



# Case Highlight



WASTEWATER TREATMENT &  
NUTRIENT RECOVERY

## STRUVITE PRILLS

Ostara needed a conveying solution that could gently handle high-value **struvite prills** while fitting into the tight footprint of a wastewater nutrient recovery facility.

UniTrak delivered a customized TipTrak™ TT500 PEC system engineered for low-rate, controlled movement to protect product integrity, reduce spillage, and integrate seamlessly into their process. The result is a reliable, compact solution now standardized across multiple Ostara installations throughout North America - proving TipTrak's ability to handle delicate materials where precision and performance truly matter.

## Highlights



### THROUGHPUT

1,100lb per hour  
at ~8ft per minute



### TEMPERATURE

Ambient



### EQUIPMENT INFO

UniTrak TipTrak  
TT500 PEC  
Bucket  
Conveyor



### REQUIREMENTS

Gentle handling  
Small footprint  
Low-rate handling

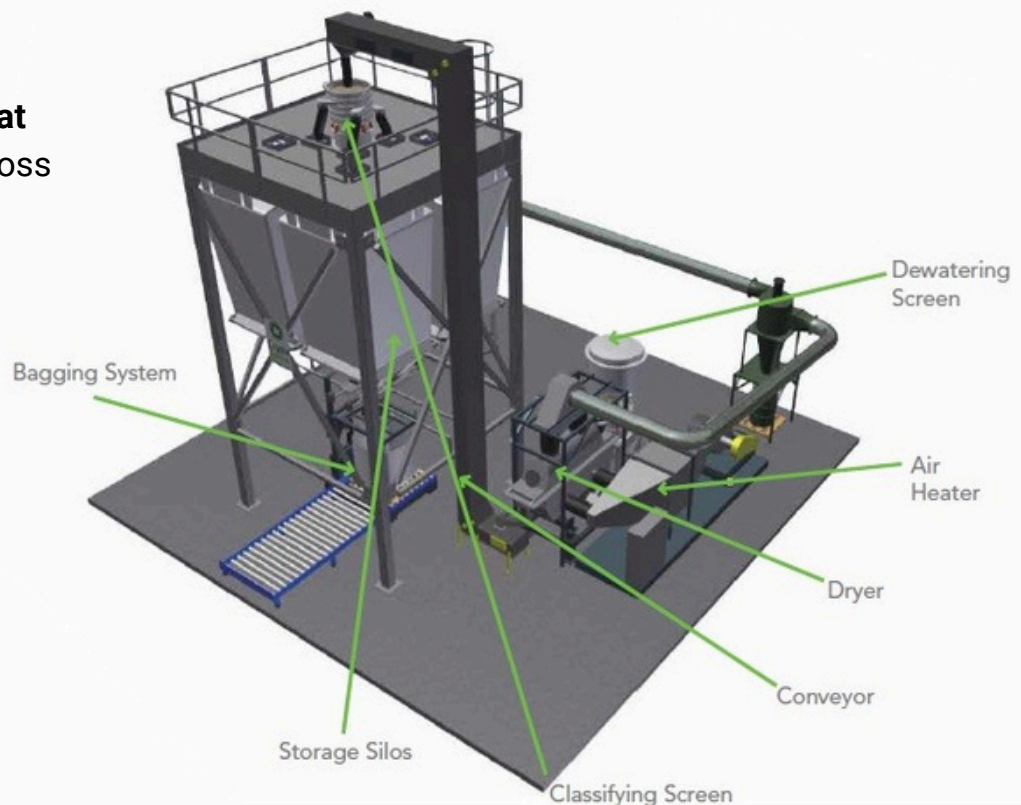
# The Challenge

Ostara needed a conveying solution that could reliably move struvite prills through their phosphorus recovery process while protecting product quality, preventing spillage, and fitting within the tight, equipment-dense layouts typical of wastewater treatment facilities.

Their operation demanded extremely gentle handling and precise integration to keep the closed-loop system efficient and profitable.

## KEY CHALLENGES & REQUIREMENTS

- Protect high value struvite prills and **prevent breakage through gentle conveying**.
- The **friable** struvite prills must **retain their size and shape** for fertilizer performance
- Maintain **consistent, low-rate conveying** for controlled product movement and **product integrity** (~8ft/min.)
- Fit equipment into a **tight, space** limited installation area around existing equipment and process lines
- Ensure **reliable performance** in a wastewater nutrient recovery environment
- **Eliminate spillage** to avoid costly cleanup in municipal facilities
- **Preserve product quality throughout transfer**, ensuring **seamless integration** from dryer to classifier to silos in a closed-loop recovery system
- **Reduce dusting** and manage product fall from the dryer discharge point
- Provide a **configuration that could be standardized** across multiple facilities



# The Solution

UniTrak partnered with Ostara to deliver a customized **TipTrak TT500 PEC** system engineered for ultra-gentle handling, secure product containment, and seamless integration within the tight layout of wastewater facilities. With interlocking buckets, specialized transitions, and application specific modifications, the system moves struvite prills cleanly from dryer to classifier to storage without degradation or spillage.

## HIGHLIGHTS

- TipTrak TT500 PEC configured to run at a controlled 8 ft/min for gentle, low rate conveying
- Interlocking bucket design to keep product fully contained and minimize spillage from infeed to discharge
- Extended legs on the lower horizontal section to reduce product fall and dusting under the dryer outlet
- Custom infeed transition with rubber skirting to channel all product cleanly into the buckets
- Bucket knocker installed to ensure consistent discharge into the classifier machine
- Rectangular to round discharge chute for sealed, dust-free connection to downstream equipment
- Compact footprint designed to fit around existing wastewater process equipment in both new and retrofit installations
- Onsite commissioning and hands-on training provided to ensure smooth operation and simplified maintenance at each facility





The customized TipTrak solution delivered a highly reliable, low maintenance conveying process that protected the quality of the struvite prills while eliminating spillage and dusting concerns. By fitting seamlessly into constrained wastewater layouts and performing with consistent gentle handling, the system became Ostara's standard across all North American and European installations.

**"UNITRAK'S ABILITY TO PROVIDE A CUSTOMIZED, EASY TO INSTALL AND MAINTAIN SOLUTION HAS MADE THE MATERIAL HANDLING ASPECT OF THE PROCESS MUCH SIMPLER AND OSTARA HAVE NOW STANDARDIZED ON THIS EQUIPMENT AT ALL OF ITS SITES IN NORTH AMERICA AND EUROPE."**

Ahren Britton  
Ostara Chief Technology Officer



By choosing **UniTrak's TipTrak Bucket Conveyor**, you can confidently handle even the most volatile and complex materials and applications - meeting safety requirements and operational needs effectively. Talk with our team today for more information or case studies.

**UniTrak Corporation Limited**  
**Toll-Free:** 1-888-884-8168  
**Email:** [sales@unitrak.com](mailto:sales@unitrak.com)  
**Website:** [www.unitrak.com](http://www.unitrak.com)

