Camden County Municipal Utilities Authority

2019 Environmental Management System Performance Report

VOLUME 10, ISSUE 1 FEBRUARY, 2020

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National Biosolids Partnership Certified Management Program

The National Biosolids Partnership (NBP) is an alliance of the National Association of Clean Water Agencies (NACWA) and WEF, with advisory support from the U.S. Environmental Protection Agency (EPA).

Results of Audit: CCMUA meets NBP Expectations and Requirements

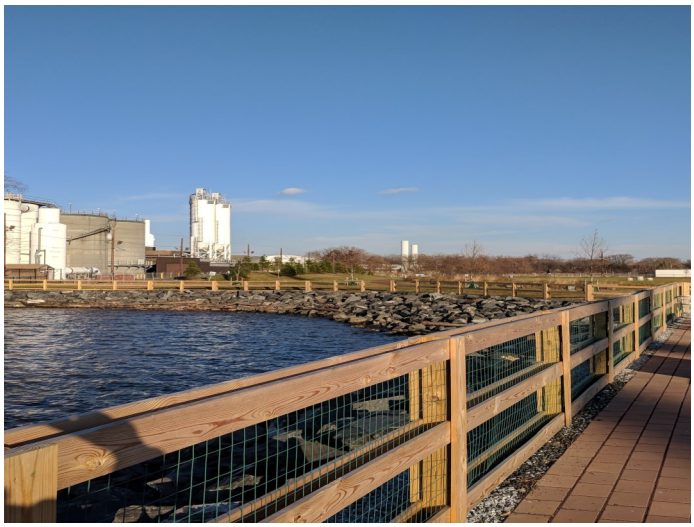
DEKRA Certification, Inc. conducted an independent third party audit of the environmental management system used by the Camden County Municipal Utility Authority (CCMUA) in managing its biosolids program.

The results of the audit determined that: Use of a management system approach is generating positive outcomes for CCMUA's biosolids program in the areas of regulatory compliance, environmental performance, quality practices and relations with interested parties.

CCMUA biosolids practices are consistent with NBP expectations and meet requirements of the NBP BMP Elements, with minor exceptions.

All non-conformances from prior DEKRA audits have been effectively corrected.

This audit conducted on March 26-29, 2019 has verified that the CCMUA biosolids management program meets NBP expectations and requirements and we recommend Recertification within NBP Biosolids Management Program.



During this audit, DEKRA noted the following strengths in the CCMUA biosolids management system. Leadership by CCMUA in the Camden Collaborative Initiative is an excellent example of proactive outreach and public participation.

CCMUA has prepared corrective action plans for the four nonconformance identified and those plans have been approved by the Lead Auditor.

The audit was consistent with NBP requirements for Reverification Audits and the Scope of Work agreed by CCMUA and DEKRA. It was conducted as an integrated audit covering requirements of ISO-14001:2015 and the NBP BMP Elements, with special attention to and management activities that directly support biosolids-related operations, processes and activities.

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Progress Towards Goals and Objectives

- Camden County MUA had established objectives for 2019. These objectives and the progress made toward these have been reviewed by the EMS management Team. The objectives were:
- Optimize Water Quality
- Maximize Volumetric Capture on wet days
- “Minimize adverse impact from odor.
- Use of green energy
- Conduct an inspection of biosolids hauling destination (i.e. landfill, land application site)
- Update SOPs as needed.
- Processing Ratio of Sludge
- Completed constructed of new green infrastructure projects.
- Start CSO Long Term Control Plan
- Community Service

“ Be a good neighbor to the surrounding community with a view to not only doing no harm, with respect to odor impacts, but also to undertake initiatives to improve the quality of life for our neighbors.”

2020 Objectives

Each year CCMUA establishes objectives to help achieve its main goals and continually improve its Environmental Management System:

- Optimize Water Quality
- Maximize Volumetric Capture on wet days
- Minimize adverse impact from odor.
- Conduct at least one inspection of biosolids hauling destination
- Create new SOPs
- Use of green energy
- Complete the construction of three new green infrastructure projects.
- Processing Ratio of Sludge.
- Progress on CSO Long Term Control Plan.
- Obtain approval for plant bypass.
- Community Service

Construction Projects Status:

Sludge Digester

Contractor: NE Remsco, **Construction Manager**: D&B/Guarino Engineers

Description: Project to convert 4 existing liquid sludge storage tanks into 4 anaerobic digesters. Creation of new, significantly smaller liquid sludge storage tanks.

Benefits: Volume of sludge for disposal /beneficial re-use will be cut in half reducing costs and odor potential. Bio-gas will be produced from digestio process which will be used to power CHP. Enough bio-gas should be available for use in CHP to produce approximately 45% to 50% of wastewater plant's electric demand.

Status: New liquid sludge storage tanks have been completed and placed in service. Conversion of old liquid sludge storage tanks ongoing. Estimated to be complete in Summer of 2020.

CHP Design/Build & Supply of Digester Equipment

Contractor: Anergia/Camden Bio-Energy, **Construction Monitor:** D&B/Guarino Engineers

Description: The first component is to design and build a combined heat and power system (chp) which will run on bio-gas and natural gas. The CHP system is capable of producing about 90% to 95% of the wastewater plant's power on dry weather days. The second component is the supply of digester equipment which will produce bio-gas.

Benefits: The CHP allows the CCMUA to produce most of its electricity needs on-site at reduced costs which will provide sustainability and resiliency benefits. Procuring the digester equipment through Anaergia allows for a performance guarantee across the digester and CHP Systems.

Status: CHP is complete with operations beginning on October 14th. Almost all significant components of the digester have been delivered from Anaergia.

Junction Chamber

Contractor: NE Remsco, **Construction Manager:** JMT

Description: Separation of Camden City and suburban lines at the head of the wastewater treatment plant.

Benefits: There is a hydraulic bottleneck in the current configuration of the wastewater treatment plant's junction chamber. This bottleneck means that during wet weather the plant has to throttle the Camden City gate to ensure that the suburban line does not back up and overflow. This project will eliminate the bottleneck as well as the need to throttle the Camden City line. This project is a critical component in the plan to reduce combined sewage flooding in Camden City.

Status: Beneficial use of the project anticipated in late December or early January with final completion scheduled for March 2020.

Raw Sewage Pump Upgrade

Contractor: Eastern Environmental, **Construction Manager:** JMT

Description: Upgrades and improvements to the wastewater treatment plant's raw sewage pumps.

Benefits: Installation of variable frequency drives and increase of size of motors to allow for pumping of up to 240 MGD. This project is a critical component in the expansion of the plant to 185 MGD in phase 1 and to approximately 240 MGD in phase II. This project is also critical to reducing combined sewage flooding in Camden City.

Status: Preliminary work underway. Completion expected in late winter/early spring of 2021 due to long lead time of pumps. Beneficial use (Ability to pump 30 more MGD than current) expected to be achieved in fall of 2020.

Wet Weather Expansion

Contractor: Eastern Environmental, **Construction Manager:** JMT

Description: Various upgrades and improvements to the wastewater treatment plant to allow the full treatment of up to 185 MGD during wet weather.

Benefits: This project will allow the plant to increase its capacity by 35 MGD during wet weather events which will allow for the conveyance of more combined sewage and a corresponding reduction in combined sewage flooding.

Status: The project should be completed by the Spring of 2020.

CCMUA and Green Infrastructure

During 2019 the Authority met its goals for Environmental Justice and Green Infrastructure through the Camden Smart Initiative.

Camden SMART is a collaboration between the City of Camden, Camden County Municipal Utilities Authority, Cooper's Ferry Partnership, Rutgers Cooperative Extension Water Resources Program, New Jersey Tree Foundation, NJ Department of Environmental Protection. The purpose of Camden SMART is to develop and implement a comprehensive network of green infrastructure programs and storm water management in the City of Camden.

As a founding member of Camden SMART, the Authority has received funding from the New Jersey Infrastructure Bank to build a series of new green infrastructure projects. These projects in total manage 63 million gallons of stormwater from flooding neighborhoods each year. Below is a list of new projects completed

9th And Woodland Avenue City Lot At this site, approximately 750 square feet of deteriorating sidewalk will be removed and replaced with pervious concrete that will promote groundwater recharge. A 680 square foot infiltration trench will be installed to intercept, treat, and filter stormwater runoff from a portion of S 9th Street. A portion of the vacant lot will be planted with various trees.

Dudley Elementary School At this site, an approximately 900 square foot rain garden will be installed to intercept, treat, and filter stormwater runoff from a portion of the parking lot. The rain garden will have three sections, separated by check dams that will slow the flow of water through the system and further promote groundwater recharge.

Princess Avenue Vacant Lot At this site, approximately 3,000 square feet of deteriorating sidewalk will be removed and replaced with pervious concrete to promote groundwater recharge. Two infiltration trenches totaling 1,020 square feet will be installed to intercept, treat, and filter stormwater runoff from portions of Princess Avenue and Walnut Street. A portion of the vacant lot will be planted with various trees.

Early Childhood Development Center At this site, six downspout from the development centers' rooftop will be disconnected from the sewer system and routed into six downspout planter boxes in series. The downspout planter boxes will intercept, treat, and filter stormwater runoff from the rooftop. Some existing vegetation will have to be removed and relocated to incorporate the planter boxes.

Sludge Drying

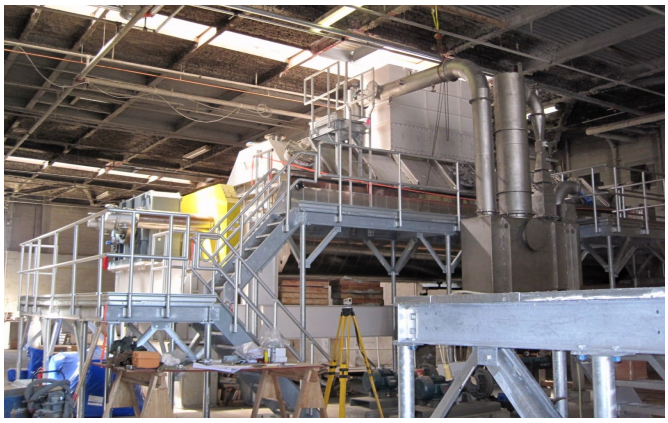
During 2019, the Sludge Drying Facility was safely operated by Synagro under contract.

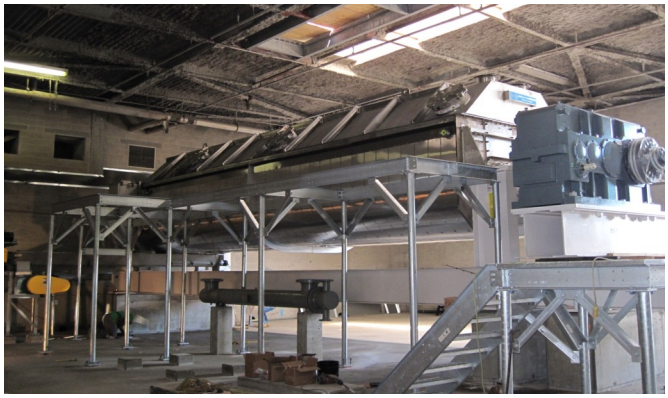
The CCMUA treatment plant produced a total of 80,251 wet tons of dewatered sludge. Of this, 34,432 wet tons or 42.9% went to the sludge dryers with the remaining 45,819 tons or 57.1% hauled off site.

At full capacity the three dryers can process an average of 160 tons of sludge per day. During many months, all three dryers were operational. At least two dryers are needed to be able to process most of the sludge produced by the facility.

These dryers reduce odors as a result of the reduction in truck traffic. This reduction in odors helps to improve the quality of life for the surrounding neighborhood.

New disposal options for the dried Class A biosolids are currently being explored. These new options will have a lower cost for each ton received.





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MISSION STATEMENT

The Camden County Municipal Utilities Authority is committed to protecting water quality, odor minimization, cost efficiency, minimizing carbon footprint, and community service.