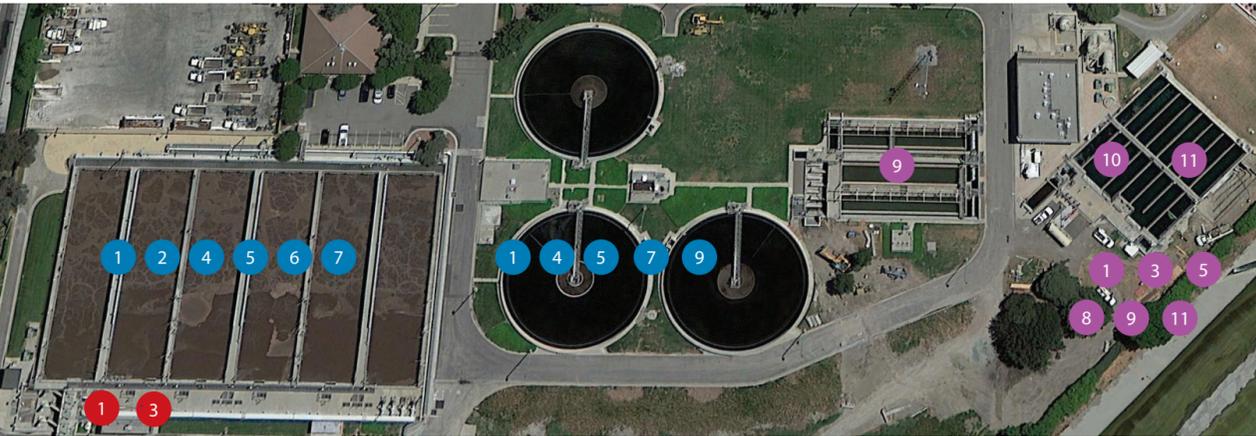


## ECD Is The Smart Choice For Your Plant



### PRIMARY | SECONDARY | TERTIARY

ECD is the smart choice in liquid analytical instrumentation for municipal wastewater treatment plant applications. Our measurement solutions combine highly intelligent transmitters with rugged low maintenance sensors to deliver precision accuracy, low maintenance and long life for a low total lifecycle cost.

### ECD Analyzer/Sensor Solutions

Wastewater Parameter	T80 Universal Transmitter	C22 Multi Channel Controller	S80 pH Sensor	S80 ORP Sensor	S80 Conductivity Sensor	DO82 Dissolved Oxygen Sensor	TR8 Suspended Solids Analyzer	HYDRA NH4-N Ammonium Analyzer	HYDRA NO3-N Nitrate Analyzer	CA6 Colorimetric Analyzer	TR6 Turbidity Analyzer	FC80 Free Chlorine Analyzer	TC80 Total Chlorine Analyzer	AC10 Spray Cleaner System
1 pH	●		●											●
2 ORP	●			●										●
3 Conductivity	●				●									●
4 Total Suspended Solids							●							●
5 Dissolved Oxygen	●					●								●
6 Ammonium (NH4-N)		●						●						●
7 Nitrate (NO3-N)		●							●					●
8 Total Phosphorus/Phosphate										●				●
9 Turbidity											●			●
10 Free Chlorine(residual)												●		
11 Total Chlorine													●	

## Electro-Chemical Devices (ECD) is a manufacturer of liquid analytical process instrumentation.



Founded in 1977, ECD has been in business for over 35 years and has built its industry leading reputation by its commitment to our customers through this basic approach: Provide quality products, develop technical innovations and provide responsive, knowledgeable service. Technical innovation is the key to ECD's instrumentation and sensors. From the company's start, ECD developed the industry's first 2-wire loop powered conductivity transmitters then the next generation of microprocessor-based multi-channel transmitters and controllers. The Sentinel Product Line features sensor diagnostics that predict when the sensor will need replacement. Today's innovations include the universal transmitters and controllers with digital sensors.

The analyzers configure themselves to the input parameter, unplug a pH sensor from the T80 transmitter and attach a conductivity sensor and the transmitter automatically changes from a pH transmitter into a conductivity transmitter.

Our products and services are used in some of the most demanding applications and industries, such as: Chemical, Food & Beverage, Oil & Gas, Mining, Power Generation, Pulp & Paper, Semiconductor, Steel, Water and Wastewater.

Understanding the demands of these applications, we have developed our products with unique features and technical advantages that are focused on quality, reliability, ease of use and maintenance resulting in lowering the total cost of ownership.

Over many years of experience, ECD has developed a wide range of industrial sensors using a modular plug-in design. Each configuration provides an application specific solution to the measurement of pH, ORP, pION, Dissolved Oxygen, Turbidity and Conductivity. Our technical staff and trained sales representative organization is there to help provide technical guidance for a successful application.

### ELECTRO-CHEMICAL DEVICES

1500 North Kellogg Drive  
 Anaheim, CA 92807USA  
 +1 714 695 0051  
 www.ecdi.com

## Liquid Analytical Instrumentation for Wastewater Treatment Plants

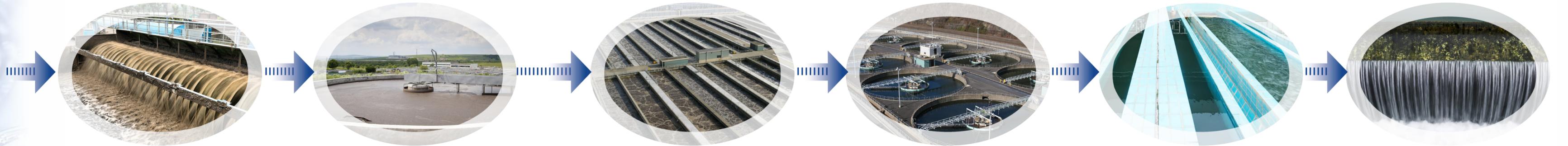


### Accurate and Reliable Process Measurement

- pH
- ORP
- Conductivity
- Ammonium (NH4-N)
- Nitrate(NO3-N)
- Dissolved Oxygen
- Total Suspended Solids
- Turbidity
- Free Chlorine
- Total Chlorine
- Total Phosphorus/Phosphate



# ECD Solutions To Wastewater Treatment Plant Measurements



## Preliminary Treatment

Measurements:

- pH
- Conductivity

Large solids are removed from the wastewater using grinders and screens. Sand and other heavy materials are settled out in the Grit Chamber.

## Primary Treatment

Measurements:

- pH
- Ammonium
- TSS

The heavy organic materials settle out as primary sludge which is sent to the Digester. Fats, oils and greases are skimmed from the top and treated for disposal.

## Secondary Treatment

Measurements:

- pH
- ORP
- Ammonium
- Nitrate
- Dissolved Oxygen
- TSS
- Phosphate

Activated Sludge is a biological process that removes organic materials and nutrients from the wastewater in the Aeration Basin.

## Secondary Clarifier

Measurements:

- pH
- TSS
- Turbidity
- Nitrate
- Dissolved Oxygen
- Phosphate

The Activated Sludge is settled out and returned to the Aeration basin as needed (RAS) or sent to the digester (WAS).

## Chlorine Disinfection

Measurements:

- Free Chlorine
- Total Chlorine

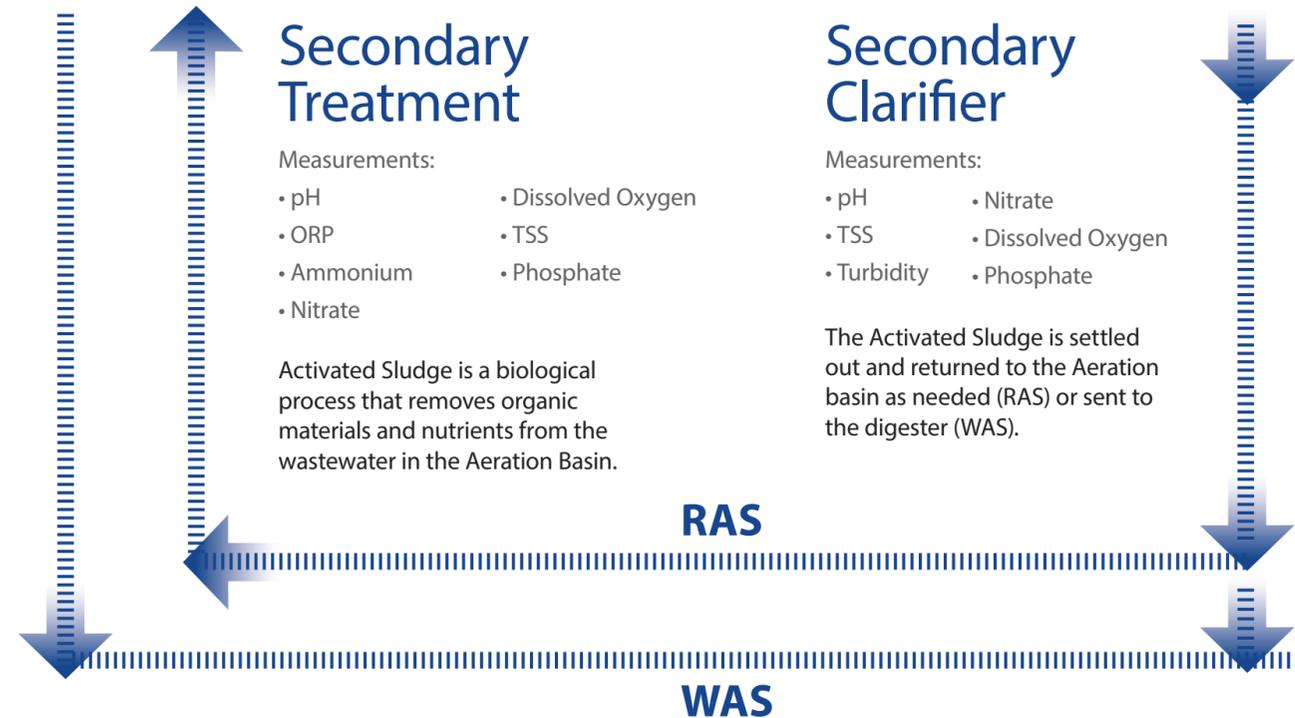
Chlorine is added to the clarified water. The Free Chlorine Residual must be high enough to kill any pathogens in the available contact time and then the water is dechlorinated.

## Outfall Effluent

Measurements:

- pH
- Conductivity
- Turbidity
- Dechlorination
- Dissolved Oxygen
- Phosphate

The outfall effluent into lakes or streams is regulated by the EPA to maintain the environmental water quality.



## Anaerobic Digesters

Measurements:

- pH
- ORP

Anaerobic digestion consumes 60-65% of the available solids in the sludge and frees up most of the water bound to the sludge. The water is returned to the aeration basin and the remaining solids are dried and disposed of.



1 2 3

**T80 Universal Transmitter pH, Conductivity, ORP**



9

**T80 Universal Transmitter TR86 Total Suspended Solids**



6 7

**HYDRA Ammonium and Nitrate Analyzers**



**SMS22 Sulfide Analyzer**



4

**TRITON® TR8 Turbidity or Suspended Solids Analyzer**



5

**TRITON D082 Optical Dissolved Oxygen Sensors**



10 11

**FC80 and TC80 Free or Total Chlorine Analyzers (No Reagents)**



8

**CA6 Colorimetric Analyzer Phosphate and Total Phosphorus**