

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Pathogen Reduction Requirements – Biosolids that are land applied under this permit shall be treated to meet at least one Pathogen Reduction Alternative as identified in the table below prior to delivery to the land application site.

PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION TREATMENT STANDARDS	MONITORING REQUIREMENTS
1	NA	Fecal coliform monitoring: <2,000,000 MPN/gm or <2,000,000 CFU/gm, geometric mean of 7 samples (9VAC25-32-675.B.2)	Per Item 3 ⁽¹⁾
2	1	PSRP: Aerobic Digestion: Sludge mean cell residence time from 40 days at 20°C to 60 days at 15°C (9VAC25-32-675.D.1)	(2)
2	2	PSRP: Air dry in a drying bed for three months. Ambient average daily temperature must be above 0°C for 2 of the 3 months (9VAC25-32-675.D.2)	(2)
2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35°C - 55°C up to 60 days at 20°C (9VAC25-32-675.D.3)	(2)
2	4	PSRP: Composting at 40°C or above for 5 or more days, maintaining > 55°C for 4 consecutive hours during the 5 days (9VAC25-32-675.D.4)	(2)
2	5	PSRP: Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 after two hours of contact (9VAC25-32-675.D.5)	(2)
3	PROCESS AS APPROVED	Process equivalent to PSRP: PROCESS AS APPROVED (9VAC25-32-675 B.4.)	(2)

NA = Not applicable

- (1) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction standards.
- (2) Process monitoring must be sufficient to demonstrate compliance with PSRP treatment requirements.

2. Vector Attraction Reduction (VAR) Requirements – Biosolids that are land applied under this permit shall be treated to meet at least one VAR Option 1 - 8 as identified in the table below prior to delivery to the land application site or VAR Option 9 or 10 must be performed at the land application site.

VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD	MONITORING REQUIREMENTS
1	38% Reduction of volatile solids by digestion (9VAC25-32-685.B.1)	Per Item 3 ⁽¹⁾
2	When 38% reduction is not achieved by anaerobic digestion, 40 day bench study at temperatures between 30°C and 37°C to demonstrate further reduction of volatile solids <17% (9VAC25-32-685.B.2)	Per Item 3 ⁽¹⁾
3	When 38% reduction is not achieved by aerobic digestion, 30 day bench study at 20°C to demonstrate further reduction of volatile solids <15% (9VAC25-32-685.B.3)	Per Item 3 ⁽¹⁾
4	Specific Oxygen Uptake Rate of <= 1.5 mg O ₂ /hour/gram total solids at 20°C (aerobically processed sludge) (9VAC25-32-685.B.4)	Per Item 3 ⁽¹⁾
5	14 day aerobic process, temperatures above 40°C with an average temperature of >45°C (9VAC25-32-685.B.5)	(2)
6	Sufficient alkali is added to the sewage sludge to raise the pH of the sewage sludge to 12 S.U. or higher, and without the addition of more alkali, maintain the pH at 12 S.U. for two hours and then at 11.5 S.U. or higher for an additional 22 hours (9VAC25-32-685.B.6)	(2)
7	Where biosolids do not contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be >= 75% (9VAC25-32-685.B.7)	Per Item 3 ⁽¹⁾
8	Where biosolids contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be >= 90% (9VAC25-32-685.B.8)	Per Item 3 ⁽¹⁾
9	Sewage sludge shall be injected below the surface of the land (9VAC25-32-685.B.9)	NA
10	Sewage sludge shall be incorporated into the soil within 6 hours after application (9VAC25-32-685.B.10)	NA

NA = Not applicable

- (1) Between sampling events, operating records must demonstrate that the WWTP is operating at a performance level known to meet the VAR standards.
 (2) Process monitoring must be sufficient to demonstrate compliance with VAR treatment requirements.

3. Monitoring Frequency:

Amount of biosolids land applied (dry tons per 365-day period)	Frequency
Greater than zero but less than 320	Once per year
Equal to or greater than 320 but less than 1,653	Once per quarter (four times per year)
Equal to or greater than 1,653 but less than 16,535	Once per 60 days (six times per year)
Equal to or greater than 16,535	Once per month (12 times per year)

WTP residuals shall be monitored once per year.