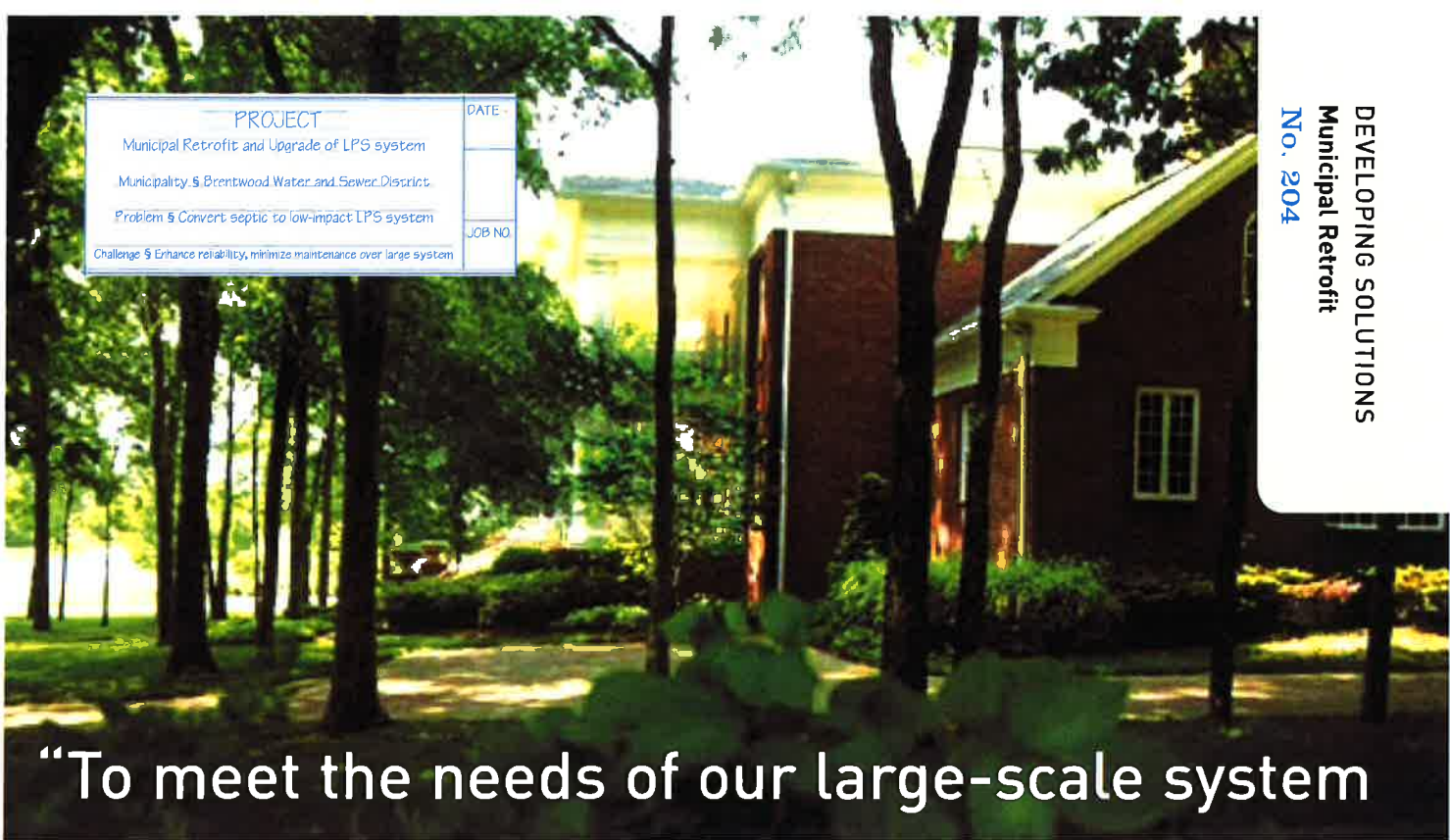


PROJECT	DATE
Municipal Retrofit and Upgrade of LPS system	
Municipality: Brentwood Water and Sewer District	
Problem: Convert septic to low-impact LPS system	JOB NO.
Challenge: Enhance reliability, minimize maintenance over large system	



“To meet the needs of our large-scale system

E/One was right in tune.”

- John Grissom

Brentwood, Tennessee is a beautiful suburb with rolling hills, mature oaks, and exclusive homes. It's also home to some of Nashville's biggest stars. So when it was time to change over from septic systems, the natural choice was low pressure sewer (LPS). With its smaller piping, and shallower installation, **LPS provided a less-disruptive, lower-cost solution than gravity – and preserved the landscape.**

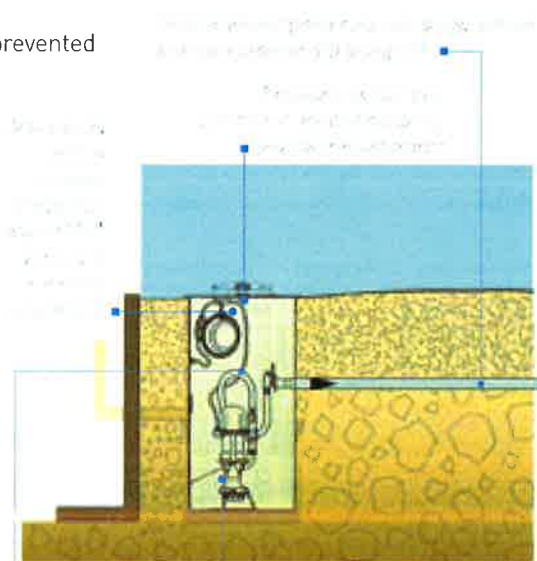
However, the original supplier's pumps developed problems – head loss prevented use in some areas and flawed level controls required difficult in-field repairs. **That's when Water and Sewer Director John Grissom called the leading act in the business: E/One.** With its low-speed, high-torque progressing cavity pump, E/One delivered a more reliable – and less expensive – solution with higher head capability.

**With the longest mean time between service calls,** E/One also delivered peace of mind to the water district – and residents. In fact, the folks in Brentwood like E/One's solution so much, **it's now the only LPS system specified in their code for new construction.**

E/One. In harmony with your needs.

**SEWERING PROBLEMS GOT YOU SINGING THE BLUES? ASK E/ONE.**

Send us the topo map of your next project, and we'll show you – **at no charge** – how to save money and increase the viability with an E/One system.



Call, or visit us online:  
**Environment One Corporation**, 518-346-6161 Ext. 3028, [www.eone.com](http://www.eone.com)  
A Precision Castparts Company

# The E/One AMGP is the **Reliable** **cost-efficient solution** to your grinder pump problems.

**With more than 30 years experience and over half a million end users, Environment One understands your problems – and we can help.**

When you're having too many problems with your system's centrifugal grinder pumps, it can wear you down. And wear you out. Those inferior grinder pumps aren't worth fixing. And fixing. The solution is to upgrade to Environment One's AMGP, the aftermarket grinder pump that works and goes on working without any preventive maintenance. It's the original grinder pump design, the one others have tried to copy but they just haven't gotten it right. We have it down to a science. A simple science – design a pump for the application. So replace that troublesome pump. With E/One's AMGP.

The AMGP is engineered to fit virtually any other grinder pump well. Its universal design allows ready-to-connect, easy drop-in changeover. So don't put up with one more maintenance disaster from your centrifugal pump. Call E/One and start making your life easier today.

## Features and Benefits

- Grinder is designed to eliminate jamming and for minimum wear to grinding mechanism
- Self-contained level control system eliminates troublesome float switches; E/One's pressure switch level control system is the most effective in the industry
- Internal check valve assembly is designed for non-clog, trouble-free operation



E/One's AMGP is the most reliable replacement pump on the market, with an 8-10 year mean time between service calls – including no preventive maintenance calls.

Contact your local distributor



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**GENUINE**  
— **E/One-DRIVEN** —  
**ALL-TERRAIN**  
**SEWER**<sup>TM</sup>

**Flat? Wet?**  
**Rocky? Hilly?**  
**Get after it.**

ALL-TERRAIN SEWER<sup>TM</sup> low pressure  
systems from E/One give you  
the freedom to sewer anywhere

Environmentally Sensitive  
Economically Sensible<sup>TM</sup>   
SEWER SYSTEMS

# E/ONE SEWER™ SYSTEMS GIVE YOU THE FREEDOM TO SEWER ANYWHERE



## **ALL-TERRAIN SEWER™ LOW PRESSURE SYSTEMS FROM E/ONE**

are cost-effective, highly reliable central sewer systems that can be installed in any terrain – flat, wet, rocky, even on sites with dramatic elevation changes. Plus, they are much more affordable than conventional gravity sewers, which require major excavation, and much safer for communities than septic systems, which can eventually fail, polluting ground and recreational water and endangering public health.

# AT A FRACTION OF THE COST OF GRAVITY SEWERS.



**With E/One, you can set your sites higher – or lower.** In fact, you can site new homes in formerly infeasible locations – rugged hills, isolated flatlands, coastal areas, below grade, or sites with high water tables.

For the developer or prospective homebuilder, ALL-TERRAIN SEWER low pressure systems from E/One free you to utilize the best sightlines on any plot – regardless of the location of the sewer main or septic field. This means better sightlines, aesthetics, and views, as well as the possibility of utilizing “difficult” or orphan lots, and maximizing the density of any development.

ALL-TERRAIN SEWER low pressure systems from E/One also feature a lighter “footprint.” That’s because they follow the contour of the land, so they can go anywhere without destroying the landscape. Even around existing features like mature trees, streams, and rock formations.

They’re easier to install than conventional gravity sewers, so they greatly reduce the high cost of sewerage. And they’re highly reliable. So they lower operating costs.

Environmentally sensitive. Economically sensible. Plus the freedom to build anywhere.

**Break the restrictions of gravity – and enjoy true freedom.**

# THE E/ONE® SEWER SYSTEM.

## HERE'S HOW THE E/ONE SEWER SYSTEM WORKS:

The E/One system stores, grinds and pumps wastewater under pressure to a treatment site or central sewer, depending on the location. Because the output is pressurized, the wastewater can be transported horizontally two or more miles, or uphill some 185 feet vertically. Because the system does not rely on gravity to carry the waste, it provides more options for siting and building, as well as system renovations.

## WHY THE E/ONE SYSTEM IS BETTER THAN GRAVITY:

Both the gravity sewer and the ALL-TERRAIN SEWER low pressure system from E/One are known as central sewer systems. Most cities and villages use central sewerage, which simply means that waste is transferred, usually by pipe or a main, to a central treatment plant.

Gravity sewers are the "original" central sewers, with origins in the Roman aqueducts. Unfortunately, the technology behind gravity sewers is also centuries old: they're bulky

systems using a large main and usually require major excavation to install. They must be accurately placed and bedded along a continuous downward grade and often involve large, costly lift stations. Plus they're expensive and not entirely efficient in transporting waste because they can tend to leak, and can be compromised by storm water infiltration.

## ENGINEERED TO DO ONE JOB PERFECTLY™.

The Extreme series grinder pump, the heart of the E/One system, is the industry leader in ruggedness, watertight design, serviceability and reliability. It provides wastewater storage, grinding, and pumping in a single unit. Translation: it lowers operating costs, the cost of waste collection, and reduces maintenance.

The E/One grinder pump is engineered to do one thing perfectly and in the process, provides the best value for homeowners, builders, developers and municipalities.

## THE MOST RUGGED, LONGEST-LASTING PUMP IN THE INDUSTRY.

The E/One sewer grinder pump results in a 10 year average mean time between service calls and requires no preventive maintenance. Plus, low upfront costs, reduced operating expenses, and the ability to be installed at any site, regardless of the challenges of topography.



## DEFY GRAVITY WITH E/ONE.

The beauty of the ALL-TERRAIN SEWER low pressure system from E/One is that, unlike conventional central sewers, it defies gravity. Because installation follows the natural contour of the land, it is ideal for all terrain, including land that is flat, wet, rocky, or hilly. It gives the freedom to sewer anywhere including sites where old septic systems have contaminated water and posed severe public health issues.



# HOW DOES IT WORK? WHY IS IT BETTER?



## HOW WILL IT LOOK?

Aesthetics are a major consideration for homeowners. ALL-TERRAIN SEWER low pressure systems from E/One are virtually

out of sight — the only visible part is a low-profile cover that blends seamlessly into the environment but provides easy access for servicing operations.

The Extreme series indoor grinder pump station from E/One was specifically designed for installation in a basement mechanical room or in the slab foundation. Its clean look fits unobtrusively into any environment, virtually eliminating excavation.

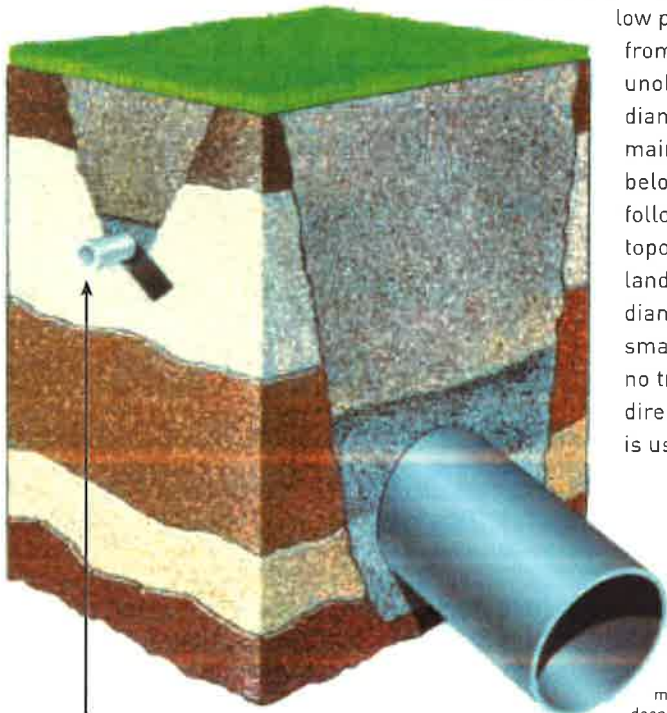
## PRICED RIGHT FOR INSTALLATION. AND FOR THE LONG TERM.

E/One can solve sewerage problems and replace failing septic systems at a fraction of the cost of conventional gravity sewers. ALL-TERRAIN SEWER low pressure systems from E/One sharply reduce both front-end installation costs and overall lifecycle costs.

## WHEN IT COMES TO SEWER SYSTEM TECHNOLOGY, BIGGER ISN'T BETTER.

Conventional gravity sewers can use up to a 24-inch large-diameter pipe, or main, which requires major excavation and severely disrupts the landscape and any built structures such as lawns, driveways, and plantings. ALL-TERRAIN SEWER

low pressure systems from E/One use an unobtrusive, small-diameter 2- to 4-inch main installed just below the frostline, following the natural topography of the land. The small-diameter mains mean small trenches — or, no trenches at all if directional boring is used.

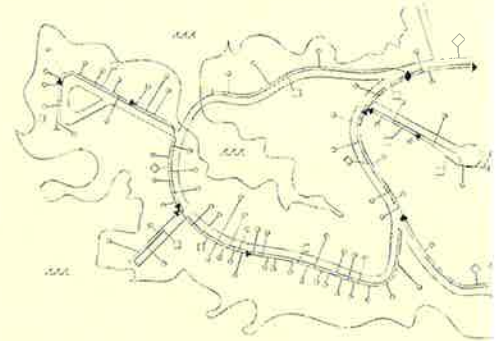


E/One sewer system: 2-4" main, installed to follow the contour of the land.

Gravity system: large 24" main. Installation requires deep excavation.

## SET YOUR SITES ANYWHERE

ALL-TERRAIN SEWER low pressure systems from E/One serve the entire community and give engineers, developers, community planners, and homeowners the freedom to sewer anywhere, taking advantage of scenic vistas and the ability to locate structures for the best return. Even sites that — to date — have been deemed undevelopable.

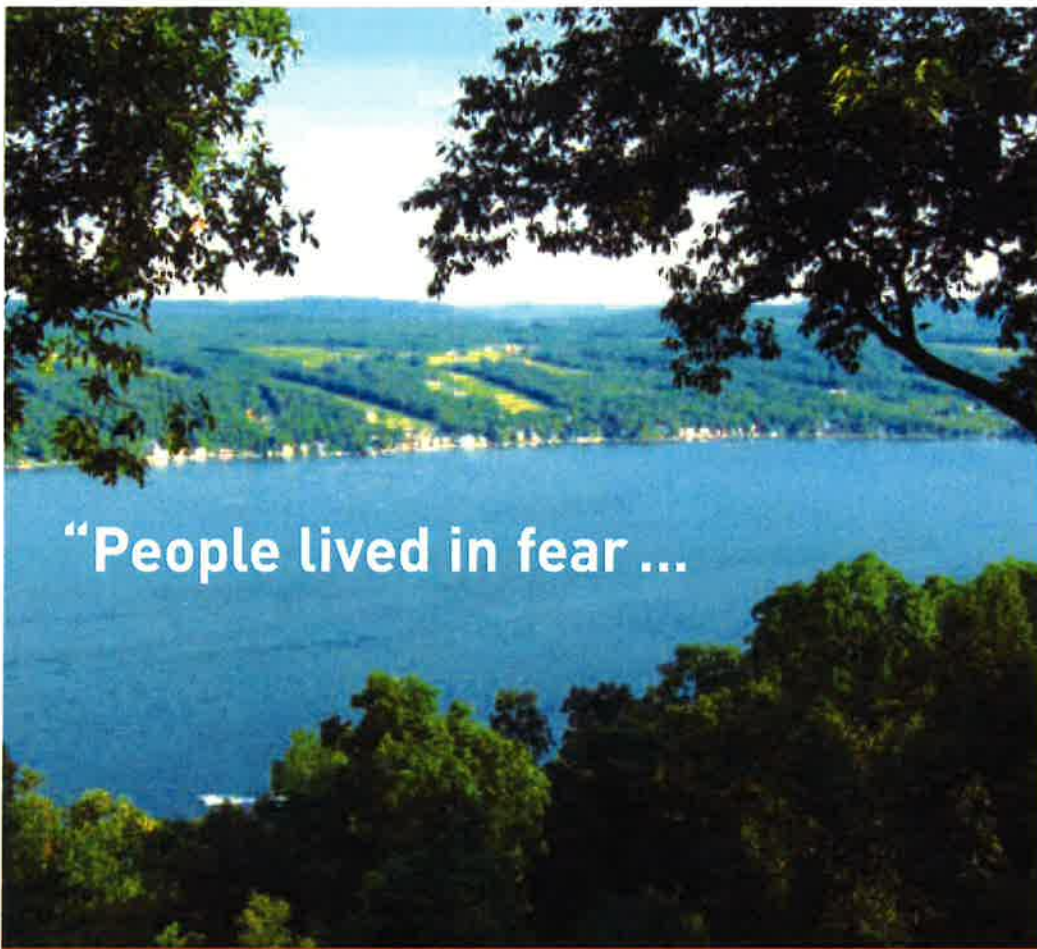


## SEPTIC SYSTEMS — POTENTIAL TIME BOMBS IN OUR MIDST

While septic systems may be a common way of disposing of residential sanitary waste, they are, at best, a temporary solution and come at a high cost to public health. Around the world, septic systems have degraded ground and recreational water, creating serious safety problems.



Because of failing septic systems, water is not safe to drink. In addition, failing septic systems decrease real estate values. ALL-TERRAIN SEWER low pressure systems from E/One can go wherever septic systems were initially used, reclaiming water quality and quality of life while providing an efficient, cost-effective solution to wastewater disposal and treatment.



**“People lived in fear ...**

**...of their septic tanks”**

The pristine shoreline is a primary reason that lakefront homes are sought after in Jerusalem, New York, located on Keuka Lake. However, eutrophication generated by septic seepage and other sources of nutrient loading frequently had led to poor water quality. The town recognized a solution was needed, but its geography presented some challenging site conditions. ALL-TERRAIN SEWER low pressure systems from E/One eliminated 12 lift stations (versus a gravity sewer design), saving \$900,000.

After 10 years, analysis of operation and maintenance costs showed an average of \$37 per pump per year. The lake's water quality has also shown improvement.



**“Compared to gravity systems, we saved 50% on Operation & Maintenance with E/One Sewers**

**...and 75% on installation.”**

Nestled between the Cascade and the Olympic Mountain ranges, the Kitsap Peninsula boasts 300 miles of scenic coastline in the Puget Sound. So when failing septic threatened that pristine coast, municipal engineers found a cost-effective solution – and an ally – in E/One sewer systems.

They compared the construction and O&M costs of four distinct sewer collection systems, and the E/One pressure system came out on top - in both categories. Compared to a gravity system, the E/One system was less than a quarter of

the cost to install, and less than half projected O&M.

Nearly 350 E/One grinder pumps and six miles of high-density polyethylene pressure main were installed along the waterfront. A careful analysis of the operating and maintenance costs revealed that after seven years, only 16 service calls per year were required – less than half the number projected. And the mean time between service calls was 22 years – more than double the pre-project estimate of 10 years. The cost of those repairs came in at 68 percent less than projected.





## “People pay a premium for this natural setting.”

### **E/One showed us how to preserve it... and our capital.”**

This 2,200 site development is nestled in the rugged, hilly north Georgia terrain. A dramatic setting that offers fresh air, pristine forests, and breathtaking views. Plus considerable sewerage challenges.

That's why the developer turned to E/One, a trusted resource, to help him engineer an elegant, simple solution. By using pressure sewerage, only shallow, contour-hugging small-diameter lines were needed to carry wastewater – even uphill.

Powered by reliable E/One grinder pumps, the system carries waste offsite, and away from the community reservoir. And, at a fraction of the cost of gravity sewers. This solution minimized the number of unsightly and expensive lift stations from 20 – to just three!

The developer says it best: “The E/One system allows us to offer the best environmental quality of life in a most attractive new community.”

Arizona's Paradise Valley is no picnic for builders. These exclusive home lots present daunting challenges with steep grade, rocky terrain and restrictive land use covenants. No wonder other builders walked away from this challenging infill lot – except one.

This builder turned adversity into profit with the proven E/One pressure sewer system. Instead of the expensive and disruptive lift station system proposed, he saved lots of money – and got an elegantly simple, cost-effective solution. He preserved the environment as well as his budget, with pumps mounted at grade and low impact, small diameter piping installed just below the surface.

The bottom line: E/One defied both gravity and conventional wisdom and rescued an “unbuildable” lot – for a lot less.



## “Sewering the site was an uphill battle.”

**With E/One I found gold in these hills”**



# THE ADVANTAGES OF THE E/ONE® SEWER SYSTEM



## HOMEOWNERS

- Safe – protects water quality and enhances quality of life
- Reduces costs of housing – both initial and ongoing
- Visually pleasing – only evidence is a low-profile cover that is easily camouflaged
- Does not disrupt the beauty of the landscape or damage built structures
- Virtually no preventive maintenance required of homeowner
- Central sewer increases value of home

## CONTRACTORS/CONSTRUCTION MANAGERS

- Installation follows contour of the land – does not require major excavation
- Needs only shallow trenches – increases ease and safety of installation procedures
- Labor and material costs are much less than gravity sewer systems




## MUNICIPALITIES/DEVELOPERS

- Permits freedom to sewer anywhere in any kind of terrain
- Low initial costs make central sewers economically feasible
- Low initial costs make development economically feasible
- Central sewer increases value of development units
- High reliability – no preventive maintenance
- Reduces operating costs
- Protective of public health
- Permits regulatory compliance
- Closed system – not compromised by stormwater infiltration – plus zero exfiltration

## ENGINEERS/OPERATORS

- Proven engineering and design
- Cost-effective central sewer solution for new construction or retrofits
- Engineering and technical support during design, construction, installation, and operation
- Reliable performance means reduced O&M costs – up to 50% or more savings over gravity
- When needed, E/One pumps are easy and safe to access and service
- Designed to keep maintenance to absolute minimum
- Will work with gravity in a hybrid system





# E/ONE® SEWER SYSTEMS ARE MAKING BETTER COMMUNITIES ALL OVER THE WORLD

Many communities have been made possible because of ALL-TERRAIN INFRASTRUCTURE™ pressure sewer systems from E/One and hundreds more have been made safe once again after failing septic systems created serious public health problems by contaminating ground and recreational water.

The E/One sewer system delivers safe, cost-effective, reliable performance and enables controlled growth, permitting communities to maintain their quality of life at a cost they can afford.

Contact us regarding a free system design analysis to see how an ALL-TERRAIN SEWER system from E/One can save you 50 percent or more on your next project.

**e one**

SEWER SYSTEMS

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