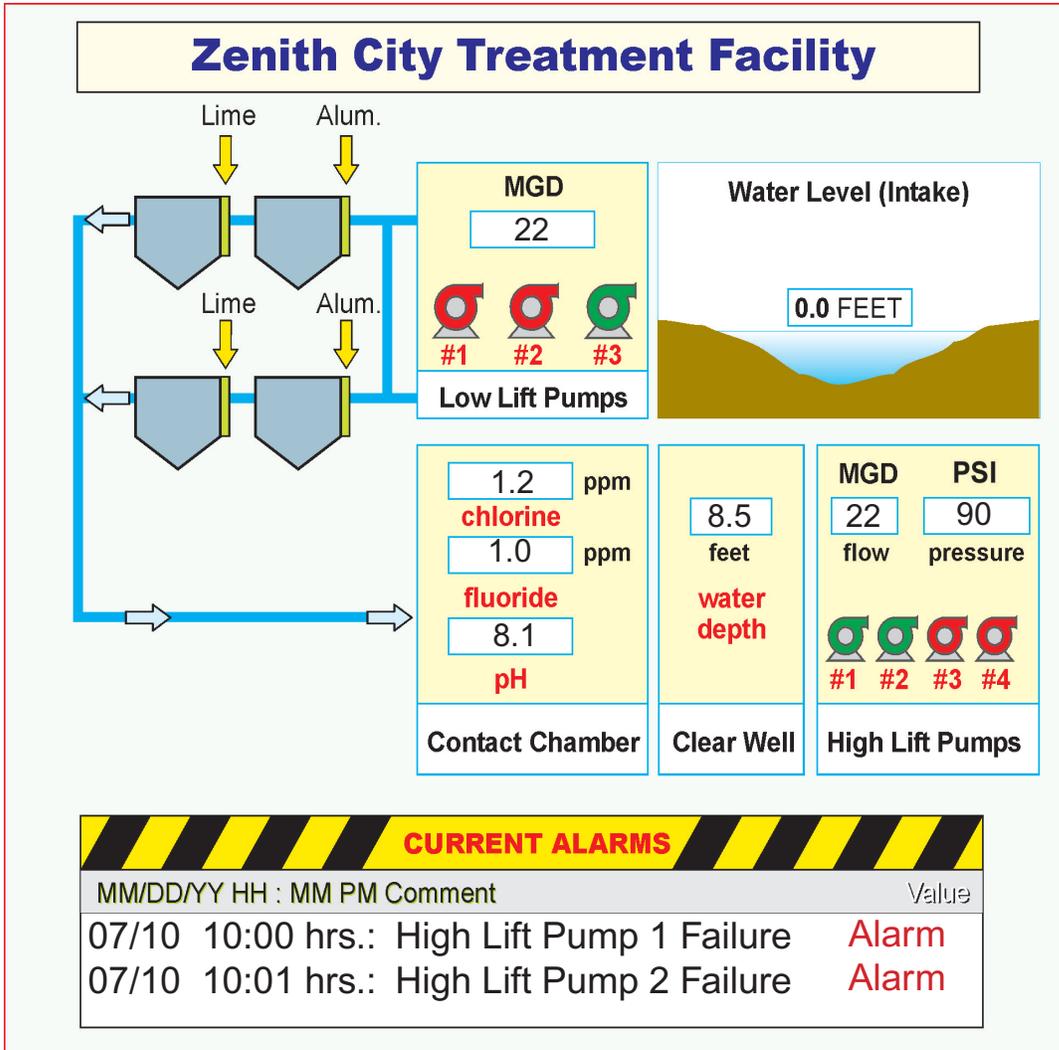


This file includes materials needed to run two exercises. The first section includes the materials needed to run the exercise for a water utility audience; the second section includes the materials needed to run the exercise for a wastewater utility audience.

WATER UTILITY

EXERCISE

MATERIALS



A MESSAGE FOR: Water Superintendent

FROM Charlotte Scott, Operator DATE July 10
OF Zenith City Water Treatment Plant TIME 10:10 A.M.
PHONE (555) 555-3333 **URGENT**
AREA CODE NUMBER EXT.

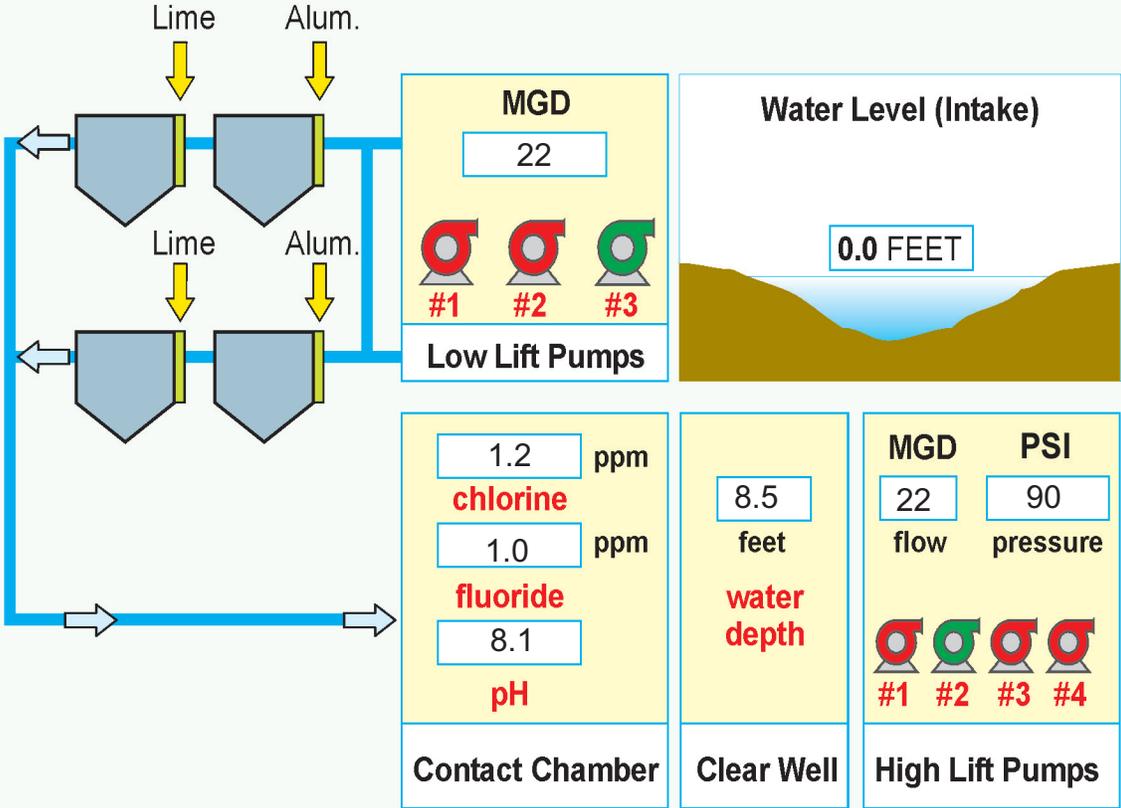
TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

The SCADA system indicated that two high-lift pumps weren't working. She has visually checked the high-lift pumps and they appear to be working. What should she do?

SIGNED Kat D

Zenith City Treatment Facility



MGD
22

#1 #2 #3

Low Lift Pumps

Water Level (Intake)
0.0 FEET

1.2 ppm
chlorine

1.0 ppm
fluoride

8.1
pH

Contact Chamber

8.5 feet
water depth

Clear Well

MGD 22
flow

PSI 90
pressure

#1 #2 #3 #4

High Lift Pumps

CURRENT ALARMS	
MM/DD/YY HH : MM PM Comment	Value
07/10 10:10 hrs.: Chlorinator #2 failure	Alarm

A MESSAGE FOR: Water Superintendent

FROM Charlotte Scott, Operator DATE July 10
OF Zenith City Water Treatment Plant TIME 10:30 A.M. P.M.
PHONE (555) 555-3333 URGENT
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Now the SCADA system is indicating that the chlorinator is not working. She checked it and it seems fine.
The residual analyzer says everything is fine. What should she do?

SIGNED Kat D

Zenith City Water Department Laboratory Analytical Log – July 10*Water Treatment Plant*

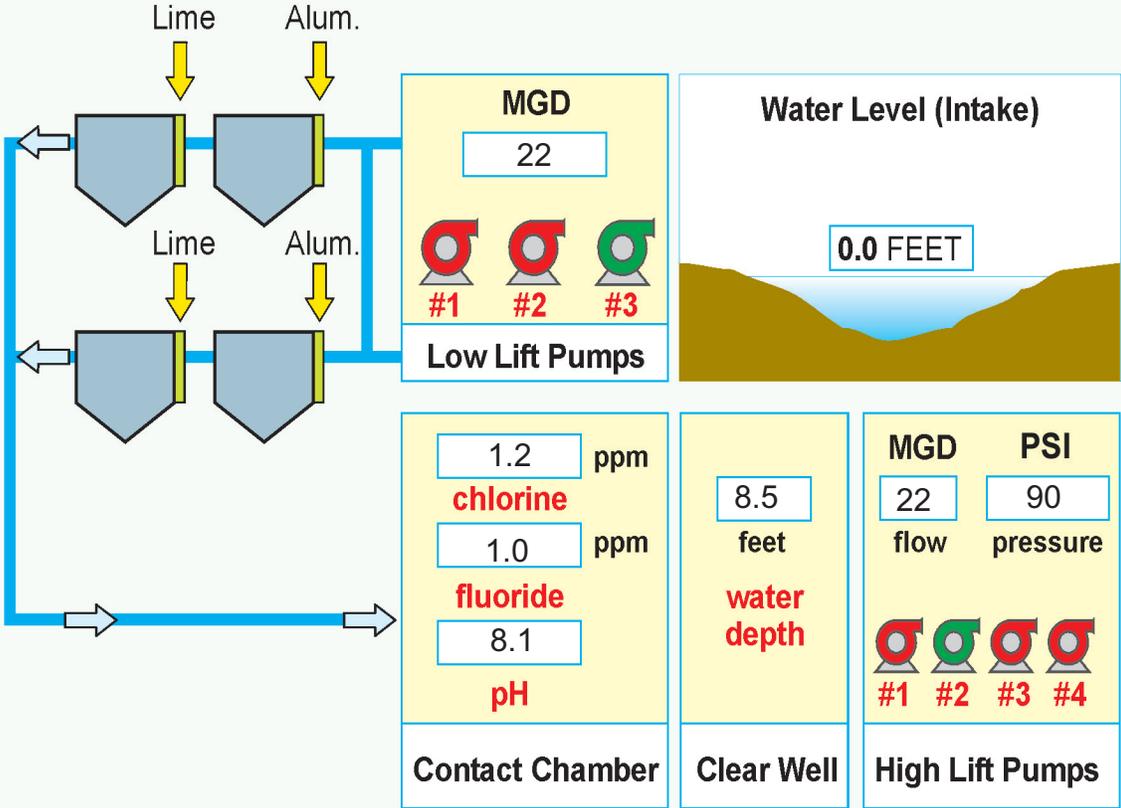
Total Chlorine Residual:

Sample ID	Time Collected	Time Analyzed	Result (mg/L)	Initials
effluent	0030	0045	1.24	TN
effluent	0315	0330	1.22	TN
effluent	0630	0645	1.17	TN
effluent	0930	0945	1.20	CS
effluent	1032	1037	1.14	CS

pH:

Sample ID	Time Collected	Time Analyzed	Result	Initials
PH adj. effluent	0035	0045	6.9	TN
PH adj. effluent	0320	0330	7.0	TN
PH adj. effluent	0635	0645	7.1	TN
PH adj. effluent	0935	0945	7.0	CS

Zenith City Treatment Facility



CURRENT ALARMS	
MM/DD/YY HH : MM PM Comment	Value
07/10 10:47 hrs.: Chlorinator #2 failure	Alarm

A MESSAGE FOR: Water Superintendent

FROM Charlotte Scott, Operator DATE July 10
OF Zenith City Water Treatment Plant TIME 11:00 A.M.
PHONE (555) 555-3333 **URGENT**
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

She said it happened again! The SCADA is saying that
the chlorinator is not working. She checked it again
and it seems fine, and the residual analyzer still says
everything is fine. Should they ignore the SCADA?

SIGNED Kat D

A MESSAGE FOR: Water Superintendent

FROM Doug Shanihan DATE July 10
OF IT Dept., Z.C. Water Treatment Plant TIME 11:15 A.M.
PHONE (555) 555-3331 URGENT
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

He just examined the sign-in logs on the system and discovered an interesting item. Eric Harwood, one of the workers that was recently laid off, accessed the system remotely at about 8:00 a.m. this morning. How can he still access the system and why would he want to?

SIGNED Kat D

A MESSAGE FOR: Water Superintendent

FROM Doug Shanihan DATE July 10
OF IT Dept., Z.C. Water Treatment Plant TIME 11:48 A.M.
PHONE (555) 555-3331 **URGENT**
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

He has run diagnostics on the system and it seems to be fine. While he was running the diagnostics another apparent false alarm was logged about a high-lift pump failure. He's wondering if Eric slipped in a virus this morning. He was pretty upset about getting laid off. He's going to run virus checks, but what do you want them to do in the meantime? He thinks it may be best to not use the SCADA and to isolate it until they figure out what is wrong.

SIGNED Kat D

A MESSAGE FOR: Water Superintendent

FROM Mark Thompson, shift leader DATE July 10
OF Zenith City Water Treatment Plant TIME 1:00 AM P.M.
PHONE (555) 555-3303 URGENT
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Mark has heard about the virus thing and that Eric may be involved. He wanted to let you know that when Eric left he didn't get his keys or anything. He's not sure if he left them or not.

SIGNED Kat D

A MESSAGE FOR: Water Superintendent

FROM Officer Jack Miller DATE July 10
OF Zenith City Police Department TIME 3:27 AM P.M.
PHONE (555) 555-1212 URGENT
AREA CODE NUMBER EXT.

TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Officer Miller called to inform you that he ran a back-ground check on Eric Harwood, and he does have a criminal record. Give him a call to find out the details.

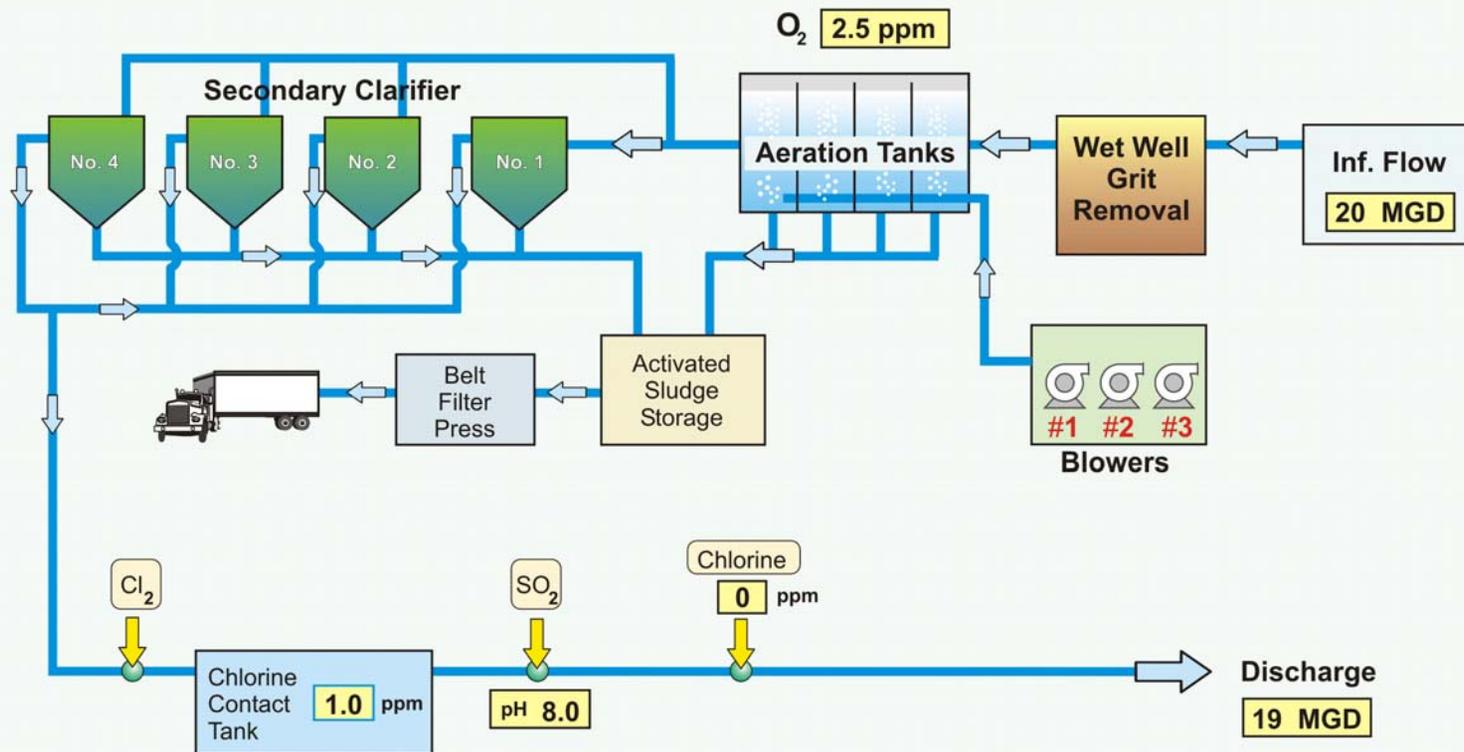
SIGNED Kat D

WASTEWATER UTILITY

EXERCISE

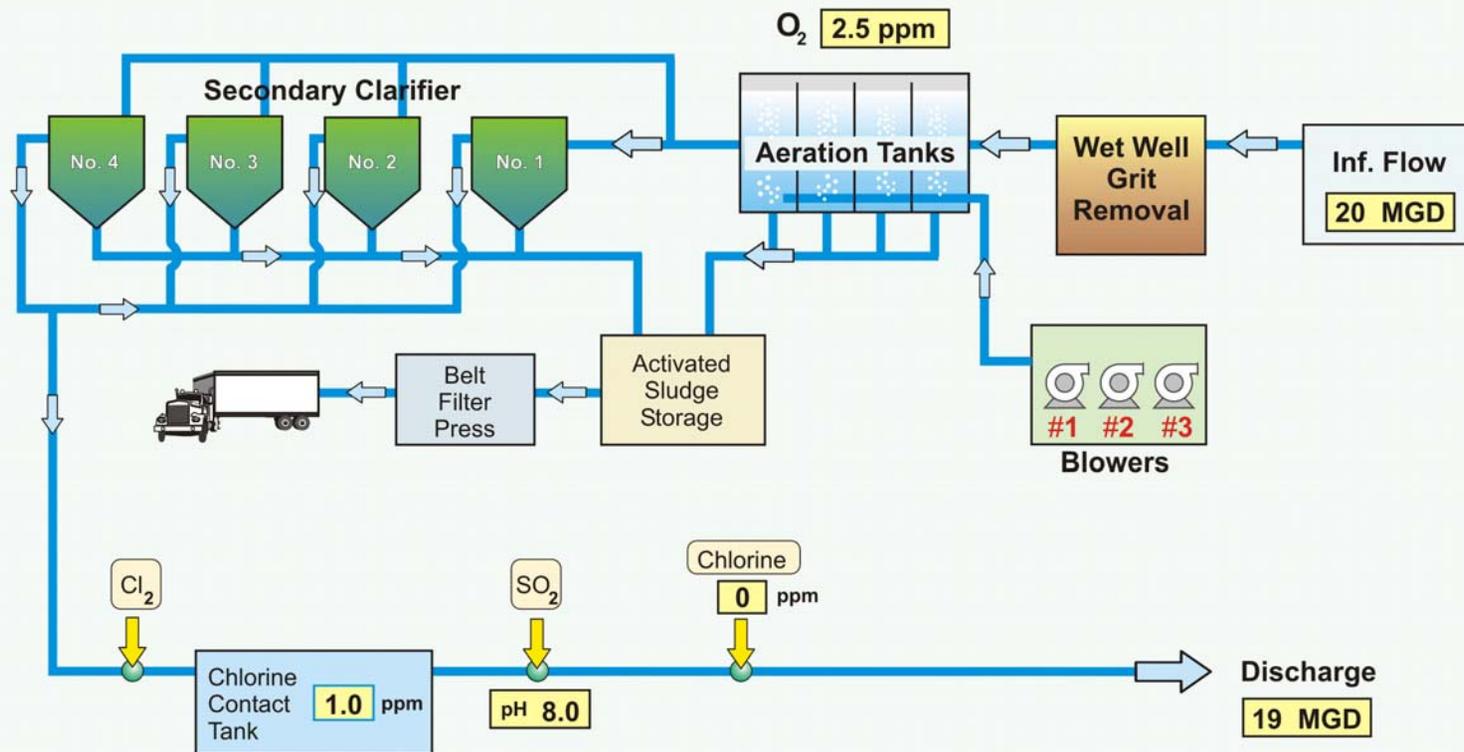
MATERIALS

Zenith City Wastewater Treatment Plant



CURRENT ALARMS		
MM/DD/YY HH : MM PM	Comment	Value
07/10 10:00 hrs.:	Blower 1 Failure	Alarm
07/10 10:01 hrs.:	Blower 2 Failure	Alarm

Zenith City Wastewater Treatment Plant



CURRENT ALARMS

MM/DD/YY HH : MM PM Comment	Value
07/10 10:10 hrs.: Chlorinator #2 failure	Alarm

A MESSAGE FOR: Wastewater Superintendent

FROM Rachel Franklin, Operator DATE July 10

OF Zenith City Wastewater Treatment Plant TIME 10:30 A.M.
P.M.

PHONE (555) 555-3322 **URGENT**
AREA CODE NUMBER EXT.

TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Now the SCADA system is indicating that the chlorinator is not working. She checked it and it seems fine.
The residual analyzer says everything is fine. What should she do?

SIGNED Kat D

Zenith City Water Department Laboratory Analytical Log – July 10*Wastewater Treatment Plant*

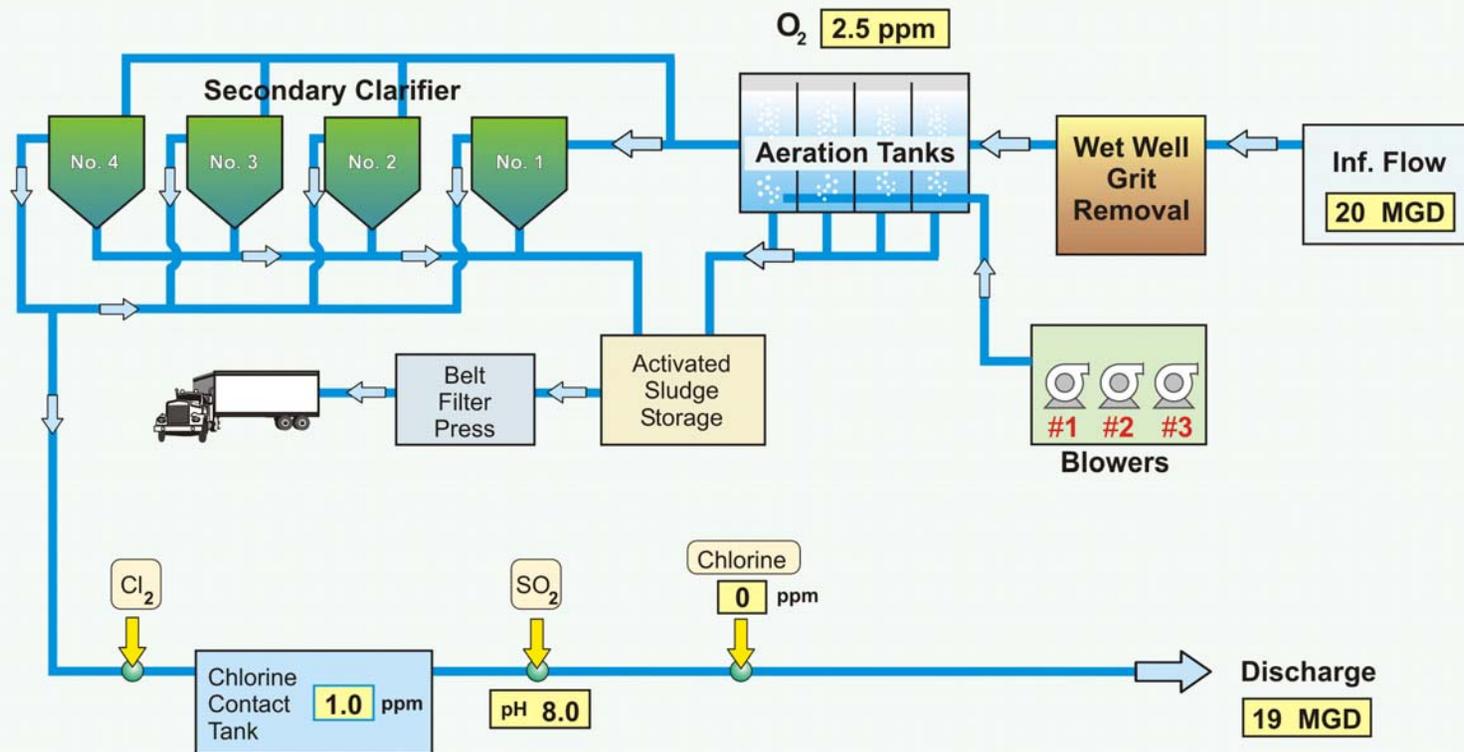
Total Chlorine Residual:

Sample ID	Time Collected	Time Analyzed	Result (mg/L)	Initials
effluent	0030	0045	1.24	GF
effluent	0315	0330	1.22	GF
effluent	0630	0645	1.17	GF
effluent	0930	0945	1.20	KJ
effluent	1032	1037	1.14	KJ

pH:

Sample ID	Time Collected	Time Analyzed	Result	Initials
PH adj. effluent	0035	0045	6.9	GF
PH adj. effluent	0320	0330	7.0	GF
PH adj. effluent	0635	0645	7.1	GF
PH adj. effluent	0935	0945	7.0	KJ

Zenith City Wastewater Treatment Plant



CURRENT ALARMS		
MM/DD/YY HH : MM PM Comment	Value	
07/10 10:47 hrs.: Chlorinator #2 failure	Alarm	

A MESSAGE FOR: Wastewater Superintendent

FROM Rachel Franklin, Operator DATE July 10

OF Zenith City Wastewater Treatment Plant TIME 11:00 A.M.
P.M.

PHONE (555) 555-3322 **URGENT**
AREA CODE NUMBER EXT.

TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

She said it happened again! The SCADA is saying that
the chlorinator is not working. She checked it again
and it seems fine, and the residual analyzer still says
everything is fine. Should they ignore the SCADA?

SIGNED Kat D

A MESSAGE FOR: Wastewater Superintendent

FROM Michael Roberts DATE July 10
OF IT Dept., Z.C. Wastewater Treatment Plant TIME 11:15 A.M. P.M.
PHONE (555) 555-3332 URGENT
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

He just examined the sign-in logs on the system and discovered an interesting item. Terry King, one of the workers that was recently laid off, accessed the system remotely at about 8:00 a.m. this morning. How can he still access the system and why would he want to?

SIGNED Kat D

A MESSAGE FOR: Wastewater Superintendent

FROM Michael Roberts DATE July 10
OF IT Dept., Z.C. Wastewater Treatment Plant TIME 11:48 A.M.
PHONE (555) 555-3332 **URGENT**
AREA CODE NUMBER EXT.
 TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

He has run diagnostics on the system and it seems to be fine. While he was running the diagnostics another apparent false alarm was logged about a blower failure. He's wondering if Terry slipped in a virus this morning. He was pretty upset about getting laid off. He's going to run virus checks, but what do you want them to do in the meantime? He thinks it may be best to not use the SCADA and to isolate it until they figure out what is wrong.

SIGNED Kat D

A MESSAGE FOR: Wastewater Superintendent

FROM Ronald Johnson, shift leader DATE July 10

OF Zenith City Wastewater Treatment Plant TIME 1:00 AM PM

PHONE (555) 555-3304 URGENT

AREA CODE NUMBER EXT.

TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Ronald has heard about the virus thing and that Terry may be involved. He wanted to let you know that when Terry left he didn't get his keys or anything. He's not sure if he left them or not.

SIGNED Kat D

A MESSAGE FOR: Wastewater Superintendent

FROM Officer Jack Miller DATE July 10
OF Zenith City Police Department TIME 3:27 AM P.M.
PHONE (555) 555-1212 URGENT
AREA CODE NUMBER EXT.

TELEPHONED CAME TO SEE YOU RETURNED YOUR CALL

MESSAGE: PLEASE CALL WANTS TO SEE YOU WILL CALL AGAIN

Officer Miller called to inform you that he ran a back-ground check on Terry King, and he does have a criminal record. Give him a call to find out the details.

SIGNED Kat D