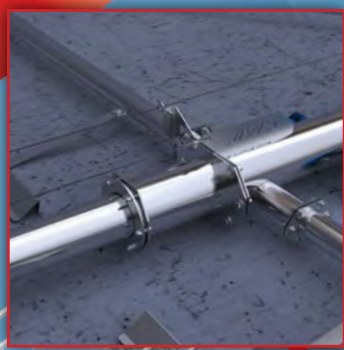




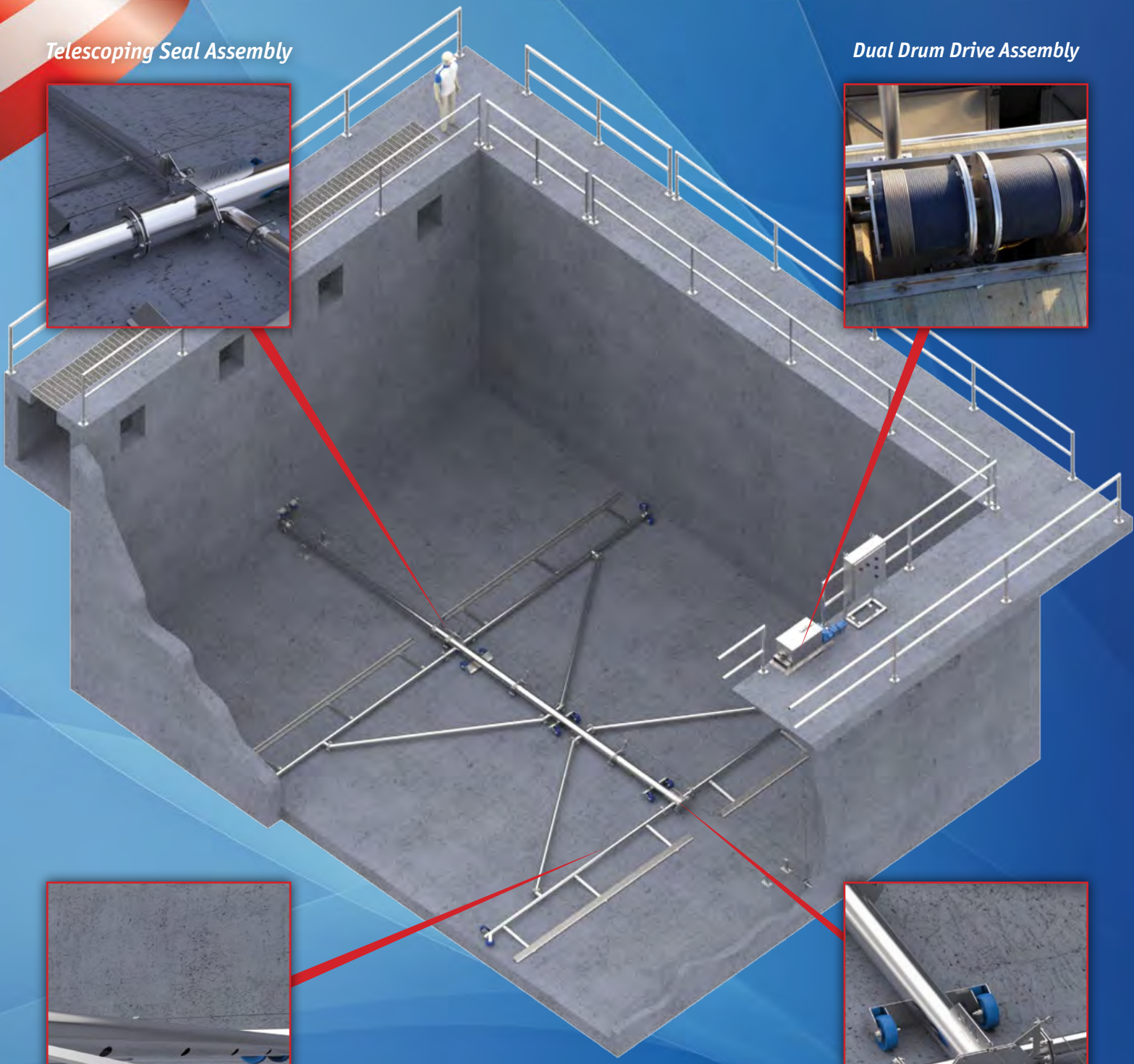
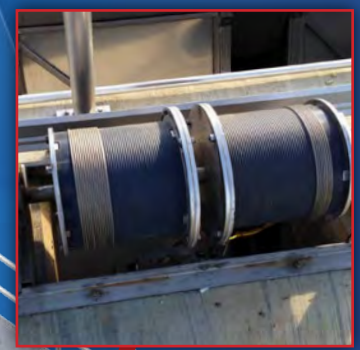
**Mega-VAC**  
Sludge Removal System

Proven ... Process ... Performance

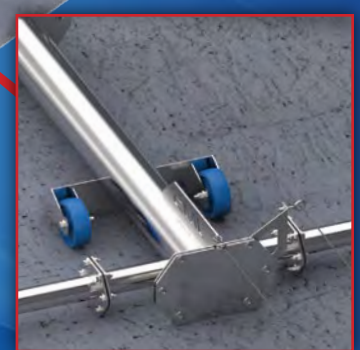
*Telescoping Seal Assembly*



*Dual Drum Drive Assembly*



*Influent Orifices*



*Wheel Assembly*





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.

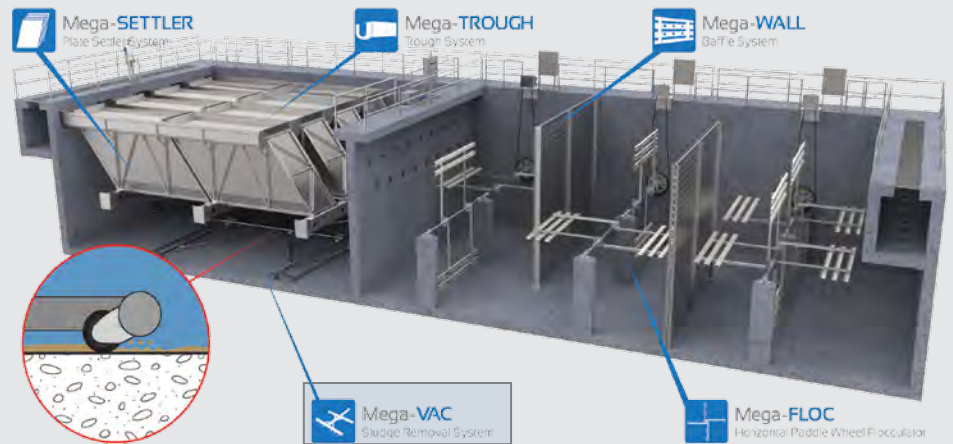


Mega-VAC  
Sludge Removal System

### 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-VAC (Sludge Removal System) design has already **proven** itself in 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-VAC, solutions designed with operational efficiency in mind. Like all JMS products, our Mega-VAC offers an unsurpassed level of **performance** centered around the longest possible component life and the lowest maintenance demands of any comparable system.

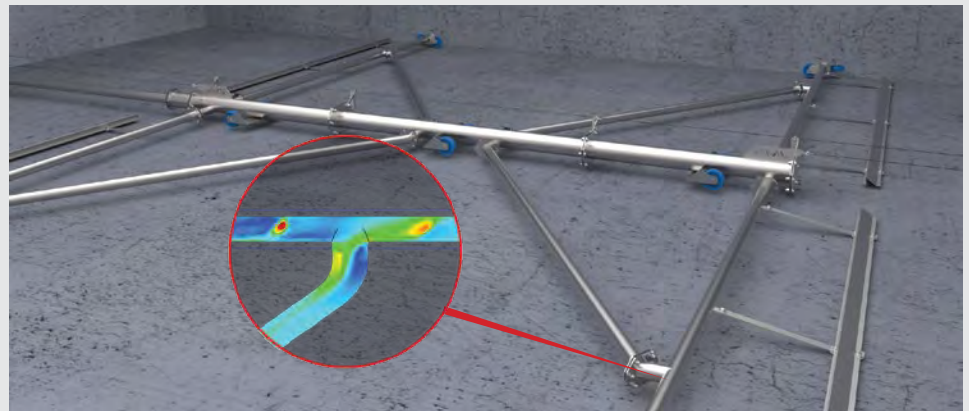
Just three words: Proven, Process, Performance, speak volumes. JMS has the answers you want, the solutions you need, and the support you deserve.



### Dealing With Sludge

Efficient removal of sludge from the bottom of sedimentation basins in water and wastewater treatment applications has long been an issue. Failure to address sludge removal can reduce the effective volume of the tank as well as the efficiency of the sedimentation process. Former sludge removal systems provided a solution to the problem, but came with issues related to handling of the sludge.

The new hoseless Mega-VAC sludge removal system developed by JMS addresses these concerns by combining proven technology with knowledge from 50 years of outfitting sedimentation basins. The JMS Mega-VAC design uses the hydraulic head differential between the water surface and the sludge discharge elevation (or pump when needed). Head pressure in the basin forces sludge into the dual header orifices, and on to the discharge point for collection. This hoseless design has resulted in a reliable low head-loss system, powered by gravity, effective for most water and wastewater applications.



**JMS Development: Flow Balancing Diagonals**

## Wall to Wall Efficiency

The new hoseless Mega-VAC uses a telescoping pipe to carry sludge from the basin floor to discharge outlet. This design optimizes sludge removal, improving system efficiency, and lowering maintenance and operational costs. Its low profile design is well suited for installation under JMS Mega-SETTLERS in new or existing plants. The addition of patent pending flow balancing diagonals results in the most efficient system on the market for wall to wall sludge removal.

## Advantages: Mega-VAC

### Process Advantages

- Flow balancing diagonals for even intake across the header pipe result in efficient wall to wall sludge removal
- Powered by hydraulic head differential lowers operational costs
- Dual header maximizes solids removal, less water waste
- Mega-VAC design eliminates the need for potentially problematic hoses

### Experience Advantages

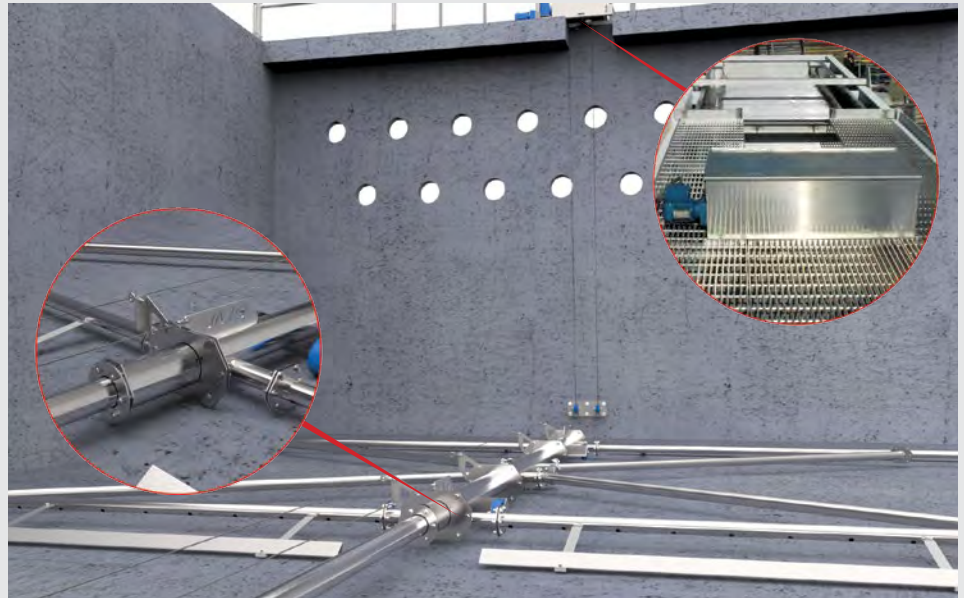
- JMS applies over 50 years of experience to each Mega-VAC system
- JMS product line can outfit the entire floc/sed basin for optimum results

### Maintenance Advantages

- Stainless steel and non-metallic for corrosion-resistance, and long life
- Leading edge inlet orifices are designed to eliminate clogging
- Proven cable reel design allows for easy cable adjustments and maintenance

## A System With Drive

The cable drive system provides the muscle behind every Mega-VAC unit at work today. This unit drives a shaft with dual cable drums attached. Each cable drum can rotate independently, allowing for easy cable tensioning at startup or during subsequent cable tensioning activity. The dependable Mega-VAC system does not rely on friction or cable tension, so it is unaffected by cable stretch.



*Mega-VAC Flow Balancing Design with Telescoping Pipe*

## Two Heads Are Better than One

Utilizing a dual header design, with patent pending flow balancing diagonals, the Mega-VAC takes process efficiency to new lengths . . . literally. The dual head design, removes sludge from the entire basin floor despite traveling only 55% its length. Less movement means reduced wear, increased longevity, and higher removal rates. Durability is also enhanced through the use of stainless steel and non-metallic components in all submerged parts of the Mega-VAC system.

Energy plows mounted on the leading edge of each header pipe impart energy into the sludge blanket as the header assembly travels the basin floor. That energy helps sludge thicken and encourages flow, for higher solids removal with less water waste.

Flow balancing diagonals, a JMS technology advancement, minimize the effect of the differential pressure across the headers, and have a balancing effect on flow entering each orifice. The result is more consistent sludge removal across the entire length of the header.

Mega-VAC travel is guided by the basin walls, without the need for guide rails. Installation in new or existing basins is simplified, and there is no possibility of the unit coming off of its guide system. Supported by non-metallic wheels the assembly easily adjusts to minor variations in the basin floor.

## JMS in Control

Mega-VAC system controls are housed in a NEMA 4X stainless steel enclosure with a human interface module on the panel door for easy operator access. In addition to pre-selected programming of operation frequency, speed, and percentage of travel per cycle, custom programming protocols can easily be created. Adjustment of the Mega-VAC travel speed/frequency via the system VFD

maximizes plant specific performance based on solids volumes and density. Remote SCADA monitoring and control is available on all Mega-VAC units.



*Mega-VAC Controls*





**Mega-TREATMENT**  
Water Treatment Systems



### Success Stories

The town of Gastonia, NC is not far from the JMS Charlotte facility. There, Mountain Island Lake serves as the source of water for Two Rivers Utilities. The nearly 100 year old water plant on this site has been expanded five times over the years and now has the capability to produce up to 24 MGD to serve the area's needs, however there are even bigger plans for the future.

JMS has been part of more than one upgrade at this plant over the years, including Mega-FLOC (Vertical Paddle Wheel Flocculators). For the past year, the JMS Package Plate Settler Pilot Unit, including Mega-VAC, has been onsite as one of the initial steps toward Gastonia's largest single project, \$100MM in upgrades at this plant. Under the guidance of LaBella Associates, careful consideration is being given to various plant upgrades, including membrane technology, and JMS Mega-VAC sludge removal equipment.

After running the JMS Pilot Unit for over a year, results have been very impressive. In the words of those involved with the project, high quality water is consistently delivered from the JMS Pilot Unit to the membrane filters. The JMS Mega-VAC has become a vital part of this successful operation.



### System Integration

In addition to Mega-VAC, 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.**



**Mega-FLOCS**  
Paddle Wheel Flocculators



**Mega-FLOC**  
Horizontal Paddle Wheel Flocculator



**Mega-FLOC**  
Vertical Paddle Wheel Flocculator



**Mega-FLOC**  
Walking Beam Flocculator



**Mega-SETTLER**  
Plate Settler System



**Mega-VAC**  
Sludge Removal System



**Mega-SCRAPER**  
Sludge Removal System



**Mega-SYSTEM**  
Packaged Plate Settler System



**Mega-WALL**  
Baffle System



**Mega-TROUGH**  
Trough System

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*"Making a Difference for Generations"*