



Biosolids & Industrial Permits Informational Meeting

September 21, 2015

Proposed agenda

- Regulatory Information
 - Who governs?
 - What are the rules?
 - What is the permitting process?
 - What monitoring and testing is done?



Proposed Agenda

- Overview of the pending permits in Goochland
 - Map, permit application summary, sludge sources
 - Open comment period-any day
 - How to make a comment



Proposed Agenda

- County action items
 - Legislative study
 - Seeking answers to questions we still have
 - Monitoring
- Public Comment



Who Governs and What are the Rules?



Who Governs?

➤ Federal Government

- Congress- Clean Water Act (Marine Protection, Research, and Sanctuaries Act 1972)
- EPA- CFR40 Part 503

➤ State Government

- General Assembly- Code of Virginia laws
- State Water Control Board- Regulations

➤ Local Government

- Board of Supervisors- local ordinance, limited



Land Application of Biosolids: Code of Virginia § 62.1-44.19:3.C

Regulations (adopted with Departments of Health and Conservation/Recreation)

- Requirements, procedures, standards for:
 - ✓ Issuance and amendment of permits, including general permits
 - ✓ Authorizing and amending land application permits
 - ✓ Treatment /stabilization of sludge prior to land application
 - ✓ Suitability of land application sites and facilities used in land application
 - ✓ Land application rules
 - ✓ Sampling, analysis, recordkeeping and reporting in connection with land application
 - ✓ Notifying local governing bodies



Additional provisions in State Code

➤ § 62.1-44.19:3.C.8

- Requirements for site-specific nutrient management plans
- Developed by persons certified in accordance with § [10.1-104.2](#)
- NMP developed prior to land application for all sites
- Approved by the Department of Conservation and Recreation prior to permit issuance
- *Only covers nutrients, not metals)*

➤ § 62.1-44.19:3.C.9

- Provides for procedures for the prompt investigation/disposition of complaints
- Includes requirements that holders of permits shall report all complaints received by them to the Department and to the local governing body of the jurisdiction



Additional provisions in State Code (cont)

➤ § 62.1-44.19:3.M

- Department shall randomly conduct unannounced site inspections while application is in progress
- Inspections shall be frequent enough to determine compliance with § [62.1-44.19:3.1](#), or regulations adopted under those sections
- Inspection information can be requested from DEQ. It is not posted.



Additional provisions in State Code (cont)

➤ § 62.1-44.19:3.E

- Department may determine that special requirements are necessary to protect the environment/health/safety/welfare of persons residing in the vicinity of a proposed application.
- Department may incorporate in the permit reasonable special conditions (buffering, transportation routes, slope, material source, methods of handling and application, and time of day restrictions exceeding those required by the regulations adopted under this section.



State Permitting Process

Processing Stage	Days Following Application Receipt					
	30	60	90	120	150	180
Application receipt through permit issuance (180)	[Progress bar from 0 to 180]					
Administrative review (14)	[Progress bar from 0 to 14]					
Technical review (45)	[Progress bar from 0 to 45]					
Public meeting, local government and adjacent property notification for land application of biosolids.*	[Progress bar from 0 to 30]					
Draft permit processing (120)**	[Progress bar from 0 to 120]					

**If many comments are received, DEQ may hold a public hearing at the close of the 30 day comment period following the public meeting.*

***When draft permit is complete, a notice will appear in a local newspaper once for two consecutive weeks. Another 30 day comment period follows. If requested, a public hearing may be held. In this event, the draft permit and hearing results will be presented to the State Water Control Board for action at its regular quarterly meeting.*



State Permitting Process

➤ Permit Application

- Owner information
- Certificate of Liability Insurance
- List/map of proposed land application sites showing:
 - Tract #, Tax ID #, Gross acres in site, Watershed Code
- Field Operation and Transport
- List of Source of Biosolids material
- Total annual amount of Biosolids produced from each source
- Type of treatment for pathogen control from each source
- Owner/Operator Land Application Agreements for each site
- Field Data sheet – Tract Coordinates

State Permitting Process

- If permit application and site conditions meet all regulatory criteria, DEQ must issue permit
- Denial of permit only allowed under conditions where applicant has not met all requirements



What Testing is Occurring?



What Testing is Occurring?

Two types of testing:

- ✓ At the wastewater treatment plants that distribute the sludge
- ✓ At the site/land where application is occurring-nutrients only



What Testing is Occurring?

At the wastewater treatment plants:

Test for all 18 pollutants (per 9VAC25-32-356)

Parameters include:

alkalinity	lead
arsenic	mercury
cadmium	nickel
copper	zinc

Frequency of testing depends on plant size/volume being applied
(monthly to annual)



What Testing is Occurring?

At the wastewater treatment plants:

- Testing occurs at the “truck”-not all trucks are tested
- DEQ says data shows that test results over time are consistently below regulatory limits
- If the plant is in Virginia
 - Plant does the testing-self reports
 - Test results sent to DEQ at determined intervals
 - DEQ enters into a database, not posted but available



What Testing is Occurring?

At the wastewater treatment plants:

- If the plant is not in Virginia
 - Plant does the testing
 - Test results do not have to be sent to DEQ
 - No record of test results



What Testing is Occurring?

At the site/land where application is occurring:

- Nutrient Management Plans are required to be submitted to DEQ prior to application
- Focus of NMP is on crop production-testing is only for nutrients
- No testing required for metals



What Testing is Occurring?

At the site/land where application is occurring:

- Metals naturally occur in the soil-DEQ says heavy metals in sludge at such low levels that accumulation is not a problem
- DEQ notes:
 - Commercial fertilizers contain more heavy metals than sludge
 - Accumulation concerns are unfounded
 - Use to do random testing but stopped-test results consistently below regulatory limits



How Does DEQ Minimize Impact on Adjoining Properties?

Minimizing Impact-Setbacks

- Sets minimum distances between the biosolids application site and streams, wells, dwellings, roads and property lines
- Setbacks are to:
 - ✓ Keep biosolids on the permitted site
 - ✓ Control runoff or leaching from the applied area
 - ✓ Protect surface water and other non-targeted areas
 - ✓ Reduce off-site odors

Minimizing Impact-Setbacks

<u>Adjacent Feature</u>	<u>Area</u>	<u>Adjacent Feature</u>	<u>Area</u>
Occupied dwelling	200	Segments of streams/tributaries designated as a Public Water Supply under the Water Quality Standards	100
Odor sensitive receptors	400	Surface waters without a vegetated buffer	100
Odor sensitive receptors (with injection or same day incorporation)	200	Surface waters with a 35-foot vegetated buffer	35
Property lines	100	Agricultural drainage ditches	10
Property lines of publicly accessible sites	200	All improved roadways	10
Water supply wells or springs	100	Rock outcrops	25
Public water supply reservoirs	400	Open sinkholes	100

Minimizing Impact-Setbacks

- “Odor sensitive receptor”
 - ✓ any health care facility, such as hospitals, convalescent homes, building or outdoor facility regularly used to host or serve large groups of people (schools, dormitories, athletic facilities)

- Publicly accessible sites:
 - ✓ Open to the general public and routinely accommodates pedestrians
 - ✓ Includes-schools, churches, hospitals, parks, nature trails, businesses open to public and sidewalks
 - ✓ Temporary structures, public roads or similar thoroughfares are not considered publicly accessible

Minimizing Impact

- Setbacks may be extended due to Medical conditions
- DEQ shall grant to any landowner or resident in the vicinity of a biosolids application site an extended setback of up to 200 feet from their property line and up to 400 feet from their occupied dwelling
- Request must be made by a physician in writing (form and instructions are available) and approved
- The Virginia Department of Health is the reviewing entity. It is up to VDH to determine if a setback in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual.

Minimizing Impact-Site specific issues that could be brought to DEQ's attention

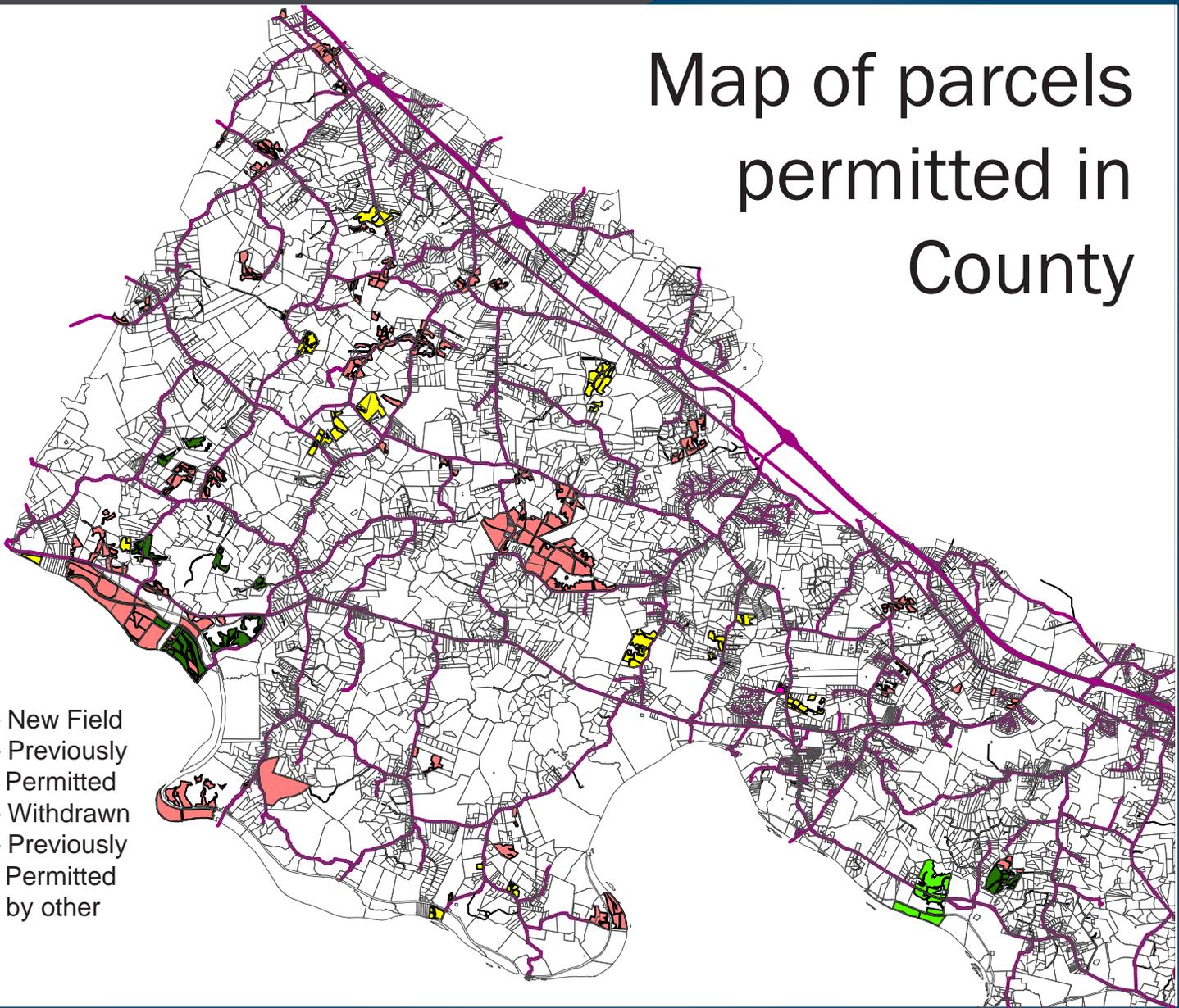
- Environmentally sensitive features:
 - Karst soils
 - Soils with high leaching potential
 - Subsurface drains
 - Steep slopes (those that exceed 15%)
 - Use of nearby surface waters
 - Depth to bedrock must >18 inches
 - Water table must >18 inches from surface application
 - Distance to occupied dwellings
 - Health issue with adjacent residents
 - Odor sensitivity of adjacent residents
 - High groundwater table
 - Flood Plains

Overview of Permits Pending in Goochland



Map of parcels permitted in County

- VPA806 – New Field
- VPA806 – Previously Permitted
- VPA806 – Withdrawn
- VPA848 – Previously Permitted
- Permitted by other Permits



Permit VPA000806

- Permit is for application of Biosolids
- Applicant is Nutri-Blend
- Total Acreage involved is 1760.9
- This is a modification of an existing permit
(addition of fields)
- Source List

Wastewater Treatment Works	Location	Treatment Process	Annual Production
County of Henrico	Henrico Co., VA	Anaerobic Digestion	1. wet tons/yr. 8250 wet tons/yr.
Falling Creek	Chesterfield Co., VA	Anaerobic Digestion	
Powhatan Dept of Corrections/ESV	Powhatan Co., VA	Aerobic Digestion	1200 wet tons/yr.
Proctors Creek	Chesterfield Co., VA	Anaerobic Digestion	18762 wet tons/yr.
WASA - Blue Plains	Washington, D.C.	Lime Stabilized	1. wet tons/yr. 2000 wet tons/yr.
Farmville	Farmville Co., VA	Aerobic Digestion	
Chatham	Chatham Co., VA	Aerobic Digestion	500 wet tons/yr.
Piscataway	Accokeek, MD	Lime Stabilized	

Permit VPA000848

- Permit is for application of Biosolids
- Applicant is Synagro Central, LLC
- Total Acreage involved is 307.9
- This is a new permit
- Previous permit was issued for this site for Industrial Residuals

➤ Source List

Facility Name	Permit Number	Location	Treatment Type
Alexandria ASA Advanced WWTP	VA0025160	Alexandria, VA	Class A
Amelia Courthouse San Dist. STP	VA0086681	Amelia, VA	Anaerobic Digestion
Annapolis WRF	MD0021314	Anne Arundel, MD	Lime Stabilization
Arlington County Water Pollution Control Facility	VA0025143	Arlington, VA	Lime Stabilization
Atlantic STP	VA0081248	Virginia Beach, VA	Anaerobic Digestion
Ballegger Creek WWTP	MD0021322	Frederick, MD	Lime Stabilization
Blue Plains Advanced WWTP	DC0011199	Washington, DC	Lime Stabilization
Brook Run WRF	VA0091383	Ashburn, VA	Anaerobic Digestion
Broacneck WRF	MD0021544	Anne Arundel, MD	Lime Stabilization
Broacwater WRF	MD0024850	Anne Arundel, MD	Lime Stabilization
Cox Creek WRF	MD0021561	Anne Arundel, MD	Lime Stabilization
Damascus WWTP	MD0020982	Damascus, MD	Lime Stabilization
Dutoy Creek WWTP	VA0090727	Powhatan, VA	Aerobic Digestion
Falling Creek WWTP	VA0024996	Chesterfield, VA	Anaerobic Digestion
Fighting Creek WWTF	VA0080206	Powhatan, VA	Aerobic Digestion
Frederick City WWTP	MD0021510	Frederick, MD	Anaerobic Digestion
Fredericksburg WWTF	VA0025127	Fredericksburg, VA	Lime Stabilization
Little Falls Run WWTF	VA0076390	Stafford, VA	Aerobic Digestion
Little Patuxent Water Reclamation Plant	MD0055174	Howard Co, MD	Class A
Marley-Taylor WWTP	MD0021579	Lexington Park, MD	Anaerobic Digestion
Maryland City WRF	MD0062596	Anne Arundel, MD	Lime Stabilization
Mattawoman WWTP	MD0021365	Charles Co., MD	Lime Stabilization
Parkey WWT	MD0021725	Laurel, MD	Lime Stabilization
Patapsco WWTP	MD0021501	Baltimore, MD	Class A pellets
Patuxent WRF	MD0021552	Anne Arundel, MD	Lime Stabilization
Philadelphia Biosolids Recycling Center	not a WWTP	Philadelphia PA	Class A pellets
Piscataway WWTP	MD0021539	Indian Head, MD	Lime Stabilization
Proctors Creek WWTP	VA0060194	Chesterfield VA	Anaerobic Digestion
Seneca WWTP	MD0021491	Montgomery Co., MD	Lime Stabilization
WWT	VA0025137	Petersburg, VA	Lime Stabilization
Strasburg STP	VA0020311	Strasburg, VA	Lime Stabilization
Upper Occoquan Service Authority	VA0024588	Centreville, VA	Lime Stabilization
US Army Ft. A.P. Hill (Wilcox)	VA0032034	Ft. A.P. Hill, VA	Anaerobic Digestion
Warrenton STP	VA0021172	Warrenton, VA	Anaerobic Digestion

County Action Items



Final Report of the Expert Panel

December 22, 2008

The report left unanswered questions.....

- Panel consisted of experts from medicine, higher education, forestry, environmental science, ecology, veterinary medicine, and more...
- Panel uncovered no evidence verifying a link between biosolids and illness but recognized the gaps in the science and knowledge surrounding the issue...
- One such gap is knowing what the long term effects of pharmaceuticals and personal care products might be in biosolids....



Final Report of the Expert Panel December 22, 2008

The report did state the following.....

“Although much still needs to be learned about the content, bioavailability and fate of chemicals and pathogens in biosolids and their health effects, there does not seem to be strong evidence of serious health risks when biosolids are managed and monitored appropriately. Human health allegations associated with biosolids usually lack evidence of biological absorption, medically determined human health effects, and/or do not meet the biological plausibility test.” (p. 25)



County Action Items

- Seeking Joint Resolution directing that a study be completed:
 - Analyzing the long term effects of biosolids and industrial wastes on health including well, surface and ground water impacts
 - Evaluating strengthening regulatory safeguards, such as buffers



County Action Items

Request that DEQ be directed to

- Include a requirement that Nutrient Management Plans must also include testing for metals per (9VAC25-32-356) and that Nutrient Management Plans be called Management Plans to allow for the addition of metals testing



County Action Items

- The County monitors the land applications of sludge
 - ✓ Checks to ensure proper signage is installed
 - ✓ Checks to see that buffers are flagged
 - ✓ Checks to see that applicator is adhering to buffer limits
 - ✓ Investigates Complaints



Where Can I Get Additional Information

- VA DEQ – Biosolids Frequently asked Questions:
http://www.deq.virginia.gov/Portals/0/DEQ/Water/VirginiaPollutionAbatement/Biosolids_FAQ.pdf
- EPA Biosolids Main Page
<http://water.epa.gov/polwaste/wastewater/treatment/biosolids/>
- Virginia DEQ Biosolids Main Page
<http://www.deq.virginia.gov/Programs/Water/LandApplicationBeneficialReuse/SewageSludgeBiosolids.aspx>
- Human Health Risk Evaluation of Land Application of Sewage Sludge/Biosolids
http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCIQFjAAAhUKEwjaiaKjr4HIAhWDGh4KHxUBiQ&url=http%3A%2F%2Fwww.vdh.virginia.gov%2Fepidemiology%2FDEE%2Fdocuments%2Fbiosolids.pdf&usg=AFQjCNEBmO-W_ixyfl4-5XmVsz8MGPKq3g&sig2=4oF9FmDfJAZofvOtpC9d2w&bvm=bv.102829193,d.dmo
- Land Application of Organic Residuals: Public Health Threat or Environmental Benefit? American Society for Microbiology, 2011
<http://static1.squarespace.com/static/54806478e4b0dc44e1698e88/t/54a961e3e4b011420270c997/1420386787881/ASMicrobiologyBiosolidsRsdlsSafety-Aug11+.pdf>
- A Plain English Guide to the EPA Part 503 Biosolids Rule
http://water.epa.gov/scitech/wastetech/biosolids/503pe_index.cfm



Where Can I Get Additional Information

- Control of Pathogens and Vector Attraction in Sewage Sludge (EPA, 2003, the "White House document")
http://water.epa.gov/scitech/wastetech/biosolids/upload/2007_05_31_625r92013_625R92013.pdf
- Review of United States Guidance and Regulations For Sludge Disinfection and Stabilization (James Smith, PhD, presentation, October 2013)
<http://static1.squarespace.com/static/54806478e4b0dc44e1698e88/t/5486185be4b0b601c35ab3dd/1418074203817/Smith-503PathogenVAR-29Oct13.pdf>
- Contemporary Perspectives on Infectious Disease Agents in Sewage Sludge and Manure, June 2001 – Updated 2003-04
http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCMQFjABahUKEwienpi-toHIAhWGqB4KHU60BGY&url=http%3A%2F%2Fcfpub.epa.gov%2Fsi%2Fsi_public_file_download.cfm%3Fp_download_id%3D525093&usg=AFQjCNH9uORcLb98GGI3B4o7LMZVo-llag&sig2=3ddq9HDC9UpT0um95w6odw
- *Biosolids Applied to Land - Advancing Standards and Practices*
<http://water.epa.gov/scitech/wastetech/biosolids/upload/complete.pdf>
- EPA (U.S. Environmental Protection Agency). 2002c. Land Application of Biosolids. Status Report. 2002-S-000004. Office of Inspector General, U.S. Environmental Agency. March 28, 2002.
http://www.epa.gov/oig/reports/2002/BIOSOLIDS_FINAL_REPORT.pdf



Questions & Public Comment

