|  |  |
| --- | --- |
| Cornell Notes Activity | Settling Basins and Clarifyers  <https://www.youtube.com/watch?v=PPYXKHxDDsk>  December 11, 2020 |
| Sedimentation  4 main Zones  2 Main Types | Once floc is formed it must have time to settle out  This occurs in a settling basin or clarifier which can be round or rectangular  Direct filtration plants do not include a settling basin or clarifier  Solid particles are kept in suspension as long as there is enough flow and turbulence  Sedimentation removes floc by slowing flow and removing turbulence  Heavier floc particles settle to the bottom and clarified water collects at the top which then is ready for filtration  Influent zone – decreases the velocity of water and distributes it across the basin  Settling zone – provides the calm area necessary for the suspended particles to settle  Effluent zone – provides a smooth transition from the settling zone to the effluent flow area – it is important that currents don’t stir up any particles and carry them into this transition area  Sludge zone – settled solids are separated from other particles in the settling zone  Rectangular – water flows across a rectangular basin  Circular – water is either centre or perimeter fed  Plates and tubes may also be used to increase the settling area and allow for increased flow rates from smaller basins  This allows particles to settle only a few inches rather than feet |
| Summary | Sedimentation is used to clarify water  2 main types – rectangular and circular  4 main zones to a clarifier – influent, settling, effluent, and sludge |