

50 YEARS OF EXCELLENCE

**JMS**

JIM MYERS & SONS, INC.



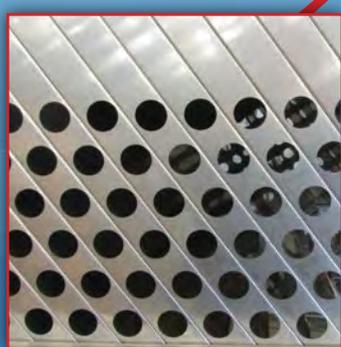
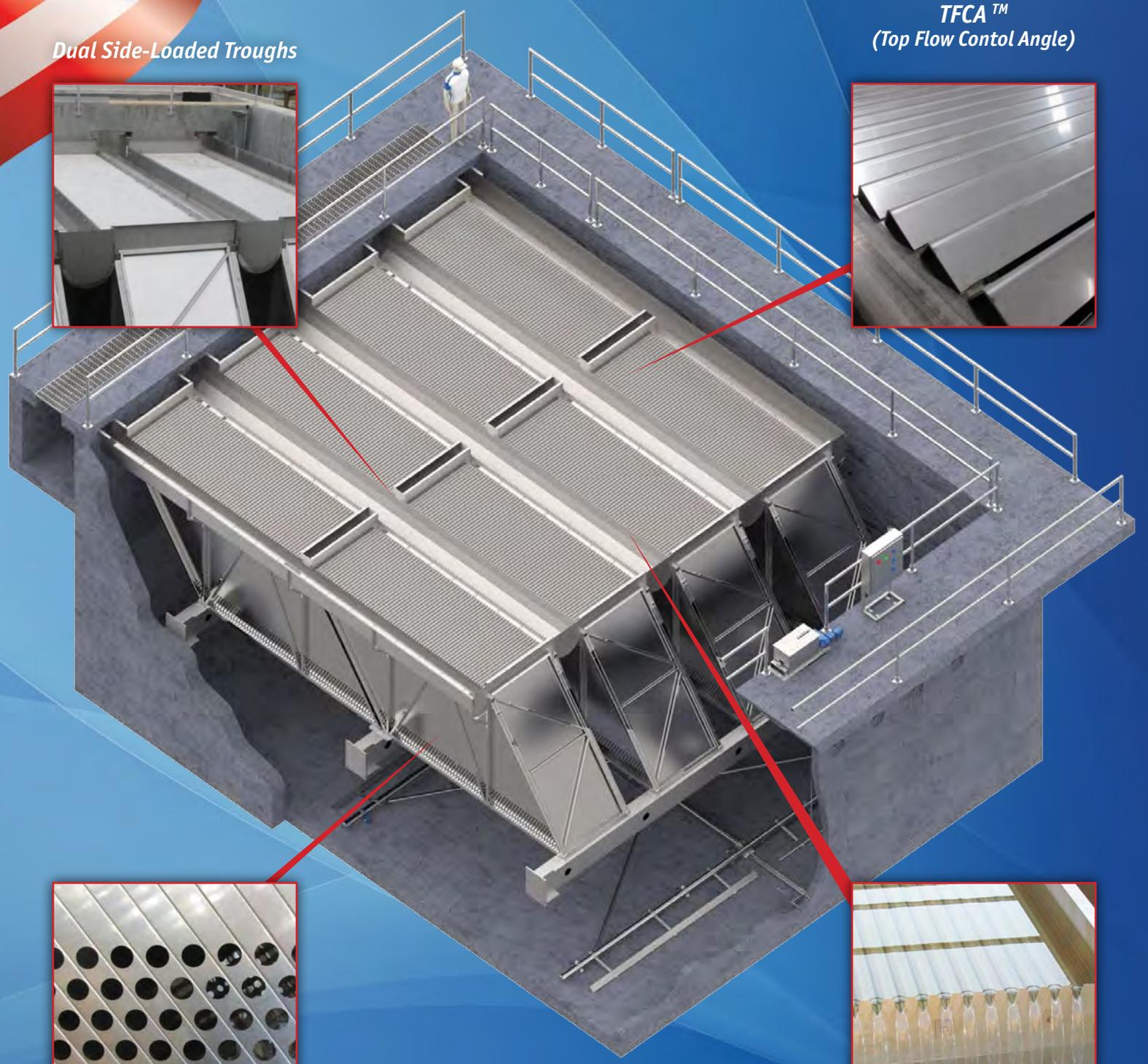
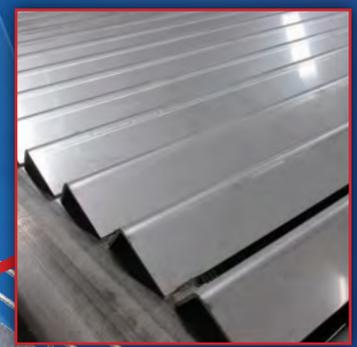
**Mega-SETTLER**  
Plate Settler System

Proven ... Process ... Performance

*Dual Side-Loaded Troughs*



*TFCA™  
(Top Flow Control Angle)*



*Side Influent Orifices*



*2VNP™  
(Adjustable V-Notch Weirs)*

J I M M Y E R S & S O N S , I N C .



JIM MYERS & SONS, INC.

Since being established in 1962, Jim Myers & Sons, Inc. (JMS) has grown continually and today is recognized as one of the nation's leading designers and manufacturers of water and wastewater treatment equipment and systems. We have reached this point by incorporating equal parts innovation, quality and reliability into every component bearing the JMS name. We maintain that leadership position through one of the most comprehensive, solution-driven product offerings available.



Utilizing the latest software for BIM-compliant mechanical and structural design with commercial and proprietary analysis programs, our professional engineering staff makes concepts reality by providing solutions to complex problems.



True to our roots, our 72,000 sq. ft. Charlotte facility is the site for all fabrication, manufacturing, machining, and testing. There, the JMS commitment to excellence, a part of our DNA, manifests itself every day with the promise to continue for generations to come.



Mega-SETTLER  
Plate Settler System

### Proven ... Process ... Performance

It is not possible to sum up in a few words what has taken better than half a century to achieve, but these three come the closest. Our Mega-SETTLER (Plate Settler System) design is already **proven** in scores of applications throughout the U.S. and abroad. JMS in-depth knowledge of both the water and wastewater treatment markets allows us to fully understand your **process** and provide solutions like the Mega-SETTLER, solutions designed with operational efficiency in mind. Like all JMS products, our Mega-SETTLER offers an unsurpassed level of **performance** geared around the longest possible component life and the lowest maintenance demands of any comparable system.

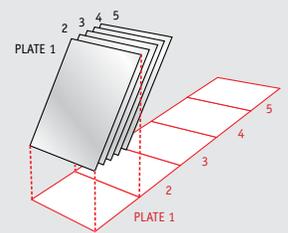
Just three words: Proven, Process, Performance, speak volumes. JMS has the answers you want, the solutions you need, and the support you deserve.



### Settling on Success

The plate settler's roots date back to 1904, when sanitary engineering pioneer Allen Hazen introduced the concept that sedimentation is a function of basin surface area, independent of retention time. That development led engineers to add diagonal steel plates in the sedimentation basins to increase the effective projected horizontal surface area. At JMS, we build upon that concept by utilizing our own Mega-PROGRAM (Plate Settler Design Program), developed over the last decade, to calculate the effective projected horizontal surface area required for a given design flow, while optimizing other design variables critical to the process. The result is the most efficient approach possible to maximizing the treatment capacity of the basin and improving effluent quality.

#### Effective Projected Horizontal Surface Area



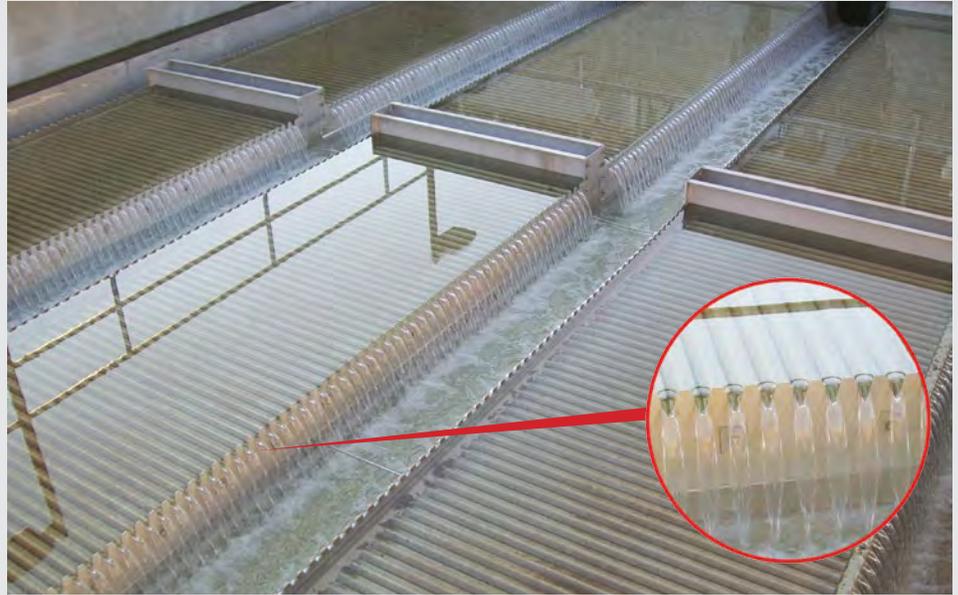
Units		Design Results		Trough Results	
<input checked="" type="checkbox"/> Standard		Calculated Projected Horizontal Surface Area Required	11,574 ft <sup>2</sup>	<input checked="" type="checkbox"/> Round Bottom Trough	<input type="checkbox"/> Flat Bottom Trough
<input type="checkbox"/> Metric		Number of Plates Required	561	<input checked="" type="checkbox"/> Use Maximum Flow	0.00 MGD
Basin Information:		Velocity through Plates	0.0151 fps	Calculated Flow per Trough	868.1 gpm
Number of Basins	6	Settling Time through Plates	11.06 min	Internal Trough Width	24 in
Basin Width	30.00 ft	Basin Layout Results		Internal Trough Height	15 in
Basin Length	60.00 ft	Frame Width	60.00 in	Percent of Normal Flow	8.3 %
Side Water Depth	16.00 ft	Number of Frames Wide	4	Unweir width of Basin	24.00 in
Basin Floor	5.00 MGD	Frames per Row	2	Max. Outside Trough Width	24.00 in
Plate Design:		Frame Length	14.44 ft	Max. Internal Trough Width	32.00 in
Plate Length	10.00 ft	Total Number of Frames		8	Flow in Trough
Plate Width	4.50 ft	Plates per Frame	71	Flow at Trough	752.1 gpm
Parallel Plate Spacing	2.00 in	Total Number of Plates	566	Outside Trough Height	15 in
Plate Angle	55.00	Row Length	35.28 ft	Percent of Normal Flow	8.3 %
Loading Rate	0.300 gpm/ft <sup>2</sup>	Total Flow		5.00 MGD	
Efficiency Rate	80.00 %	Basin Overflow Rate	1.93 gpm/ft <sup>2</sup>		
		Surface Loading Rate	6.76 gpm/ft <sup>2</sup>		
		Basin Retention Time	1.03 hrs		

#### JMS Mega-PROGRAM (Plate Settler Design Program):

Calculates all critical design parameters allowing for optimum process layout.

## Maximizing Space

Increasingly, treatment plants are asked to do more and the need for maximizing what's available has never been more evident. At JMS, we design our Mega-SETTLER to best suit any basin geometry and sludge collection system. This approach can dramatically reduce the footprint of a conventional sedimentation basin, often by as much as 50 to 90%. It can also significantly increase the treatment capacity of existing basins while improving effluent quality. Compared to similar output sedimentation basins without plate settlers, the Mega-SETTLER requires a much smaller footprint, performs consistently better, is more reliable, and when all capital, construction, and operational costs are factored in over the life of the system can actually cost less.



*Lyman, SC Mega-SETTLER Installation with Patented TFCA™, 2VNP™, and Dual Side-Loaded Effluent Troughs*

## Advantages: Mega-SETTLER

The JMS Mega-SETTLER features our own unique innovations and enhancements making it the most advanced and top performing system in the market today.

### TFCA™ Top Flow Control Angle

*Patented feature controls headloss and clogging issues other designs do not address.*

- Provides headloss control for even laminar flow to exit, minimizing clogging
- Operators can walk on top of plates for wash-down and service
- TFCA™ angle geometry adaptable to suit water or wastewater applications

### Dual Side-Loaded Effluent Troughs

*Addresses the issues of reduced visibility, access to the plates, and velocity accumulations resulting in imbalanced flow.*

- Minimizes distance settled water travels to trough, flow across plate remains balanced
- Provides view of, and access to the top of the system

### 2VNP™ Adjustable V-Notch Weirs

*Adjustable weirs fine-tune water elevations to accommodate fluctuations in plant flow.*

- Two V-notch weirs per plate for even flow distribution across all plates

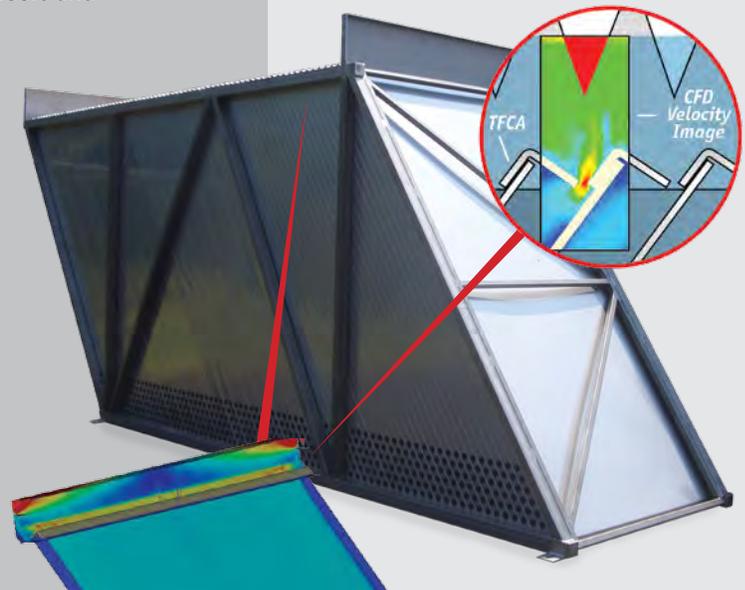
### Mega-PROGRAM (Plate Settler Design Program)

*The JMS Mega-PROGRAM is the most advanced and comprehensive plate settler design program in use.*

- Thousands of Mega-SETTLER designs optimized for engineers and municipalities

## Simply the Best

Constructed of 100% stainless steel, every JMS Mega-SETTLER is designed to provide the highest level of efficiency and durability, while minimizing maintenance demands. Our experts continually analyze field data and apply that knowledge to each new system. As a result, we can select the right combination of variables to optimize the performance of your system. The Mega-SETTLER line represents the efforts of JMS professionals with decades of experience in the sedimentation and flocculation industry, all committed to both process efficiency and customer satisfaction.



*CFD Images of JMS TFCA™ (right)*



### Success Stories

Located about 15 miles south of Milwaukee, the Oak Creek Water & Sewer Utility provides water and sewer service to 70,000 people in Milwaukee County. To meet growth demands of the area, the capacity of the Oak Creek WTP has grown from its original six million gallons/day (MGD) to a current capacity of more than 34 MGD. In the latest plant upgrade, engineers hoped to not only improve water quality but also maximize the space available for expansion. They did so by specifying the use of a JMS Mega-SETTLER, installed downstream from a newly-installed Mega-FLOC (Horizontal Paddle Wheel Flocculator), also from JMS. This change greatly reduced both the size of the sedimentation basins and the building needed to house them.

Oak Creek WTP was in a unique position to be able to compare and contrast systems with and without JMS technology at work, as several basins were traditional sedimentation basins and one was a high-rate basin with older plate settlers. Plant operators report the performance from the basins with the JMS Mega-SETTLER is much better than the others, citing an average effluent turbidity of 0.2 - 0.4 NTU. They also say that, when complete, the plant expansion came in \$6 million under estimates with better process performance than any of their previous expansions.



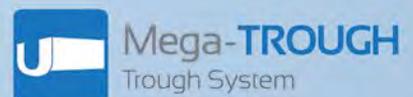
### System Integration

In addition to Mega-SETTLER, JMS expertise extends to a host of other products and systems listed at right. Having such a broad and varied range of experience means your water and wastewater needs, whether individual component or full-system, are understood. Optimized efficiency and process performance are yours for the asking. **Contact JMS today.**



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*"Making a Difference for Generations"*



Your JMS Sales Representative:

