

**VALUE-ADDED BENEFITS.  
EVERY PROJECT. EVERY TIME.**

Regardless of the unique need, situation or service provided, we enable municipal and industrial customers to maximize their efficiency, productivity and success.

However, we don't stop at just delivering a service. With every Synagro engagement, whether it's a one-time event or an ongoing relationship, our focus is on value and compliance at all times.

That is why we include these benefits to all of our customers, no matter the need, unique challenge or location – at no extra or hidden costs.

11

**MILLION TONS  
OF BIOSOLIDS  
MANAGED  
ANNUALLY**

20

**CLASS A  
FACILITIES**

500

**NATIONWIDE  
PARTNERSHIPS**



**PROJECT MANAGEMENT & LOGISTICS COORDINATION**

With more than 35 years of experience on projects of all sizes for all situations, we've become expert executioners and project managers. Our celebrated team members are experts at tracking, reporting, analyzing and facilitating a rapid response to any development. We perform rigorous analysis on all projects to minimize surprises in the field, ensuring that each job runs as smoothly and as effectively as possible.

**SOLUTION EVALUATION & OPTION ANALYSIS**

Each customer we serve has unique needs and challenges, which requires the appropriate selection of technology and equipment each time. Simply put we are "technology neutral" – we can work with any technology and equipment available on the market. We'll help get the most value from current and selected equipment to achieve nothing short of maximum success.

**TECHNOLOGY EVALUATION**

Synagro is constantly reviewing new and emerging technologies to identify promising potential solutions for our customers. While we are focused on providing solutions with proven technical and commercial viability, we also keep an eye toward the future.

**REGULATORY MONITORING AND COMPLIANCE**

After 35 years serving customers of all types nationwide, we're well-acquainted with the value of diligently monitoring changes in the regulatory and compliance landscapes. That's why we pay close attention to both the public and private sectors, ensuring best use of expense, energy and time.

Our relentless focus on compliance helps our customers achieve remarkable, hassle-free results. We provide invaluable access to:

- Risk management assessments.
- On-going permit and regulatory management and reporting – we do the paperwork for you.
- Cost impact analysis, allowing customers to determine if policy changes will affect operations.
- Financing options if policy changes are determined to have an impact on the business.

---

## TECHNICAL SERVICES

Every Synagro customer reaps the assistance and rich expertise of our Technical Services team. Because our teams are regional-based, they're experts at tailoring their approaches to each customer and to each unique project based on the local regulatory and compliance environment.

## LAND PERMITTING & PERMITTING MANAGEMENT

Navigating the ongoing complexities for complete land permitting management is where working with the largest organization in the industry helps our customers maintain their success. Our industry-leading team of regulatory and permitting experts manages this process to ensure compliance and ease of business. They will navigate all regulatory requirements; identify and solicit end-users; prepare, submit and monitor the permit application process; perform site inspections; attend and present at public meetings and respond to technical questions and inquiries.

## REDUNDANCY AND BACK UP

We have over 800 people including agronomists, soil scientists, operators, and engineers dedicated to serving our customers. As needs change, even in the middle of a project, we can respond.

## PRODUCT DISTRIBUTION, TRANSPORTATION & STORAGE SOLUTIONS

Hundreds of projects every day and nationwide rely on Synagro's comprehensive knowledge, technical skills, logistics management and product marketing to deliver a diversified solids management plan. We manage the hassle and worry of disposal, transportation and compliance and deliver a solution for beneficial reuse that provides the best value for the dollar and the environment.

## ENVIRONMENTAL SAFETY & HEALTH PROCEDURES

When operating in a highly regulated industry, it is essential to have a formal program and organizational commitment to comply with all applicable laws, regulations and permits regarding health, safety and the environment. Through our Environmental, Health, Safety and Transportation department, every employee is accountable for ongoing training, education and maintaining a daily focus on this crucial matter.

## RISK TRANSFERENCE

Working with Synagro means having a single source of responsibility; we manage the risk so customers don't have to. Our programs include total responsibility for regulatory and environmental compliance – completely relieving the burden and costs associated with compliance.

## COMMUNITY OUTREACH & PUBLIC COMMUNICATIONS

Whether reaching out to local, state and federal organizations on behalf of a customer or having a dialogue with individual residents of the community, we work tirelessly to highlight the importance and benefits of local biosolids applications and operations.

## COMPLETE PROJECT FINANCING OPTIONS

Thanks to our wide and respected presence in the field, Synagro is able to provide all customers with access to a range of options for project or services financing. We're also able to aid our customers in finding opportunities for private sector grants—some of which they may not otherwise be able to access. We'll even help identify and access new tax credits and incentives, including increasingly important Green Energy incentives.



800.825.5698

435 Williams CT., Suite 100  
Baltimore, MD 21220

sales@synagro.com  
www.synagro.com



## NOT SURE WHICH OF THE MANY DRYING TECHNOLOGIES IS THE RIGHT FIT FOR YOUR PROJECT? WE CAN HELP.

We are technology neutral. We understand the right applications for, and operating nuances of, each distinct drying technology. We select the most appropriate technology for each project based on our extensive experience operating different drying/pelletization processes in various locations around the United States.

### WHAT MAKES US AN EXPERT?

We successfully operate more biosolids thermal dryer facilities and utilize a wider variety of technologies than any other company in North America. Our longest commercial thermal drying operations have successfully operated for more than 20 years.

We understand that each project is unique and has different drivers, so we take a holistic approach to address individual project needs. Since the mid-1980s, we have conducted worldwide research and development on heat drying technologies in an effort to develop the most cost effective, reliable solutions to produce marketable products and minimize environmental impacts.

## HEAT DRYING TECHNOLOGIES COMPARISON – WHICH TECH IS BEST?

### TALK WITH OUR ON-SITE EXPERT



Bala Vairavan, PE  
Senior Project Engineer  
bvairavan@SYNAGRO.com  
443.489.9168

Bala is responsible for conceptual design and engineering support in the development and implementation of innovative facility-based solutions for our customers. His expertise includes project management, guidance, oversight and implementation of capital projects related to composting and thermal drying and other Class A EQ technologies.

### WE CAN HELP

Synagro is technology and manufacturer neutral with a goal of providing the best possible solution available. Our customers rely on our unique position in the marketplace, which affords them a range of exceptional advantages.

SYNAGRO TECHNOLOGIES  
sales@synagro.com  
www.synagro.com  
800.370.0035





With mounting concerns about the adverse effects of excess nutrients in surface and ground waters, many states have implemented – or are in the process of developing – regulations that impact the feasibility of land-applied biosolids and other phosphorous-containing residuals. **HAS YOUR BIOSOLIDS PROGRAM BEEN SIGNIFICANTLY INFLUENCED AS A RESULT? WE CAN HELP.**

**WHAT MAKES US AN EXPERT?**

Synagro’s close collaboration with regulatory agencies, academics and policymakers nationwide allows us to provide sound, valuable scientific input during the legislative and regulatory development process in order to ensure that our customers’ interests are well represented.

Synagro specializes in providing the knowledge and technical skill essential to the success of any diversified solids management plan. We have a proven track record of working with customers to develop strategies that address regulatory and legislative developments in order to protect the viability of cost-effective biosolids management options.

**TALK WITH OUR ON-SITE EXPERT**



Layne is responsible for providing leadership and direction to ensure that Synagro tracks, evaluates and comments on proposed legislation and regulations that could potentially impact our customers’ biosolids management service offerings and plant operations.

Layne Baroldi, JD  
 Director, Regulatory & Legislative Affairs  
 lbaroldi@SYNAGRO.com  
 714.299.2943

**PHOSPHORUS REGULATIONS – HOW STATE REGULATIONS IMPACT YOUR OPERATIONS.**



**WE CAN HELP**

Our proprietary Residuals Management System sets the industry standard for tracking, monitoring and compliance activities. We’ve perfected cost-effective programs that manage biosolids and other materials and satisfy land application criteria.

SYNAGRO TECHNOLOGIES  
 sales@synagro.com  
 www.synagro.com  
 800.370.0035



# SYNAGRO TECH TALK

LAYNE BAROLDI, JD  
Director, Regulatory &  
Legislative Affairs



BALA VAIRAVAN, PE  
Senior Project Engineer



## Can't make our Tech Talk Happy Hour?

Grab a handout and reach out to our experts after the conference.

HAPPY HOUR TONIGHT  
**MONDAY, OCTOBER 2, 2017**  
**5 P.M. – 6 P.M.**

## SYNAGRO BOOTH #2721

Stop back here tonight for a drink while learning about the latest in Heat Drying Technologies and Phosphorus Regulations. Our experts will be on hand to explore how these topics benefit or affect your day-to-day operations.

**Topic 1:**  
**Heat Drying Technologies Comparison – Which tech is best?**

**Topic 2:**  
**Phosphorus Regulations – How state regulations impact your operations.**





## SOLUTION

Synagro's experience with a multitude of technologies in both urban and rural environments provided the background and expertise to review, analyze and assess the many potential options for this project.

Ultimately, Synagro chose the one that was best for the unique situation and challenge: Anaerobic digestion, centrifuge dewatering and heat drying and pelletization.



By utilizing renewable biogas, Synagro has displaced the need for 5,500 barrels of oil per year.

 = 500 barrels of fossil fuel



## CHALLENGE

Hawaii's passionate commitment to the protection of its environment and pursuit of sustainability is inarguable. The natural beauty of the islands is cherished by the locals and is an irresistible lure to millions of visitors from around the world. Among the destinations is the City and County of Honolulu (CCH).

As with all large metropolitan areas, the CCH faces the constant challenge of expanding and improving the collection, treatment, disposal and recycling of its waste materials. In 2002, the CCH entered into a public-private partnership with Synagro to design, build, operate (DBO) a Bioconversion Facility — a biosolids digestion, dewatering and heat drying/pelletization facility serving the Sand Island Wastewater Treatment Plant (WWTP), Hawaii's largest plant.

The new Bioconversion Facility needed to comply with EPA regulations while minimizing the landfilling of its biosolids and implementing an environmentally sound Class A "Exceptional Quality" recycling program. Timing of the project was crucial because the City's Waimanalo Gulch Landfill was projected to reach its permitted capacity in 2003, and its expansion or replacement was intended for only those waste materials that could not be economically recycled.

## SUCCESS

Since the completion of the Synagro In-Vessel Bioconversion Facility at the Sand Island WWTP in 2006, the CCH has experienced significant benefits:

- Landfill disposal of the Sand Island WWTP's biosolids decreased from 100% to 7% and achieved the CCH's goal of minimizing the need to expand Oahu's landfill
- The biosolids are now converted into a commercial-grade, Class A "Exceptional Quality" fertilizer product for agricultural and commercial use on the island, moving Honolulu even closer to its long-term sustainability goal
- The facility utilizes renewable biogas, which displaces approximately 5,500 barrels of oil per year and reduces the island's dependence on imported fossil fuels

Additionally, Synagro staff members regularly meet with CCH officials and local businesses in the community and provide product donations and financial support to a variety of organizations in the area. Examples include the Hawaii Softball Foundation in support of Sand Island Recreation Park restoration efforts, the Department of Environmental Services recycling program, and several local public schools.

# YOUR PARTNER FOR A CLEANER, GREENER WORLD



## **PARTNER WITH SYNAGRO**

When you're looking for the best biosolids and residuals solutions to serve your business and your community, Synagro has the proven solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro. Across the United States, Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

## **WHO WE ARE**

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

## **HOW WE CAN HELP**

Our professional and experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff. Synagro provides a comprehensive scope of customer focused solutions.



## **CONTACT US**

800.825.5698  
435 Williams CT., Suite 100  
Baltimore, MD 21220

[sales@synagro.com](mailto:sales@synagro.com)  
[www.synagro.com](http://www.synagro.com)



### WHAT ARE BIOSOLIDS?

Biosolids are the final product created through multiple processes and scientifically-advanced treatment of sewage sludge.

Generated by thousands of publicly-owned municipal waste water treatment facilities all across the country, biosolids are safe to recycle and rich in plant available nutrients.

Since every community must process the wastewaters generated by its population, recycling biosolids for added benefit to agriculture and horticulture makes sense.

Biosolids can be safely applied to soil as a fertilizer or soil conditioner to improve and maintain agricultural and forest lands as well as to restore damaged acreage.

Developed during the past 30 years, the biosolids process has resulted in the rapid and remarkable cleansing and restoration of America's rivers and streams.

### IS BIOSOLIDS RECYCLING SAFE? HOW DO WE KNOW?

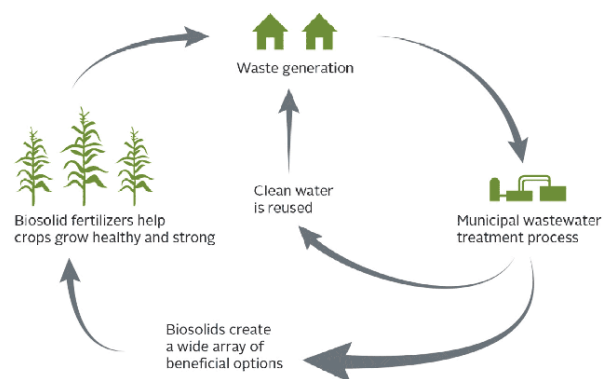
Yes! Federal and state standards and management practices for biosolids recycling were developed from a detailed scientific risk assessment completed by the U.S. Environmental Protection Agency (USEPA). Input included research and expertise from the U.S. Department of Agriculture and premier universities including the Universities of Arizona, California, Colorado, Florida, Maine, Michigan, Massachusetts, Minnesota, New Hampshire, Oregon, Vermont, Washington, and Colorado State, Ohio State, Penn State, and Cornell Universities.

### WHAT DO "CLASS A" AND "CLASS B" MEAN?

The federal Clean Water Act Part 503 regulations identify two classes of pathogen reduction:

**Class A:** Class A biosolids undergo a "Process to Further Reduce Pathogens (PFRP)." Pathogens are reduced to a level similar to the native soil and environment. Class A biosolids products can be used on home lawns and gardens, parks and golf courses, and other places where public contact is likely. Class A biosolids products include composted biosolids, lime pasteurized biosolids, and fertilizer pellets. Class A biosolids products are sometimes ingredients in soil amendments, potting soils, and slow-release fertilizers.

**Class B:** Class B biosolids undergo a "Process to Significantly Reduce Pathogens (PSRP)." This means that while pathogens are significantly reduced to levels which are often below those found in animal manures, additional best management practices (BMPs) are required at the site where they are used. Class B biosolids are used in bulk as fertilizers in agriculture and forestry and to reclaim barren lands. Site permits are required for Class B biosolids use.







# YOUR PARTNER FOR A CLEANER, GREENER WORLD

## WHAT ABOUT PATHOGENS IN BIOSOLIDS?

The potential for exposure diminishes as environmental conditions such as heat, sunlight, desiccation, and other microorganisms destroy pathogens that may be present in biosolids. As noted by the National Research Council of the National Academy of Sciences, there have been no reported outbreaks of infectious disease associated with exposure to properly treated and utilized biosolids.

## WILL THE USE OF BIOSOLIDS ADVERSELY IMPACT NEARBY SURFACE WATERS AND/OR GROUNDWATER?

No. Properly treated and properly managed biosolids products do not have a negative impact on surface water or groundwater quality. As with any fertilizer or soil amendment, best management practices must be followed to prevent impacts via surface water runoff or via leaching to groundwater. By law, biosolids recycling programs must follow such best management practices; the same is not true for the use of manures and chemical fertilizers. Numerous biosolids recycling programs have caused documented improvements in the quality of surrounding water bodies. How? By enriching soils and helping vegetation grow more vigorously. This results in reduced soil erosion and stabilization of on-site contaminants that had previously contributed to stream and groundwater pollution.

## ARE THERE RULES ABOUT WHERE BIOSOLIDS CAN BE APPLIED?

There are different rules for different classes of biosolids. Class A biosolids are highly-processed and contain no detectable levels of pathogens. Once processed, Class A biosolids that meet strict stabilization requirements and low levels metals content may be sold as a fertilizer or soil conditioner. Class B biosolids are treated to destroy 99.99% of the monitored organisms, but as with many soil amendments, contain detectable levels of pathogens. There are buffer requirements, public access restrictions, and crop harvesting restrictions for virtually all forms of Class B biosolids.

## WILL THE VALUE OF MY PROPERTY BE ADVERSELY IMPACTED IF BIOSOLIDS ARE USED IN MY NEIGHBORHOOD?

No. Studies have shown that biosolids are beneficial. By using biosolids, farmers and other landowners are managing the nutrients and processes on their properties more carefully and responsibly than the average landowner. In addition, those who use biosolids may be benefiting from a more efficient fertilizer option and helping their farm fields or other open lands to be more profitable. The more profitable their operations are, the more likely it is that farmers and other landowners will keep their properties green and open for the neighborhood to enjoy.

## WHAT ABOUT ODORS

Some biosolids products can create unpleasant odors, but many do not. Most Class A biosolids products (e.g. compost, fertilizer pellets) are basically odor free or have a slight earthy smell. Some bulk Class B biosolids products have odors similar to animal manures used to fertilize farm fields. As with manures, when bulk Class B biosolids are land applied, some odors are possible, but they are temporary.

## HOW CAN I KNOW THAT BIOSOLIDS ARE BEING PROPERLY MANAGED?

Most wastewater treatment facilities are public and share their testing and process information willingly. You can learn more about biosolids recycling by contacting your local wastewater or biosolids treatment facility or the USEPA website at [www.epa.gov](http://www.epa.gov).

## SYNAGRO

When you are looking for the best biosolids and residuals solutions to serve your business and your community, Synagro has the proven solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro. Across the United States, Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

## WHO WE ARE

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

## HOW WE CAN HELP

Our professional and experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff. Synagro provides a comprehensive scope of customer focused solutions.



## CONTACT US

800.825.5698  
435 Williams CT., Suite 100  
Baltimore, MD 21220

[sales@synagro.com](mailto:sales@synagro.com)  
[www.synagro.com](http://www.synagro.com)



**SYNAGRO & GNHWPCA  
ARE TRANSFORMING  
SUSTAINABLE WASTE  
MANAGEMENT ACROSS  
NEW ENGLAND**

OFFSETTING MORE THAN  
\$500,000 IN FUEL COST

CUTTING OVER 6,000 METRIC  
TONS OF CO2 EVERY YEAR

**CHALLENGE**

For years, the Greater New Haven Water Pollution Control Authority (GNHWPCA) met critical needs for the City of New Haven and surrounding municipalities in southern Connecticut. But by the early 1990s, its ability to serve a diverse and growing clientele was at serious risk: Thermal conversion equipment was not operational and a back-up alkaline stabilization system used outdated odor control technology.

**SOLUTION**

In response to these urgent challenges, GNHWPCA contacted Synagro to upgrade and refurbish the existing multiple-hearth furnace. In addition, Synagro proposed an interim solution to GNHWPCA's immediate sludge management needs and odor issues by hauling solids to the Woonsocket, Rhode Island incinerator for disposal.

Having solved the immediate problem at hand, Synagro was ready to implement the upgrade and refurbish GNHWPCA's multiple-hearth furnace, ensuring long-term operation, maintenance and handling of the plant's solids. It was the fix that the GNHWPCA needed and a collaboration that still continues today.

After aiding in the improvement of the thermal conversion process, Synagro introduced merchant sludge from external generators in the region to maximize capacity, enhancing its operational efficiency and generating income for the community.

**CONTINUED INNOVATION**

Dedicated to making a positive impact, Synagro also joined forces with the GNHWPCA and the Connecticut Department of Energy and Environmental Protection to pilot a fats, oils and greases (F.O.G.) receiving and processing program in New Haven. Our goal was to implement a more reliable, cost-effective solution for dischargers of F.O.G. that remain compliant with regulations.

To accomplish this, the Synagro led team established the first F.O.G. receiving facility in the state. This created an additional revenue stream for the GNHWPCA as well as gave food preparation establishments an outlet for the beneficial use of waste material. Without Synagro's innovative approach, GNHWPCA would have experienced severe foul collection system and wastewater facility problems.

Since inception, Synagro has helped the GNHWPCA maintain more than 96% uptime performance. The F.O.G. receiving facility has processed over 27 million gallons of material, offsetting more than \$500,000 in fossil fuel costs.

# YOUR PARTNER FOR A CLEANER, GREENER WORLD



## **PARTNER WITH SYNAGRO**

When you are looking for the best biosolids and residuals solutions to serve your business and your community, Synagro has the proven solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro. Across the United States, Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

## **WHO WE ARE**

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

## **HOW WE CAN HELP**

Our professional and experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff. Synagro provides a comprehensive scope of customer focused solutions.



## **CONTACT US**

800.825.5698  
435 Williams CT., Suite 100  
Baltimore, MD 21220

[sales@synagro.com](mailto:sales@synagro.com)  
[www.synagro.com](http://www.synagro.com)



### FACILITY PRODUCT

The product is a 1mm-4mm dried fertilizer high-quality Class A pellet which is sold to agricultural users in California including ranches, fertilizer blenders, and row crops.

### OVERVIEW

The Sacramento project specification sludge definition included a requirement for the Sacramento Regional County Sanitation District to provide biosolids with a rolling average TS of 1.7%. This number was the basis for the facility design and therefore important in determining the capacity of material that could be processed, in addition to baseline costs.

When the project got underway, the District, despite attempts to correct the low solids feed, was only able to provide biosolids with an average TS of 1.4%. This affected the facility through-put, and required longer hours or substantial additional polymer to process the required amount of biosolids.

The District and Synagro negotiated a unique amendment to cover the cost of additional polymer on a sliding scale based on the monthly rolling-average TS numbers. This approach resulted in a workable resolution, and highlighted the importance of defining up-front realistic and achievable standards for specification biosolids.

### UNIQUE APPROACH

Synagro demonstrated its true partnership mentality on this project by agreeing to a unique amendment to meet the District's needs during an economic crisis. The District operated a dedicated land disposal program. This is a very low cost program, but does not recycle the biosolids.

In 2010, the District was under extreme financial pressure due to the economic downturn in California and came to Synagro requesting cooperation in a three-year program to lower costs. Synagro worked with the District on a plan which reduced through-put at the drying facility and diverted tonnage to land disposal while still keeping the facility operational. Once implemented, the plan saved the District \$1M per year, while still servicing the debt and processing a reduced amount of material.

By working as a partner with the District to attain positive outcomes, Synagro was instrumental in saving facility jobs. In 2013, Synagro resumed full production at the originally agreed upon contract amounts.

# YOUR PARTNER FOR A CLEANER, GREENER WORLD



## SYNAGRO ADVANTAGE

When you are looking for the best biosolids and residuals solutions to serve your business and your community, Synagro has the proven solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro. Across the United States, Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

## WHO WE ARE

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

## HOW WE CAN HELP

Our professional and experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff. Synagro provides a comprehensive scope of customer focused solutions.



## CONTACT US

800.825.5698  
435 Williams CT., Suite 100  
sales@synagro.com

Baltimore, MD 21220  
www.synagro.com





## SUCCESS

Synagro's capabilities enable the City/ECR to better manage its biosolids dewatering program and results in significant cost reduction for the City/ECR by:

- Producing biosolids cake product that is significantly dryer than what was being produced off the existing belt filter presses.
- Enabling the City/ECR to remove more solids from their system and reduce the volume being sent off for disposal.
- Providing all the dewatering equipment, labor and polymer the City/ECR, Synagro eliminated the need for capital expenditures to repair the aging equipment that will be replaced.

# 60,000

biosolids tons Synagro manages each year at the Eastern Central Region Water Reclamation Facility.

## CHALLENGE

The City of West Palm Beach's East Central Regional (ECR) 70 MGD Facility was having difficulty with their aging belt filter presses requiring major overhauls. The overall cost was an estimated \$800,000. The City intended on replacing them within three years and felt that an overhaul was not the best interim solution. An option was to seek outside dewatering capabilities to replace this operational requirement.

The challenge was to stay within the City's budget constraints which included the dewatering operation, transport of the biosolids and the ultimate disposal at the NEFCO Regional Dryer Facility. The dewatering capabilities would have to have capacity for a minimum of 360,000 gallons per day as required by the facility.

A pilot test was conducted to prove the capabilities of a centrifuge dewatering system and to determine the liquid removal capabilities in comparison to the current belt filter press processing. The current process achieved approximately 14% - 15% cake solids. The centrifuge pilot test achieved cake solids in excess of 20% plus.

## SOLUTION

The City and the ECR issued an RFP for temporary dewatering with strict specifications to achieve the desired water removal and to have spare equipment for back-up capabilities. Synagro delivered and operates 3 mobile/skid mounted centrifuges with combined processing capacity of 750,000 gal to 1,500,000 gal/d allowing ECR to forego substantial capital and operating costs required to temporarily repair the presses while a permanent solution was installed.

Synagro's operations produce a significant improvement in cake solids from ~14% with the presses to over 25% solids through the centrifuges.



MINIMIZES  
REPAIR AND  
MAINTENANCE  
COSTS



REDUCES  
CITY'S  
RISK



SIGNIFICANT  
VOLUME  
REDUCTION



MEETS  
BUDGETARY  
REQUIREMENTS

# YOUR PARTNER FOR A CLEANER, GREENER WORLD



## PARTNER WITH SYNAGRO

When you are looking for the best biosolids and residuals solutions to serve your business and your community, Synagro has the proven solutions to help you succeed. Municipalities and industrial organizations like yours that want to make the best use of organic waste turn to Synagro. Across the United States, Synagro applies expertise and innovative technology to provide resource recovery solutions that meet the unique needs of customers and communities.

## WHO WE ARE

Synagro is the country's preeminent provider of biosolids and residuals solutions services since 1986.

Headquartered in Baltimore, Maryland, we employ over 800 people in 34 states and service more than 600 municipal and industrial water and wastewater facilities.

## HOW WE CAN HELP

Our professional and experienced staff members provide solutions for all aspects of biosolids and residuals management needs, from land permitting and soil analysis by our nationwide technical services team to facilities development by our in-house engineering staff. Synagro provides a comprehensive scope of customer focused solutions.



## CONTACT US

800.825.5698  
435 Williams CT., Suite 100  
Baltimore, MD 21220

[sales@synagro.com](mailto:sales@synagro.com)  
[www.synagro.com](http://www.synagro.com)