



**PDHonline Course C165 (2 PDH)**

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# **General Principles of Pumping Station Layout**

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## Pumping Station Terms & Definitions

*Air break:* An air gap intended to ensure against back siphonage. The discharge must be located well above the highest feasible water level.

*Axial flow pump:* A pump in which the impeller moves fluid parallel to the pump shaft.

*Bowl:* The casing that contains the impeller of vertical or vertical axial flow pump.

*Cavitation:* Vapor bubbles formed on a solid surface (often an impeller) in contact with the liquid. Vapor bubbles occur when the pressure in the liquid falls below the vapor pressure.

*Closed impeller:* An impeller with vanes enclosed by shrouds on both sides.

*Drawdown:* The vertical distance over which the surface of the pumped liquid is lowered during the pumping cycle

*Fillet:* Concrete in the bottom of the wet well shaped to smooth liquid flow into the pump suction openings and to prevent the accumulation of solids.

*Home runs:* Wires running directly back to the power source from field devices such as lights.

*Impeller shroud:* The outside part of the impeller of a centrifugal pump to which the vanes are attached.

*Mixed-flow pump:* A pump that produces a combination of centrifugal and axial flow.

*Pig:* A device for cleaning the inside of a pump.

*Poppet valve:* A spring-loaded valve that operates automatically to relieve excessive pressure.

*Submersible pump:* A pump or pump and motor suitable for fully submerged operation.

*Suction flare or bell:* A flaring entrance fitting to the pump suction piping.

*Umbrella:* An extension fastened to a pipe flare to form an entrance similar to a trumpet bell.

*Vortex impeller:* A recessed impeller that creates a vortex in the casing to induce flow.