



## Case Study

# Osram Sylvania Meets Affordable Compliance with ElectraMet™

**Client: Osram Sylvania—Light Bulb Manufacturing Plant in Versailles, KY**

Osram Sylvania is a leading manufacturer of lighting products for industrial, entertainment, medical applications, smart buildings, and more.

**Capacity: 160,000 gallons of stormwater runoff containing lead**

**Commissioned: April 2020**



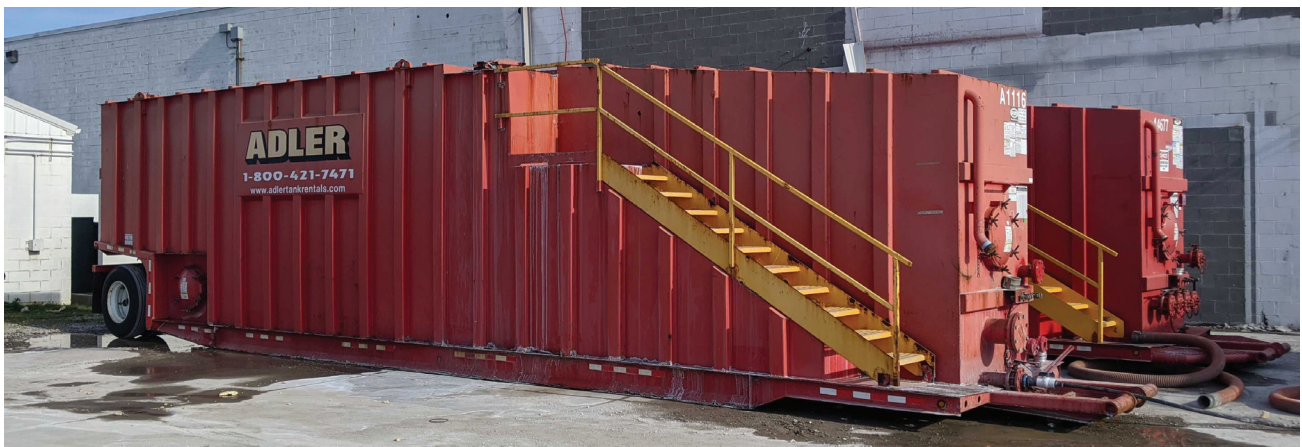
## Project Background

- ElectraMet™ water systems were installed to treat stormwater runoff containing dissolved lead (Pb) to meet discharge regulation compliance (<15 ppb lead) during demolition of the Osram Sylvania Plant in Versailles, KY.
- The Osram Sylvania site was using reverse osmosis (RO) to treat stormwater, but ineffective water recovery, RO system maintenance, and waste disposal became cost-prohibitive due to the complexity of the runoff water.
- The ElectraMet™ process selectively removes lead (Pb) and met discharge regulatory requirements for stormwater runoff for all other metals.

## Challenges

The Versailles, KY construction site generated approximately 160,000 gallons of stormwater runoff that contained elevated levels of lead (Pb) contamination. The stormwater was stored in temporary storage containers for processing. Local stormwater regulations dictated a discharge limit of <15 ppb Pb, and the client further imposed an internal limit of 10 ppb to ensure compliance.

The RO membranes initially used were quickly fouled and needed replacement, due to the high amount of total dissolved solids (TDS), and higher than expected lead concentration (>150 ppb) in the stored wastewater. Total costs for operating the RO system through the life of the project would have been cost-prohibitive, in excess of \$100,000. Contracting for offsite disposal was also found to be cost-prohibitive, many times more than the aforementioned onsite treatment.



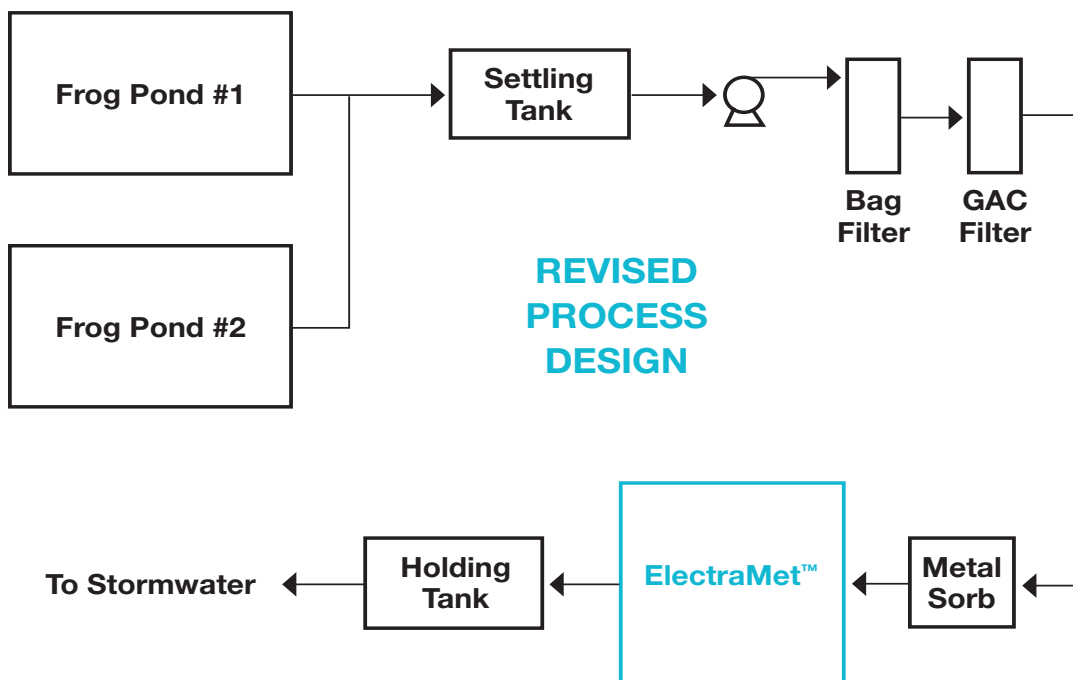
*With the ElectraMet process in place the need for long-term holding tanks has been eliminated. ElectraMet is able to treat water much faster and more economically than most other solutions with nearly 100% water recovery.*

*“We were in a difficult position on this project. The RO membranes were fouling too quickly and hauling that much water off-site would have been too expensive. The ElectraMet team delivered their solution in a week at a fraction of the cost of our other options. I intend to use them in the future for all my heavy metal treatment needs.”*

*—Mike Rohach, Owner, KarSare Water Systems, Inc.*

### **Solution: The ElectraMet™ System**

Osram Sylvania, KarSare, and the ElectraMet™ team worked quickly to deliver a fully automated 7 gpm ElectraMet system to replace the existing RO system in just one week. Over the course of the project, the system treated 160,000 gallons of stormwater runoff meeting all stormwater discharge requirements.



Process flow diagram for Pb removal at Osram Sylvania.

With ElectraMet, Osram Sylvania and KarSare were able to:

- Meet stormwater environmental discharge compliance, achieving <10 ppb lead
- Lower total cost of treatment >80% compared to the alternative treatment system.



**ElectraMet™ vs. Conventional**

Technology	Meets discharge limit <10 ppb lead	Treatment Cost	Labor Cost
<b>ElectraMet</b>	<b>Yes</b>	<b>\$</b>	<b>Low</b>
Reverse Osmosis	Yes	\$\$\$\$\$	High
Offsite Disposal	n/a	\$\$\$\$\$ \$\$\$\$\$ \$\$\$\$\$ \$\$\$\$\$ \$\$\$\$\$ \$\$\$\$\$	Low

**Applications**

ElectraMet has been proven to remove...

- Lead (Pb)
- Copper (Cu)
- Iron (Fe)
- Manganese (Mn)
- Nickel (Ni)
- Zinc (Zn)
- Chromium (Cr)
- For additional inorganic and organic compounds, please inquire.

► *Installed ElectraMet electrochemical water purification system.*



To find out how ElectraMet can work for you, contact us at:  
[sales@electramet.com](mailto:sales@electramet.com)



[www.electramet.com](http://www.electramet.com)