

### THE CHALLENGES

The Metro Solid Waste Authority faced a critical equipment failure. The cylinder experienced a rare and significant failure, likely a cracked body tube. This failure occurred within a facility with minimal downtime tolerance, creating a tight deadline for repairs. The repair itself presented several significant challenges:

- **Extensive Component Replacement:** The repair scope included replacing most major components of the cylinder.
- **Design Modifications:** Modifications were made to increase service life and minimize down time through field repairable components
- **Logistical Hurdles:** The sheer size and complexity of the equipment posed logistical challenges for machining, assembly, and overall project execution.
- **Time Constraints:** The need to minimize downtime for the waste authority added pressure.

### THE SOLUTIONS

Our team implemented a strategic and collaborative approach to address the complex repair challenges. The project involved a coordinated effort across various disciplines, including:

- **Skilled Machining:** The team successfully machined the necessary components, overcoming the size limitations of the equipment through creative problem-solving.
- **Expert Welding:** Welding expertise played a crucial role in ensuring the integrity of the repair.
- **Meticulous Assembly and Testing:** The team disassembled, honed, assembled, and tested the repaired cylinder to ensure optimal performance.
- **Design Enhancements:** Design modifications were made to improve future repairability and reduce the labor required for subsequent maintenance.

### AT A GLANCE

This project showcases a successful cylinder repair for the Metro Solid Waste Authority, which delivered significant cost savings. Despite encountering challenges due to the complexity and size of the equipment, our team delivered a high-quality repair at a fraction of the replacement cost (approximately 30%). Through innovative problem-solving, meticulous machining, and expert welding, we provided a cost-effective solution that met new specifications and exceeded customer expectations.

### THE BENEFITS

- **Significant Cost Savings**  
Reduced repair costs compared to replacement.
- **Minimized Downtime**  
Provided a readily available spare part, reducing operational disruptions.
- **Equipment Reliability**  
Ensured the continued operation of equipment.

