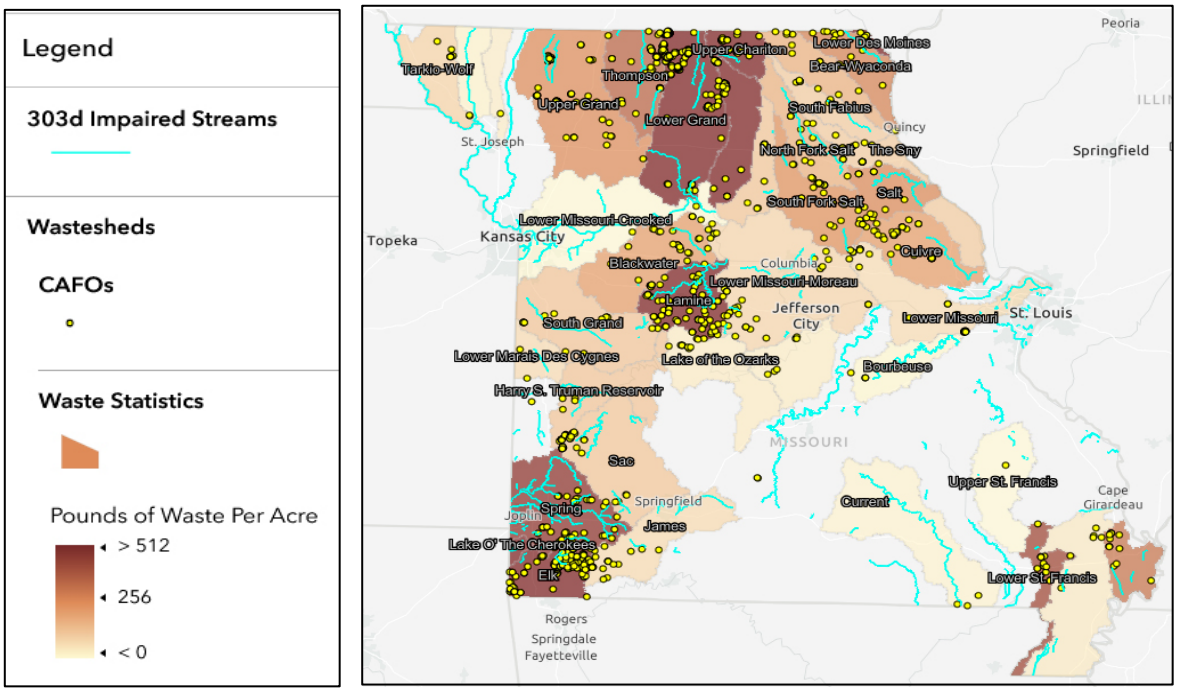
Moniteau County Neighbors Alliance (MCNA) Public Comment

Reed Engineering, LLC
MO State Operating Permit MO-0140341
Biosolids from Arkansas Waste Water Treatment Plants

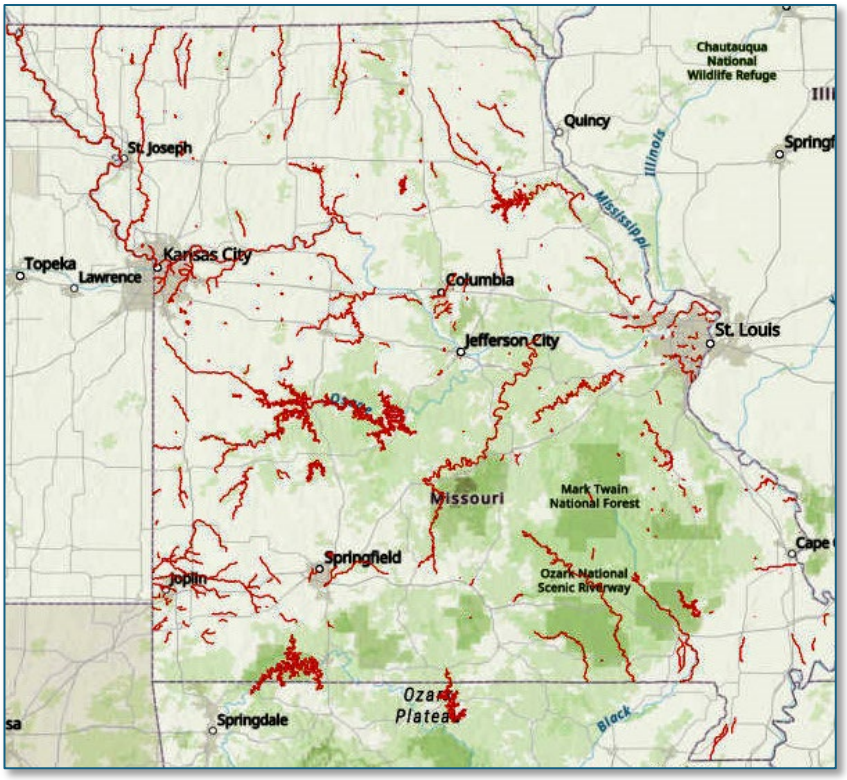
March 25, 2024
(Revised April 4, 2024)

The Moniteau County Neighbors Alliance (MCNA) supports community health and economic well-being through education and advocacy in mid-Missouri rural areas. We call our rural neighborhood land the **Wasteshed** because there are many materials applied to the land as fertilizer, but they are also waste products from various industries and communities.



The ***Missouri Wasteshed of Animal Waste*** shows the quantity of waste potentially generated at the concentrated animal feeding operations (CAFOs) in the state. We can only estimate where it is land applied, but the numbers of impaired waters provide a clue as to the contribution of animal waste contributes to nonpoint pollution.

The Wasteshed represents where it is legal to land apply various waste products, such as biosolids from domestic and industrial wastewater treatment plants (WWTPs), CAFO animal waste CAFOs), and food processing industrial residuals. There are few limits as to the amount that can safely be land applied, little to no monitoring of nutrient and toxic runoff to nearby streams and groundwater, and no accountability for the nonpoint source pollution caused by these waste products.



Missouri 303(d) Impaired Waters. Map made in DNR MAP-iT

The fertilizer story perpetrated through MDNR rules and regulations is the wastes are "beneficial" because the plants use the nutrients. This is true to the extent that the nutrients are applied in the quantities plants can utilize. There is little monitoring to determine if the plants are successfully taking up the nutrients or exactly how many nutrients are running off the land or sinking into the groundwater. *Nutrient Management Plans* should be required for the application of all domestic biosolids.

The examination of what is contained in the waste that is potentially contaminating the land, water, and public health is often not done well. However, by examining the number of MO rivers and streams on EPA's 303(d) list of impaired waters, we know there is a serious problem with nonpoint source pollution causing low dissolved oxygen, e-coli bacteria, excess nutrients, and other pollutants in our waterways.

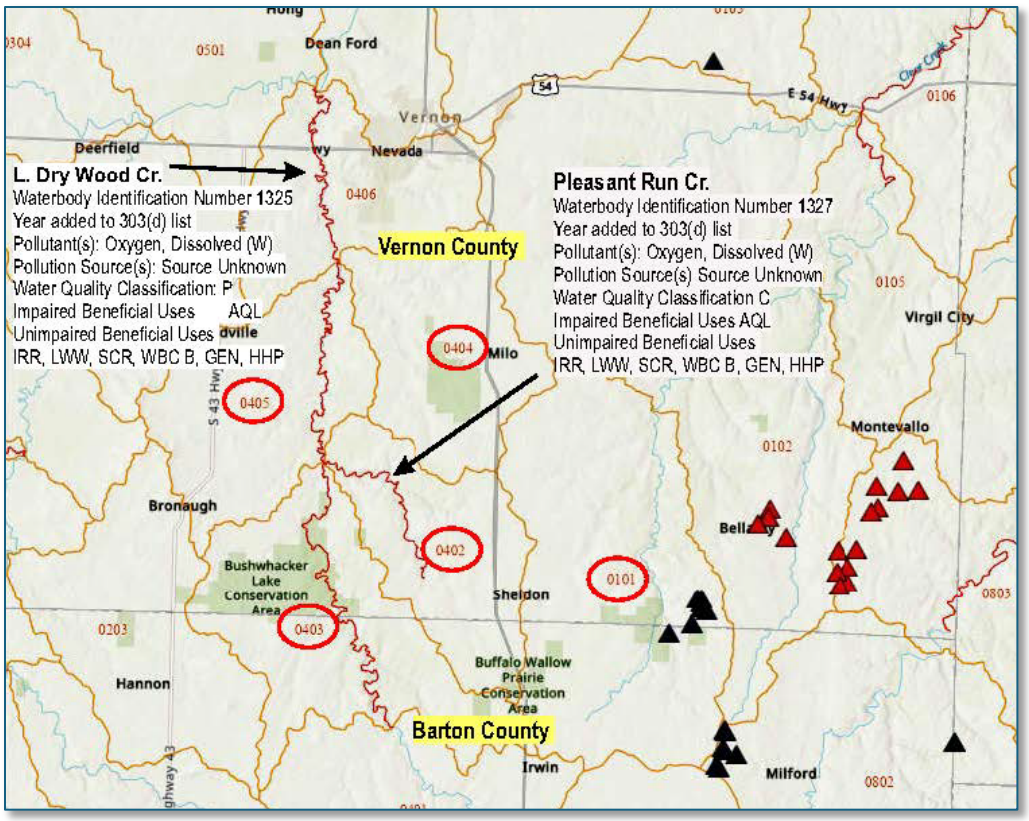
We rural residents are aware that at any time, our neighborhood lands might be selected for the Wasteshed, and land application will commence for animal waste, biosolids, industrial food residues, and more. We have no control over whether we want this waste dumped in our neighborhoods.

It's one thing to have the waste come from businesses and communities in Missouri, but to have the waste come from out of state WWTPs is a serious intrusion. The permit provided for

public comment does not adequately explain the quality of biosolids we are receiving from our state neighbors to the south. We have no idea how the WWTP are operated in Arkansas and what's in the waste. Arkansas has stricter land application controls than Missouri, so industry has found a convenient place for dumping close to home.

MCNA's Questions and Comments

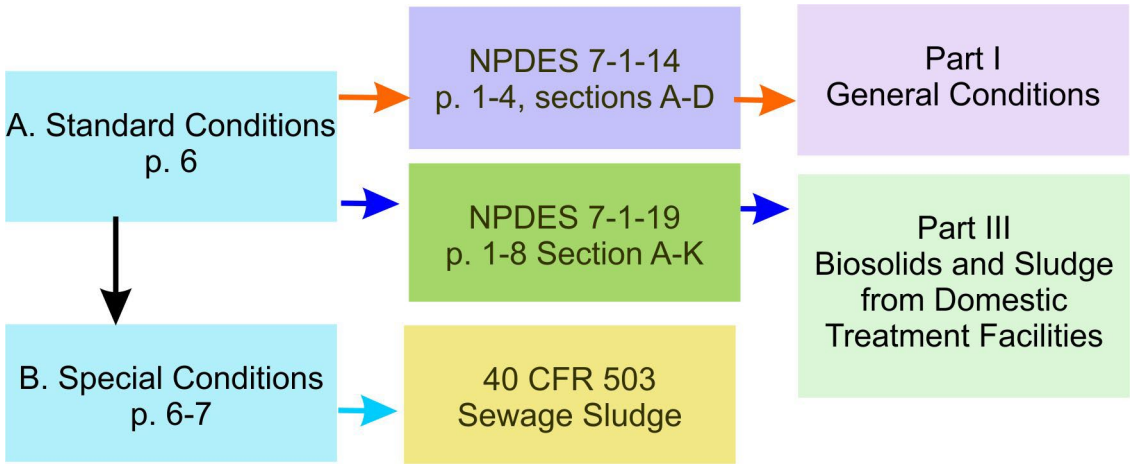
Permit Application Overview



Reed Environmental LLC will apply biosolids to the land in five HUC-12 areas (circled numbers in map). The triangles represent large 1A (red) and 1B (blue) permitted CAFOs. There are two streams on EPA's 303(d) List of Impaired Waters where the biosolids will be applied, Little Dry Wood Creek and Pleasant Run Creek.

MCNA does not consider Reed Environmental LLC to be a "no-discharge facility," as the purpose is to apply biosolids to the land only. There is not an accurate title in Form B for the "waste hauler" category and should be fixed. Map created in DNR MAP-iT

Reed Engineering will transport biosolids from three WWTPs in Arkansas to Vernon and Barton counties for land application. MCNA thinks the draft permit package used to permit this biosolids waste hauler seems unsuited for the task; it is difficult to follow and understand. The cross-referencing required in the permit to confirm that all rules are being followed is cumbersome and inefficient.



Applicants must study multiple documents to piece together the requirements for land-applying biosolids.

Requiring applicants to select from outdated NPDES 2014 and 2019 documents, as well as understand the federal rules at 40 CFR 503, is unfair. Each of these documents must be researched line by line to find the differences and then one must determine which regulation appears to take precedence. That should not be the job of an applicant.

MCNA thinks It is the DNR's permit writer's responsibility to conduct this research and create an easy-to-follow permit with the requirements clearly delineated without apparent omissions and redundancies. This permit needs to be rewritten so the citizens of Missouri are assured DNR is protecting their health and environment.

Application Form B

Application for Operating Permit for facilities that receive primarily domestic waste and have a design flow less than or equal to 100,000 gallons per day.

- The application forms should be at the beginning of the application for easy access.
- Form B (100,000 gallons or less) should be replaced with Form B2 (100,000 gallons or more), which includes additional pertinent data, such as *Part B: Effluent Testing Data.* Such data is essential to understand the waste parameters that will be land applied in Missouri.

- Form I should be included in the Reed Application, especially with 3. Land Application System, and 3.2, which requires proper maps to be included in the application.

From Form B:
1. This application is for … variety of choices, which do not include the "waste hauler" category that Reed Environmental LLC falls into.

- Need to simplify the Antidegradation Review. Instead of having to search for instructions, just use what the instructions state: *"If Antidegradation Review has not been conducted, submit an application to dnr.mo.gov/forms/780-1893-f.pdf."* In other permit locations, there are conflicting statements that an Antidegradation Review is not required.

- MCNA would like such a review to be done because the land application areas are located adjacent to impaired waters of Little Dry Creek and Pleasant Run Creek. We believe adding additional waste in this area would be counterproductive and an Antidegradation Review would demonstrate that.

- Why is the MOG823 not in Form B2?

2. Facility

- The term "facility" is used here to describe the Decatur WWTP that is shipping waste to Missouri. This seems appropriate to use in the Permit as the facility. However, shouldn't there be an individual application for the Bentonville WWTP and Huntsville WWTP also?
- Using the term facility with Reed, rather than waste hauler, provides confusion with the terms for WWTP and waste hauler.

3. Owner

Reed Environmental as the owner here is not appropriate or accurate since Decator is the facility.

7. Description of the Facility

- This section is jumbled. It is apparently supposed to be a description of the WWTP facility, but then inserts specifics about the waste hauling.
- Somewhere in this form, we request an explanation of what wastes the WWTPs are receiving at their facilities, the type of biosolids that are produced, and the analysis that

shows the biosolid makeup. It would be even more unsafe to land apply biosolids in Missouri without this information.

- Having the waste hauling procedures in this section is not clear and speaks again to the problem of waste hauling getting mixed up with the facility.

7.2 Aerial photograph or USGS map of Facility and outfall
https://modnr.maps.arcgis.com/apps/webappv1ewer/index.html?id=1d81212e0854478ca0dae87c.33c8c5ce (this link may be broken)

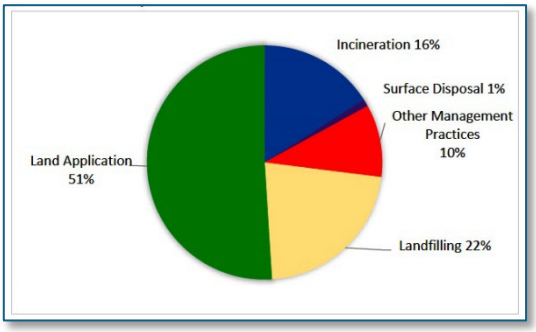
- This appears to be the mapping section Reed is using to generate maps of application sites.
- These directions are inadequate as they do not require marking the buffer zones or the kind of background detail as in the application site map.

8. Additional facility information

- This is important if it was designed to explain details about the WWTP and the waste it is producing so we know in Missouri what type of waste is going to be land applied. This is a serious oversight in Form B, and why we're suggesting using Form B2 for all domestic WWTPs.
- There is no information about the WWTP, what is in the waste they are shipping to Missouri, how often it will be collected, and so forth. We have no idea what is being received or when biosolids land application occur. Is this done at the beginning and end of the growing seasons? What is the timeframe?

9. Laboratory control information

Lab work conducted outside of plant seems to be what is checked. What is this lab work? Why are the results not in the Application? At least one sample evaluation should have been include for each WWTP biosolids being applied so the public can understand what is being imported into Missouri.



Half the biosolids in the U.S. are applied to the Wasteshed.

12. Sludge handling

This is the appropriate location for the sludge hauler to be listed (as it is).

12.2 Sludge production

There are inconsistencies in reporting this number: 750 dry tons/year does not match the Permitted Features of 1,400 dry tons/year. We believe this results from the difficulty of having to cross-reference various sources in the permit package.

12.5 Sludge Treatment

Aerobic and anaerobic digester?

12.6 Sludge Use or Disposal:

Why select “land application” and not “contract hauler"?

12.9 Does sludge disposal comply with 40 CFR 503?

- Stating “yes” to complying with 40 CFR 503 by referring to a *Biosolids Management Plan* that is not included in the Application, is faulty information.

- The WQ420-WQ426 from University of MO Extension is a guide to develop a *Biosolids Management Plan*.

- Both links on the Instructions for Form B, 12.9 are broken. See: *The documents are available at extension.missouri.edu/main/DisplayCaiegory.aspx?C=74. 2). In addition, the federal sludge regulations are available through the U.S. Government Printing Office at https://www.gpo.gov/fdsys/browselcollectionCfr.action?collectionCode=CFR.*

Facility Description

As stated previously, these are NOT facilities; they are Land Application Sites. They should be called that, or “Permitted Features,” as they are in the permit.

All Permitted Features – **Non-POTW**

Aeration of fields prior to land application / biosolids applied by dry spreader / biosolids incorporated via chain drag.

- This permit authorizes the land application of domestic biosolids generated at the Decatur WWTP, Bentonville WWTP, and Huntsville WWTP onto agricultural land. Decatur WWTP, Bentonville WWTP, and Huntsville WWTP are **publicly owned treatment works** which receive domestic and **industrial wastewater.** Is this a non-POTW or publicly owned treatment works. It’s inconsistent.

- Why is industrial wastewater added to “domestic” here when the permits are supposed to be for “domestic” waste? It’s confusing.

Permitted Features: *Appendix – Alternative: Location of Permitted Features.* This map is good, but would be better with more detail of the land where it’s It would be helpful to have the maps presented immediately after these Permitted Features and to include the missing buffer zones on them. (See 2019 NPDES G.6.d (i-vi) (p5) for buffer zones) applied.
(see map example on page 12).

A. Standard Conditions

These Standard Conditions should be eliminated as they require the research already commented upon and provide conflicting information about reporting that is not helpful.

B. Special Conditions

The Special Conditions should transition into the actual permit requirements as some important specifics begin to show up here, such as:

B.4 - Access to land

Access to land application areas and any associated biosolids application equipment must be sufficiently restricted or secured to prevent entry by children, livestock, and unauthorized persons

- How is access securely restricted to land application areas?
- Viewing the land app areas, it is evident that these fields are located adjacent to homes and roads.
- Is fencing required to keep children and pets out of these fields? Is a warning posted that biosolids have been applied to the area so a visitor wouldn't accidentally enter the location?

B.6 - Pollutant limitations

- This is likely one of the most important, but understated, rules in the permit, yet any references to testing for anything other than the 9 metals is hiding somewhere.

- *Prior to land application, the permittee shall comply with the pollutant limitations, monitoring, and other requirements for metals, pathogens, and vectors in accordance with Standard Conditions Part III and 40 CFR Part 503.32*

- 503 Sampling and Analysis for enteric viruses, fecal coliform, helminth ova, inorganic pollutants, salmonella sp. Bacteria, specific oxygen update rate, and total, fixed, and volatile solids

Pollutants in Biosolids

The U.S. Environmental Protection Agency (EPA) Biosolids Program is suppose to protect human health and the environment from risks related to the land application of biosolids. However, a 2018 EPA Report identified 352 pollutants in biosolids, including pharmaceuticals, steroids and flame retardants with 61 of those designated as acutely hazardous, hazardous, or priority pollutants in other programs.

The report stated, *"EPA is unable to assess the impact of hundreds of unregulated pollutants in land-applied biosolids on human health and the environment. It lacks the data or risk assessment tools needed to make a determination on the safety of the 352 pollutants found in biosolids."* At the current time, only nine pollutants are regulated. Adding to this is the troublesome discovery of PFAS, the forever chemicals.

NEWs on Biosolids:

Legal action could end use of toxic sewage sludge on U.S. crops as fertilizer
The Guardian, March 15, 2024)

Farmers facing PFAS pollution struggle for solutions
The New Lede, March 11, 2024

B.7 (c) i. - Annual Report

Very important to record site information
Location, field id, date(s) of application, volume and materials applied, source of material, acreage used, document of forecast for the area during date(s) of application, post application field assessment (ponding, pooling, runoff, solids depth, if applicable), and the annual and cumulative dry tons/acre

This component of the permit is very good. The data collected is comprehensive and allows DNR and the public to understand the methods and quantity of materials applied to the land. If used correctly this could provide insight into when streams, groundwater, or welld show signs of impairment. This information will also give valuable information to the land owner if problems occur with harvested crops or livestock.

B.8 - No approval needed for additional sites

This is wrong and should be changed. No additional sites should be allowed without approval. Missouri rural citizens should not have to live with the threat of a biosolids land application site suddenly popping up anywhere. A neighbor notice would be appropriate to send to inform neighbors of the biosolid application proposal and allow them to comment with their concerns prior to commencing.

NPDES 7-1-19

Important requirements were included in this historic document.

Section G - Land Application of Biosolids

G.2 Class A/Class B

- It is not evident in the permit whether the material that Reed Environmental is spreading is a Class A or B. The land owner of the application site needs to know this information due to harvest restrictions of crops grown. These restrictions should be included in the contract between land applicator and land owner, which is NOT included in the application.

- Class B: Specific lengthy wait times for the harvest of crops or access to areas that have had biosolids land applied. Are landowners advised to the restrictions and required to follow them if they allow the biosolids to be land applied to their fields?

G.6.b Best Management Practices: Agronomic Rates

- Apply biosolids only at the agronomic rate of nitrogen needed or less to avoid pollutant loading of metals. When less than tons per acre is applied no calculation for agronomic rates is required.

- Biosolids should be included in the total calculation for fertilizer for the crop grown. Agronomic rates are a key factor in preventing over application of nutrients.

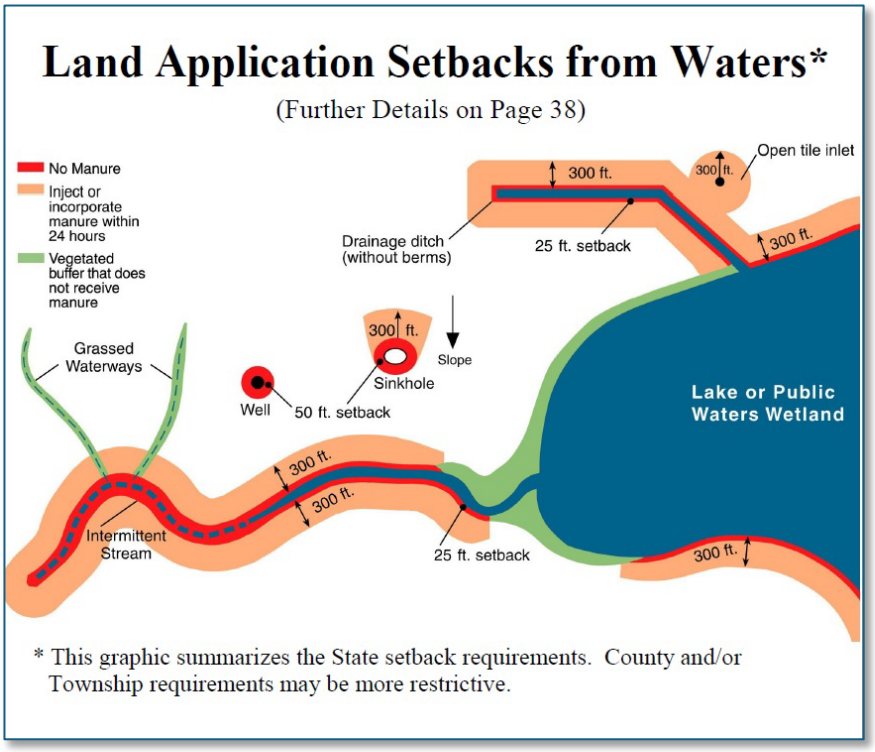
G.6.d (i-vi) Buffer Zones

- Biosolids contain pollutants and must be land applied in a safe manner. Drivers can't be guaranteed to know where sensitive features are located without features being marked.

- Maps in the application provide inadequate information regarding setbacks. All buffer zones should be clearly marked on the maps in the application as in the example.

- Maps should include streams with designated uses, private wells, sinkholes, etc.

- Buffer zones should be flagged so haulers clearly know where biosolid boundaries are located.



Example of a map with setback distances that should be included in all draft permit land application maps.

J. Monitoring Frequency

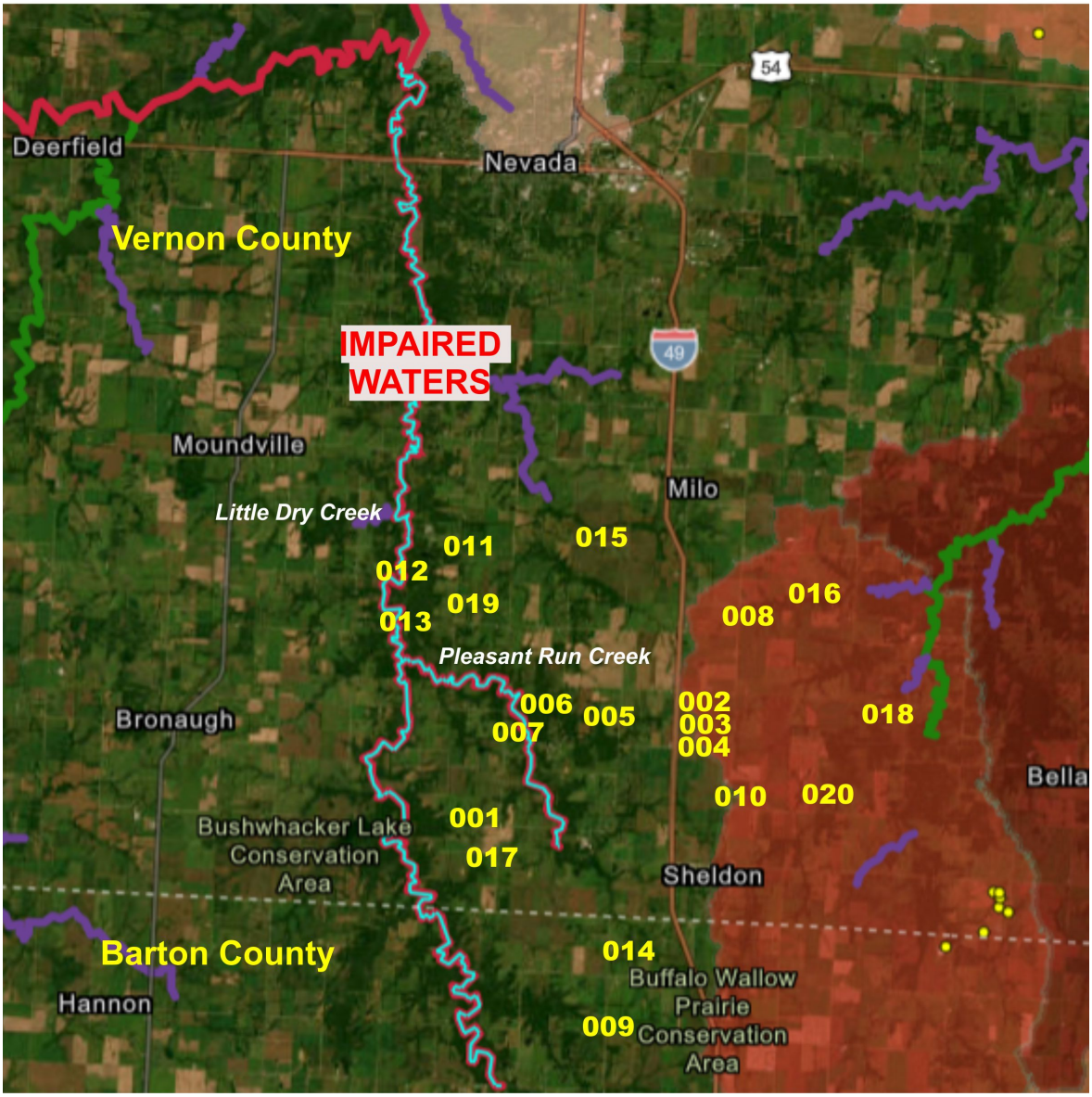
- Soil testing needs to be an initial procedure for application sites to ensure that the soil is suitable to have biosolids land applied.

- Best Management Practices for Biosolids Land Application indicate that biosolids should not be applied to land with a pH less than 6 or greater than 7.5.

Reed Biosolids Land Application
Vernon and Barton Counties, MO

Little Dry Creek and Pleasant Run Creek
Impaired for Low Dissolved Oxygen

MAP FOR ILLUSTRATION PURPOSES ONLY



This map shows the far west side of Missouri with Nevada at the top. The yellow numbers are approximate sites of the biosolids land application sites. Note that some of them are adjacent to the impaired waters. The red patches are areas where CAFOs are located and show the amount of waste likely generated in these facilities. Base map from *https://mrbo.maps.arcgis.com/apps/dashboards/db31c40d3dd84f04b8dcbb9a17d63aa9*

The Fact Sheet

The Fact Sheet has another set of requirements that need to be added to the mix of references already required in the draft permit. These are particularly damaging because they negate the danger of adding additional toxic waste to streams that are already impaired.

- Part II Receiving Stream Information states, *"While this facility **is no discharge,** a receiving stream is listed for the purposes of showing what stream would be affected in the event of a discharge due to an acute or chronic rain event."* This is a statement that has no validity with the nature of land applied waste products like biosolids. If not properly applied or utilized by the plants, any of these streams could receive polluted runoff from the biosolids. It's why calling the Reed permit a "no-discharge" facility is an inaccurate label.

- Receiving Water Body's Water Quality states, *"This facility conducts land application of biosolids, therefore, it does not discharge to a 303(d) listed stream or to a stream with an EPA approved TMDL." This statement also has no validity. Of course, there will be runoff to these impaired streams when the biosolids are applied right next to them or in the same HUC-12."* It is ridiculous that there's any question about keeping additional waste out of these impaired watersheds, and DNR is shirking its responsibility to protect the environment and human health by doing so.

Submitted by the Moniteau County Neighbors Alliance
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