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Purpose of this stage is to remove the smaller particles that wouldn't originally settle fast enough, by making them into larger particles with lower settling times.

Water flows, by gravity, from the carbon receiving basin to the coagulate adding stage. Ferric Sulfate, the coagulate, and a polymer added into the rapid mixing tank. The coagulate destabilizes the small particles in the water by reducing their electrical surface charge so the particles will attract each other and form flocks. The flow here is extremely turbulent to insure even distribution. The water then flows to slower mixing basins to insure no shear force breaks the flocks that are forming, so a slower turbulent flow. Then it continues into a flocculation basin where the flocks that formed can settle, in 6 minutes. Once the flocks settle, five pumps take it off the bottom of the basin. Then water continues to the filtration stage.

The particles floating on top are skimmed off once early six months and do not affect filtration.

Alternative engineering designs would include covering the basins as to avoid evaporation, even though its rate is very small. You could go from rapid mixing to fast to slow turbulent speeds of the flocculation and skip a medium speed in order to shorten the process. Another alternative would be to add more coagulate to it settles better, the other thing that needs to be considered for this is the cost of the coagulate.