


## *Methanol As A Substrate*

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Manager - Process Engineering, DCWASA



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## *Blue Plains AWWTP*



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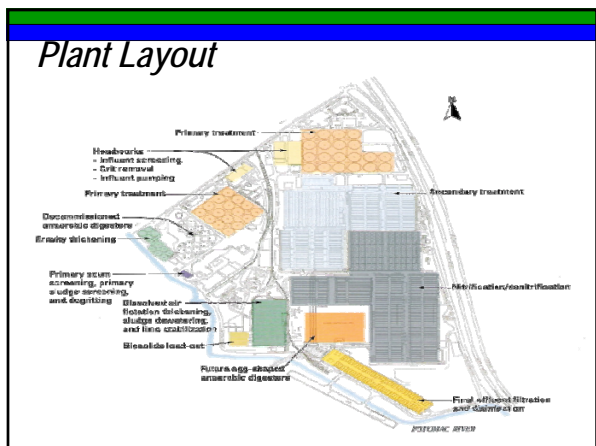
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## *Plant Layout*



**Primary treatment:**  
Headworks - influent screening, GSK removal, influent pumping  
Primary treatment - Dissolved air flotation, primary clarifiers, primary sludge thickening, anaerobic digestion, primary effluent thickening

**Secondary treatment:**  
Aeration basins, secondary clarifiers, effluent thickening, anaerobic digestion, effluent thickening

**Other components:**  
Nutrient removal - Phosphorus and nitrogen removal  
Sludge handling - Sludge dewatering, sludge drying, and lime stabilization  
Miscellaneous - Sludge dewatering, sludge drying, and lime stabilization  
Future expansion - Sludge dewatering, anaerobic digestion  
Final effluent filtration and disinfection

JOSEPH W. BROWN

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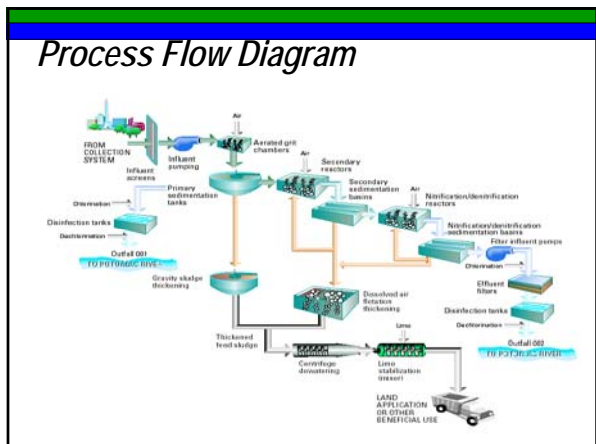
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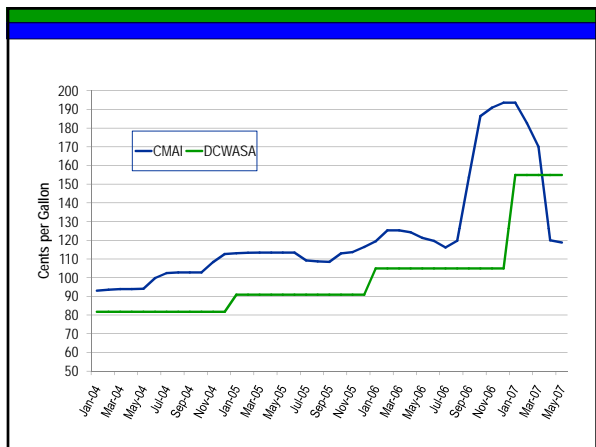
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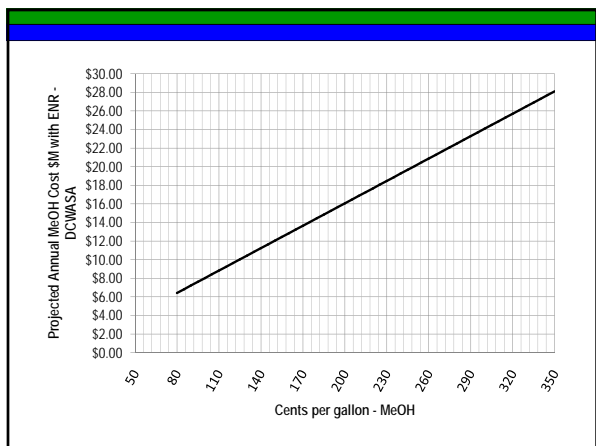
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***Methanol Use Systems***

- Truck Unloading
- Storage
- Transfer
- Feed
- Monitoring
  - Safety
  - Process

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***Unloading Stations***



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***Locking Caps***



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*Signage*



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*Above Grade or Below Grade Storage*



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*Below Grade Storage*



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**Leak Monitoring**



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**Above Ground Storage**



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**Foam - Fire Suppression Tank**



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*Foam Storage - Fire Protection*



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*Foam Release*



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*Diaphragm Pump*



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*Magnetically Coupled Gear Pump*



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*Hose Pumps*



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*Turbine and Gear Meters*



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*Thermal Flow Measurement*



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*Flow Monitoring - Coriolis*



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*Analyzer Utilization Terminology*

- On-line
- Off-line
- In-situ
- Ex-situ
- Colorimetric
- ISE (Ion Specific Electrode)
- UV

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**On-line Nitrate Interferences**

Colorimetric	ISE	UV
Grease & Oils	Grease & Oils	Grease & Oils
Turbidity	Mercury	Turbidity
Color	Silver	Organic Matter
Mg and Ca	High ionic strng	Some Inorg Ion
pH	pH	

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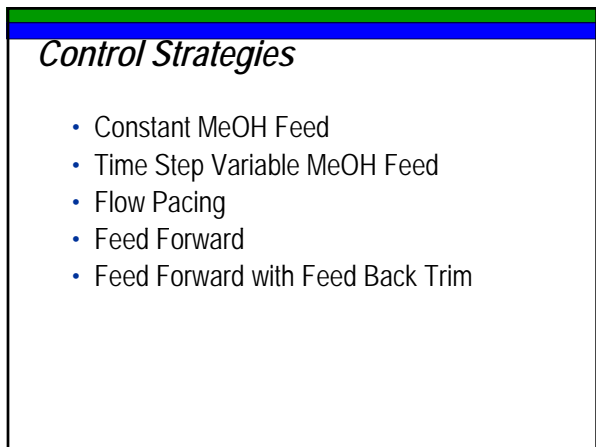
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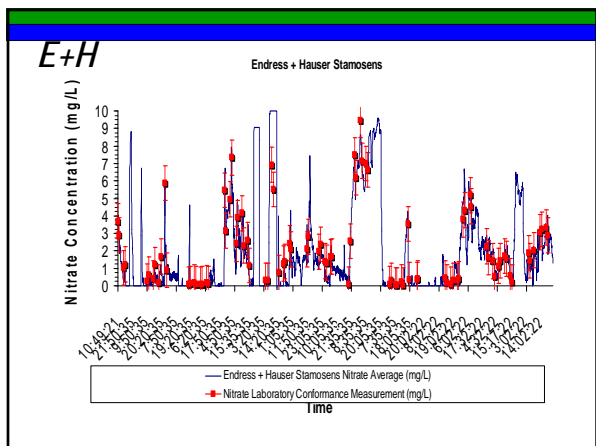
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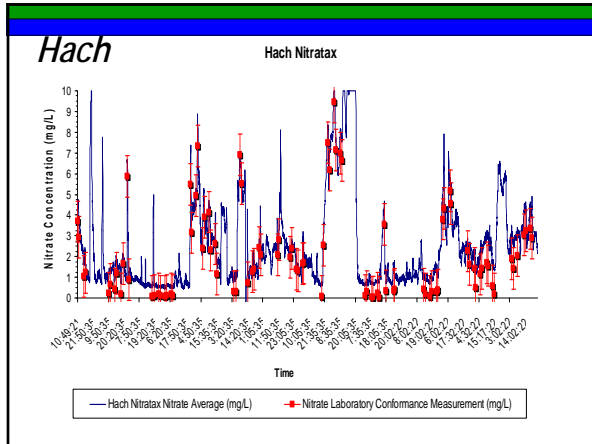
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