 4	2007 Inspection Report
Attachment 5	12 November 2010 EPA Memorandum
Attachment 6	Planning Statement
Attachment 7	Water Quality Criteria / Wasteload Allocation Analysis
Attachment 8	July 2009 – May 2013 Effluent Data
Attachment 9	Ammonia Reasonable Potential Analysis
Attachment 10	Whole Effluent Toxicity Test Results
Attachment 11	Public Notice
Attachment 12	State Agency Review and Comments

ATTACHMENT 1

NPDES Permit Rating Worksheet

VA0091430

NPDES PERMIT RATING WORK SHEET

[ ]	Regular Addition
[ ]	Discretionary Addition
[X]	Score change, but no status Change
[ ]	Deletion

VPDES NO. : VA0090140

Facility Name: Loudoun Composting, LLC
City / County: Loudoun County
Receiving Water: Sand Branch, UT
Waterbody ID: VAN-A22R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary Sic Code: 4953 Other Sic Codes: _____ _____ _____

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	15	[ ] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 0

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[X]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 43

Total Points Factor 2: 20

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) [X] BOD [ ] COD [ ] Other: _____

Permit Limits: (check one)

		Code	Points
[ ]	< 100 lbs/day	1	0
[X]	100 to 1000 lbs/day	2	5
[ ]	> 1000 to 3000 lbs/day	3	15
[ ]	> 3000 lbs/day	4	20

Code Number Checked: 2

Points Scored: 5

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

		Code	Points
[ ]	< 100 lbs/day	1	0
[ ]	100 to 1000 lbs/day	2	5
[X]	> 1000 to 5000 lbs/day	3	15
[ ]	> 5000 lbs/day	4	20

Code Number Checked: 3

Points Scored: 15

C. Nitrogen Pollutants: (check one) [X] Ammonia [ ] Other: _____

Permit Limits: (check one)

	Nitrogen Equivalent	Code	Points
[ ]	< 300 lbs/day	1	0
[X]	300 to 1000 lbs/day	2	5
[ ]	> 1000 to 3000 lbs/day	3	15
[ ]	> 3000 lbs/day	4	20

Code Number Checked: 2

Points Scored: 5

Total Points Factor 3: 25

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

[X] YES; (If yes, check toxicity potential number below)

[ ] NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	0	[ ] 7.	7	15
[ ] 1.	1	0	[ ] 4.	4	0	[ ] 8.	8	20
[ ] 2.	2	0	[ ] 5.	5	5	[ ] 9.	9	25
			[ ] 6.	6	10	[ ] 10.	10	30

Code Number Checked: 0

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been assigned to the discharge?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[ ]	YES	1	0
[X]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

Code Number Checked: A 2 B 2 C 1

Points Factor 5: A 0 + B 5 + C 10 = **15**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 43

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[X]	2	2	0
[ ]	3	3	30
[ ]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.10

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 2

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[ ]	1	10
[ ]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

	Code	Points
[ ]	1	10
[ ]	2	0

Code Number Checked: A 2 B NA C NA

Points Factor 6: A 0 + B 0 + C 0 = **0**

VA0091430

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	0
2	Flows / Streamflow Volume	20
3	Conventional Pollutants	25
4	Public Health Impacts	0
5	Water Quality Factors	15
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	60

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 60

OLD SCORE : 30

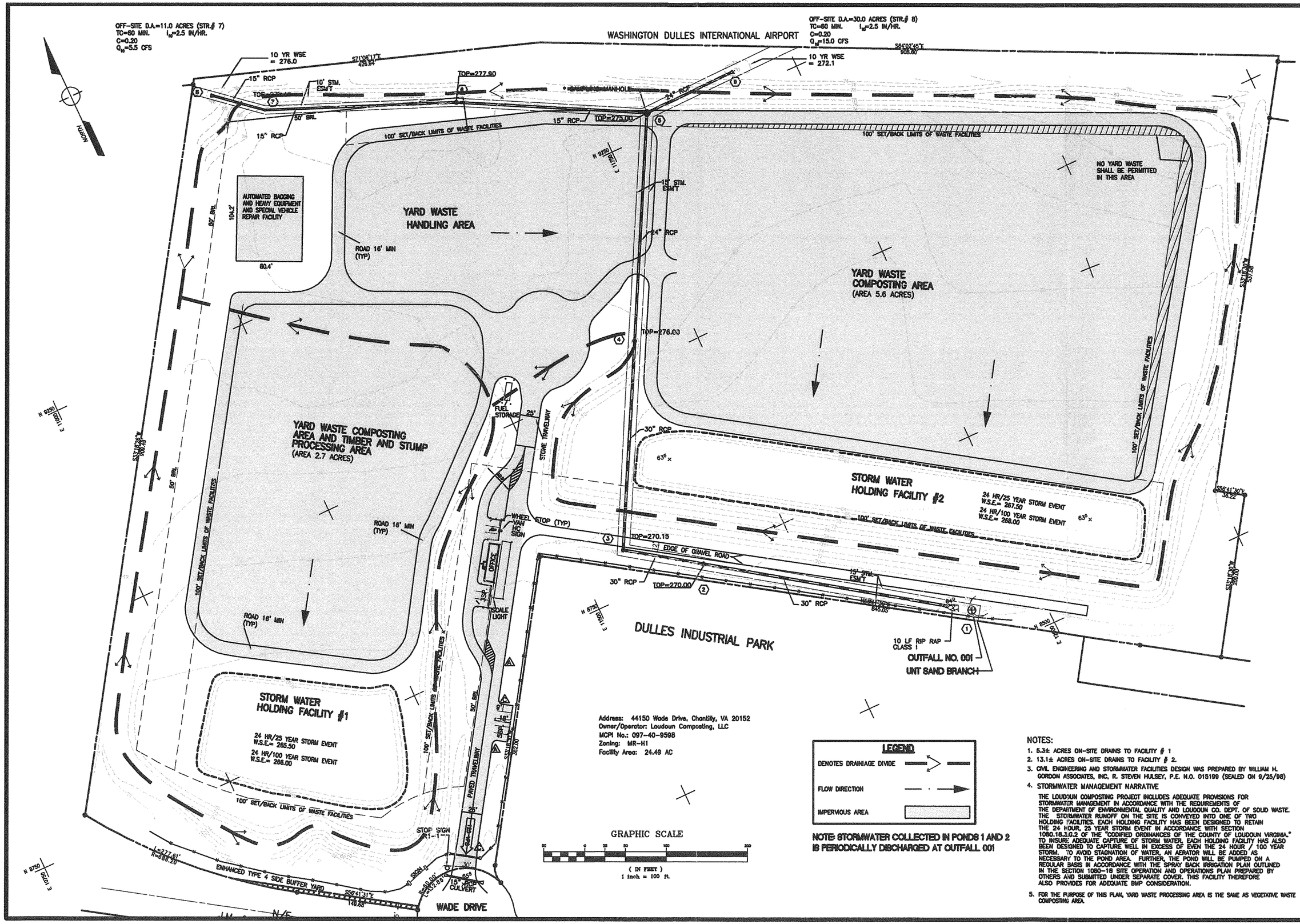
Permit Reviewer's Name : Douglas Frasier

Phone Number: 703-583-3873

Date: 24 February 2014

ATTACHMENT 2

Facility Schematic/Diagram



Address: 44150 Wade Drive, Chantilly, VA 20152
Owner/Operator: Loudoun Composting, LLC
MCPI No.: 097-40-9598
Zoning: MR-H1
Facility Area: 24.49 AC

LEGEND

DENOTES DRAINAGE DIVIDE	
FLOW DIRECTION	
IMPERVIOUS AREA	

NOTE: STORMWATER COLLECTED IN PONDS 1 AND 2 IS PERIODICALLY DISCHARGED AT OUTFALL 001

NOTES:

1. 5.3± ACRES ON-SITE DRAINS TO FACILITY # 1
2. 13.1± ACRES ON-SITE DRAINS TO FACILITY # 2.
3. CIVIL ENGINEERING AND STORMWATER FACILITIES DESIGN WAS PREPARED BY WILLIAM H. GORDON ASSOCIATES, INC, R. STEVEN HULSEY, P.E. N.O. 015199 (SEALED ON 9/25/98)
4. STORMWATER MANAGEMENT NARRATIVE

   THE LOUDOUN COMPOSTING PROJECT INCLUDES ADEQUATE PROVISIONS FOR STORMWATER MANAGEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY AND LOUDOUN CO. DEPT. OF SOLID WASTE. THE STORMWATER RUNOFF ON THE SITE IS CONVEYED INTO ONE OF TWO HOLDING FACILITIES. EACH HOLDING FACILITY HAS BEEN DESIGNED TO RETAIN THE 24 HOUR, 25 YEAR STORM EVENT IN ACCORDANCE WITH SECTION 1080.18.3.G.2 OF THE "CODIFIED ORDINANCES OF THE COUNTY OF LOUDOUN VIRGINIA." TO INSURE ADEQUATE CAPTURE OF STORM WATER, EACH HOLDING FACILITY HAS ALSO BEEN DESIGNED TO CAPTURE WELL IN EXCESS OF EVEN THE 24 HOUR / 100 YEAR STORM. TO AVOID STAGNATION OF WATER, AN AERATOR WILL BE ADDED AS NECESSARY TO THE POND AREA. FURTHER, THE POND WILL BE PUMPED ON A REGULAR BASIS IN ACCORDANCE WITH THE SPRAY BACK IRRIGATION PLAN OUTLINED IN THE SECTION 1080-18 SITE OPERATION AND OPERATIONS PLAN PREPARED BY OTHERS AND SUBMITTED UNDER SEPARATE COVER. THIS FACILITY THEREFORE ALSO PROVIDES FOR ADEQUATE BMP CONSIDERATION.
5. FOR THE PURPOSE OF THIS PLAN, YARD WASTE PROCESSING AREA IS THE SAME AS VEGETATIVE WASTE COMPOSTING AREA.

SVS
11756 BOWMAN GREEN DRIVE RESTON, VIRGINIA 20190
PHONE (703) 834-0701
FAX (703) 834-0081

RIGHTS OF DOCUMENTS
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF SOLID WASTE SERVICES, LLC. AND LOUDOUN COMPOSTING, LLC. AND SHALL NOT BE COPIED OR USED, IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF SOLID WASTE SERVICES, LLC OR LOUDOUN COMPOSTING
© SOLID WASTE SERVICES, LLC

SITE DRAINAGE MAP
LOUDOUN COMPOSTING
DULLES ELECTION DISTRICT, LOUDOUN COUNTY, VIRGINIA

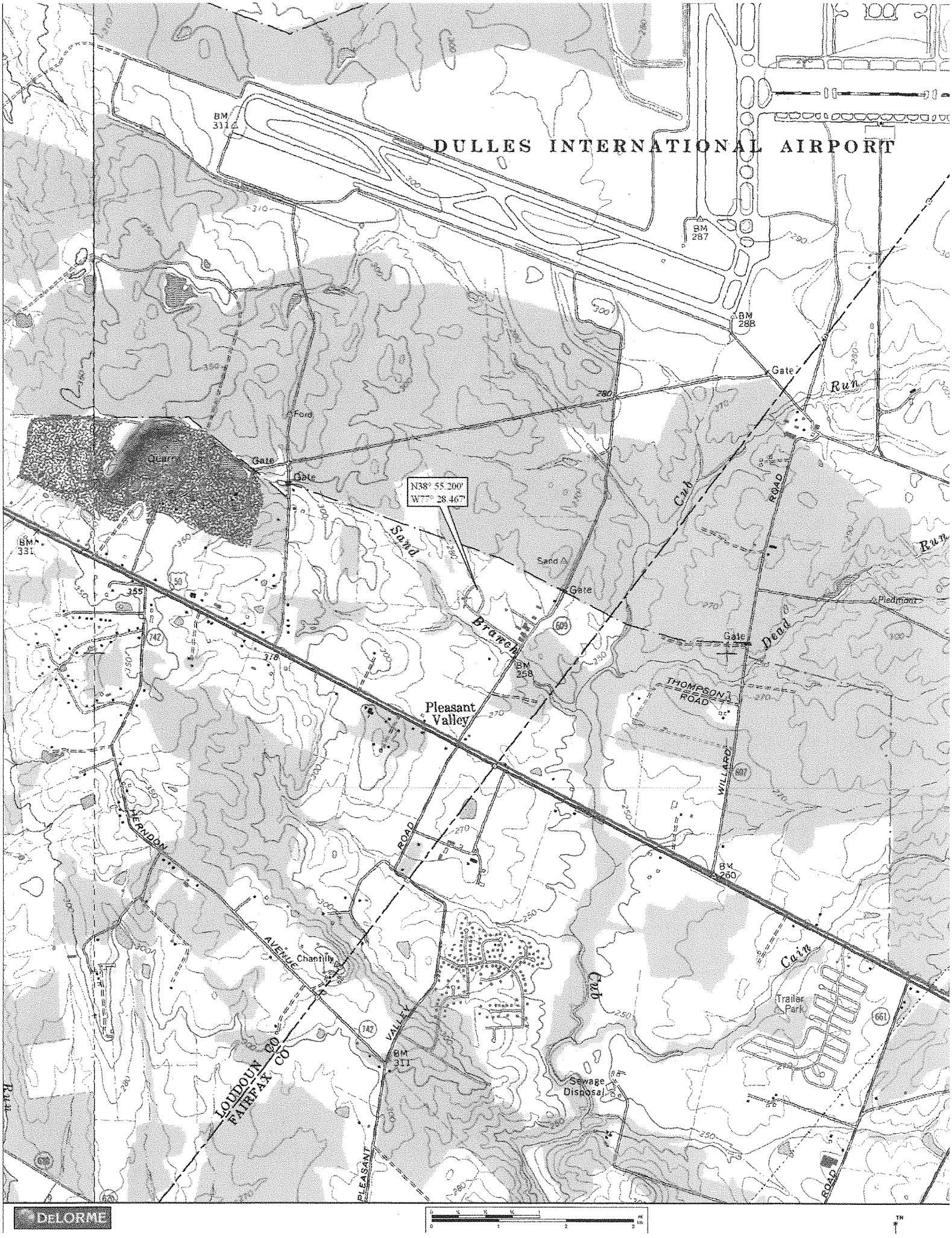
PLAN STATUS	
DATE	DESCRIPTION

JK	GA	FA
DESIGN	DRAWN	CHKD

SCALE H: 1"= 100' V: NA
JOB No.
DATE NOVMBER 2013
SHEET 1 OF 1

ATTACHMENT 3

Topographic Map


DULLES INTERNATIONAL AIRPORT
N38° 55.200'
W77° 28.467'
Pleasant Valley
Sand Branch
Cub Run
Dead Run
Cain Run
Gate
Ford
Quarry
Sand
Piedmont
THOMPSON ROAD
WILLARD ROAD
HERNDON AVENUE
PLEASANT VALLEY ROAD
LOUDOUN CO
FAIRFAX CO
Chantilly
Trailer Park
Sewage Disposal
BM 311
BM 287
BM 288
BM 258
BM 260
BM 331
DELORME

ATTACHMENT 4

2007 Inspection Report

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN VIRGINIA REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3801
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Pay
Director

~~Jeffery A. Ste~~
Regional Direc

September 24, 2007

Mr. Tim Hutchinson
Managing Director
Loudoun Composting LLC
44150 Wade Dr.
Chantilly, VA. 20153

Re: Loudoun Composting LLC, VA0091430

Dear Mr. Hutchinson:

Enclosed are copies of the technical and laboratory inspection reports generated from observations made while performing a Facility Technical Inspection at Loudoun Composting LLC on August 31, 2007. The compliance/monitoring staff would like to thank you for your time and assistance during the inspection.

A summary for the technical inspection is enclosed. Please note the requirements and recommendations addressed in the technical summary, especially with regards to performing and documenting required inspections. Please submit in writing a progress report to this office by **October 22, 2007** for the items addressed in the summary. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you chose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Virginia Regional Office at (703) 583-3882 or by E-mail at smmack@deq.virginia.gov.

Sincerely,

Sharon Mack

Sharon Mack
Environmental Specialist II

cc: Permits / DMR File, Compliance Manager
Compliance Inspector, Compliance Auditor
OWCP – Steve Stell
Steve Cawthron

DEQ
WASTEWATER FACILITY INSPECTION REPORT
PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0091430	**March 23, 2004**		**March 22, 2009**

Facility Name	Address	Telephone Number
Loudoun Composting	**44150 Wade Dr Chantilly, VA 20152**	**703-327-8428**
Owner Name	Address	Telephone Number
Loudoun Composting, LLC	**44150 Wade Dr Chantilly, VA 20152**	**703-327-8428**
Responsible Official	Title	Telephone Number
Tim Hutchinson	**Managing Director**	**703-327-8428**
Responsible Operator	Operator Cert. Class/number	Telephone Number
Steve Cawthron	**Class I; 1909 000301**	**(571) 737-7091**

TYPE OF FACILITY:

DOMESTIC				**INDUSTRIAL**			
Federal		Major		Major		Primary	
Non-federal		Minor		Minor	X	Secondary	X

INFLUENT CHARACTERISTICS:	DESIGN:
Flow	**Variable, rainfall dependent**
Population Served	**NA**
Connections Served	**NA**

EFFLUENT LIMITS: mg/L unless otherwise designated.

Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
Flow, MGD		**NL**	**NL**	**BOD_5**		**NL**	**NL**
COD		**NL**	**NL**	**TSS**		**NL**	**NL**
pH		**NL**	**NL**	**Total Phosphorous**		**NL**	**NL**
Total Nitrogen-N		**NL**	**NL**	**Ammonia-N**		**NL**	**NL**

Receiving Stream	**Sandy Branch**
Basin	**Potomac**
Discharge Point (LAT)	**38° 55′ 11″**
Discharge Point (LONG)	**77° 28′ 18″**

REV 5/00

VPDES NO. **VA0091430**

DEQ
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date: **August 31, 2007**

Date form completed: **September 20, 2007**

Inspection by: **Sharon Mack**

Inspection agency: **DEQ NRO**

Time spent: **15 hrs**

Announced: **No**

Reviewed by: 9/21/07

Scheduled: **Yes**

Present at inspection: **Tim Hutchinson- Loudoun Composting**

TYPE OF FACILITY:

Domestic

[ ] Federal
[ ] Nonfederal

[ ] Major
[ ] Minor

Industrial

[ ] Major
[X] Minor

[ ] Primary
[X] Secondary

Type of inspection:

[X] Routine
[ ] Compliance/Assistance/Complaint
[ ] Reinspection

Date of last inspection: **None**
Agency: **None**

Last month average: **December 2006:**

Flow:	**0.0135**	MGD	pH:	**7.96**	s.u.	BOD_5	**36**	mg/L
TSS	**44.2**	mg/L	COD	**710**	mg/L	Total Phosphorous	**3.98**	mg/L
Total Nitrogen-N	**28.8**	mg/L				Ammonia-N	**8.94**	mg/L

This facility's last discharge was in December 2006; before that the last discharge was July 2006.

DATA VERIFIED IN PREFACE [ ] Updated [X] No changes

Has there been any new construction? [ ] Yes [X] No

If yes, were plans and specifications approved? [ ] Yes [ ] No [X] NA

DEQ approval date: **NA**

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators: **NA**

2. Hours per day plant is manned: **7:00 – 5:30 Monday - Friday**

3. Describe adequacy of staffing. [X] Good [ ] Average [ ] Poor

4. Does the plant have an established program for training personnel? [X] Yes [ ] No

5. Describe the adequacy of the training program. [ ] Good [X] Average [ ] Poor

6. Are preventive maintenance tasks scheduled? [X] Yes [ ] No [ ] NA

7. Describe the adequacy of maintenance. [X] Good [ ] Average [ ] Poor*

8. Does the plant experience any organic/hydraulic overloading?
   If yes, identify cause and impact on plant: [ ] Yes [ ] No [X] NA

9. Any bypassing since last inspection? [ ] Yes [ ] No [X] NA

10. Is the standby electric generator operational? [ ] Yes [ ] No* [X] NA

11. Is the STP alarm system operational? [ ] Yes [ ] No* [X] NA

12. How often is the standby generator exercised? **NA**
    Power Transfer Switch? **NA**
    Alarm System? **NA**

13. When was the cross connection control device last tested on the potable water service? **NA**

14. Is sludge being disposed in accordance with the approved sludge disposal plan?
    [X] Yes [ ] No [ ] NA

15. Is septage received by the facility? [ ] Yes [X] No
    Is septage loading controlled? [ ] Yes [X] No
    Are records maintained? [ ] Yes [X] No

16. Overall appearance of facility: [X] Good [ ] Average [ ] Poor

Comments:

1. **The facility has 11 employees and one contracted employee, Steve Cawthron of APEX, Inc, who collects samples as required by state and county permits.**

2. **The site operator lives on site and watches over the facility during non-business hours.**

(B) PLANT RECORDS

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	[ ] Yes	[ ] No	[X] NA
Instrument maintenance and calibration	[ ] Yes	[ ] No	[X] NA
Mechanical equipment maintenance	[X] Yes	[ ] No	[ ] NA
Industrial waste contribution (Municipal Facilities)	[ ] Yes	[ ] No	[X] NA

2. What does the operational log contain? **NA**

[ ] Visual observations
[ ] Laboratory results
[ ] Control calculations
[ ] Flow measurement
[ ] Process adjustments
[ ] Other (specify)

Comments:

3. What do the mechanical equipment records contain?

[ ] As built plans and specs
[X] Manufacturers instructions
[X] Lubrication schedules
[ ] Spare parts inventory
[X] Equipment/parts suppliers
[ ] Other (specify)

Comments:

4. What do the industrial waste contribution records contain? (Municipal Only) **NA**

[ ] Waste characteristics
[ ] Impact on plant
[ ] Locations and discharge types
[ ] Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

[ ] Equipment maintenance records
[ ] Industrial contributor records
[X] Sampling and testing records
[ ] Operational Log
[ ] Instrumentation records

6. Records not normally available to plant personnel and their location: **None**

7. Were the records reviewed during the inspection? [X] Yes [ ] No

8. Are the records adequate and the O & M Manual current? [ ] Yes [X] No

9. Are the records maintained for the required 3-year time period? [X] Yes [ ] No

Comments:

(C) SAMPLING

1. Do sampling locations appear to be capable of providing representative samples? [X] Yes [ ] No*
2. Do sample types correspond to those required by the VPDES permit? [X] Yes [ ] No*
3. Do sampling frequencies correspond to those required by the VPDES permit? [X] Yes [ ] No*
4. Are composite samples collected in proportion to flow? [ ] Yes [ ] No* [X] NA
5. Are composite samples refrigerated during collection? [ ] Yes [ ] No* [X] NA
6. Does plant maintain required records of sampling? [X] Yes [ ] No*
7. Does plant run operational control tests? [ ] Yes [ ] No [X] NA

Comments:

(D) TESTING

1. Who performs the testing? [ ] Plant [ ] Central Lab [X] Commercial Lab

Name: **Environmental Systems Service, Inc**
BOD, TSS, COD, Nitrite-nitrate
Ammonia-N, TKN, Total Phosphorous

Steve Cawthron – APEX Inc
pH, Flow

If plant performs any testing, complete 2-4.

2. What method is used for chlorine analysis? **NA**
3. Does plant appear to have sufficient equipment to perform required tests? [ ] Yes [ ] No* [X] NA
4. Does testing equipment appear to be clean and/or operable? [ ] Yes [ ] No* [X] NA

Comments:
Steve provides his own equipment for field tests.

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
[ ] Yes [ ] No [X] NA

2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
[ ] Yes [ ] No [X] NA

3. Has the State been notified of the changes and their impact on plant effluent? Date:
[ ] Yes [ ] No* [X] NA

Comments:

Problems identified at last inspection: site inspection on June 12, 2007	Corrected	Not Corrected
1. Trash in SW holding ponds	**See Comments**	
2. Quarterly site inspections not documented.	[ ]	[X]
3. Quarterly visual inspections not done	[ ]	[X]
4. Annual comprehensive site inspection not documented	[ ]	[X]
5. Training not documented	[ ]	[X]
6. Non-stormwater certification not signed	[X]	[ ]

SUMMARY

Comments:

- There has been no discharge from this facility since December 2006 resulting from the fact that a) the facility re-uses the water collected in the ponds to keep the compost piles moist and for dust suppression and b) low precipitation conditions all year.
- This is the first technical inspection for this facility. Site visits were conducted on April 21, 2005 and June 12, 2007.
- The staff is required by the county permit to monitor water in the ponds and at the stormwater conveyance outlet, even when there is no discharge of water from the ponds. According to Steve Cawthron, this is to demonstrate that the water in the pond is not leaching into the stormwater drain and to show no adverse effects from the ponds.
- There was trash in the ponds. Mr. Hutchinson stated that he has an agreement with a neighboring landscape contractor to have the trash cleaned out of the ponds once a month or as needed. I spoke with Ladun Olaseni-Adaramola on September 19, 2007, who told me she had recently been to this facility for a waste inspection and the ponds had been cleaned of trash.
- Quarterly visual inspections of stormwater discharge have not been documented. These inspections only have to be conducted while there is a discharge from the ponds. If there is no discharge from the ponds in any quarter, the report form must still be dated within that quarter, marked as No Discharge, and filed with the SWPP as documentation that the staff was aware of the requirement.
- Only one quarterly site inspection was conducted in the 3rd quarter 2006, and none were documented in 2007.
- Annual comprehensive site inspections have not been documented.
- SWPPP training has been informal and not documented for the facility's employees. Mr. Hutchinson has begun working on a training plan to address this problem.

Process Summary

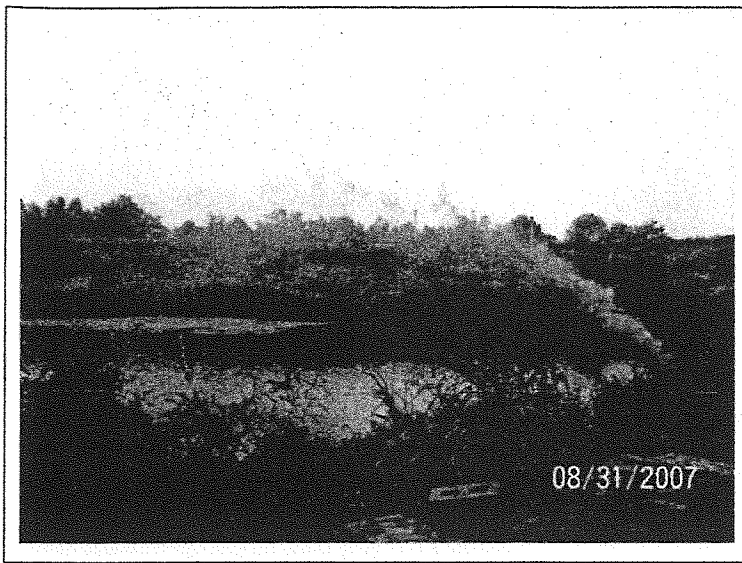
The facility accepts lawn waste from Fairfax and Loudoun Counties (primarily leave and grass) and processes it to create compost, which is then sold to lawn care companies. This process involves chopping up the yard waste as it is received; placed in piles, mixed and watered periodically, screened, and then sold. To a lesser extent, stumps and brush received is ground up, processed, and sold as mulch. The property is surrounded by a berm designed to prevent stormwater from neighboring properties to enter the site and to contain stormwater runoff on site.

Stormwater flows over, through, and around the various piles and is collected in one of the two stormwater retention ponds on the property. Pond #1 collects water from the eastern part of the property, and pond #2 from the western area. Pumps have been added to both ponds to aerate them through a fountain effect. The pond water is reused by applying it to the compost piles to keep them moist or is used as dust control. Water only has to be discharged from the ponds when precipitation exceeds the water requirements of the composting process.

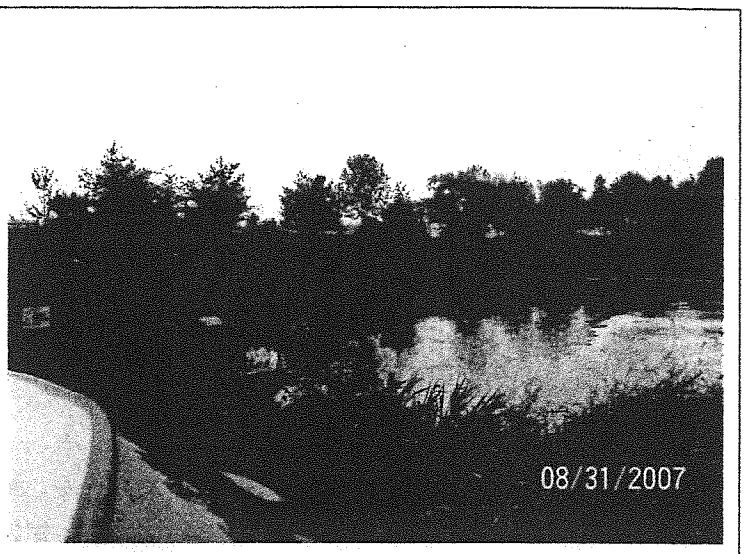
Pond #1 does not discharge to the environment; when necessary, water is pumped to pond # 2. When the water in pond #2 exceeds a set level, it is pumped into a storm sewer manhole on the property. This manhole empties into a stormwater conveyance pipe that passes under the property and carries runoff from Dulles Airport. Water from the conveyance flows a down a drainage ditch which runs past several other businesses in the industrial park before joining Sand Branch.

Outfall 001 is the drainage ditch just downstream of the end of the SW conveyance.

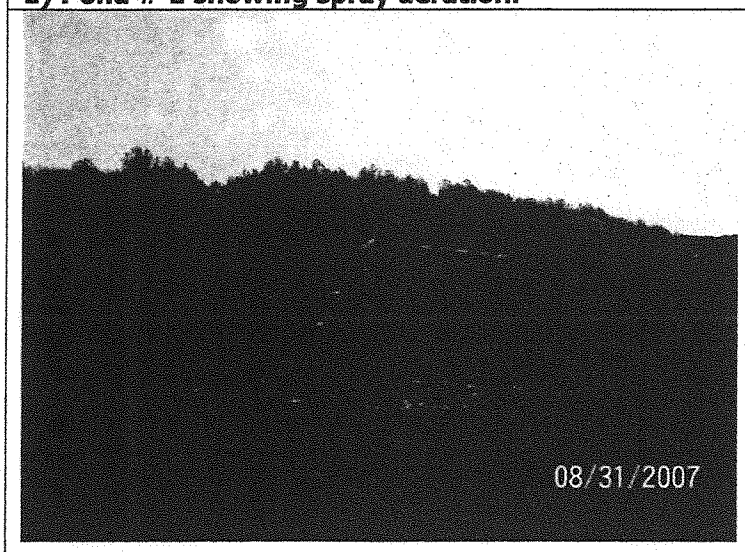
Oils and lubrication for the equipment are stored in the shop. Waste oil is collected and burned for heat in the winter. Above Ground Storage Tanks for gasoline and diesel have recently been installed on site, and are equipped with spill containment, as is the waste oil storage tank.



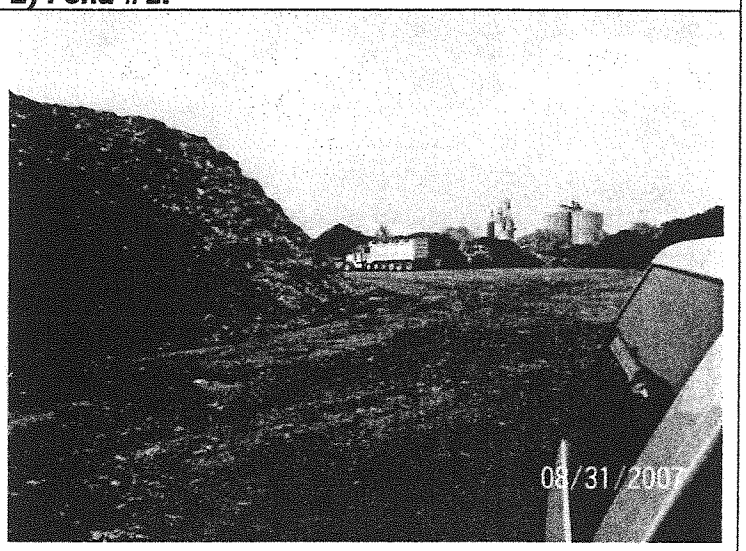
1) Pond # 1 showing spray aeration.



2) Pond #1.



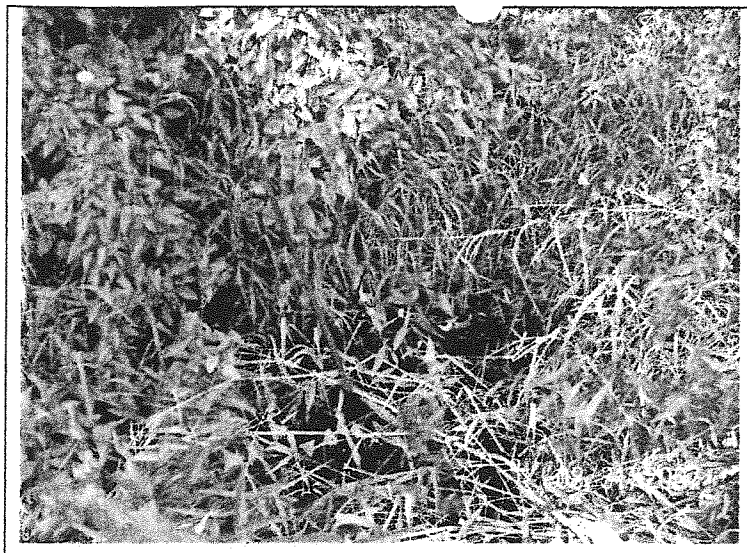
3) Active site.



4) Active site.

5) Pond #2.

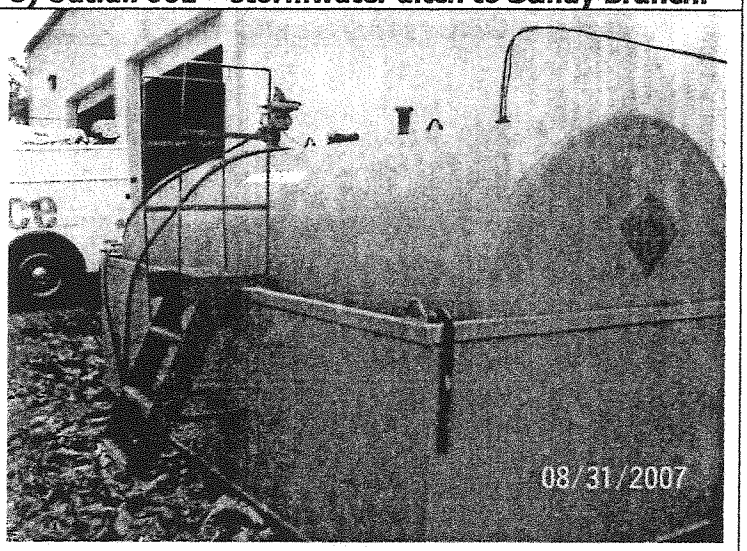
Facility name: Loudoun Composting
VPDES Permit No. VA0091430
Site Inspection Date: August 31, 2007
Photos & Layout by: Sharon Mack



7) Discharge from SW conveyance.

8) Outfall 001 – stormwater ditch to Sandy Branch.

9) Gasoline & diesel storage tanks.



10) Waste oil storage tank.

Facility name: Loudoun Composting
Site Inspection Date: August 31, 2007

VPDES Permit No. VA0091430
Photos & Layout by: Sharon Mack
Page 2 of 2

Facility:	LOUDOUN COMPOSTIN
Address:	44150 WADE DR.
County/city:	CHANTILLY, VA. 20153
Contact/Title	MR. TIM HUTCHINSON

VPDES NO.	VA0091430

DEPARTMENT OF ENVIRONMENTAL QUALITY
STORMWATER GENERAL FACILITY
INSPECTION REPORT

Inspection date:	08/31/2007	Date form completed:	
Inspection by:	Sharon Mack	Inspection agency:	DEQ/NVRO
Time spent:	15 hrs		
Reviewed by:	9/21/07		
Present at inspection:	Tim Hutchinson		

TYPE OF INSPECTION:

Routine	X	Reinspection		Compliance/assistance/complaint	

Date of previous inspection:	None	Agency:	DEQ/NVRO

	Other:

Storm Water P3 available and up dated?	YES	X	NO	
Outfalls Identified in SWP3?	YES	X	NO	
Site Map with Drainage and Flows available?	YES	X	NO	
Has there been any new construction?	YES		NO	X
If yes, were the plans and specifications approved? **NA**	YES		NO	
If yes, was SWP3 plan amended? **NA**	YES		NO	
Quarterly Visual Results available with SWP3?	YES		NO	X
Site Inspections performed and documented? (Minimum Quarterly)	YES		NO	X
Training performed and documented? The site manager	YES	X	NO	
Comprehensive Site Evaluation and associated documents available?	YES		NO	X
Non-stormwater certification?	YES	X	NO	
Oil or other Hazardous Spills?	YES	X	NO	
Sampling Required and performed correctly, records available?	YES	X	NO	

OVERALL APPEARANCE OF FACILITY	GOOD	X	AVERAGE		POOR	

Part IV of Stormwater General Permit:	YES	NO
Non-stormwater Prohibition	X	
Additional Stormwater Pollution Prevention Plan Requirements: **Other Requirements and Special Conditions**		
1. Materials Handling/Storage	X	
2. Operation and Maintenance (O&M) Manual	X	

SUMMARY

INSPECTION COMMENTS:

No discharge has been reported for this facility Outfall 001 since December 2006.

The facility has an agreement with a neighboring landscape company for them to remove plastics from the ponds as needed, with a minimum of once a month. Plastics were present in the ponds during this inspection; clean up scheduled for the following week.

A new spill prevention and clean up plan was completed for the facility by Draper & Associates in June 2007 and is on site.

Quarterly visual inspections have not been documented as per Permit VA0027194, Part I, Page 5, Section D, Number 1, However, this facility does not discharge from the ponds unless forced, when the contracted operato is on site. Monthly DMRs are submitted to the DEQ's Northern Regional Office and do document whether or not a discharge occurred.

INSPECTION DEFICIENCIES

Permit VA0027194, Part I, Page 10, Section D, Number 2. d. 3) d) states: "Facility personnel who are familiar with the industrial activity, the BMPs and the storm water pollution prevention plan shall be identified to inspect designated equipment and areas of the facility. The inspection frequency shall be specified in the plan based upon a consideration of the level of industrial activity at the facility, but shall be a minimum of quarterly unless more frequent intervals are specified elsewhere in the permit. "

Only one quarterly inspection of the facility has been documented.

Permit VA0027194, Part I, Page 11, Section D, Number 2.d.4) states "Personnel who are familiar with the industrial activity, the BMPs and the storm water pollution prevention plan shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year."

The annual comprehensive site inspection has not been done.

COMPLIANCE RECOMMENDATIONS FOR ACTION	
	Permit VA0091430, Part B, Page 3, Section 1, Letter d contains a list of acceptable methods for Appendix A analysis. Please note that the EPA did publish a new methods list on March 12, 2007, and some or all of the methods listing in the permit may no longer be valid for compliance purposes. Check the Federal Register published March 12, 2007 or the DEQ's website (link to the same rule) to assure the analysis method used for Appendix A analysis is valid prior to conducting analysis. As per Permit VA0027194, Part I, Page 12, Section E, Number 4, The appendix A monitoring should be initiated this year and the results submitted with the permit reissuance application package by September 2008.
	DEQ recommends that a quarterly stormwater visual inspection report form be completed even during quarters when no water is discharge from the pond. The form should be clearly marked as no discharge and kept on file with the Stormwater Pollution Prevention Plan.
	The samples for toxicity were collected from the pond in March 2007, although there was no discharge during the month of March. Steve said they were collected from the pond itself to make sure the permit requirement was met. Permit VA0091430, Part I, Page 4, Section C, Number 1, Letter a, states "In accordance with the schedule in Part I.C.3. below, the permittee shall conduct annual acute toxicity tests for the term of the permit. Grab samples shall be collected from outfall 001 with samples being taken during the first three hours of the discharge." If there is no discharge from Outfall 001, samples for Toxicity should not be collected for VPDES compliance.

ATTACHMENT 5

12 November 2010 EPA Memorandum

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 1 2 2010

OFFICE OF WATER

MEMORANDUM

SUBJECT: Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs"

FROM: James A. Hanlon, Director
Office of Wastewater Management

Denise Keehner, Director
Office of Wetlands, Oceans and Watersheds

TO: Water Management Division Directors
Regions 1 - 10

This memorandum updates aspects of EPA's November 22, 2002 memorandum from Robert H. Wayland, III, Director of the Office of Wetlands, Oceans and Watersheds, and James A. Hanlon, Director of the Office of Wastewater Management, on the subject of "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs" (hereafter "2002 memorandum").

Background

Section III of the 2002 memorandum "affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach" for improving stormwater management over time as permitting agencies, the regulated community, and other involved stakeholders gain more experience and knowledge. Since 2002, States and EPA have obtained considerable experience in developing TMDLs and WLAs that address stormwater sources. The technical capacity to monitor stormwater and its impacts on water quality has increased. In many areas, monitoring of the impacts of stormwater on water quality has become more sophisticated and widespread. Better information on the effectiveness of stormwater controls to reduce pollutant loadings and address water quality impairments is now available. In many parts of the country, permitting agencies have issued several rounds of permits for Phase I municipal separate storm sewer systems (MS4s), Phase II MS4s, and stormwater discharges associated with industrial activity, including stormwater from construction activities. Notwithstanding these developments, stormwater discharges remain a significant cause of water quality

impairment in many places, highlighting a continuing need for more useful WLAs and better NPDES permit provisions to restore impaired waters to their beneficial uses.

With this additional experience in mind, EPA is updating and revising the following four elements of the 2002 memorandum to better reflect current practices and trends in permits and WLAs for stormwater discharges:

- Providing numeric water quality-based effluent limitations in NPDES permits for stormwater discharges;
- Disaggregating stormwater sources in a WLA;
- Using surrogates for pollutant parameters when establishing targets for TMDL loading capacity; and
- Designating additional stormwater sources to regulate and treating load allocations as wasteload allocations for newly regulated stormwater sources.

EPA is currently reviewing other elements of the 2002 memorandum and will consider making appropriate revisions in the future.

Providing Numeric Water Quality-Based Effluent Limitations in NPDES Permits for Stormwater Discharges

In today's memorandum, EPA is revising the 2002 memorandum with respect to water quality-based effluent limitations (WQBELs) in stormwater permits. Since 2002, many NPDES authorities have documented the contributions of stormwater discharges to water quality impairment and have identified the need to include clearer permit requirements in order to address these impairments. Numeric WQBELs in stormwater permits can clarify permit requirements and improve accountability and enforceability. For the purpose of this memorandum, numeric WQBELs use numeric parameters such as pollutant concentrations, pollutant loads, or numeric parameters acting as surrogates for pollutants, such as such as stormwater flow volume or percentage or amount of impervious cover.

The CWA provides that stormwater permits for MS4 discharges shall contain controls to reduce the discharge of pollutants to the "maximum extent practicable" and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. CWA section 402(p)(3)(B)(iii). Under this provision, the NPDES permitting authority has the discretion to include requirements for reducing pollutants in stormwater discharges as necessary for compliance with water quality standards. *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1166 (9th Cir. 1999).

Where the NPDES authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality standard excursion, EPA recommends that, where feasible, the NPDES permitting authority exercise its discretion to include numeric effluent limitations as necessary to meet water quality standards. The 2002

memorandum stated "EPA expects that most WQBELs for NPDES-regulated municipal and small construction stormwater discharges will be in the form of BMPs, and that numeric limitations will be used only in rare instances." Those expectations have changed as the stormwater permit program has matured. EPA now recognizes that where the NPDES authority determines that MS4 discharges and/or small construction stormwater discharges have the reasonable potential to cause or contribute to water quality standards excursions, permits for MS4s and/or small construction stormwater discharges should contain numeric effluent limitations where feasible to do so. EPA recommends that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

The Clean Water Act (CWA) requires that permits for stormwater discharges associated with industrial activity comply with section 301 of the Act, including the requirement under section 301(b)(1)(C) to contain WQBELs for any discharge that the permitting authority determines has the reasonable potential to cause or contribute to a water quality standard excursion. CWA section 402(p)(3)(A), 40 CFR 122.44(d)(1)(iii). When the permitting authority determines, using the procedures specified at 40 CFR 122.44(d)(1)(ii) that the discharge causes or has the reasonable potential to cause or contribute to an in-stream excursion of the water quality standards, the permit must contain effluent limits for that pollutant. EPA recommends that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

Where WQBELs in permits for stormwater discharges from MS4s, small construction sites or industrial sites are expressed in the form of BMPs, the permit should contain objective and measurable elements (e.g., schedule for BMP installation or level of BMP performance). The objective and measureable elements should be included in permits as enforceable provisions. Permitting authorities should consider including numeric benchmarks for BMPs and associated monitoring protocols or specific protocols for estimating BMP effectiveness in stormwater permits. These benchmarks could be used as thresholds that would require the permittee to take additional action specified in the permit, such as evaluating the effectiveness of the BMPs, implementing and/or modifying BMPs, or providing additional measures to protect water quality.

If the State or EPA has established a TMDL for an impaired water that includes WLAs for stormwater discharges, permits for either industrial stormwater discharges or MS4 discharges must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B). Where the WLA of a TMDL is expressed in terms of a surrogate pollutant parameter, then the corresponding permit can generally use the surrogate pollutant parameter in the WQBEL as well. Where the TMDL includes WLAs for stormwater sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable stormwater permits.

The permitting authority's decision as to how to express the WQBEL(s), either as numeric effluent limitations or BMPs, including BMPs accompanied by numeric benchmarks, should be based on an analysis of the specific facts and circumstances surrounding the permit, and/or the underlying WLA, including the nature of the stormwater discharge, available data, modeling results or other relevant information. As discussed in the 2002 memorandum, the permit's administrative record needs to provide an adequate demonstration that, where a BMP-based approach to permit limitations is selected, the BMPs required by the permit will be sufficient to implement applicable WLAs. Improved knowledge of BMP effectiveness gained since 2002 should be reflected in the demonstration and supporting rationale that implementation of the BMPs will attain water quality standards and WLAs.

EPA's regulations at 40 CFR § 122.47 govern the use of compliance schedules in NPDES permits. Central among the requirements is that the effluent limitation(s) must be met "as soon as possible." 40 CFR 122.47(a)(1). EPA expects the permitting authority to include in the permit record a sound rationale for determining that any compliance schedule meets this requirement. Where a TMDL has been established and there is an accompanying implementation plan that provides a schedule for an MS4 to implement the TMDL, the permitting authority should consider the schedule as it decides whether and how to establish enforceable interim requirements and interim dates in the permit.

Lastly, NPDES permits must specify monitoring requirements necessary to determine compliance with effluent limitations. See CWA section 402(a)(2); 40 C.F.R. 122.44(i). Where WQBELs are expressed as BMPs, the permit must require adequate monitoring to determine if the BMPs are performing as necessary. When developing monitoring requirements, the NPDES authority should consider the variable nature of stormwater as well the availability of reliable and applicable field data describing the treatment efficiencies of the BMPs required and supporting modeling analysis.

Disaggregating Stormwater Sources in a WLA

As stated in the 2002 memorandum, EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). EPA also recognized that the available data and information usually are not detailed enough to determine waste load allocations for NPDES-regulated storm water discharges on an outfall-specific basis.

EPA still recognizes that decisions about allocations of pollutant loads within a TMDL are driven by quantity and quality of existing and readily available water quality data. However, today, TMDL writers may have better data or better access to data and, over time, may have gained more experience since 2002 in developing TMDLs and WLAs in a less aggregated manner. Moreover, since 2002, EPA has noted the difficulty of establishing clear, effective, and enforceable NPDES permit limitations for sources covered by WLAs that are expressed as single categorical or aggregated wasteload allocations.

Accordingly, for all these reasons, EPA recommends that WLAs for NPDES-regulated stormwater discharges should be disaggregated into specific categories (e.g., separate WLAs for MS4 and industrial stormwater discharges) to the extent feasible based on available data and/or modeling projections. In addition, these disaggregated WLAs should be defined as narrowly as available information allows (e.g., for MS4s, separate WLAs for each one; and, for industrial sources, separate WLAs for different sources or types of industrial sources or discharges.)

Where appropriate, EPA encourages permit writers to assign specific shares of the wasteload allocation to specific permittees during the permitting process.

Using Surrogate for Pollutant Parameters When Establishing Targets for TMDL Loading Capacity

Many waterbodies affected by stormwater discharges are listed as impaired under Section 303(d) due to biological degradation or habitat alteration, rather than for specific pollutants (e.g., metals, pathogens, sediment). Impairment can be due to pollutants where hydrologic changes such as quantity of flow and variation in flow regimes are important factors in their transport. Since the stormwater-source impairment is usually the result of the cumulative impact of multiple pollutants and physical effects, it may be difficult to identify a specific pollutant (or pollutants) causing the impairment. Using a surrogate parameter in developing wasteload allocations for waters impaired by stormwater sources may, at times, be the appropriate approach for restoring the waterbodies.

In the 2009 report *Urban Stormwater Management in the United States,* the National Research Council suggests: "A more straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading . . . Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading. Moreover, flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality."

Therefore, when developing TMDLs for receiving waters where stormwater sources are the primary source of impairment, it may be suitable to establish a numeric target for a surrogate pollutant parameter, such as stormwater flow volume or impervious cover, that would be expected to provide attainment of water quality standards. This is consistent with the TMDL regulations that specify that TMDLs can be expressed in terms of mass per time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)).

Where a surrogate parameter is used, the TMDL document must demonstrate the linkage between the surrogate parameter and the documented impairment (e.g., biological degradation). In addition, the TMDL should provide supporting documentation to indicate that the surrogate pollutant parameter appropriately represents stormwater pollutant loadings. Monitoring is an essential undertaking to ensure that compliance with the effluent limitations occurs.

Recent examples of TMDLs using flow or impervious cover as surrogates for pollutants in setting TMDL loading targets include: the Eagleville Brook (CT) TMDL and the Barberry Creek (ME) TMDL which used impervious cover as a surrogate; and, the Potash Brook (VT) TMDL which used stormwater flow volume as a surrogate.

Designating Additional Stormwater Sources to Regulate and Treating Load Allocations as Wasteload Allocations for Newly Regulated Stormwater Sources

The 2002 memorandum states that "stormwater discharges from sources that are not currently subject to NPDES regulation may be addressed by the load allocation component of a TMDL." Section 402(p)(2) of the Clean Water Act (CWA) requires industrial stormwater sources, certain municipal separate storm sewer systems, and other designated sources to be subject to NPDES permits. Section 402(p)(6) provides EPA with authority to identify additional stormwater discharges as needing a permit.

In addition to the stormwater discharges specifically identified as needing an NPDES permit, the CWA and the NPDES regulations allow for EPA and NPDES authorized States to designate, additional stormwater discharges for regulation. See 40 CFR 122.26 (a)(9)(i)(C), (a)(9)(i)(D), (b)(4)(iii), (b)(7)(iii), (b)(15)(ii) and 122.32(a)(2). Since 2002, EPA has become concerned that NPDES authorities have generally not adequately considered exercising these authorities to designate for NPDES permitting stormwater discharges that are currently not required to obtain permit coverage but that are significant enough to be identified in the load allocation component of a TMDL. Accordingly, EPA encourages permitting authorities to consider designation of stormwater sources in situations where coverage under NPDES permits would afford a more effective mechanism to reduce pollutants in stormwater discharges than available nonpoint source control methods.

In situations where a stormwater source addressed in a TMDL's load allocation is not currently regulated by an NPDES permit but may be required to obtain an NPDES permit in the future, the TMDL writer should consider including language in the TMDL explaining that the allocation for the stormwater source is expressed in the TMDL as a "load allocation" contingent on the source remaining unpermitted, but that the "load allocation" would later be deemed a "wasteload allocation" if the stormwater discharge from the source were required to obtain NPDES permit coverage. Such language, while not legally required, would help ensure that the allocation is properly characterized by the permit writer should the source's regulatory status change. This will help ensure that effluent limitations in a NPDES permit applicable to the newly permitted source are consistent with the requirements and assumptions of the TMDL's allocation to that source.

Such recharacterization of a load allocation as a wasteload allocation would not automatically require resubmission of the TMDL to EPA for approval. However, if the TMDL's allocation for the newly permitted source had been part of a single aggregated or gross load allocation for all unregulated stormwater sources, it may be appropriate for the NPDES permit authority to determine a wasteload allocation and corresponding

effluent limitation specific to the newly permitted stormwater source. Any additional analysis used to refine the allocation should be included in the administrative record for the permit. In such cases, the record should describe the basis for
(1) recharacterizing the load allocation as a wasteload allocation for this source and
(2) determining that the permit's effluent limitations are consistent with the assumptions and requirements of this recharacterized wasteload allocation. For purposes of this discussion, it is assumed that the permit writer's additional analysis or recharacterization of the load allocation as a wasteload allocation does not change the TMDL's overall loading cap. Any change in a TMDL loading cap would have to be resubmitted for EPA approval.

If you have any questions please feel free to contact us or Linda Boornazian, Director of the Water Permits Division or Benita Best-Wong, Director of the Assessment and Watershed Protection Division.

cc: Association of State and Interstate Water Pollution Control Administrators
Water Quality Branch Chiefs, Regions 1 – 10
Permits Branch Chiefs, Regions 1 – 10

ATTACHMENT 6

Planning Statement

To:	Douglas Frasier
From:	Jennifer Carlson
Date:	20 March 2014
Subject:	Planning Statement for Loudoun Composting
Permit Number:	VA0091430

Information for Outfall 001:

Discharge Type:	industrial stormwater – composting operation
Discharge Flow:	variable
Receiving Stream:	Sand Branch, UT
Latitude / Longitude:	38° 55′ 12″ / 77° 28′ 28″
Rivermile:	0.14
Streamcode:	1aXKO
Waterbody:	VAN-A22R
Water Quality Standards:	Class III, Section 7a, special standards g
Drainage Area:	< 1.0 square miles

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   This facility discharges into an unnamed tributary to Sand Branch. This unnamed tributary flows into Sand Branch 0.14 miles downstream of Outfall 001. Sand Branch flows into Cub Run approximately 0.6 miles downstream of Outfall 001. There is a DEQ ambient water quality monitoring station on Cub Run, station 1aCUB002.61, located at the Rt. 658 bridge crossing, approximately 9.3 miles downstream of Outfall 001. The following is the water quality summary for this segment of Cub Run, as taken from the 2012 Integrated Report:

   Class III, Section 7a, special stds. g.

   The DEQ monitoring stations located on this segment of Cub Run:
   - *DEQ ambient monitoring station 1aCUB002.61, at Route 658*
   - *DEQ freshwater probabilistic monitoring station 1aCUB004.63, upstream of Route 281*

   E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Occoquan River watershed.

   Biological monitoring finds benthic macroinvertebrate impairments, resulting in an impaired classification for the aquatic life use. Citizen monitoring finds high probability of adverse conditions for biota.

   The fish consumption use is classified as fully supporting with observed effects. Exceedances of the water quality criterion based tissue value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs), 300 ppb for mercury (Hg), and 110 ppb for total chlordane in fish tissue were

recorded in one specie (flathead catfish) of fish samples collected in 2004 at monitoring station 1aCUB002.61.

The wildlife use is considered fully supporting.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

   No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

   Yes.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the 2012 Integrated Report							
Cub Run	Recreation	*E. coli*	5.2 miles	Occoquan River Watershed Bacteria 11/15/2006	None (not expected to discharge pollutant)	---	---
	Aquatic Life	Benthic Macroinvertebrates	5.2 miles	No	N/A	N/A	2024
Bull Run	Fish Consumption	PCBs	11.8 miles	No	N/A	N/A	2016
	Aquatic Life	Benthic Macroinvertebrates	11.8 miles	Bull Run Benthic 9/26/06	0.36 tons/year TSS	60 mg/L TSS --- 0.004 MGD*	---

**The WLA for this facility was established based upon a TSS concentration of 60 mg/L and a maximum flow rate of 0.004 MGD. The TSS concentration was based upon TSS limits assigned to other industrial facilities with stormwater management ponds. The maximum flow rate was calculated from the total discharge volume reported for the 2013 reporting year.*

Loudoun Composting did not receive a WLA as part of the Bull Run Benthic TMDL that was completed and approved by EPA in 2006. The overall wasteload allocation for this TMDL was developed with a reserve allocation designated for future growth, as described in Section 7.2 of the TMDL report. The future growth reserve is available for allocation to new and expanding permits in the watershed on a first-come, first-serve basis, and is tracked as permits are added or terminated within the watershed. The Bull Run Benthic TMDL was developed with a future growth allocation of 60 tons/year TSS. There is sufficient future growth in the TMDL to allocate a WLA of 0.36 tons/year TSS for this permit. The assignment of this future growth allocation for the WLA for the Loudoun Composting facility is consistent with the assumptions and requirements of the Bull Run Benthic TMDL.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

   Cub Run was listed in the 2012 Integrated Report as impaired for the aquatic life use due to poor health in the benthic macroinvertebrate community. In support of this recent listing and the development of a benthic TMDL in the future, DEQ staff requests that this facility monitor for dissolved oxygen and total dissolved solids with every discharge event.

   There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

   There are no public water supply intakes located within 5 miles of this discharge.

ATTACHMENT 7

Water Quality Criteria / Wasteload Allocation Analysis

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Loudoun Composting Permit No.: VA0091430

Receiving Stream: Sand Branch, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =		MGD
7Q10 (Annual) =		MGD
30Q10 (Annual) =		MGD
1Q10 (Wet season) =		MGD
30Q10 (Wet season) =		MGD
30Q5 =		MGD
Harmonic Mean =		MGD

Mixing Information

Annual - 1Q10 Mix =		%
- 7Q10 Mix =		%
- 30Q10 Mix =		%
Wet Season - 1Q10 Mix =		%
- 30Q10 Mix =		%

Effluent Information

Mean Hardness (as CaCO3) =	334	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	8.4	SU
10% Maximum pH =	7.5	SU
Discharge Flow =	0.4	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+0
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+0
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+0
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-0
Ammonia-N (mg/l) (Yearly)	0	3.88E+00	6.56E-01	na	--	3.88E+00	6.56E-01	na	--	--	--	--	--	--	--	--	--	3.88E+00	6.56E-01	na	--
Ammonia-N (mg/l) (High Flow)	0	3.88E+00	1.25E+00	na	--	3.88E+00	1.25E+00	na	--	--	--	--	--	--	--	--	--	3.88E+00	1.25E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+0
Arsenic	o	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+0
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-0
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+0
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+0
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+0
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+0
Cadmium	0	1.5E+01	2.9E+00	na	--	1.5E+01	2.9E+00	na	--	--	--	--	--	--	--	--	--	1.5E+01	2.9E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+0
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-0
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+0

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+0
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+0
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	1.5E+03	2.0E+02	na	--	1.5E+03	2.0E+02	na	--	--	--	--	--	--	--	--	--	1.5E+03	2.0E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Copper	0	4.2E+01	2.5E+01	na	--	4.2E+01	2.5E+01	na	--	--	--	--	--	--	--	--	--	4.2E+01	2.5E+01	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+0
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-0
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-0
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-0
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+0
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+0
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+0
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-0
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+0
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+0
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+0
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+0
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+0
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+0
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-0
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+0
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+0
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+0
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+0
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+0
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-0
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+0
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+0
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+0
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+0
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-0
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-0

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+0
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+0
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [c]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-0
Heptachlor Epoxide[c]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-0
Hexachlorobenzene[c]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-0
Hexachlorobutadiene[c]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+0
Hexachlorocyclohexane Alpha-BHC[c]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-0
Hexachlorocyclohexane Beta-BHC[c]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-0
Hexachlorocyclohexane Gamma-BHC[c] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+0
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
Hexachloroethane[c]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+0
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [c]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[c]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+0
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	5.5E+02	6.3E+01	na	--	5.5E+02	6.3E+01	na	--	--	--	--	--	--	--	--	--	5.5E+02	6.3E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
Methylene Chloride [c]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+0
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	5.1E+02	5.6E+01	na	4.6E+03	5.1E+02	5.6E+01	na	4.6E+03	--	--	--	--	--	--	--	--	5.1E+02	5.6E+01	na	4.6E+0
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+0
N-Nitrosodimethylamine[c]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+0
N-Nitrosodiphenylamine[c]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+0
N-Nitrosodi-n-propylamine[c]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+0
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total[c]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-0
Pentachlorophenol [c]	0	1.4E+01	1.1E+01	na	3.0E+01	1.4E+01	1.1E+01	na	3.0E+01	--	--	--	--	--	--	--	--	1.4E+01	1.1E+01	na	3.0E+0
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+0
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+0**
Silver	0	2.7E+01	--	na	--	2.7E+01	--	na	--	--	--	--	--	--	--	--	--	**2.7E+01**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+0**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+0**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+0**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+0**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+0**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+0**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+0**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+0**
Zinc	0	3.3E+02	3.3E+02	na	2.6E+04	3.3E+02	3.3E+02	na	2.6E+04	--	--	--	--	--	--	--	--	**3.3E+02**	**3.3E+02**	**na**	**2.6E+0**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	1.8E+00
Chromium III	1.2E+02
Chromium VI	6.4E+00
Copper	1.5E+01
Iron	na
Lead	3.8E+01
Manganese	na
Mercury	4.6E-01
Nickel	3.4E+01
Selenium	3.0E+00
Silver	1.1E+01
Zinc	1.3E+02

Note: do not use QL's lower than the minimum QL's provided in agency guidance

ATTACHMENT 8

July 2009 – May 2013 Effluent Data

DMR QA/QC

Permit #:VA0091430

Facility:Loudoun Composting

Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Quantity Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
10-Jul-2009	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	11.8	NL	11.8	NL
07-Jan-2010	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	29.9	NL	29.9	NL
11-Feb-2010	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	48.1	NL	48.1	NL
11-Mar-2010	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	35.6	NL	35.6	NL
08-Apr-2010	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	34.5	NL	34.5	NL
08-Jul-2010	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	17.3	NL	17.3	NL
11-Mar-2011	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	72.2	NL	72.2	NL
06-May-2011	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	42	NL	42	NL
03-Jun-2011	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	35.6	NL	35.6	NL
06-Oct-2011	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	4.57	NL	4.57	NL
14-Nov-2011	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	0.75	NL	0.75	NL
12-Mar-2012	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	11.3	NL	11.3	NL
11-Dec-2012	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	6.16	NL	6.16	NL
11-Mar-2013	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	9.15	NL	9.15	NL
10-May-2013	AMMONIA, AS N	NULL	*********	NULL	*********	NULL	NULL	*********	5.94	NL	5.94	NL
10-Jul-2009	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	48	NL	48	NL
07-Jan-2010	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	43	NL	43	NL
11-Feb-2010	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	51	NL	51	NL
11-Mar-2010	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	150	NL	150	NL
08-Apr-2010	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	95	NL	95	NL
08-Jul-2010	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	28	NL	28	NL
11-Mar-2011	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	31	NL	31	NL
06-May-2011	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	24	NL	24	NL
03-Jun-2011	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	19	NL	19	NL
06-Oct-2011	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	88	NL	88	NL
14-Nov-2011	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	22	NL	22	NL
12-Mar-2012	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	8	NL	8	NL
11-Dec-2012	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	67	NL	67	NL
11-Mar-2013	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	27	NL	27	NL
10-May-2013	BOD5	NULL	*********	NULL	*********	NULL	NULL	*********	29	NL	29	NL
10-Jul-2009	COD	NULL	*********	NULL	*********	NULL	NULL	*********	836	NL	836	NL
07-Jan-2010	COD	NULL	*********	NULL	*********	NULL	NULL	*********	1360	NL	1360	NL
11-Feb-2010	COD	NULL	*********	NULL	*********	NULL	NULL	*********	1130	NL	1130	NL
11-Mar-2010	COD	NULL	*********	NULL	*********	NULL	NULL	*********	1560	NL	1560	NL
08-Apr-2010	COD	NULL	*********	NULL	*********	NULL	NULL	*********	1210	NL	1210	NL
08-Jul-2010	COD	NULL	*********	NULL	*********	NULL	NULL	*********	791	NL	791	NL

11-Mar-2011	COD	NULL	*********	NULL	*********	NULL	NULL	*********	1010	NL	1010	NL
06-May-2011	COD	NULL	*********	NULL	*********	NULL	NULL	*********	892	NL	892	NL
03-Jun-2011	COD	NULL	*********	NULL	*********	NULL	NULL	*********	680	NL	680	NL
06-Oct-2011	COD	NULL	*********	NULL	*********	NULL	NULL	*********	734	NL	734	NL
14-Nov-2011	COD	NULL	*********	NULL	*********	NULL	NULL	*********	717	NL	717	NL
12-Mar-2012	COD	NULL	*********	NULL	*********	NULL	NULL	*********	512	NL	512	NL
11-Dec-2012	COD	NULL	*********	NULL	*********	NULL	NULL	*********	526	NL	526	NL
11-Mar-2013	COD	NULL	*********	NULL	*********	NULL	NULL	*********	409	NL	409	NL
10-May-2013	COD	NULL	*********	NULL	*********	NULL	NULL	*********	325	NL	325	NL
10-Jul-2009	FLOW	0.066	NL	0.066	NL	MGD	NULL	*********	NULL	*********	NULL	*********
07-Jan-2010	FLOW	0.062	NL	0.062	NL	MGD	NULL	*********	NULL	*********	NULL	*********
11-Feb-2010	FLOW	0.303	NL	0.303	NL	MGD	NULL	*********	NULL	*********	NULL	*********
11-Mar-2010	FLOW	0.291	NL	0.291	NL	MGD	NULL	*********	NULL	*********	NULL	*********
08-Apr-2010	FLOW	0.321	NL	0.325	NL	MGD	NULL	*********	NULL	*********	NULL	*********
08-Jul-2010	FLOW	0.308	NL	0.308	NL	MGD	NULL	*********	NULL	*********	NULL	*********
11-Mar-2011	FLOW	0.32	NL	0.32	NL	MGD	NULL	*********	NULL	*********	NULL	*********
06-May-2011	FLOW	0.306	NL	0.306	NL	MGD	NULL	*********	NULL	*********	NULL	*********
03-Jun-2011	FLOW	0.325	NL	0.325	NL	MGD	NULL	*********	NULL	*********	NULL	*********
06-Oct-2011	FLOW	0.315	NL	0.315	NL	MGD	NULL	*********	NULL	*********	NULL	*********
14-Nov-2011	FLOW	0.318	NL	0.318	NL	MGD	NULL	*********	NULL	*********	NULL	*********
12-Mar-2012	FLOW	0.29	NL	0.320	NL	MGD	NULL	*********	NULL	*********	NULL	*********
11-Dec-2012	FLOW	0.24	NL	0.308	NL	MGD	NULL	*********	NULL	*********	NULL	*********
11-Mar-2013	FLOW	0.20	NL	0.257	NL	MGD	NULL	*********	NULL	*********	NULL	*********
10-May-2013	FLOW	0.19	NL	0.205	NL	MGD	NULL	*********	NULL	*********	NULL	*********
07-Jan-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	84.4	NL	84.4	NL
11-Feb-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	79.6	NL	79.6	NL
08-Jul-2010	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	35.1	NL	35.1	NL
11-Mar-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	80.7	NL	80.7	NL
06-May-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	59	NL	59	NL
06-Oct-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	24.39	NL	24.39	NL
14-Nov-2011	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	19.2	NL	19.2	NL
12-Mar-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	13	NL	13	NL
11-Dec-2012	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	19	NL	19	NL
11-Mar-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	33	NL	33	NL
10-May-2013	NITROGEN, TOTAL (AS N)	NULL	*********	NULL	*********	NULL	NULL	*********	14	NL	14	NL
10-Jul-2009	PH	NULL	*********	NULL	*********	NULL	7.89	6.0	NULL	*********	7.89	9.0
07-Jan-2010	PH	NULL	*********	NULL	*********	NULL	8.54	6.0	NULL	*********	8.54	9.0
11-Feb-2010	PH	NULL	*********	NULL	*********	NULL	8.32	6.0	NULL	*********	8.32	9.0
11-Mar-2010	PH	NULL	*********	NULL	*********	NULL	8.28	6.0	NULL	*********	8.28	9.0
08-Apr-2010	PH	NULL	*********	NULL	*********	NULL	8.18	6.0	NULL	*********	8.18	9.0
08-Jul-2010	PH	NULL	*********	NULL	*********	NULL	7.55	6.0	NULL	*********	7.55	9.0
11-Mar-2011	PH	NULL	*********	NULL	*********	NULL	8.34	6.0	NULL	*********	8.34	9.0
06-May-2011	PH	NULL	*********	NULL	*********	NULL	8.37	6.0	NULL	*********	8.37	9.0

03-Jun-2011	PH	NULL	*********	NULL	*********	NULL	8.39	6.0	NULL	*********	8.39	9.0
06-Oct-2011	PH	NULL	*********	NULL	*********	NULL	8.11	6.0	NULL	*********	8.11	9.0
14-Nov-2011	PH	NULL	*********	NULL	*********	NULL	8.37	6.0	NULL	*********	8.37	9.0
12-Mar-2012	PH	NULL	*********	NULL	*********	NULL	7.1	6.0	NULL	*********	7.1	9.0
11-Dec-2012	PH	NULL	*********	NULL	*********	NULL	7.5	6.0	NULL	*********	7.5	9.0
11-Mar-2013	PH	NULL	*********	NULL	*********	NULL	7.6	6.0	NULL	*********	7.6	9.0
10-May-2013	PH	NULL	*********	NULL	*********	NULL	7.7	6.0	NULL	*********	7.7	9.0
									10th	7.5	90th	8.4
07-Jan-2010	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	5.02	NL	5.02	NL
11-Feb-2010	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	5.04	NL	5.04	NL
08-Jul-2010	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	2.72	NL	2.72	NL
11-Mar-2011	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	4.96	NL	4.96	NL
06-May-2011	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	4.67	NL	4.67	NL
06-Oct-2011	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	3.13	NL	3.13	NL
14-Nov-2011	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	4.66	NL	4.66	NL
12-Mar-2012	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	3.97	NL	3.97	NL
11-Dec-2012	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	3.6	NL	3.6	NL
11-Mar-2013	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	4.25	NL	4.25	NL
10-May-2013	PHOSPHORUS, TOTAL (AS P)	NULL	*********	NULL	*********	NULL	NULL	*********	3.49	NL	3.49	NL
10-Jul-2009	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	67.3	NL	67.3	NL
07-Jan-2010	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	129	NL	129	NL
11-Feb-2010	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	114	NL	114	NL
11-Mar-2010	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	119	NL	119	NL
08-Apr-2010	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	111	NL	111	NL
08-Jul-2010	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	25.8	NL	25.8	NL
11-Mar-2011	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	43.6	NL	43.6	NL
06-May-2011	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	40.4	NL	40.4	NL
03-Jun-2011	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	24.2	NL	24.2	NL
06-Oct-2011	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	149	NL	149	NL
14-Nov-2011	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	81	NL	81	NL
12-Mar-2012	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	8	NL	8	NL
11-Dec-2012	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	33	NL	33	NL
11-Mar-2013	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	26	NL	26	NL
10-May-2013	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	14	NL	14	NL

10-Jul-2009	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
07-Jan-2010	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4	NL
11-Feb-2010	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2	NL
11-Mar-2010	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4	NL
08-Apr-2010	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4	NL
08-Jul-2010	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	4.00	*********	4.00	NL
06-May-2011	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4.00	NL
03-Jun-2011	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
06-Oct-2011	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
14-Nov-2011	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.0	NL
12-Mar-2012	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4.00	NL
11-Dec-2012	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
11-Mar-2013	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	1.00	NL
10-May-2013	TUa - ACUTE 48 HR STAT CERIODAPHNIA DUBIA	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	1.00	NL
12-Sep-2005	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.73	NL
11-Jul-2006	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	16.00	NL
11-May-2007	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
08-Aug-2008	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	7.69	NL
10-Jul-2009	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4.00	NL
07-Jan-2010	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	8	NL
11-Feb-2010	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	8	NL
11-Mar-2010	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4	NL
08-Apr-2010	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4	NL
08-Jul-2010	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	4.00	*********	4.00	NL

06-May-2011	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	8.00	NL
03-Jun-2011	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	4.00	NL
06-Oct-2011	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	1.00	NL
14-Nov-2011	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.0	NL
12-Mar-2012	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
11-Dec-2012	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	1.00	NL
11-Mar-2013	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	2.00	NL
10-May-2013	TUa - ACUTE 48 HR STAT PIMEPHALES PROMELAS	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	1.00	NL

ATTACHMENT 9

Ammonia Reasonable Potential Analysis

2/21/2014 9:45:12 AM

Facility = Loudoun Composting
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 3.88
WLAc =
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 15
Expected Value = 30.9317
Variance = 3033.83
C.V. = 1.780701
97th percentile daily values = 143.394
97th percentile 4 day average = 97.2271
97th percentile 30 day average= 49.8475
< Q.L. = 0
Model used = lognormal

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 3.88
Average Weekly limit = 3.88
Average Monthly LImit = 3.88

The data are:

11.8
29.9
48.1
35.6
34.6
17.3
72.2
42
35.6
4.57
0.75
11.3
6.16
9.15
5.94

ATTACHMENT 10

Whole Effluent Toxicity Test Results

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Northern Regional Office
13901 Crown Court **Woodbridge, VA 22193** **(703) 583-3800**

SUBJECT: TOXICS MANAGEMENT PROGRAM (TMP) DATA REVIEW
Loudoun Composting Facility (VA0091430)
REVIEWER: Douglas Frasier
DATE: 24 February 2014

PREVIOUS REVIEW: 16 January 2014

DATA REVIEWED:

This review covers acute toxicity tests conducted in January 2014 at Outfall 001. The discharge from this facility is infrequent; therefore, no formal schedule is applicable. The permittee is required to conduct a test upon every discharge within a given month, not to exceed two tests per month.

DISCUSSION:

The results of these acute toxicity tests along with the results of previous toxicity tests conducted on the effluent samples collected from Outfall 001 are summarized in Table 1.

The acute toxicity of the effluent sample was determined with a 48-hour static acute toxicity test using *C. dubia* and *P. promelas*. These tests were performed using grab samples of effluent from a stormwater pond.

Statistical analyses of the test results yielded a No Observed Adverse Effect Concentration (NOAEC) of 50% for *C. dubia* and 25% for *P. promelas* test species.

CONCLUSION:

The acute toxicity tests are valid and the test results are acceptable. The test results indicate that the effluent samples from Outfall 001 may exhibit acute toxicity to the test species.

BIOMONITORING RESULTS

Loudoun Composting Facility (VA0091430)

Table 1
Summary of Toxicity Test Results for Outfall 001

TEST DATE	TEST TYPE/ORGANISM	48-h LC_{50} (%)	% SURV	TU_a	LAB	REMARKS
08/09/05	Acute *C. dubia*	61.3	0	1.63	CBI	1st annual
08/09/05	Acute *P. promelas*	36.6	0	2.73		
06/20/06	Acute *C. dubia*	16.5	0	8	CBI	2nd annual
06/20/06	Acute *P. promelas*	8.8	0	16		
03/20/07	Acute *C. dubia*	99.2	50	1	CBI	3rd annual
03/20/07	Acute *P. promelas*	63.7	0	2		
06/24/08	Acute *C. dubia*	35.4	0	4	CBI	4th annual
06/24/08	Acute *P. promelas*	29.9	0	7.69		
Permit Reissued 7 April 2009						
06/23/09	Acute *C. dubia*	**72**	5	2	CBI	No treatment
06/23/09	Acute *P. promelas*	**30.5**	0	4		
12/15/09	Acute *C. dubia*	**35.4**	0	4	CBI	No treatment NH_3 of final effluent sample was 70.4 mg/L @ 8.21 S.U.
12/15/09	Acute *P. promelas*	**21.0**	0	8		
01/19/10	Acute *C. dubia*	**43.5**	0	2	CBI	No treatment NH_3 of final effluent sample was 55.8 mg/L @ 8.05 S.U.
01/19/10	Acute *P. promelas*	**21.0**	0	8		
02/02/10	Acute *C. dubia*	**33.0**	0	4	CBI	No treatment NH_3 of final effluent sample was 52.2 mg/L @ 7.91 S.U.
02/02/10	Acute *P. promelas*	**26.0**	0	4		
02/02/10	Acute *C. dubia*	**35.4**	0	4	CBI	Treatment pH adjusted to 6.51 S.U. using 3 N HCl
02/02/10	Acute *P. promelas*	**47.2**	0	2		
03/09/10	Acute *C. dubia*	**47.0**	0	4	CBI	No treatment NH_3 of final effluent sample was 28.3 mg/L @ 8.09 S.U.
03/09/10	Acute *P. promelas*	**30.8**	0	4		
03/09/10	Acute *C. dubia*	**> 100**	80	< 1	CBI	Treatment Effluent treated with Zeolite ~ 250 g/L @ 1 hr.
03/09/10	Acute *P. promelas*	**> 100**	80	< 1		
03/23/10	Acute *C. dubia*	**63.7**	0	2	CBI	No treatment NH_3 of final effluent sample was 22.1 mg/L @ 8.19 S.U.
03/23/10	Acute *P. promelas*	**34.7**	0	4		
06/08/10	Acute *C. dubia*	**9.1**	15		CBI	Treatment* Effluent treated with Zeolite ~ 100 g/L @ 2 hr.
06/08/10	Acute *P. promelas*	**<2**	0			
06/08/10	Acute *C. dubia*	**45.1**	0	4	CBI	No treatment NH_3 of final effluent sample was 14.2 mg/L @ 7.62 S.U
06/08/10	Acute *P. promelas*	**35.4**	0	4		
05/03/11	Acute *C. dubia*	**46.7**	0	2	CBI	No treatment NH_3 of final effluent sample was 22.2 mg/L @ 8.12 S.U.
05/03/11	Acute *P. promelas*	**33.0**	0	4		

TEST DATE	TEST TYPE/ORGANISM	48-h LC_{50} (%)	% SURV	TU_a	LAB	REMARKS
09/13/11	Acute *C. dubia*	**51.8**	0	2	CBI	No treatment NH_3 of final effluent sample was 3.0 mg/L @ 8.10 S.U.
09/13/11	Acute *P. promelas*	>100	85	1		
10/25/11	Acute *C. dubia*	>100	55	2	CBI	No treatment NH_3 of final effluent sample was 8.5 mg/L @ 8.00 S.U.
10/25/11	Acute *P. promelas*	70.7	0	2		
02/02/12	Acute *C. dubia*	79.4	35	4	CBI	No treatment NH_3 of final effluent sample was 8.2 mg/L @ 8.05 S.U.
02/02/12	Acute *P. promelas*	65.9	0	2		
02/03/12	Acute *C. dubia*	>100	60	1	CBI	No treatment NH_3 of final effluent sample was 11.9 mg/L @ 8.22 S.U.
02/03/12	Acute *P. promelas*	70.7	0	2		
11/08/12	Acute *C. dubia*	66	0	2	CBI	No treatment NH_3 of final effluent sample was 9.7 mg/L @ 7.92 S.U.
11/08/12	Acute *P. promelas*	>100	85	1		
11/09/12	Acute *C. dubia*	68.6	0	2	CBI	No treatment NH_3 of final effluent sample was 9.0 mg/L @ 8.04 S.U.
11/09/12	Acute *P. promelas*	89.8	40	1		
02/20/13	Acute *C. dubia*	>100	100	1	CBI	No treatment NH_3 of final effluent sample was 6.5 mg/L @ 7.78 S.U.
02/20/13	Acute *P. promelas*	77.1	20	2		
02/20/13	Acute *C. dubia*	>100	100	1	CBI	No treatment NH_3 of final effluent sample was 6.5 mg/L @ 7.71 S.U.
02/20/13	Acute *P. promelas*	>100	65	2		
04/18/13	Acute *C. dubia*	>100	100	1	CBI	No treatment NH_3 of final effluent sample was 13.6 mg/L @ 7.88 S.U.
04/18/13	Acute *P. promelas*	>100	100	1		
04/19/13	Acute *C. dubia*	>100	100	1	CBI	No treatment NH_3 of final effluent sample was 6.3 mg/L @ 8.00 S.U.
04/19/13	Acute *P. promelas*	>100	80	1		
12/07/13	Acute *C. dubia*	>100	100	1	CBI	No treatment NH_3 of final effluent sample was < 1 mg/L @ 7.77 S.U.
12/07/13	Acute *P. promelas*	>100	100	1		
01/11/14	Acute *C. dubia*	70.7	0	2	CBI	No treatment NH_3 of final effluent sample was 14.7 mg/L @ 7.63 S.U.
01/11/14	Acute *P. promelas*	43.6	0	4		

*A series of various ammonia concentrations were completed during this sampling event to determine the level of treatment necessary to reduce the toxicity of this discharge.

FOOTNOTES:

A **bold** faced LC_{50} or NOEC value indicates that the test failed the criteria.
LC50 based on observations at the end of 48 hours.

ABBREVIATIONS:

S – Survival; G – Growth; R – Reproduction
% SURV – Percent survival in 100% effluent
INV – Invalid
CBI – Coastal Bioanalysts Incorporated

ATTACHMENT 11

Public Notice

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of stormwater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: May 15, 2014 to June 16, 2014

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Stormwater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Loudoun Composting, LLC
44150 Wade Drive, Chantilly, VA 20152
VA0091430

PROJECT DESCRIPTION: Loudoun Composting, LLC has applied for a reissuance of a permit for the private Loudoun Composting. The applicant proposes to release stormwater at variable rates based on wet weather events into a water body. There is no sludge generated by this facility. The facility proposes to release the stormwater into an unnamed tributary to Sand Branch in Loudoun County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit requires monitoring the following pollutants to protect water quality: pH, total suspended solids, total dissolved solids, dissolved oxygen, ammonia, chemical oxygen demand, total nitrogen and total phosphorus and whole effluent toxicity.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

ATTACHMENT 12

State Agency Review and Comments

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor
Richmond, Virginia 23219
(804) 786-6124

December 20, 2013

Susan Mackert
DEQ-NRO
13901 Crown Court
Woodbridge, VA, 22193

Re: VA0091430, Loudoun Composting

Dear Ms. Mackert:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Cub Run Stream Conservation Unit (SCU) is located downstream from the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Cub Run SCU has been given a biodiversity ranking of B5, which represents a site of general biodiversity significance. The natural heritage resource associated with this site is:

Glyptemys insculpta	Wood turtle	G3/S2/NL/LT

The Wood turtle ranges from southeastern Canada, south to the Great Lake states and New England. In Virginia, it is know from northern counties within the Potomac River drainage (NatureServe, 2009). The Wood turtle inhabits areas with clear streams with adjacent forested floodplains and nearby fields, wet meadows, and farmlands (Buhlmann et al., 2008; Mitchell, 1994). Since this species overwinters on the bottoms of creeks and streams, a primary habitat requirement is the presence of water (Mitchell, 1994).

Threats to the wood turtle include habitat fragmentation, urbanization, and automobile or farm machinery mortality (Buhlmann et al., 2008). Please note that the Wood turtle is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, Cub Run has been designated by the VDGIF as a "Threatened and Endangered Species Water" for this species.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Wood turtle, DCR also recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). DCR supports no mixing zone for this discharge.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Should you have any questions or concerns, feel free to contact René Hypes at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

S. René Hypes
Project Review Coordinator

Cc: Ernie Aschenbach, VDGIF

Literature Cited

Buhlmann, K, T. Tuberville, and W. Gibbons. 2008. Turtles of the southeast. University of Georgia Press. Athens, GA. 252 pp.

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Frasier, Douglas (DEQ)

From: ProjectReview (DGIF)
Sent: Thursday, December 19, 2013 3:29 PM
To: Frasier, Douglas (DEQ)
Cc: ProjectReview (DGIF); Cason, Gladys (DGIF)
Subject: ESSLog 34328; VPDES reissuance VA0019430 Loudoun County Composting

We have reviewed the application for VPDES reissuance for the above-referenced facility. The application pertains to discharge of untreated stormwater from the composting facility. The receiving water is an unnamed tributary to Sand Branch. Sand Branch is a headwater tributary Cub Run.

According to our records the Cub Run is a designated Threatened and Endangered (T&E) species water for the state Threatened (ST) wood turtle. Sand Branch is also predicted habitat for this species.

In general, when water is treated we typically recommend and support ultraviolet (UV) disinfection (rather than chlorination disinfection) and would support the continued dechlorination of effluent, if applicable. Provided the applicant adheres to the effluent characteristics identified in the permit application, we do not anticipate the issuance of this permit to result in adverse impact to T&E species waters or their associated species.

Thank you for the opportunity to provide comments. Please call me if you have any questions.

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