



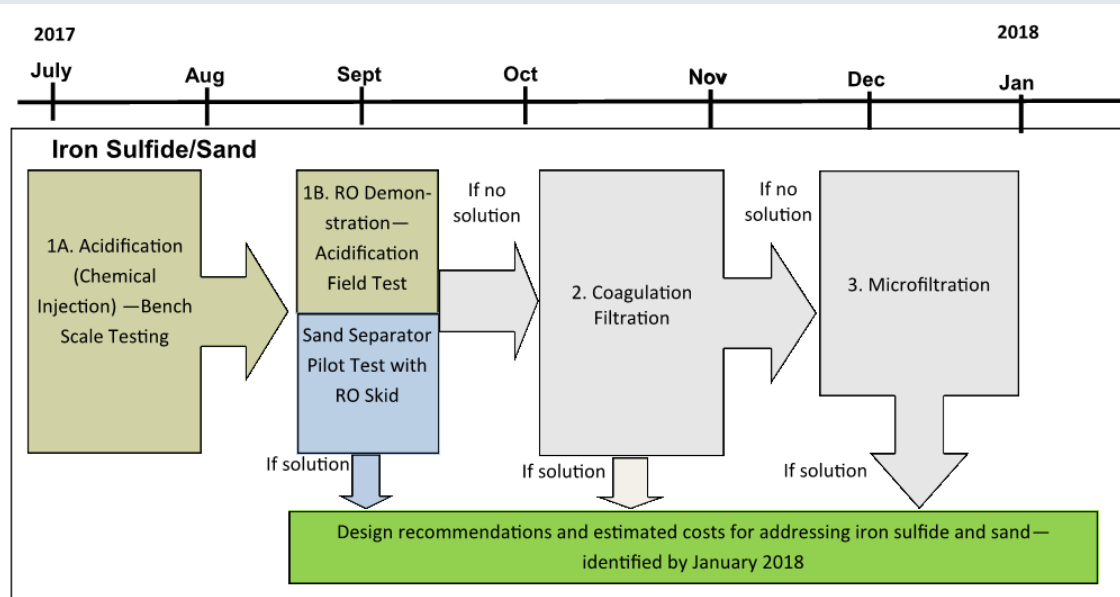
WTP Bench-Scale/Pilot Testing



Public Works Commission
Oct. 12, 2017



Iron Sulfide/Sanding



Completed Tasks:

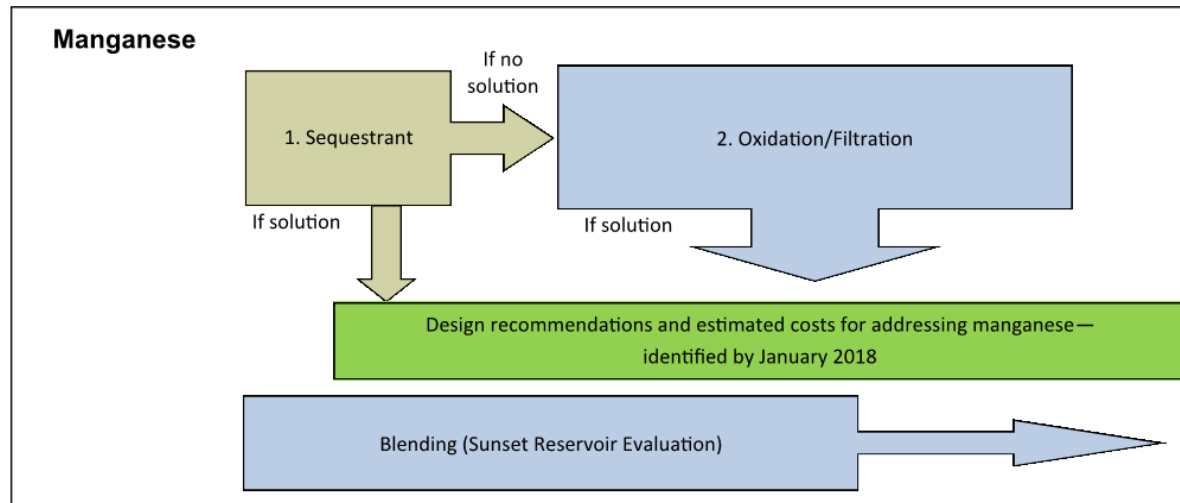
- Two weeks of acidified RO testing (lower pH)
- One week of baseline RO testing (no pH adjustment)
- Particle size distribution analysis

Results & Findings:

- Good RO performance but particles still present at lower pH
- Particles forming throughout process, including after filters. Need to oxidize to force out of solution
- Particle loading can be reduced by sand separator to a certain extent



Iron/Manganese



No Sequestration:

- Air Stripper would break down iron/manganese phosphate complexes
- Precipitation of iron/manganese more likely to occur if air stripper in place



What is Oxidation/Filtration?

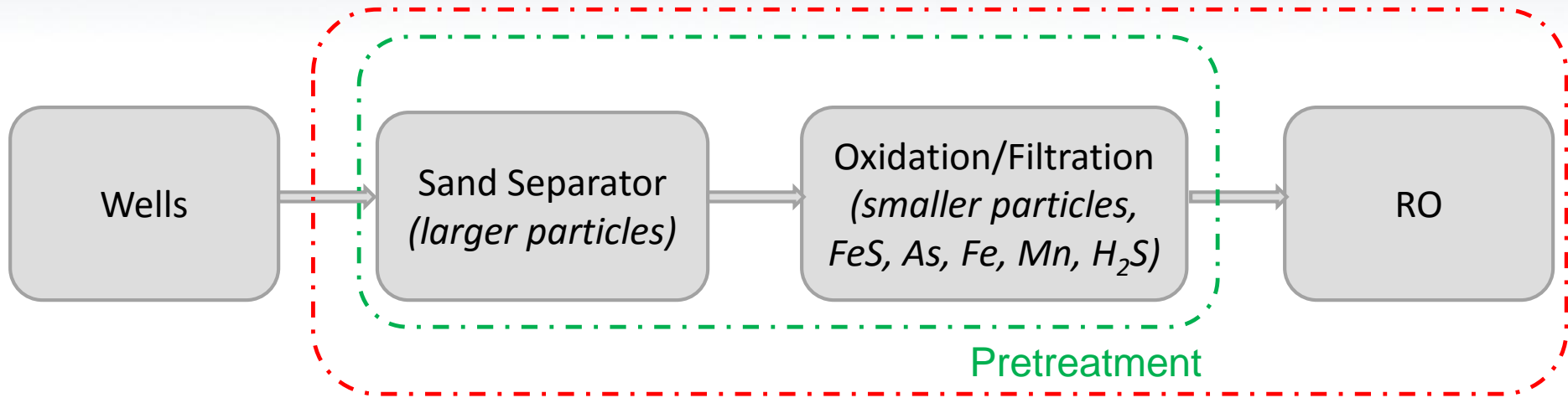


Electromedia Oxidation/Filtration:

- A two-stage treatment approach analogous to Greensand filtration but with an additional oxidation step (sodium hypochlorite injection)
- Will remove arsenic, iron, manganese, and sulfide products (hydrogen sulfide and possibly iron sulfide)
- May eliminate the need for air stripper and scrubber
- Advantages vs Greensand: smaller footprint, lower chemical costs, less frequent backwashing (higher recovery), remove sulfide products, no chemical regeneration of media required



Pretreatment Process



Located within WTP

Next steps:

- Procure sand separator and oxidation/filtration unit
- Run sand separator ahead of oxidation/filtration, followed by RO



Any Questions

