

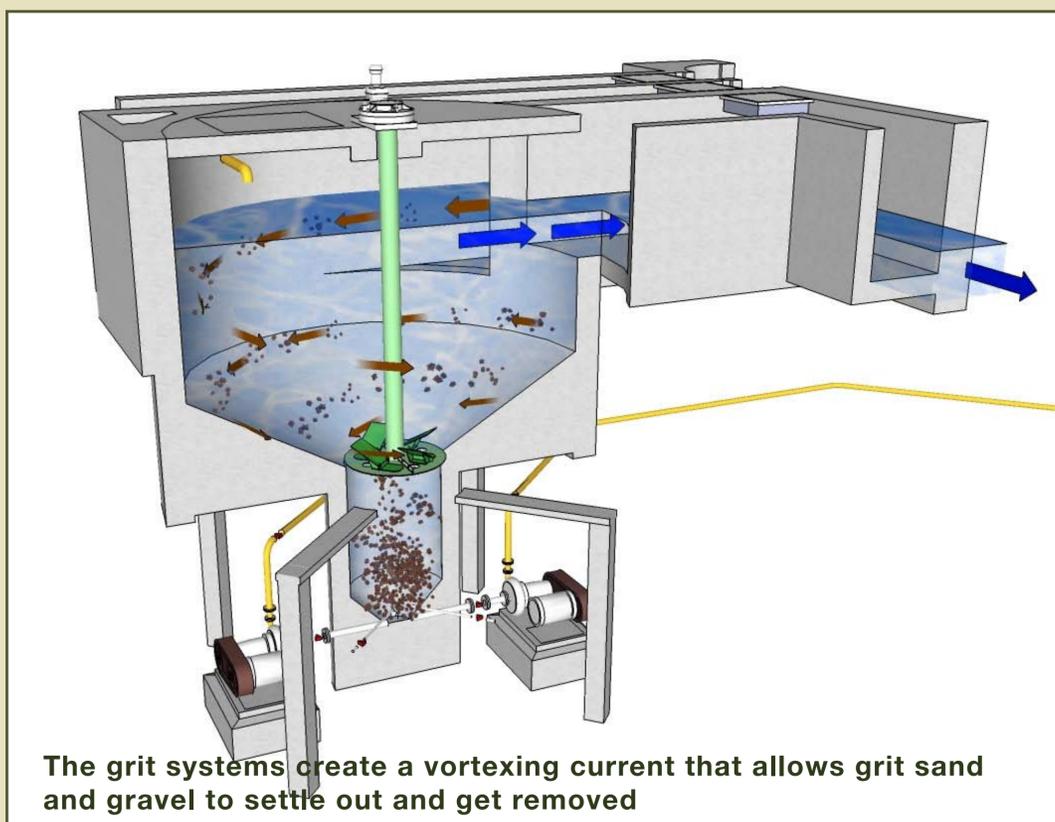
Vortexing Grit Removal



Johns Creek Environmental Campus

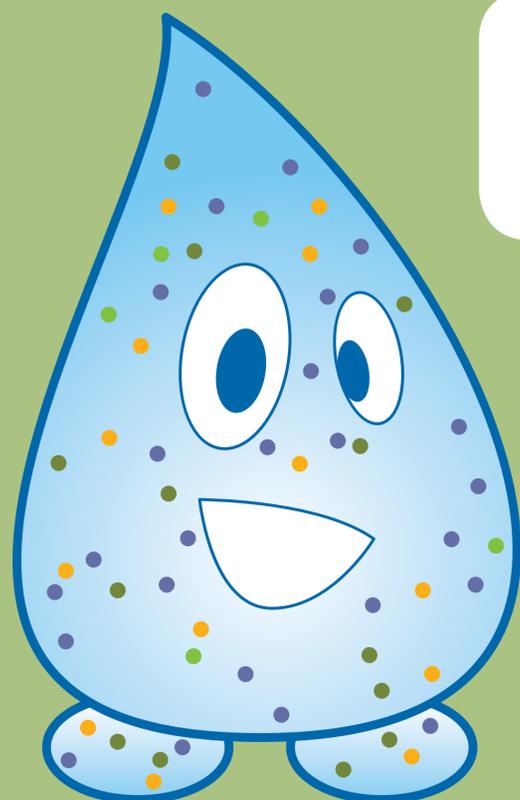
FULTON COUNTY

Following the coarse screens, flow enters into two vortex grit removal chambers. The vortex grit removal units are used to remove large particles of grit, gravel, and sand from the wastewater. It is important to remove sand gravel and grit early in the treatment process before the flow enters the larger basins where these items could settle out and create issues in removing. The flow enters into each grit unit and is directed to create a circular vortexing current. This current creates an area of low velocity in the center of the chamber. The heavier grit and sand falls down to the bottom while the water and other solids stay moving in a circular flow pattern. The grit collects at the bottom of each unit and is pumped via recessed-impeller grit pumps to a grit classifier system. The grit classifier system separates the grit from the water and conveys it to the same dumpster that collects the screenings. Once filled the dumpster is sent to the landfill for disposal.

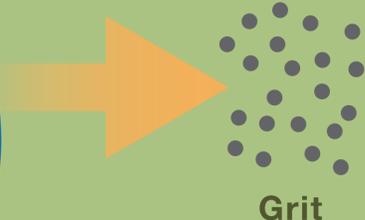


The grit systems create a vortexing current that allows grit sand and gravel to settle out and get removed

The grit is pumped to two grit classifiers that condense the grit and convey it to a dumpster for disposal



HEAVIER GRIT PARTICLES ARE REMOVED TO PREVENT THEM FROM SETTLING OUT IN OTHER PROCESSES



Vortexing Grit Removal Process Design Parameters	
Number of Vortex Grit Units	2 (1 duty and 1 standby)
Diameter of Chamber	20 ft
Peak Flow Capacity of Each Grit Unit	50 mgd
Number of Grit Pumps	4 (3 duty and 1 standby)
Type of Grit Pumps	Recessed Impeller
Capacity of Grit Pumps	250 gpm
Number of Grit Classifiers	2 (1 duty and 1 standby)