



INSTALLATION OF AVT EZ VALVES TO SUPPORT CREATION OF STORMWATER RETENTION POND

CITY OF BROKEN ARROW, OKLAHOMA

OVERVIEW

The City of Broken Arrow undertook a planned infrastructure project to support the construction of a new stormwater retention pond. This required modifications to an existing 18-inch sewer force main, including lowering the pipeline and creating a diversion to allow sections of the system to be isolated during construction.

To achieve this efficiently and with minimal disruption, four AVT EZ Valve insertion valves were installed by **Carlton Utilities**, an experienced Oklahoma-based contractor.

THE CHALLENGE

The project presented several key challenges:

- **Maintaining service continuity:** The 18" sewer force main had to remain active during installation to avoid service interruptions.
- **Supporting phased construction:** A diversion was needed to allow the pipeline to be shut down at controlled intervals as work on the retention pond progressed.
- **Material constraints:** The pipeline was constructed from **C900 PVC**, which can be sensitive to excessive weight and stress from heavier traditional insertion valves.
- **Long-term functionality:** The valves needed to remain in place for future operational flexibility, not just temporary isolation.

THE SOLUTION

Carlton Utilities selected AVT EZ Valve insertion valves and accessed AVT's **Rent EZ program** to hire the installation equipment required.

Key factors in the success of the solution included:

- **No additional training required:** Carlton Utilities had two years of experience installing AVT EZ Valves, enabling efficient deployment without delays.
- **Lightweight, pipe-friendly design:** Unlike some insertion valves, AVT EZ Valves are suitable for use on C900 PVC without risking pipe damage due to excessive weight.
- **Continuous flow installation:** Because the pipeline was a force main, pumps remained active throughout installation. This ensured that any debris (swarf) generated during cutting was flushed safely downstream.
- **Permanent installation:** The valves were installed as part of the permanent infrastructure, providing lasting system control and flexibility.

RESULTS & BENEFITS

The installation of the four AVT EZ Valves delivered several measurable benefits:

- **Zero service interruption** during installation
- **Safe installation on C900 PVC**, avoiding structural stress intervals as work on the retention pond progressed.
- **Improved operational flexibility**, enabling controlled isolation during and after construction
- **Time and cost savings** by eliminating the need for shutdowns or complex bypass systems
- **Long-term asset value** with permanently installed valves for future maintenance and emergency response

By leveraging AVT EZ Valve technology and the expertise of Carlton Utilities, the City of Broken Arrow successfully completed a critical infrastructure upgrade with minimal disruption. The project demonstrates how insertion valve solutions can address complex operational constraints while enhancing long-term system resilience.



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