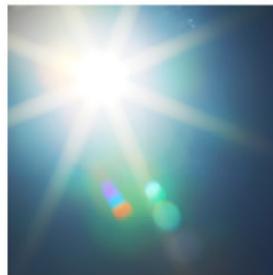


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Virginia Department of Environmental Quality

Synagro Central, LLC VPA Permit Modification Nelson County





Introductions

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Agenda

- Meeting will end at 8:00 pm
- Ground Rules
- Purpose
- General Biosolids Information
- Permit Specific Information
- Next Steps & Updates
- Questions



Ground Rules

- Turn Off Cell Phones
- Allow Information to be Presented
- Try to Hold Questions until the End
- One Person Speaks at a Time
- Limit Side Conversations



Purpose

- To discuss technical issues and to receive public input on the permit modification request for the agency to consider.
- NOT a public hearing and official comments will need to be submitted in writing during the public comment period.



What Are Biosolids ?

Solid, semisolid, or liquid residues generated during treatment of sanitary sewage through one or more processes that reduce pathogens and attractiveness to vectors (flies, mosquitoes, rodents).



Put More Simply :

Biosolids are only that portion of sewage sludge that has undergone adequate treatment allowing for them to be land applied.



Monitoring - Metals

<u>Parameter (mg/kg)</u>	<u>PC Limit</u>	<u>Ceiling Limit</u>
Arsenic	41	75
Cadmium	39	85
Copper	1,500	4,300
Lead	300	840
Mercury	17	85
Molybdenum	NL	75
Nickel	420	420
Selenium	100	100
Zinc	2,800	7,500
Aluminum*	NL	NL



Monitoring - Metals

<u>Parameter (mg/kg)</u>	<u>Blue Plains Average</u>	<u>PC Limit</u>
Arsenic	3	41
Cadmium	2	39
Copper	153	1,500
Lead	26	300
Mercury	0.4	17
Molybdenum	7	NL
Nickel	14	420
Selenium	5	100
Zinc	345	2,800



Metals Loading

<u>Parameter</u>	<u>Blue Plains Conc.(lb/DT)</u>	<u>Loading Limit (lbs/Ac)</u>	<u>Site Life (Yr)*</u>
Arsenic	0.006	36	400
Cadmium	0.004	35	583
Copper	0.306	1,340	292
Lead	0.052	270	346
Mercury	0.001	16	1,333
Molybdenum	0.014	36	171
Nickel	0.028	375	893
Selenium	0.010	89	593
Zinc	0.690	2,500	242

* Assumes maximum application rate of 15 Dry Tons/Acre/Year



Other Compounds

- The Clean Water Act requires the EPA to review existing sewage sludge regulations at least every two years
- During the summer of 2014, VDH performed a follow-up review of the DEQ regulations in light of research conducted since 2007 and they did not find any causal associations between biosolids exposure and adverse human health effects



Monitoring - Nutrients

Contents:

Total Kjeldahl Nitrogen (mg/kg)

Ammonia Nitrogen (mg/kg)

Nitrate Nitrogen (mg/kg)

Total Phosphorus (mg/kg)

Total Potassium (mg/kg)

Alkalinity (mg/kg) or Calcium Carbonate Equivalent (%)

Applied:

Plant Available Nitrogen

Phosphate

Potassium (K₂O)

Calcium Carbonate (CaCO₃)



Monitoring - Soils

Parameters

pH (S.U.)

Available Phosphorus (ppm)

Extractable Potassium(ppm)

Extractable Calcium(mg/100 g)

Extractable Magnesium(mg/100 g)

Zinc(mg/kg)

Manganese (mg/kg)



Surface & Ground Water Protection

- NMP developed for each site prior to land application to establish the appropriate timing and rates utilizing the monitoring results
- NMP addresses land application of biosolids to environmentally sensitive sites
 - Drainage
 - Leaching
 - Shallow



Surface & Ground Water Protection

- No application within specified setback distances
- No application to soils where the depth to bedrock or the water table is less than 18 inches
- Restricted during inclement weather
- Restricted on slopes exceeding 15%



Setback Distances

<u>Adjacent Feature</u>	<u>Distance (Feet)</u>
Occupied Dwelling*	200
Property Lines*	100
Odor Sensitive Receptors	400
Publicly Accessible Site Property Line	200
Public Water Supply Streams & Tributaries	100
Water Supply Wells or Springs	100
Surface Water	35 - 100
Agricultural Drainage Ditches	10
Rock Outcrops	25
Limestone Rock Outcrops or Closed Sinkholes	50
Open Sinkholes	100
Improved Roadways	10





Extended Setback Requests

- DEQ shall grant extended setbacks of up to:
 - 200 feet from their property line
 - 400 feet from an occupied dwelling
- Requested from a physician based on medical reasons
- Submitted on the “Extended Setback Request Form”
- Received by DEQ no later than 48 hours before land application commences
- Requests for expanded setbacks beyond those above may be submitted to Virginia Department of Health



Odor Control

- Biosolids shall be managed to minimize odors associated with land application and the permits require odor control plans that identify methods used to:
 - Minimize odor in producing biosolids
 - Identify malodorous biosolids at the generating facility before shipment for land application
 - Identify and abate malodorous biosolids if delivered to the field prior to land application
 - Abate malodor from land applied biosolids



Odor Control

- Odor control techniques include:
 - Aeration and/or additional treatment
 - Subsurface injection or immediate incorporation
 - Application on more secluded sites
 - Return to treatment plant for further processing



Inspections

- Since 2007 when the regulatory program was shifted to DEQ, Virginia has been able to maintain more biosolids inspectors than any state in the country
- During this time, DEQ-VRO has inspected an average of 95% of the farms our region where biosolids were land applied to ensure compliance with the regulations



Permit Information

- VPA Permit Modification of their existing VPA Permit No. VPA01576 that was issued on March 1, 2011.
- VPA Permit will include the new regulatory requirements for the land application of biosolids and water treatment residuals enacted on September 1, 2013.
- The Modification includes the addition of 2,655.7 gross acres.



Proposed Site

- NE02
 - Owned by Charles Umbarger & others
 - Total of 201.4 gross acres
 - 29.6 gross acres are newly proposed land
- NE03
 - Owned by Jerry Saunders & others
 - Total of 684.7 gross acres
 - 407.6 gross acres are newly proposed land



Proposed Site

- NE04
 - Owned by Jay Goodwin & others
 - Total of 159.9 gross acres
 - 36.6 gross acres are newly proposed land
- NE06
 - Owned by Thomas Fitzgerald & others
 - 995.6 gross acres
 - Newly proposed land



Proposed Site

- NE07
 - Owned by Aubrey Hughes & others
 - 234.5 gross acres
 - Newly proposed land
- NE08
 - Owned by Tim Burnette
 - 37.6 gross acres
 - Newly proposed land



Proposed Site

- NE09
 - Owned by Kevin Rowe
 - 15.3 gross acres
 - Newly proposed land
- NE10
 - Owned by Gregory Wood & others
 - 49.6 gross acres
 - Newly proposed land



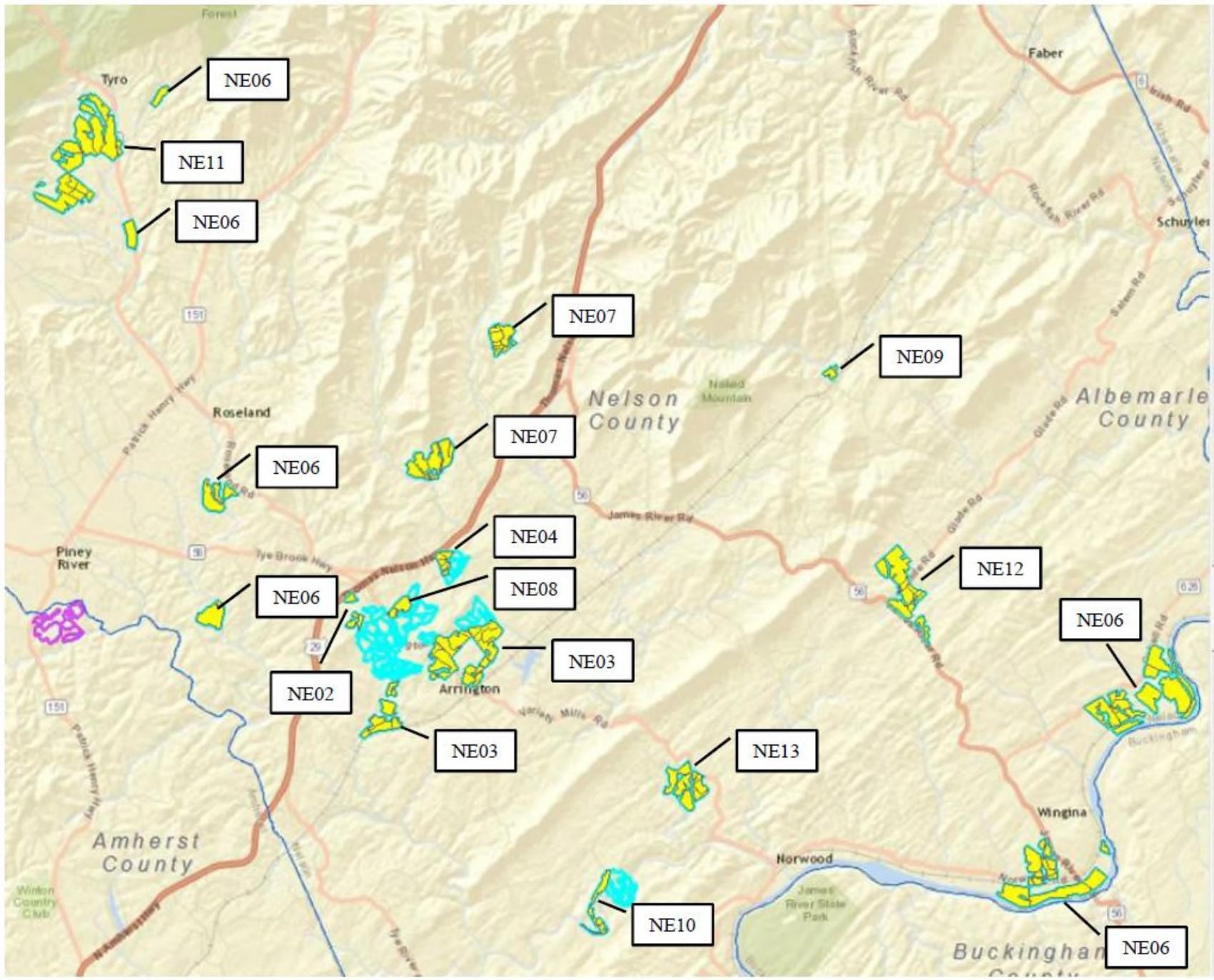
Proposed Site

- NE11
 - Owned by Silver Creek Orchards, Inc. & others
 - 492.4 gross acres
 - Newly proposed land
- NE12
 - Owned by Todd McGarry & Emmagene Olah
 - 215.3 gross acres
 - Newly proposed land



Proposed Site

- NE13
 - Owned by Shannon & Katherine Tillman
 - 141.6 gross acres
 - Newly proposed land





Next Steps

- Further review of permit application and input received at this meeting
- Drafting of a permit
- Public notice in the Nelson County Times to invite public comment on the draft permit
- 30 day comment period



Updates

The status of the permitting process and comment period, in addition to more information about this application, requesting extended setbacks, and/or biosolids in general can be found at the link included at the bottom of the agenda.

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QUESTIONS

