



Rouge River Outfall Disinfection

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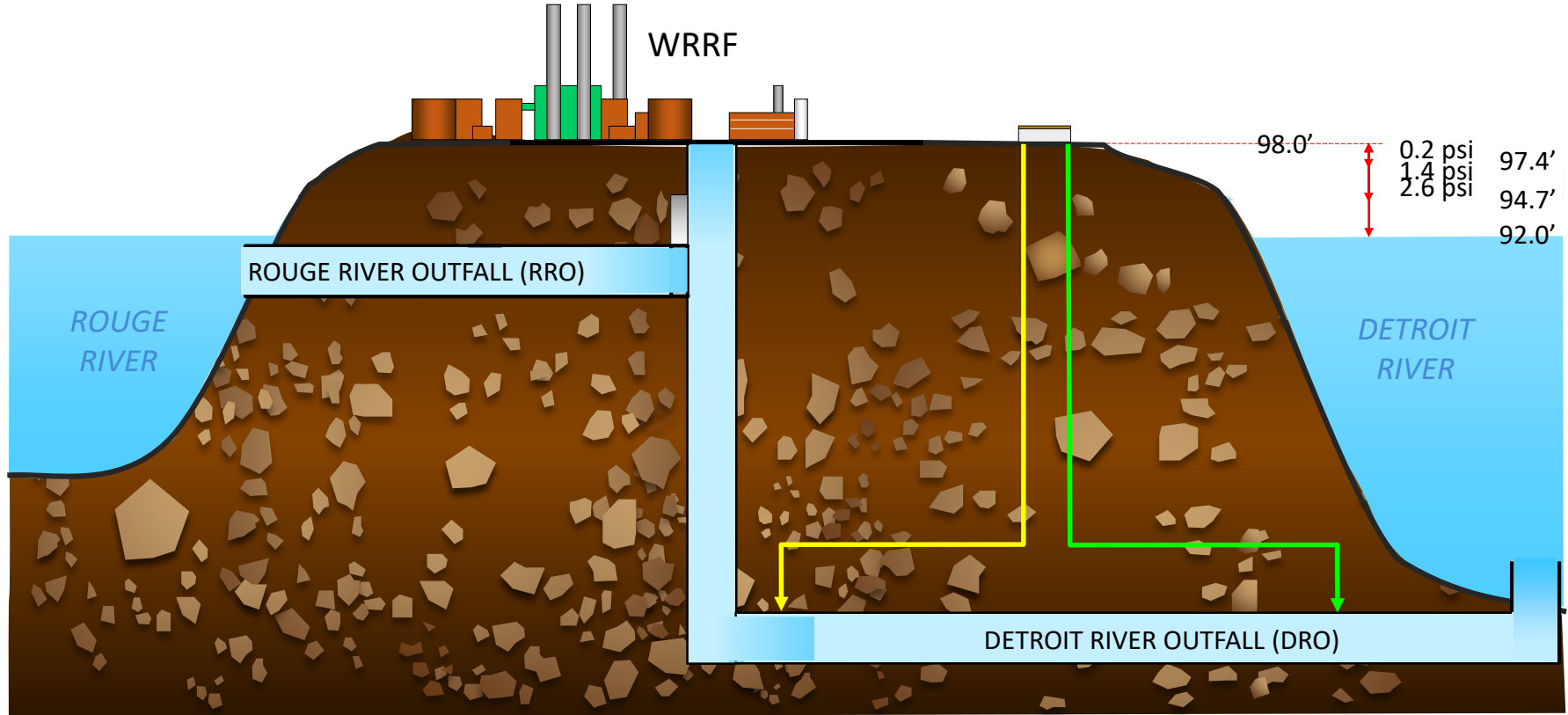
GLWA – Water Resource Recovery Facility (WRRF)



WRRF Location



River Level Impacts Detroit River Outfall (DRO) Capacity

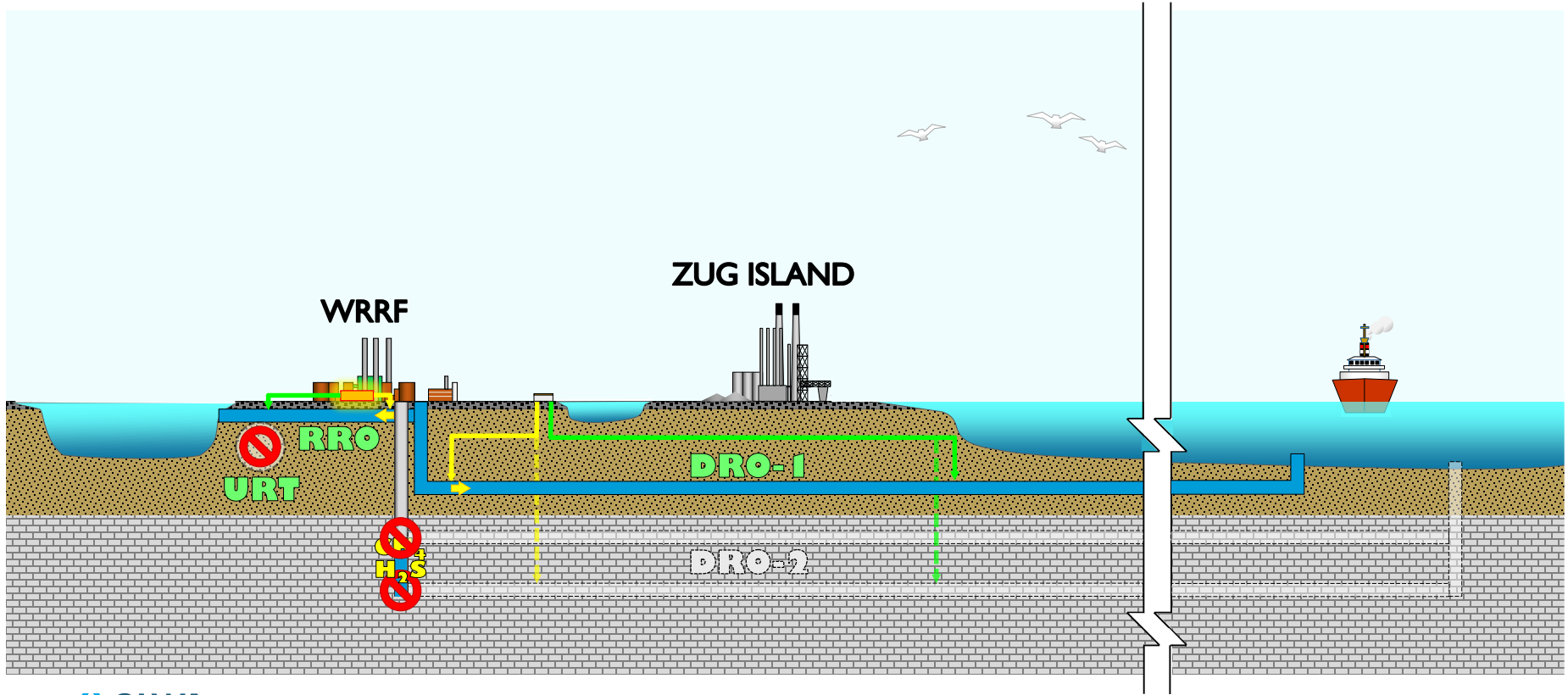


Undisinfected Discharges from Rouge River Outfall

<u>Year Discharged</u>	<u>Volume Discharged</u>
2010	7,360 MG
2011	15,260 MG
2012	10,998 MG
2013	8,213 MG
2014	4,767 MG
2015	4,686 MG
2016	4,780 MG
2017	11,919 MG
2018	11,774 MG

Average Discharge Over Nine Year Period:
8,862 MG

Proposed Alternatives



Proposed Disinfectant Alternatives



Expand use of
Liquid Chlorine?

Use Peracetic
Acid?



Use Ultraviolet
Light?

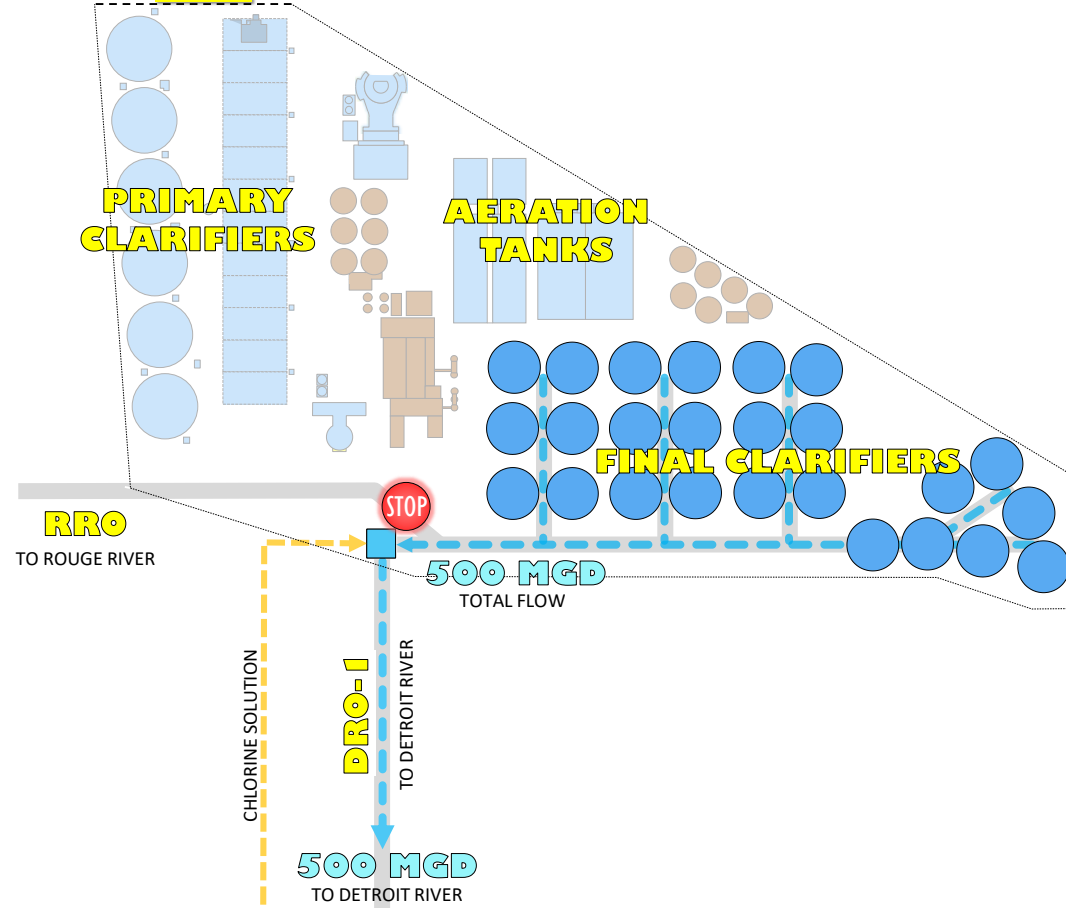
Use Sodium
Hypochlorite?



WRRF Location



Plant Flow: 500 MGD – River Elevation: 96.0 feet



	<i>Ft.</i>	<i>MGD</i>	
River Level	97.0	691	DRO Capacity
	96.0	850	
	95.0	984	
	94.0	1,098	
	93.0	1,198	
	92.0	1,286	

Plant Flow: 900 MGD – River Elevation: 96.0 feet



	<i>Ft.</i>	<i>MGD</i>	
River Level	97.0	691	DRO Capacity
	96.0	850	
	95.0	984	
	94.0	1,098	
	93.0	1,198	
	92.0	1,286	

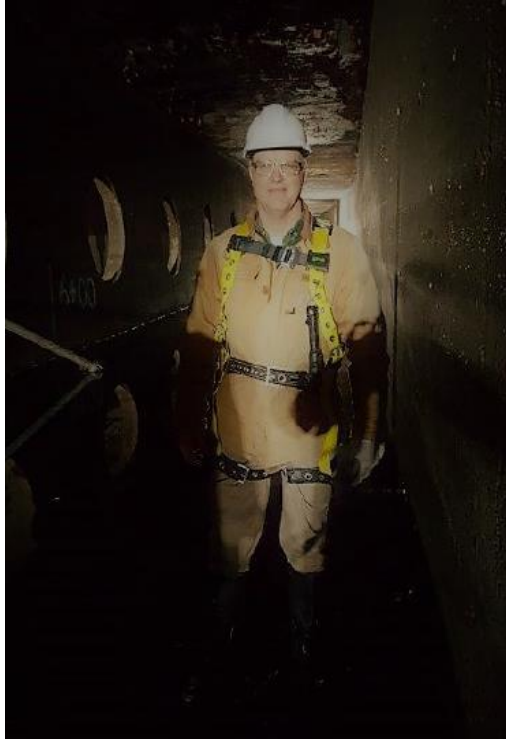
Deposited Solids in the Conduits



Solids Removal Set-up in Progress



Solids Removed & Conduits Inspected



Hydraulic Analysis Team Working on the Large Physical Model



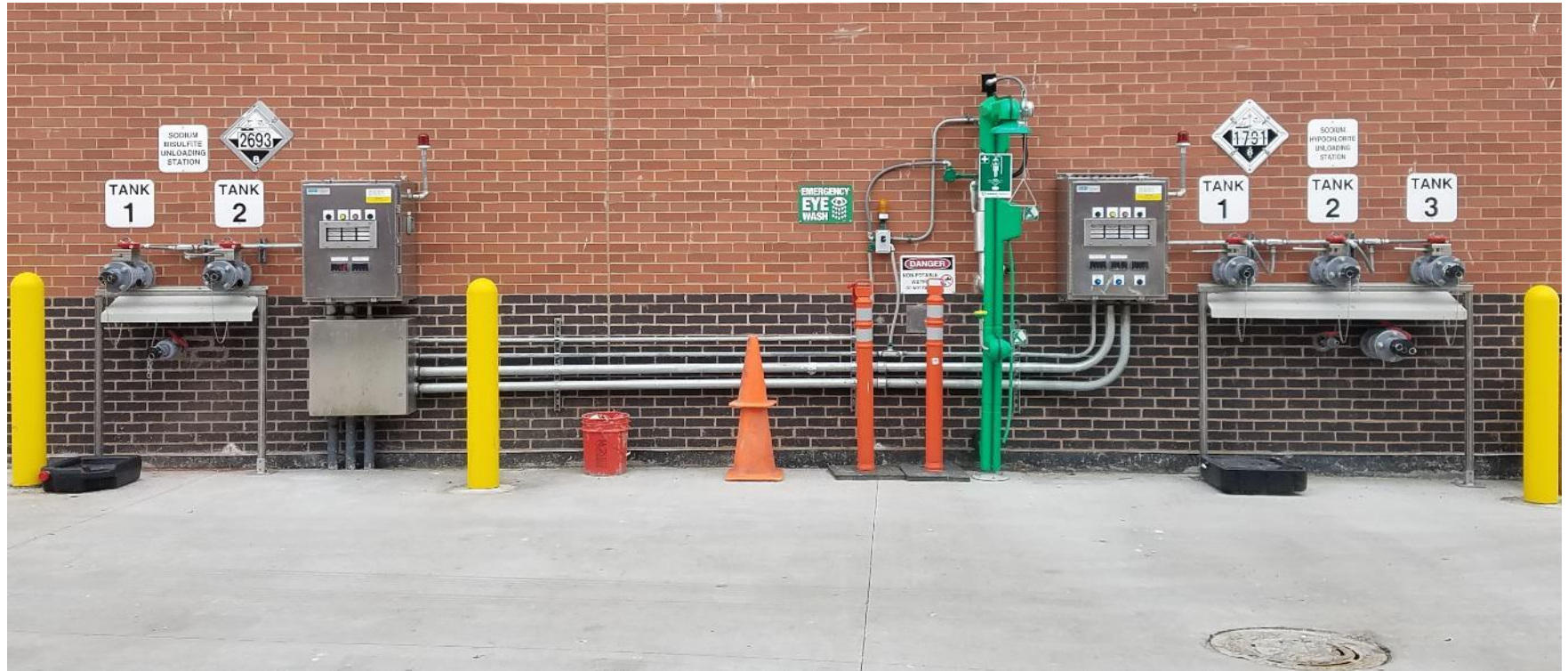
Disinfection Facility: Phases of Construction



Disinfection Facility Began Service on March 29, 2019



Sodium Hypochlorite and Sodium Bisulfite Unloading Stations



Sodium Hypochlorite and Sodium Bisulfite Storage Tanks



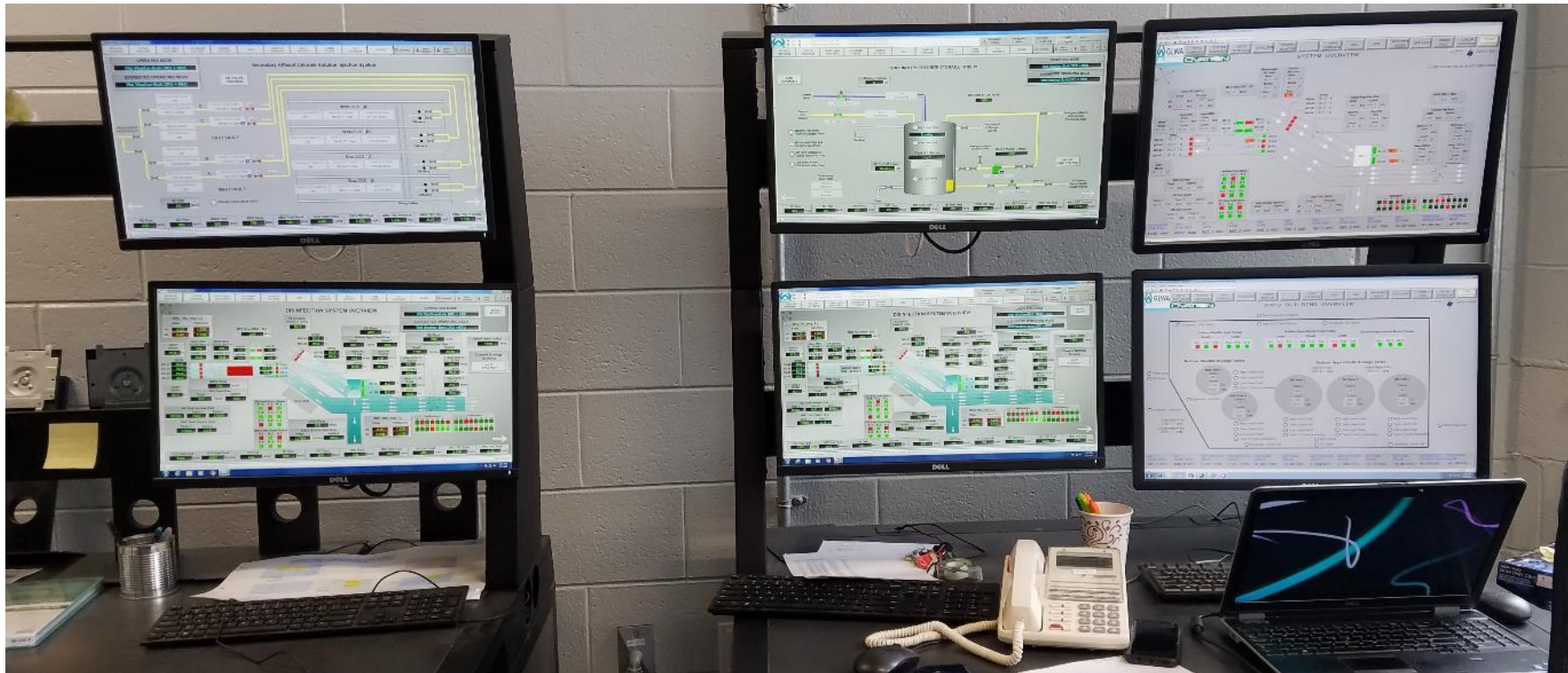
Sodium Hypochlorite Feed System



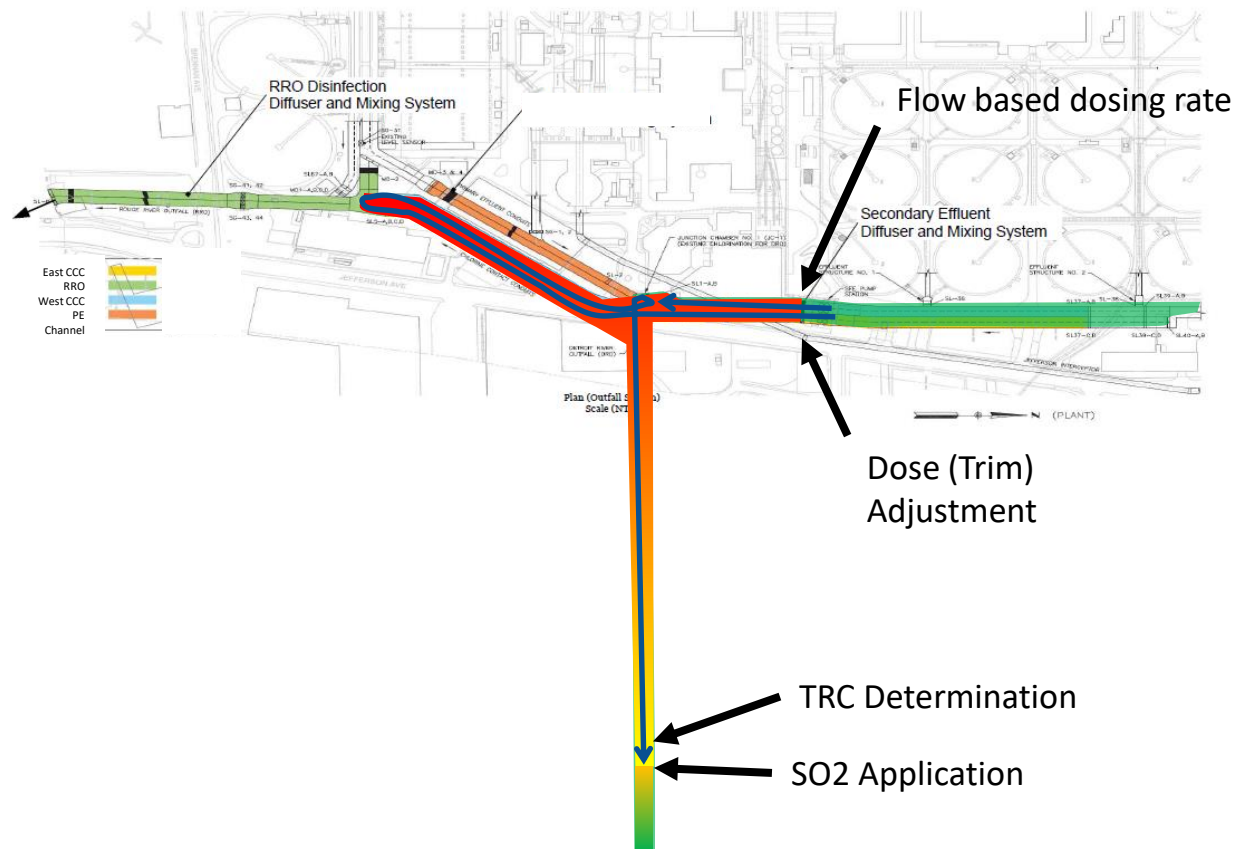
Sodium Bisulfite Feed System



Monitoring and Control Stations

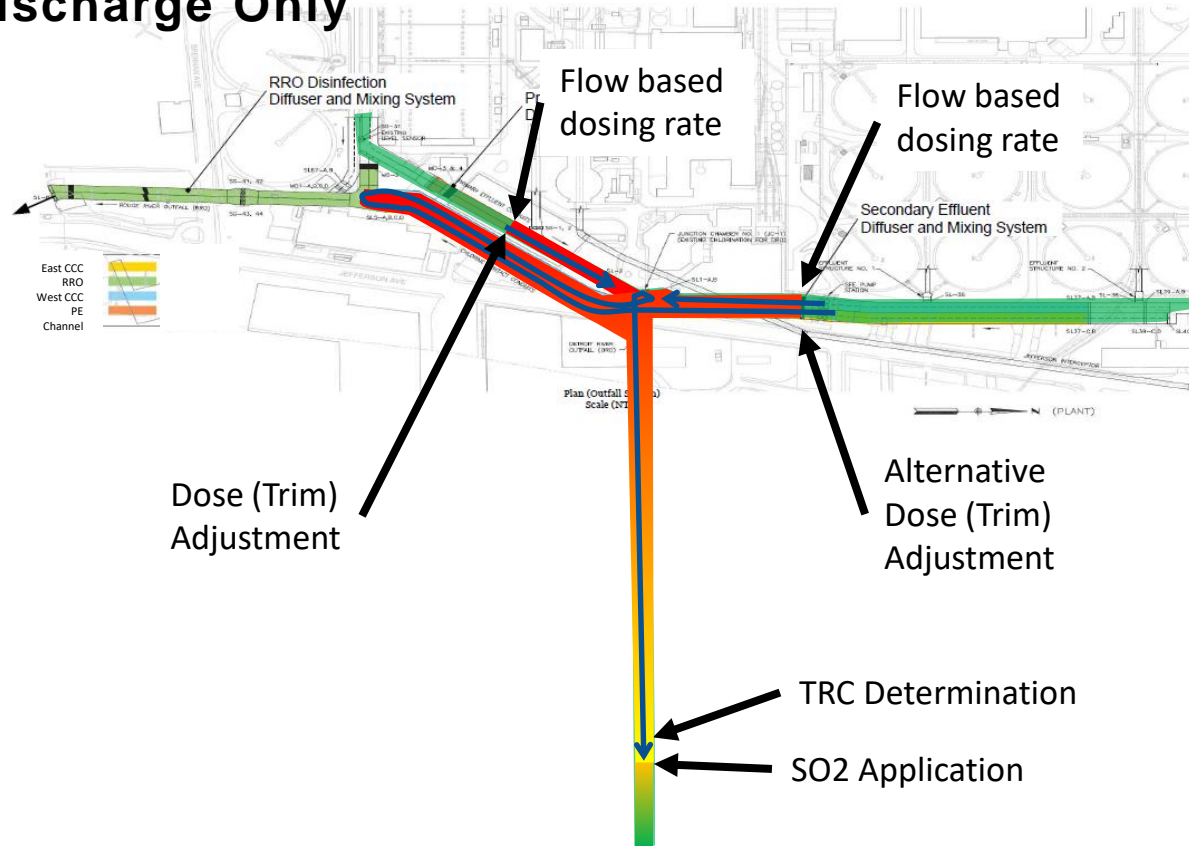


Dry Weather Disinfection Approach



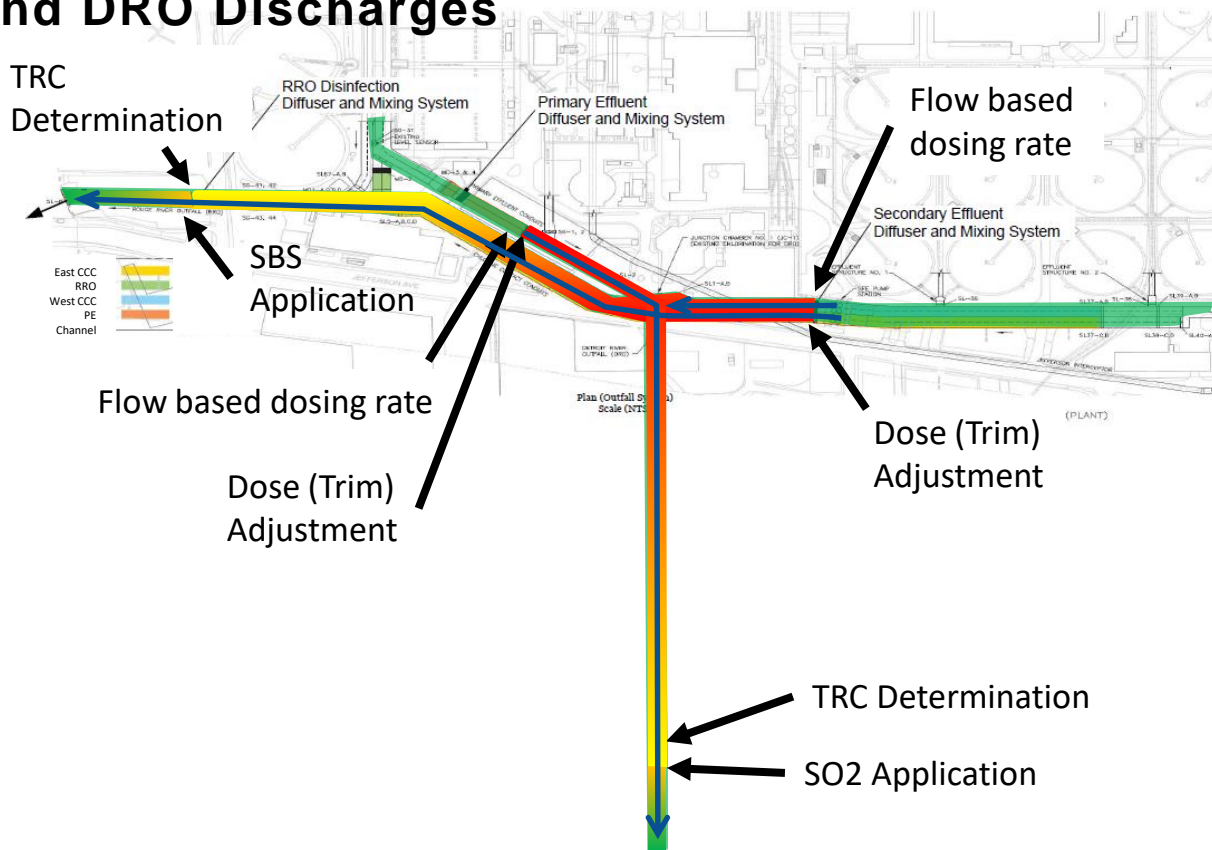
Wet Weather Disinfection Approach

DRO Discharge Only



Wet Weather Disinfection Approach

RRO and DRO Discharges





GLWA

Great Lakes Water Authority