

# Biosolids to Energy: Lessons Learned from the City of St Petersburg

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FWEA Biosolids Seminar  
EpiCenter at St. Petersburg College  
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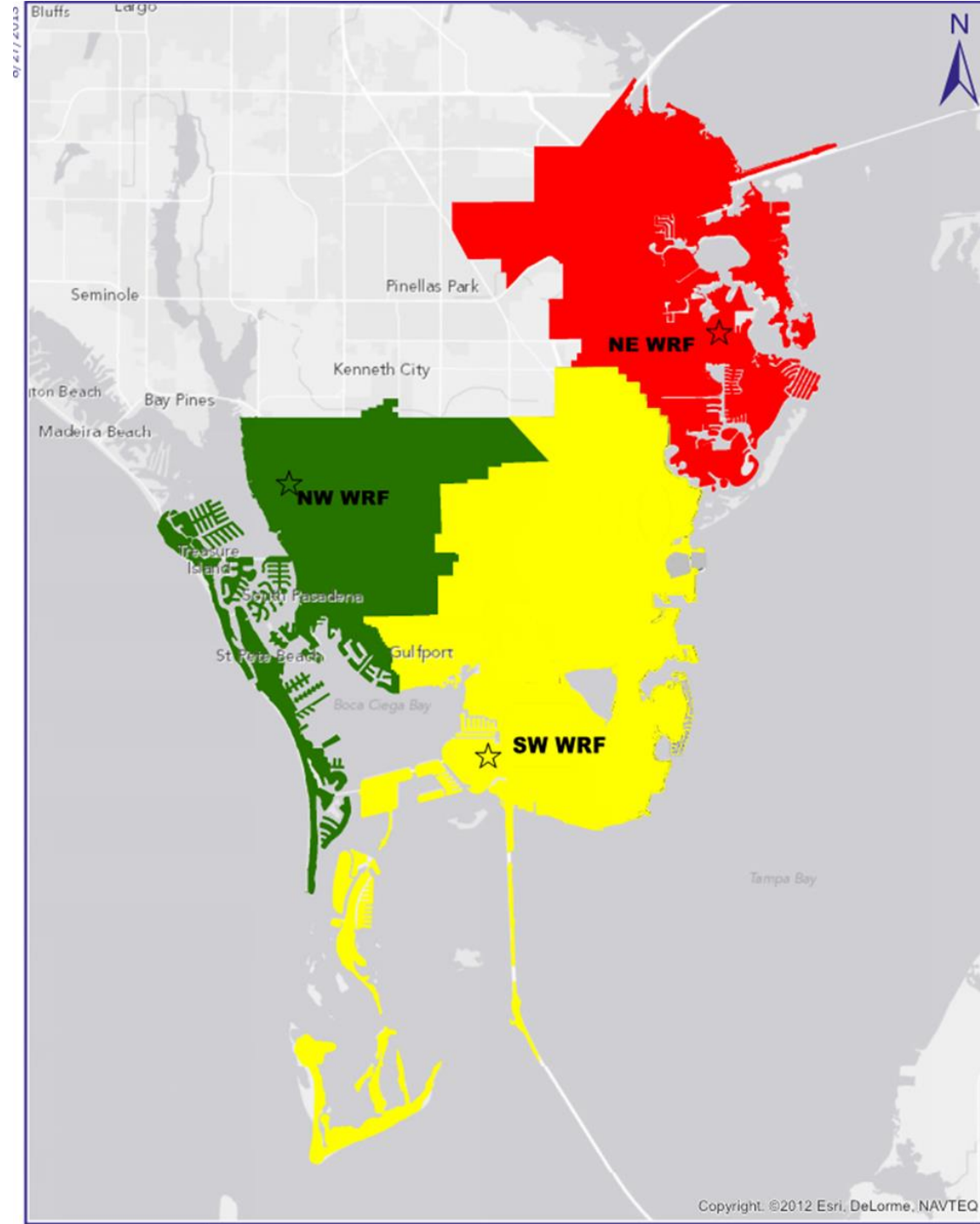






## Our Wastewater Ecosystem

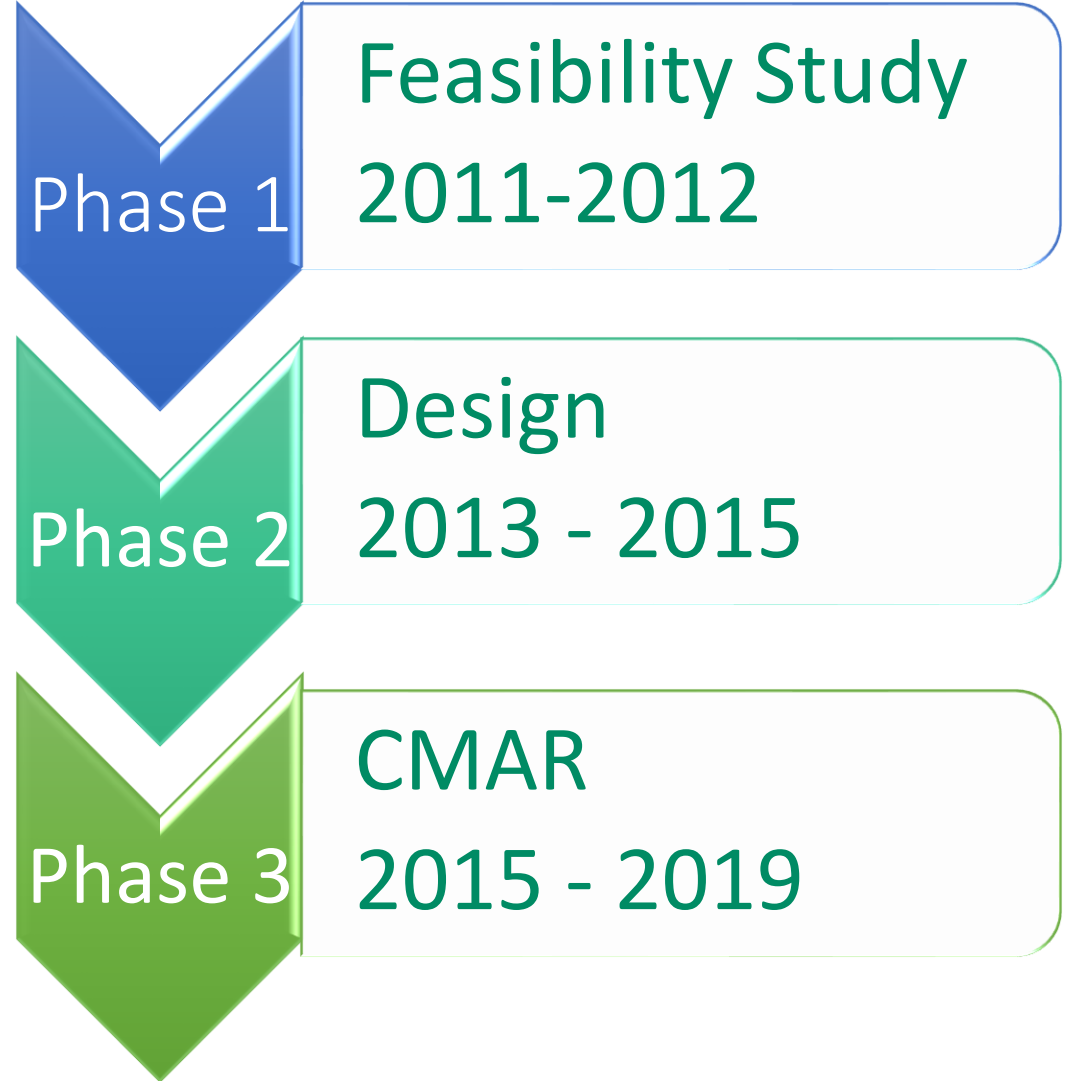
- 316,000 customers served
- Total 56 MGD AADF permitted flow
- 3 Water Reclamation Facilities
- Some interconnectivity among the basins
- 6,200 dry tons of wastewater residuals produced per year





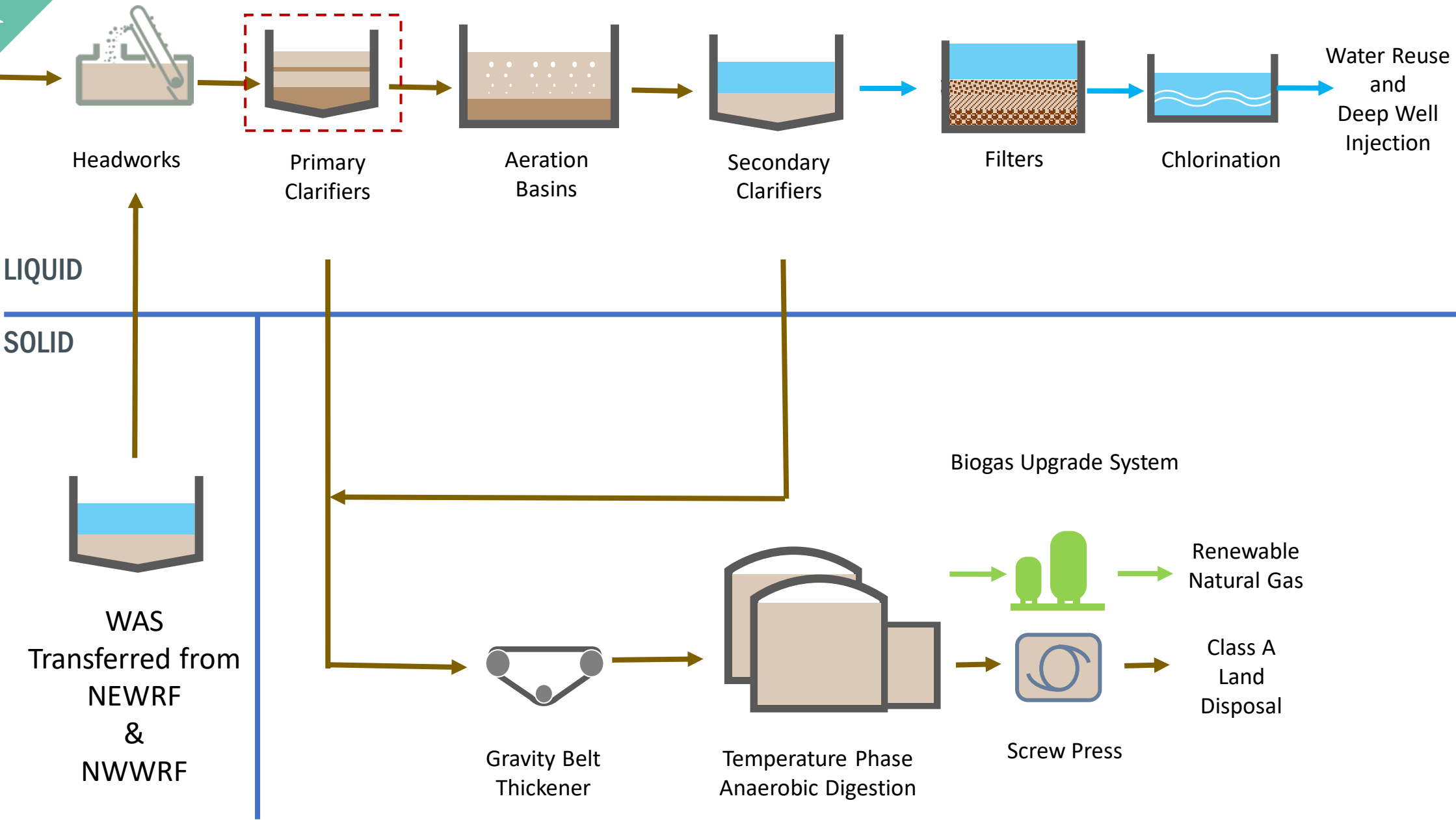
## Project Goals

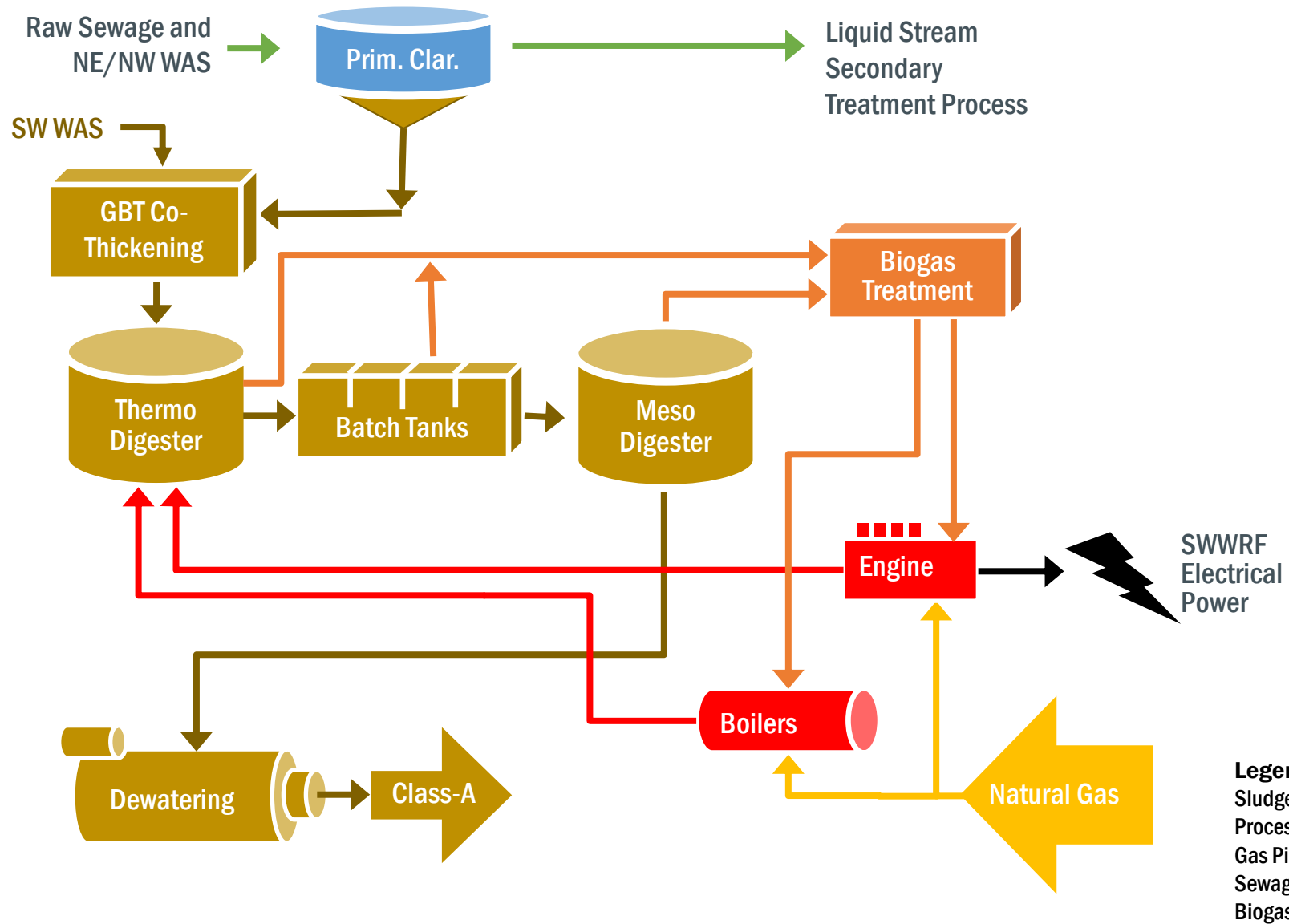
- Create a Class A Biosolid
- Consolidate Biosolids Treatment
- Create of Renewable Energy
- Reduce Greenhouse Gases





# Southwest WRF Treatment Train







# Lessons Learned



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# Lesson #1: Piping mods & sensor placement

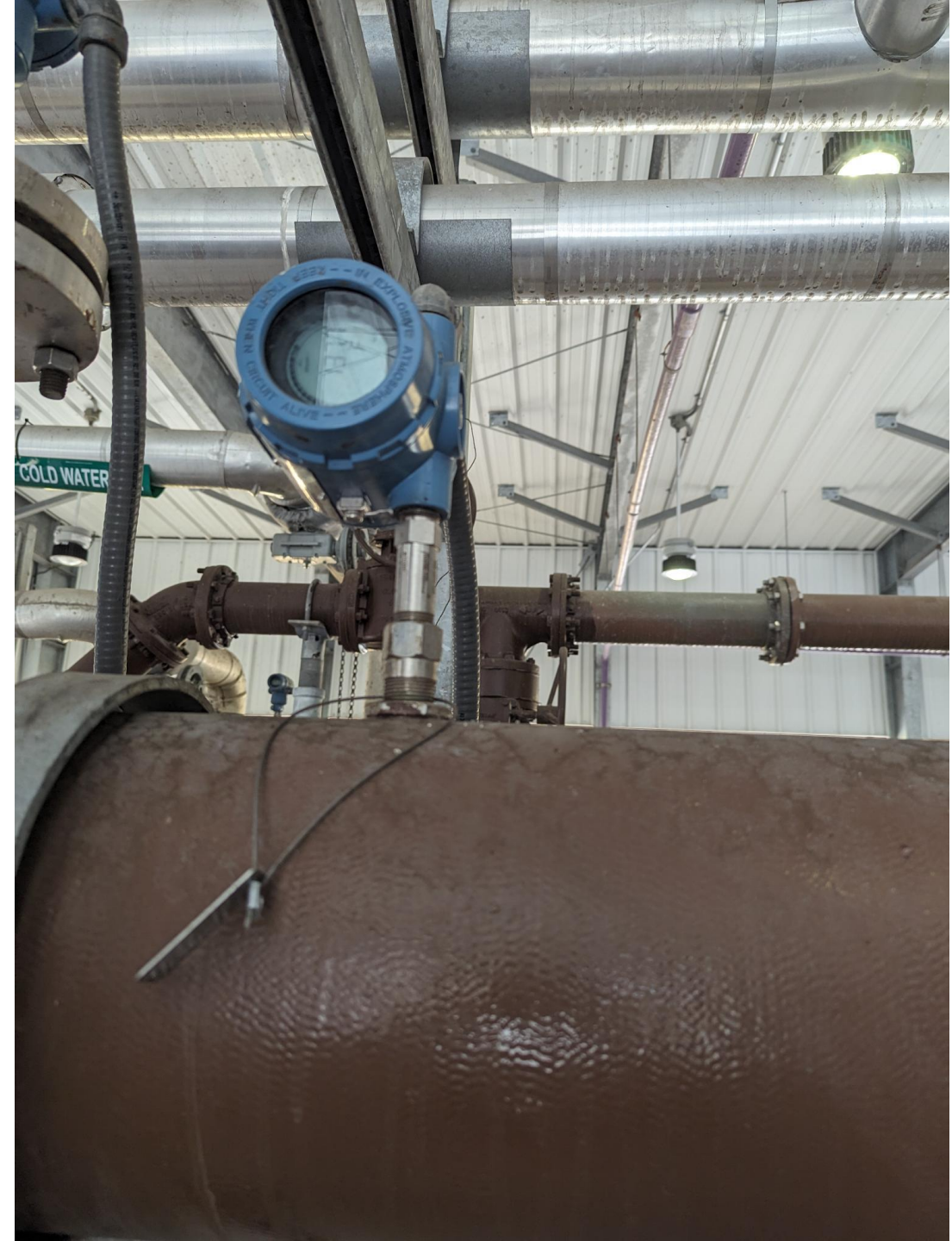


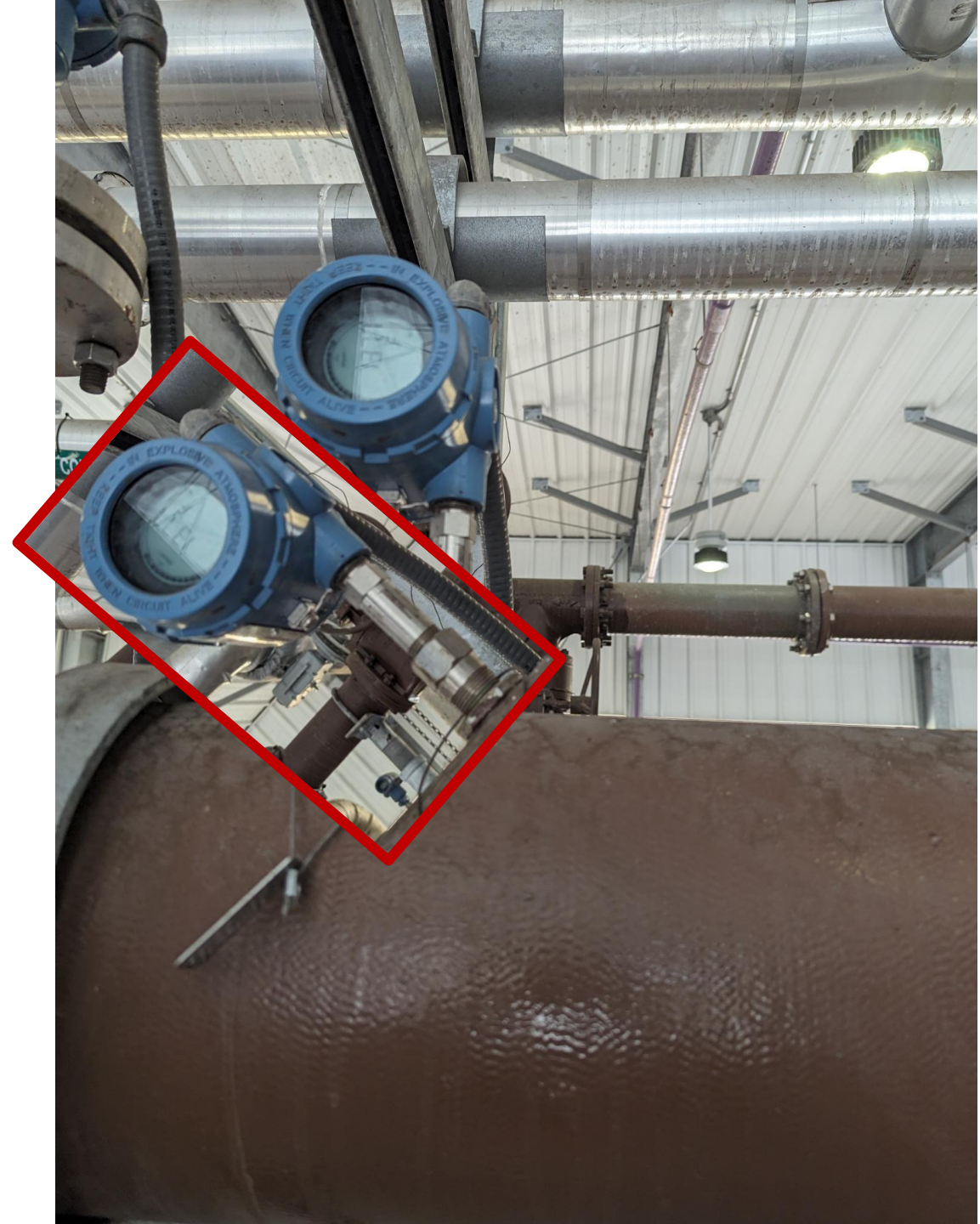
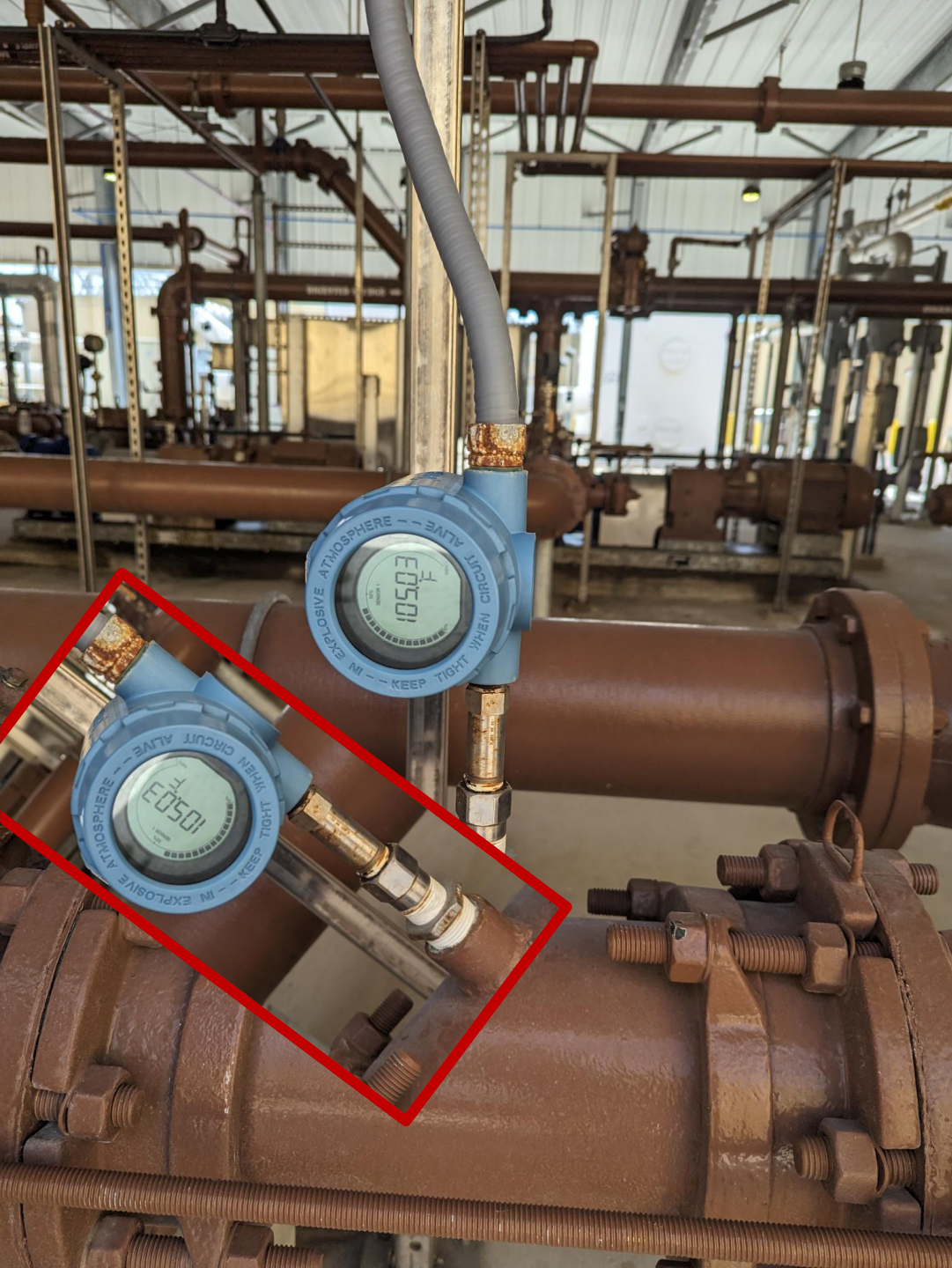
**Influent sludge**

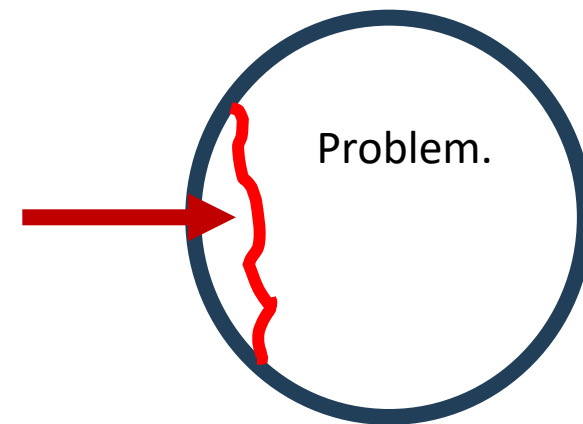


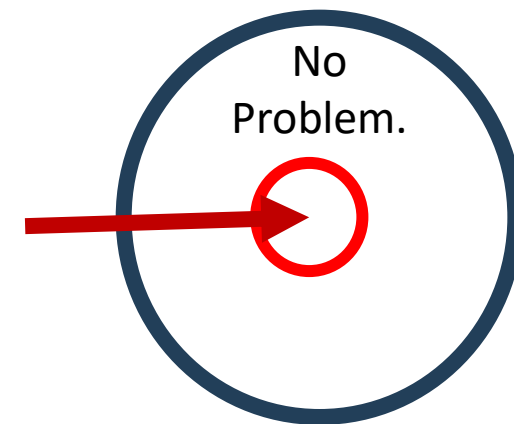
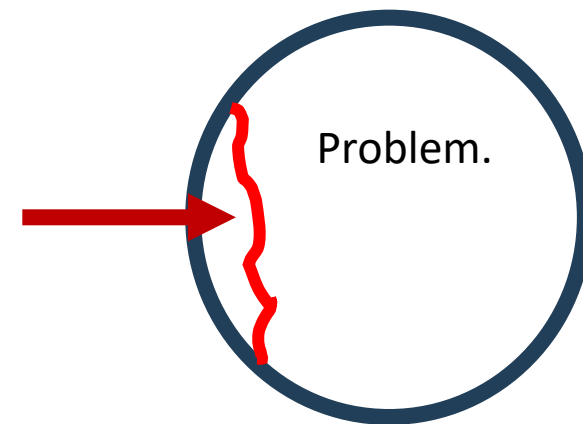
**GBT sludge  
bypasses HEX**

**From digester to  
heat exchanger**







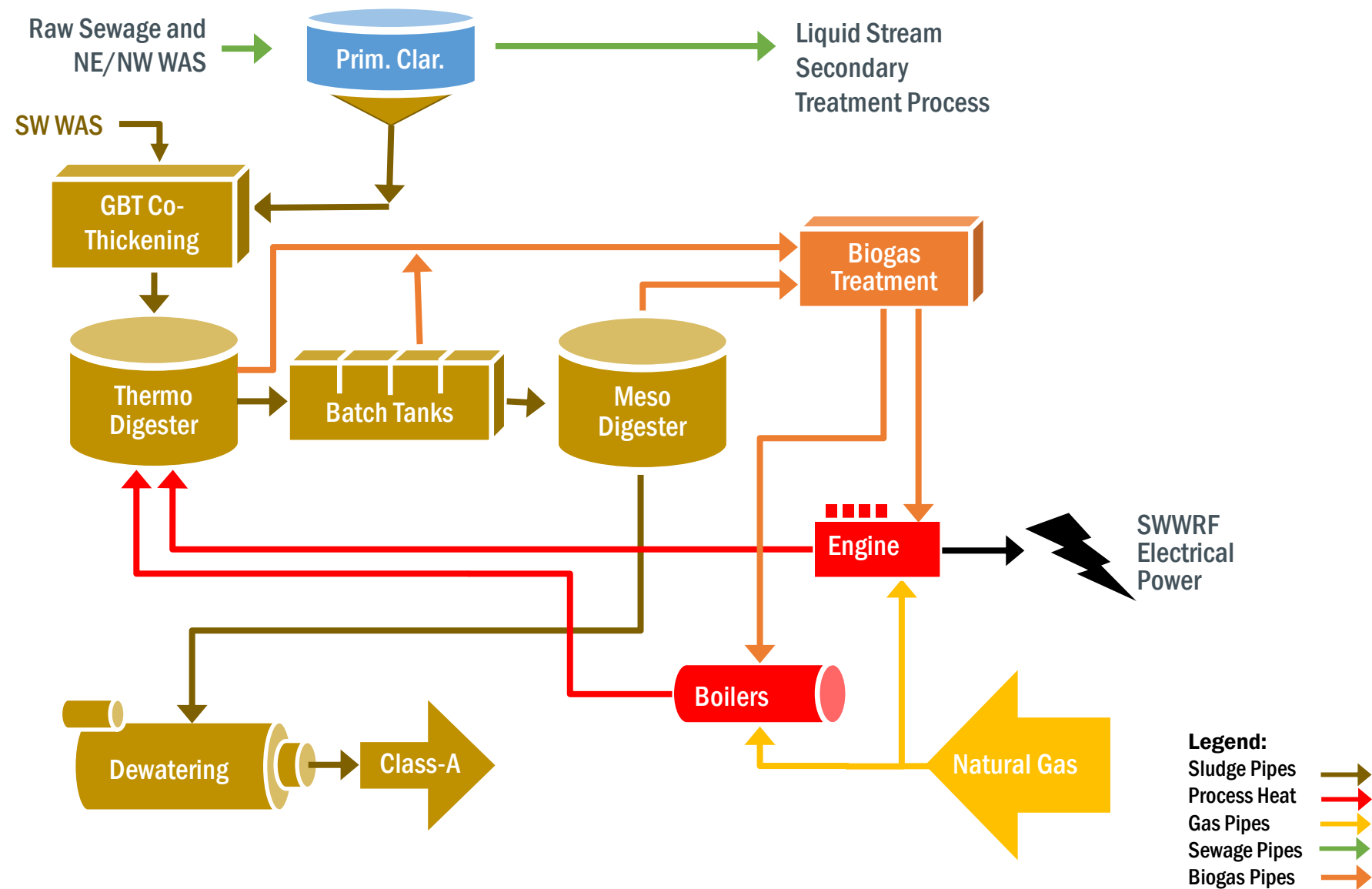


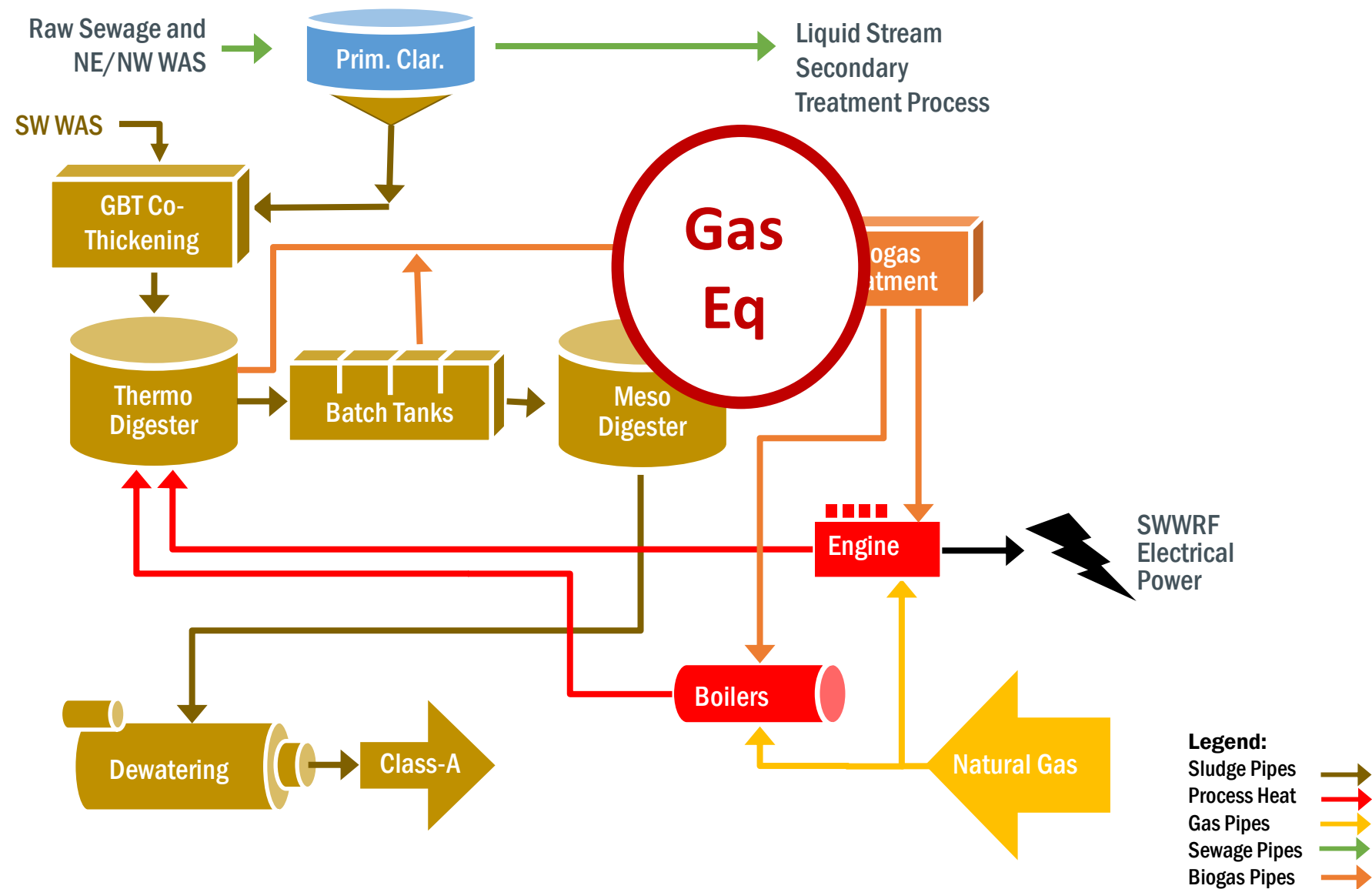
# Lesson #2: Biogas smells.

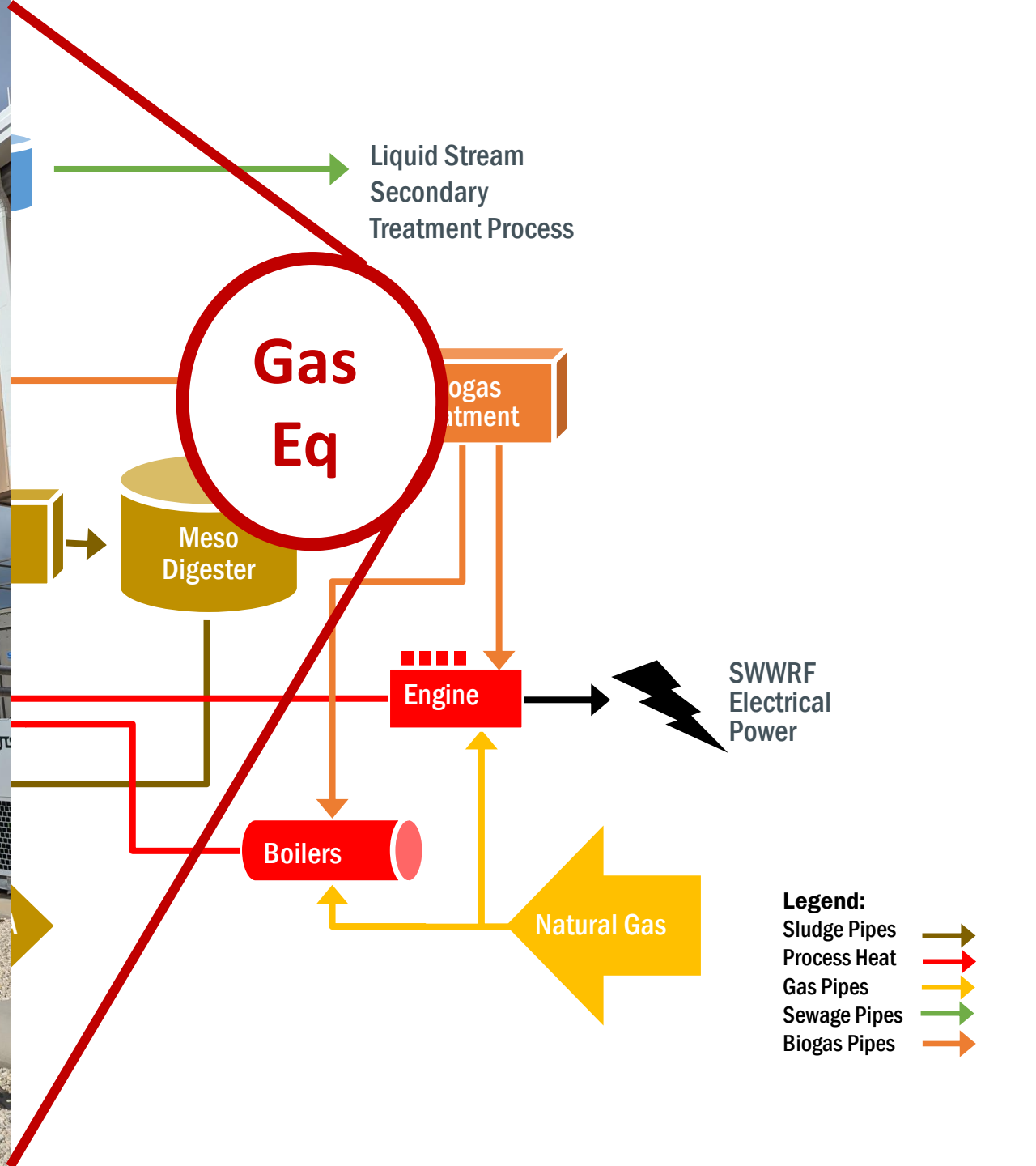


# ECKERD COLLEGE



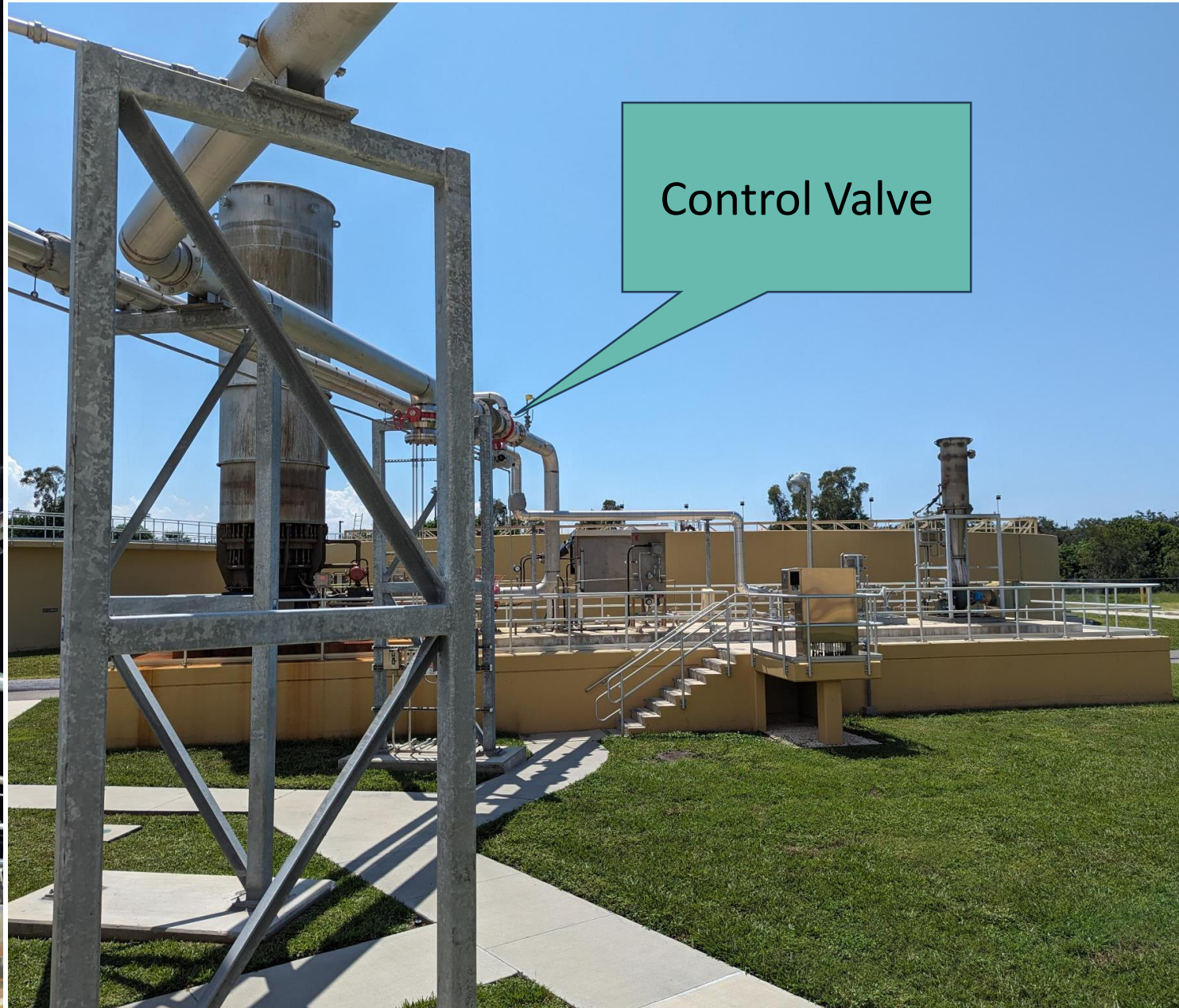












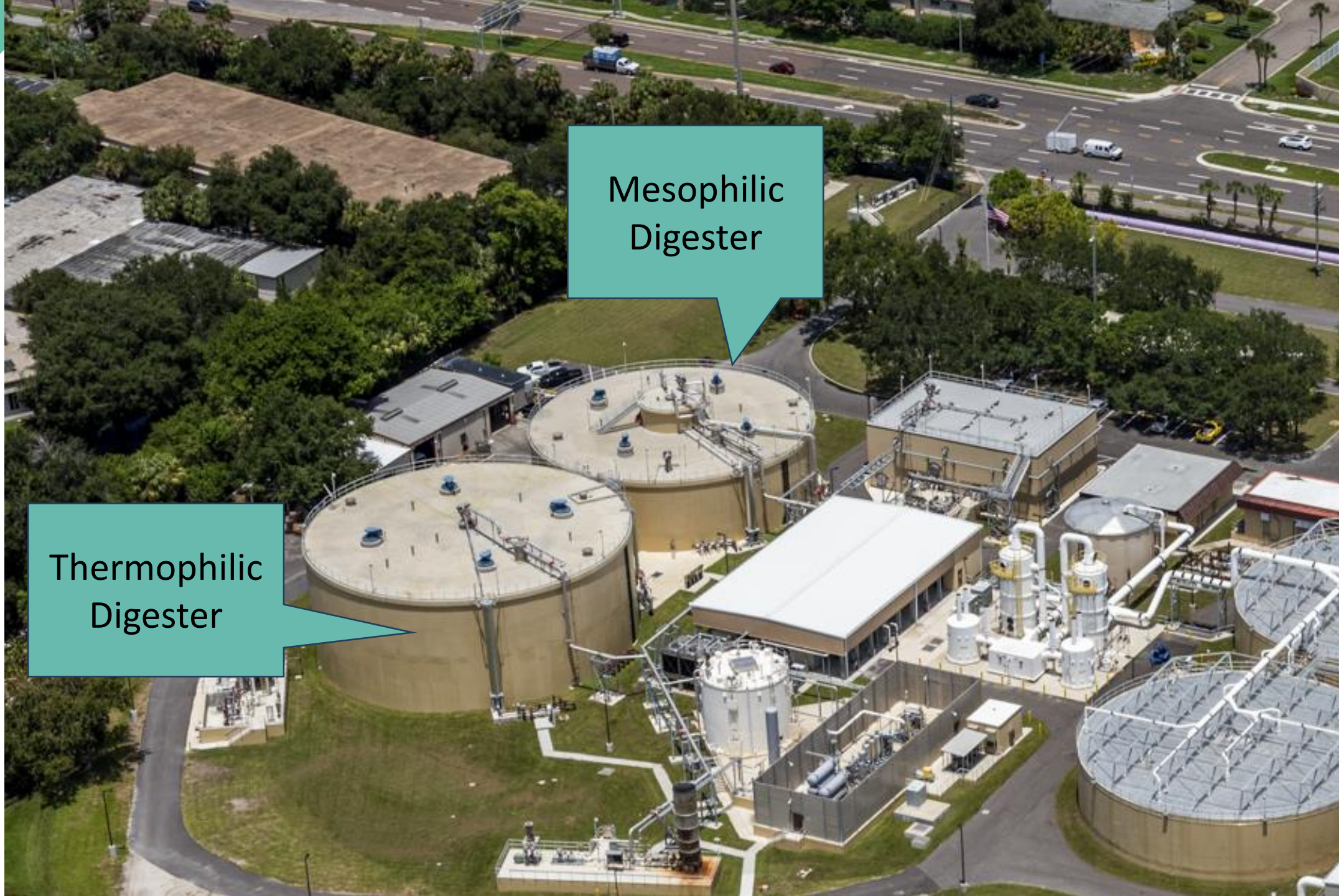




Lesson #3:  
Redundancy.  
Redundancy.







Mesophilic  
Digester

Thermophilic  
Digester

Lesson #4:  
Energy production  
is hard.





Pressure off  
the digesters





Pressure off  
the digesters





**Pressure off  
the digesters**

**Flow Rate**





Pressure off  
the digesters

Flow Rate



PSAs

# Next Steps



# Biogas Optimization Study

- Evaluating the existing facilities
- Biogas utilization evaluation
- Explore P3s for future operation





**“You can’t learn this kind  
of stuff from a book”**



# In memory of John Hughes



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