



*Precast
Manhole with
Concentric Top*

Wastewater Manholes

An Essential Component of any Wastewater Sewer Management System

Almost all wastewater management systems include the crucial manhole. The manhole serves as an access point for inspection and maintenance of underground wastewater and sanitary conveyance structures. Made from high-quality, reinforced concrete, ParkUSA precast manholes are durable and structurally sound to withstand harsh environmental factors. Its modular components include the base, riser sections, cone or flat top, and a lid made of either metal or concrete.

The base of the manhole is designed to accommodate pipe connections and may feature preformed inlets and outlets for the flow of wastewater. Riser sections of varying heights can be stacked to reach the desired depth, while the cone or flat top provides a smooth transition to the surface level.

Applications

Sanitary sewer systems • Municipal infrastructure •
Inlet and outlet structures • Pump stations • Pipe transitions

Advantages

- Made to ASTM standards
- Precast factory production for consistent quality and accuracy
- Durable construction provides strength and long-lasting performance
- Coating and lining options for corrosion resistance
- Watertight with tight tolerances and gasketed joints
- Built-in safety features including slip-resistant steps or ladder
- Manufactured to any city specifications



Precast Manhole with Flat Top



How It Works

A wastewater manhole plays an important role in channeling water efficiently in a sanitary sewer system. It serves as an access point for inspection and maintenance of underground structures while also providing a means of regulating the flow of water.

A manhole is typically installed at key locations along the sewer line where there is a change in direction or elevation. This helps to ensure that the wastewater flows smoothly through the sewer system and does not cause blockages or backups. The manhole allows water to flow into the sewer line through the inlet pipes located in the base of the structure. The wastewater then flows through the sewer line until it reaches the next manhole or treatment plant.

Inside the manhole, the flow of water is regulated by various components such as inlet and outlet pipes, a drop manhole, and an effluent filter. These components help to slow down the flow of water and prevent debris and solids from passing through and clogging the sewer system.

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System Components

Base: The foundation of the manhole typically features preformed inlets and outlets for wastewater flow. It connects directly to the wastewater pipes or channels and ensures proper alignment.

Riser Sections: Riser sections are cylindrical, precast concrete components that form the vertical walls of the manhole. They vary in height and are stacked upon each other to reach the desired depth.

Cone or Flat Top: The cone or flat top is the uppermost part of the manhole, transitioning from the riser sections to the surface level. A cone-shaped top reduces the diameter of the opening and is available in concentric or eccentric configurations. A flat top can also be used, enabling the manhole to maintain a consistent diameter throughout and is commonly used on shallow applications.

Manhole Cover: The manhole access features a cast or ductile iron manhole cover and frame, designed to withstand traffic load-bearing requirements. The manhole cover ensures easy access to the manhole while safeguarding the system from debris, traffic impact, and unauthorized entry.

Pipe Connection: Pipes are connected to a manhole through openings, called pipe penetrations, in the manhole wall. The connections are sealed with gaskets, cementitious grout, or flexible boots to ensure watertightness and maintain hydraulic efficiency.

Interior Liner: Interior liners can include epoxy coatings, cementitious liners, HDPE, or PVC liners and protect against corrosion, infiltration, and exfiltration while extending its service life.

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