



BIOSOLIDS AND COLLECTION SYSTEMS UPDATE

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Focus on Change | 2025



AGENDA

- Biosolids update.
 - Key 2021 rule provisions impacting biosolids management.
 - Biosolids land application.
 - Biosolids distribution and marketing.
 - Other biosolids items.
- Collection systems update.
 - Power outage contingency plans.
 - Collection system action plans.





BIOSOLIDS UPDATE

Biosolids and Collection Systems Update



KEY 2021 RULE PROVISIONS

- Nutrient management plans (NMPs) shall include a nitrogen (N) based rate for each zone and a phosphorus (P) based rate; neither rate can be exceeded.
- Septage application rates.
- Soil phosphorus storage capacity index.
- Ground water monitoring and surface water monitoring.
- All permits for sites were required to meet the requirements of the rule by June 21, 2023.



NMP APPLICATION RATES

- NMPs shall include an N-based rate for each zone and a P-based rate; neither rate can be exceeded.
 - P-based rates are typically about 75% lower than N-based rates.
 - Sites can't receive the same quantities of biosolids.
 - Many biosolids land application sites have ceased operation.
 - Out of about 120 sites permitted for land application in 2018, only about 60 remain, including septage sites.
 - Some of the remaining still need to revise their NMPs; the Florida Department of Environmental Protection (DEP) is working with them.
 - Deseret Ranch, the largest biosolids land application site in the state, revised its NMP but then chose to cease biosolids land application operations.
 - The loss of sites and acreage resulting from reduced application rates is impacting wastewater treatment facilities and their options for biosolids management.



SEPTAGE APPLICATION RATES

- Septage is limited to one of three basic rates.
 - If the soil capacity index (CI) is ≥ 0 :
 - 40,000 gallons/acre/year if the rate is N-based and no grease.
 - 30,000 gallons/acre/year if the rate is N-based but the septage management facility accepts grease.
 - If the soil CI is < 0 :
 - 12,000 gallons/acre/year if the rate is P-based (ground water monitoring is required).
- Some septage sites have used the option to test the soil deeper than six inches (but not into the seasonal high water table [SHWT]) to try to get a positive CI.
- Of the approximately 45 septage sites that were permitted between 2016 – 2018 when septage regulation shifted to DEP, only about 18 remain active.



SOIL CI

- Soil CI is a relative measure of the soil's ability to hold phosphorus.
 - CI is determined by a formula using the soil fertility testing results for the Mehlich 3 extractions of iron (Fe), aluminum (Al) and P.
 - Al and Fe bind with P to reduce P solubility.
- Most site permitting to date has shown negative CI results for the top six inches of soil for existing biosolids sites.
 - Negative CI values limit biosolids application rates to the lowest P-based rates allowed for biosolids.
 - Negative CI values limit septage sites to 12,000 gallons per acre per year.
 - Negative CI values require ground water monitoring.
- Some sites have used the rule option to test the soil deeper than six inches (but not into the SHWT) to try to get a positive CI.
 - Deeper sampling cannot go past the SHWT.



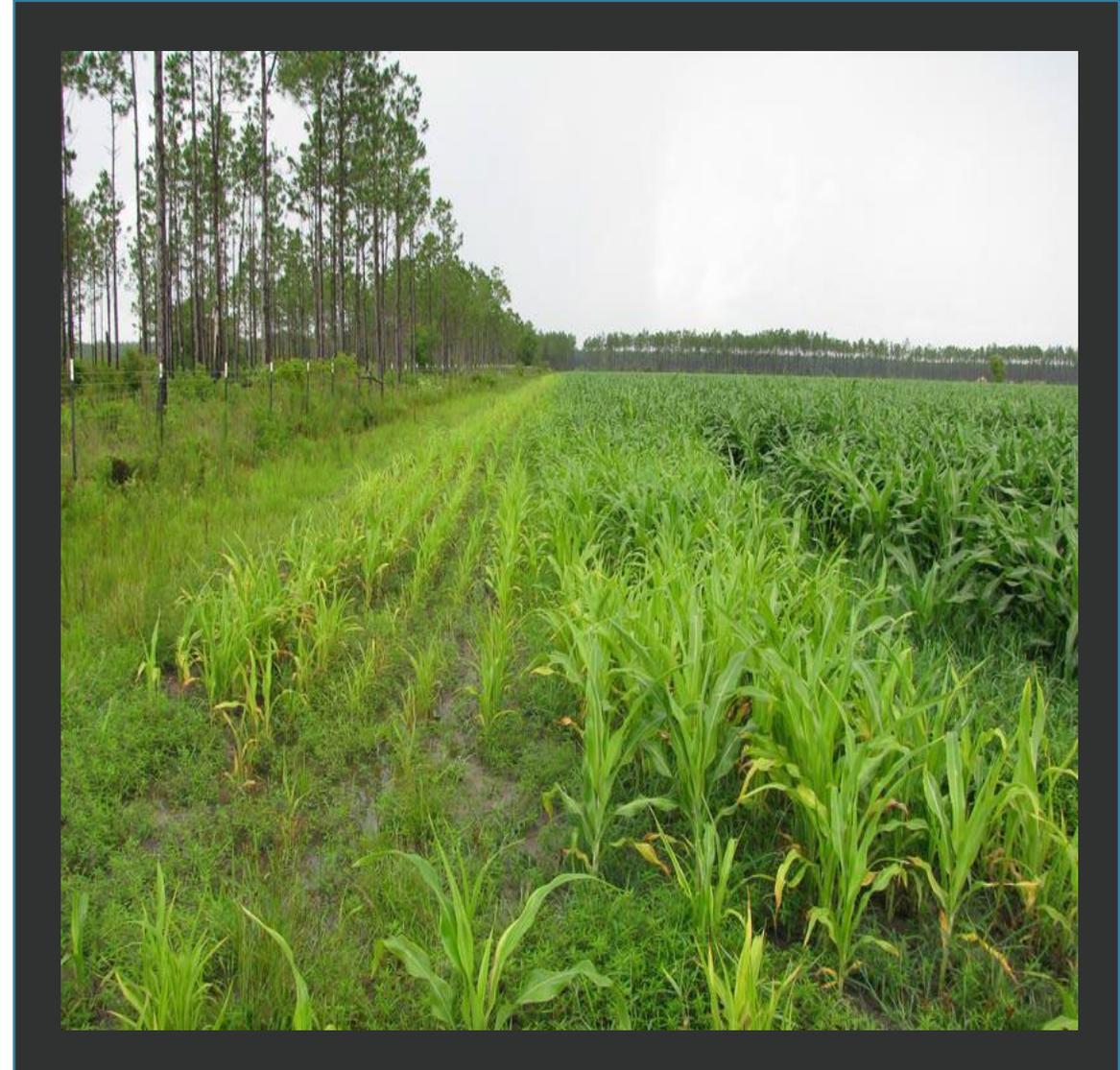
WATER QUALITY MONITORING

- Ground water monitoring.
 - Required for any of the following situations.
 - The application rate is 160 lbs. of total N acre/year or more.
 - The application rate is 40 lbs. of phosphorus pentoxide (P₂O₅) acre/year or more.
 - The CI is less than zero (negative).
 - Requires monitoring wells to be installed and quarterly sampling.
- Surface water monitoring.
 - Required when the biosolids application zone is bordered or crossed by waters of the state and the application zone is located within 1,000 feet of waters of the state, excluding wetlands, unless there is property owned by someone else between the application and the surface water.
 - Requires quarterly sampling.



RULE COMPLIANCE

- All facility and site permits were required to meet the requirements of the rule by June 21, 2023.
 - About 23 sites are still in the process of revising their NMPs.
 - Many are larger sites permitted by major haulers.
 - Many sites have ceased operation.
 - Chose not to revise the site NMP.
 - Ceased operation because of the limited nutrient value that could be applied.





IMPACTS

- Significant reduction in land application.
- Increase in quantity of biosolids being sent to landfills.
- Increase in quantity of biosolids being sent to Class AA facilities.
- Increased interest in permitting new Class AA treatment facilities, especially composting facilities.
- Increased costs for biosolids management.
 - Hauler contracts.
 - Landfill availability.
 - Biosolids treatment facility availability.



COLLECTION SYSTEMS UPDATE

Biosolids and Collection Systems Update



PLANS REQUIRED RELATED TO COLLECTION SYSTEMS

- Rule 62-600.705, Florida Administrative Code (F.A.C.), was ratified on June 28, 2023, and required two new plans to be submitted by domestic wastewater treatment facilities.
 - Power outage contingency plan.
 - Collection system action plan.
- Facilities have started submitting these plans.
 - The plans must be included with a permit application submittal for permit renewal, a new permit or a substantial permit revision.
 - Updated plans are required with subsequent permit applications.



POWER OUTAGE CONTINGENCY PLANS

- Section 62-600.705(1), F.A.C., added a new requirement for domestic wastewater facility permit applicants to submit a power outage contingency plan that mitigates the impacts of power outage on the facility's collection system and pump stations (see section 403.086(2), Florida Statutes [F.S.]).
 - Overall goal is to prevent sanitary sewer overflows (SSOs) during a power loss to a pump station, portion of the collection system or to the entire collection system.
 - Plans should include implementation of the plan, collection system maps, pump station inventory and individual pump station evaluations, fuel resources, response teams, communications, mutual aid agreements, financial resources, etc.
 - An initial plan must be submitted with the facility application for a new permit, permit renewal or substantial permit revision; updated plans must be submitted with each subsequent permit renewal or substantial permit revision.
 - For recently submitted permit applications, the DEP district office will likely ask for the plan in a request for additional information (RAI) and may consider adding a schedule to the permit for submittal of the plan.



MITIGATING IMPACTS OF POWER OUTAGES

- What are the impacts from the loss of power to the collection system and to a pump station?
 - Interrupted service.
 - **SSOs.**
- Plan should outline what happens when there is a loss of power.
 - How is the loss of power detected?
 - Who responds?
 - What equipment is available to restore backup power to the station?
 - How quick is the response? When will an SSO occur?
- When a portion or the entire collection system loses power:
 - Are there critical areas and priority pump stations identified for providing power?
 - What resources are available? Mutual aid agreements?
 - Communication with power company/power provider?



POWER OUTAGE CONTINGENCY PLAN CHECKLIST

- Overview and map (geographic information systems [GIS] map for larger utilities) of the collection system.
- Overview of the plan including a general description of responses to power outages.
- Pump station inventory and individual pump station assessments (with details).
 - Identify critical pump stations, emergency pumping capability of each station and time to overflow.
 - Pre-completed emergency generator request for each pump station.
- Inventory of portable generators and bypass pumps.
 - List, fuel type, connection type, storage locations and maintenance procedures.
- Fuel supplies.
- Personnel/response teams/communications.
- Mutual aid agreements/planned upgrades/financial resources.



MORE INFORMATION

- DEP's webpage: <https://floridadep.gov/water/domestic-wastewater/content/collectiontransmission-system-power-outage-contingency-plans>.
- Power Resilience - Guide for Water and Wastewater Utilities: https://www.epa.gov/system/files/documents/2023-05/PowerResilienceGuide_2023_508c.pdf.
- Is Your Water or Wastewater System Prepared? What You Need to Know About Generators: <https://www.epa.gov/sites/default/files/2016-03/documents/waterwastewatersystemgeneratorpreparedness.pdf>.
- Florida Rural Water Association (FRWA) webpages.
 - Power Outage Contingency Plan Checklist: https://assets.noviams.com/novi-file-uploads/frwa/pdfs-and-documents/Power_Outage_Contingency_Plan_Checklist_040924-002d6deb.docx.
 - Power Outage Contingency Plan Template: https://assets.noviams.com/novi-file-uploads/frwa/pdfs-and-documents/Power_Outage_Contingency_Plan_Template_docx-72d18d0e.doc.



COLLECTION SYSTEM ACTION PLANS

- Section 62-600.705(2), F.A.C., added new requirements for facilities to proactively prevent SSOs and pipe leaks.
 - Section 62-600.705(2)(a), F.A.C. – pipe assessment, repair and replacement plan, also known as, “collection system action plan.”
 - Procedures and requirements for preparing and submitting the plan.
 - Content of the plan.
 - Section 62-600.705(2)(b), F.A.C. – annual report for the plan.
 - An annual report on the plan must be submitted by June 30 each year.
 - Content of the report.
- More information is available at: <https://floridadep.gov/water/domestic-wastewater/content/collection-system-action-plans>.



PLAN CONTENT

- Collection system action plan must include the following:
 - A map and inventory of the system; facilities with permitted capacity of one million gallons per day (gpd) or greater must have a GIS map and electronic inventory.
 - Included details and information as practicable (size, length, type of pipe, tracking number, age, service life, flows, topography, water table, rainfall data, complaints, overflows, etc.) for each component (pipe, manhole, pump stations, etc.).
 - A maintenance plan, protocols and recordkeeping.
 - A plan to describe measures, if any, for limiting fats, oils, grease, roots and wet wipes.
 - A plan to describe measures, if any, to minimize infiltration and inflow (I&I) from sanitary sewer laterals.
 - Identification of all satellite collection systems (effective Dec. 21, 2025) and description of measures, if any, to minimize I&I from satellite collection systems.
 - Description of measures, if any, for resiliency of the collection system related to sea level rise.



ANNUAL REPORT FOR COLLECTION SYSTEM ACTION PLANS

- Section 62-600.705(2)(b), F.A.C.
 - An annual report for the collection system action plan shall be submitted electronically no later than June 30 each year that includes the following:
 - Summary of the assessments conducted (percentages of the collection system investigated, methods used, results and any estimates of the amounts of inflow, infiltration, leakages).
 - Significant repairs, replacements, maintenance activities, expansions and other upgrades; plans for the upcoming year.
 - Any new satellite collection systems (effective Dec. 21, 2025).
 - Annual expenditures on inflow, infiltration, leakage studies, pipe assessment, repair and replacement; limiting fats, oils, grease, etc.
 - Details of facility revenues and expenditures, including any deviation of annual expenditures from identified system needs.
 - Any additional activities relevant to the prevention of SSOs including actions related to flood mitigation and stormwater control.



RESOURCES FOR ACTION PLANS

- More information is available at: <https://floridadep.gov/water/domestic-wastewater/content/collection-system-action-plans>.
- FRWA.
 - Collection system action plan template: https://assets.noviams.com/novi-file-uploads/frwa/pdfs-and-documents/Collection_System_Action_Plan_Template-1111a12e.docx.
 - Collection system action plan annual report template: https://assets.noviams.com/novi-file-uploads/frwa/pdfs-and-documents/CSAP_AnnualReportTemplate-747dccd5.xlsx.
- U.S. Environmental Protection Agency (EPA) guidance (Capacity, Management, Operation and Maintenance [CMOM] program and other materials): <https://www.epa.gov/npdes/npdes-ssr-technical-reports-and-materials>.



SECTION 62-600.700(4), F.A.C.

- For public utilities, an annual report is required on transactions or allocations of common costs and expenditures on pollution mitigation including the prevention of SSOs, collection and transmission system pipe leakages and I&I.
 - Due no later than June 30 each year.
 - Can be combined with the collection system action plan annual report, which has a financial related reporting requirement (i.e., report all the financial and expenditure data in the collection system action plan report).



THANK YOU

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