

Utilities Operations - Asset Maintenance & Management Schedule

	SCHEDULE								Comments
	Daily	Weekly	Bi-Weekly	Monthly	Quarterly	Semi-Annual	Annual	Other	
TREATMENT FACILITIES DEPARTMENT									
BURNT STORE RO WATER TREATMENT PLANT									
Plant Inspections	x								
Submersible Pump & Motor						x			
VFD						x			
Cartridge filter Maint.						x			
Chemical Pump Maint				x					
Chemical hose and piping				x					
Chemical Injectors							x		
Chlorine Pump Maint.				x					
Caustic Pump Maint.				x					
Corrosion Inhibitor Pump Maint.				x					
Anti-Scalant Pump Maint.				x					
Sulfuric Acid Pump Maint.				x					
Chemical level control						x			
Chemical Storage tank						x			
Ground Storage Tank								x	5 Year Inspection And Cleaning
Valve exercising/repairs							x		
Flow Meters						x			
Press. Transmitters						x			
Conductivity Instrumentation						x			
pH Instrumentation						x			
Chlorine Instrumentation						x			
Vertical Turbine Pump						x			
Centrifugal Pump						x			
AC Motors						x			
Backflow Devices								x	
Air Release Valves						x			
Eye Wash Station		x							
High service pump motor						x			
Electrical Maint.						x			
Diesel Tanks								x	
Exhaust Fan Maint.						x			
Generators						x			
Mechanical Seals						x			
Oil Changes							x		
Auto Lubes				x					
Manual Lubrication						x			
Equip. Analysis (mechanical)						x			
Misc. Lab Equipment						x			
Water Analyzer Equipment						x			
Security Camera System						x			
Automatic Gate System						x			
Site Lighting						x			

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EAST PORT WATER RECLAMATION FACILITY									
Air Compressors Maint.			x	x	x				
Chemical Pump Maint				x					
Chlorine Pump Maint.				x					
Chart Recorders						x			
Flow Recorders						x			
Flow Transducers						x			
Press. Recorders						x			
Press. Transmitters						x			
Diesel Tanks				x					
Exhaust Fan Maint.									
Generators			x	x					
Gas Detector				x		x			
Chlorine Instrumentation				x		x			
pH Instrumentation				x		x			
Turbidity Instrumentation									
Conductivity Instrumentation						x			
Plant Inspections	x								
AC Motors					x	x	x		
Backflow Devices							x		
Hydrant meters							x		
Submersible Pump AC Motor						x	x		
Submersible Pump					x	x			
Electrical Maint.				x		x			
Blower/Aeration Maint.						x			
Clarifier Drive Gear Box				x			x		
Disk Filter Back Wash Pump							x		
Vertical Turbine Pump	x			x		x			
Centrifugal Pump				x					
Surface Aerator				x	x	x			
Blower Air Filter				x					
Gear Reducers				x			x		
Turbo Disk Filter				x			x		
Equip. Analysis (mechanical)				x			x		
Conveyors							x		
Grit Pumps					x				
RAS/WAS Pumps					x	x			
Rotomat Speed Reducers					x				
Rotomat Screens & Strainers				x		x			
Rotomat Combs	x								
Rotary Lobe Blower (sand filter)			x	x					
Mechanical Seals						x			
Oil Changes						x	x		
Auto Lubes				x					
Manual Lubrication				x					

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ROTONDA WATER RECLAMATION FACILITY									
Air Compressors Maint.					x				
Chemical Pump Maint							x		
Chlorine Pump Maint.							x		
Chart Recorders									
Flow Recorders						x	x		
Flow Transducers						x	x		
Generators				x					
Gas Detector									
Chlorine Instrumentation		x				x			
pH Instrumentation		x		x		x			
Turbidity Instrumentation		x		x		x			
Conductivity Instrumentation									
Plant Inspections	x								
AC Motors									
Backflow Devices									
Hydrant meters									
Submersible Pump AC Motor									
Submersible Pump									
Electrical Maint.									
Blower/Aeration Maint.						x			
Clarifier Drive Gear Box									
Disk Filter Back Wash Pump									
Vertical Turbine Pump						x			
Centrifugal Pump									
Surface Aerator									
Blower Air Filter						x			
Gear Reducers									
Turbo Disk Filter									
Equip. Analysis (mechanical)									
Conveyors									
Grit Pumps									
RAS/WAS Pumps									
Rotomat Speed Reducers									
Rotomat Screens & Strainers									
Rotomat Combs									
Rotary Lobe Blower (sand filter)						x			
Mechanical Seals									
Oil Changes						x			
Auto Lubes						x	x		
Manual Lubrication						x			
MBR Cassette Inspections							x		
MBR Recovery Cleaning						x			
MBR Maintenance Cleaning		x							

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WEST PORT WATER RECLAMATION FACILITY									
Air Compressors Maint.				x	x				
Chemical Pump Maint				x					
Chlorine Pump Maint.				x					
Chart Recorders						x			
Flow Recorders						x			
Flow Transducers						x			
Press. Recorders						x			
Press. Transmitters						x			
Diesel Tanks		x		x					
Exhaust Fan Maint.									
Generators		x	x	x					
Chlorine Instrumentation	x			x		x			
pH Instrumentation	x			x		x			
Turbidity Instrumentation	x								
Conductivity Instrumentation									
Plant Inspections	x								
AC Motors					x	x	x		
Backflow Devices							x		
Hydrant meters							x		
Submersible Pump AC Motor						x	x		
Submersible Pump					x	x			
Electrical Maint.				x		x			
Blower/Aeration Maint.	x			x	x	x	x		
Clarifier Drive Gear Box				x		x	x		
Disk Filter Back Wash Pump				x		x	x		
Vertical Turbine Pump	x			x		x			
Centrifugal Pump				x		x			
Surface Aerator									
Blower Air Filter				x					
Gear Reducers				x			x		
Turbo Disk Filter				x	x	x	x		
Equip. Analysis (mechanical)				x			x		
Conveyors									
Grit Pumps									
RAS/WAS Pumps				x	x	x			
Rotomat Speed Reducers									
Rotomat Screens & Strainers									
Rotomat Combs									
Rotary Lobe Blower (sand filter)									
Mechanical Seals				x		x			
Oil Changes						x	x		
Auto Lubes	x			x					
Manual Lubrication				x					

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WATER DISTRIBUTION SYSTEM WORK GROUP (CONTINUED)									
Water Distribution Main Replacement								x	<p>A. The water distribution system experiences approx. 100 main breaks per month due to inferior quality pipe material or in proper installation. The amount of water main breaks will only continue to increase with time.</p> <p>B. Approximately 274 miles of inferior quality water main in the CCU water distribution system (215 miles of AC pipe and 59 miles of Thin Wall PVC)</p> <p>C. Based on preliminary engineering estimates the total cost to replace the inferior water mains is likely to approach \$145M which would be prorata allocated annually to ensure the operational integrity of the water distribution system.</p>
WASTEWATER COLLECTION DEPARTMENT									
LIFT STATION WORK GROUP									
Site visit/inspection and run times recorded			x						
Electrical/mechanical component & operation/inspection/repair					x				
Pump inspection/service/repair							x		
Odor control inspection/service/repair				x					
Wet well inspection/cleaning/repair				x					
Grounds keeping by contractor			x	x					
Grounds keeping by staff			x	x					
Generator & pumps inspections/exercising/repairs by contractor				x			x		
Generator & pumps inspections/exercising/repairs by staff			x	x					
Pump Station Rehabilitation								x	<p>A. 291 lift stations stations with 20 year life span 42 will need to be re-evaluated in 15 years. 26 will need to be re-evaluated in 10 years. 184 scheduled for re-evaluation within 5 years. 39 currently identified for rehabilitation.</p> <p>B. Based on known replacement/rehabilitation cost for CCU lift stations, the estimated R&R Budget expense of \$58M would be required which will be prorata allocated annually to ensure the operational integrity of the wastewater collection system.</p> <p>C. Insourcing vs Outsourcing of work required will be analyzed for efficiency and cost effectiveness.</p>

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Force Main Replacement									Based on engineering estimates, \$ 1,500,000 would be allocated for replacement of Asbestos Concrete (AC) sewer force main.
SEWER LINES WORK GROUP									
Manhole inspections/cleaning/repair				x					
Gravity line cleaning/ inspection/repair				x					
ARV inspection/cleaning/repair				x					
Valve exercising/repairs				x					
Gravity Sewer Line Replacement or Lining								x	<p>A. 85 miles of clay gravity lines. 50.5 miles have been lined since the mid 1990's. 34.5 miles remaining to be lined. Lining is out-sourced. Currently no line replacements are needed if lining is to be done.</p> <p>B. Based on current lining cost, the 34.5 miles remaining to be lined. This will cost an estimated R&R Budget expense of \$8.2M, which will be prorata allocated annually to ensure the operational integrity of the wastewater collection system.</p> <p>C. Goal of 8 miles per year to be cleaned and inspected. Insourcing vs Outsourcing of work will be analyzed for efficiency and effectiveness.</p>
LOW PRESSURE SEWER WORK GROUP									
Site inspections/repairs/upgrades							x		
ARV cleaning/inspection/repair				x					
LPS main line flusing/cleaning				x					
Vehicle & Heavy Equipment Maintenance						x	x		Performed by Fleet